

Effects of Non-wood Forest Products on Rural Household in Surulere Local Government Area of Oyo State, Nigeria.

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Abstract

This study was conducted to determine the effect of non-wood forest products on rural households in Surulere Local Government Area of Oyo State, Nigeria. It highlights; Socio-economic characteristic of the respondents, identify forest products available in the area, examine the effect of non wood forest products on rural household, analyze the determinants of level of income of the respondents and ascertained the constraints that hinder non-wood forest products based economic activities. Data were collected from the respondents with the aid of structured interview schedule guide and analyzed with descriptive statistics (frequency, percentages, mean and ranking) and regression and chi-square. Results showed that 87.5% of the respondents were within the age category of 30 to 59 years old and 53.3% were male, 88.3% were married, About 68.3% of the respondents years of experience on non wood forest products ranging from 6 to 15 year. 69.2% had household size of between 1 to 5, all (100%) of the respondents indicated bush meat as the non-wood forest product available in the study area. About 48.3% of the respondents indicated collection and marketing of non-wood forest products as their economic activities. About 78.3% of the respondents indicated that income earned from non wood forest products economic activities ranges between N100 to N1000.00 per day. Even though respondents mentioned constraint hindered their non wood forest based economic activities. There was significant relationship between income determinants factors and income. Also significant relationships exist between rural household economic activities and constraints. Extension personnel need to be encouraged in order to disseminate appropriate information on forest protection, forest products harvesting technique and on economic and environmental value of forest.

Keywords: effect, forest, non-wood forest products, rural household, Surulere, Oyo.

Introduction

In Nigeria, rural household depend on forest resources to meet a variety of livelihood objectives. These objectives include food security, social security, income generation and risk management (Falconer, 1992, F A O, 1992, Adeniyi, 2008). The majority of people in Nigeria particularly those (communities) that are residing in rural areas continue to be vulnerable to environmental changes and this vulnerability is greatly increased by the grossly undeveloped agriculture and overdependence on natural resources particularly non-wood forest products (NWFPs). In Nigeria rain fed agriculture continues to be the backbone of the Nigeria economy and presently account for about half of the national income, contributing to three quarters of the exports and is a source of livelihood for household in the rural area (Hedge and Enter, 2000). In the past, NWFPs play a crucial role in the daily subsistence livelihood of rural households, NWFPs exploitation by local communities serves as source of food, fodder, fuel, medicine, construction materials, small wood for tools and handicrafts, income and employment, fruits, nuts, vegetables, fish, ranges of plants barks, mushrooms, roots, honey, bush meat, fish, fodder and fibers compared to timber. However, wild vegetables are essential part of almost every household dishes in Nigeria. Human beings have always used their immediate surrounding particularly forest to obtaining their various daily needs (Peter, 1996) Agricultural productivity fluctuations have made rural people to engage themselves on alternative livelihood strategies such as exploitation of NWFPs (Anderson, 1990). Food and Agricultural organization (FAO) (1990) De-Rijsoort, (2000) posited that NWFPs are plants and animals or parts other than industrial timber, which are harvested for human use at the level of self-support or for commercial purposes. In Nigeria, rural communities derive substantial revenue from the collection, processing and marketing of these NWFPs, which improve their economic status. Beer and McDermott (1996) reported that 35.7% of the rural population in south-eastern Nigeria collected, NWFPs daily. In Ghana total household incomes obtained from NWFPs range between 49 and 87 percent, while in Cameroon attractive activities around forest contribute to over half of the local income (Boot, 1997) However, in India alone it is estimated that over 50 million household were dependent on NWFPs for their living and cash income (Falconer, 1995). For many rural women the collection of NWFPs is the only means to earn an independent income (Falconer, 1995) This is apparently due to higher nutritive value, palatability, medicinal effects, and socio-cultural effects, cheap and natural characteristics of NWFPs.

However, NWFPs are not only nutritious but also serve as strategic reserves of essential nutrients that are available at certain critical periods of the year, when other sources of these nutrients are scarce or completely unavailable. (Arnold and Ruiz, 2001). Therefore, this study focused on effect of non-wood forest products on rural household. Specifically objectives were to examine the socio-economic characteristics of the respondents, identify the types of NWFPs available in the study area, determine the impact of NWFPs on rural household, ascertain the income earned from NWFPs, describe NWFPs based economic activities, and investigate the constraints that hindered NWFPs based economic activities in the study area. It was hypothesized that there was no significant relationship between NWFPs economic activities and constraints

2 Materials and Methods

The study was conducted in Surulere Local Government Area of Oyo State. The study area lies within latitude $3^{\circ}8'N$ and $7^{\circ}11'N$ and longitude $8^{\circ}35'W$ and $2^{\circ}18'W$. The area shares boundaries with Osun State in the North, Kwara State in the West, Ogbomoso North Local Government in the South and Orile Local in South West. The total land area is 134.12 square kilometers and has one extension block that made up of eight (8) extension cells. Five extension cells were randomly selected for the study. The extension cells selected were Arolu extension cell, Iregba extension cell, Gambari extension cell, and Iresa extension cell and Oko extension cell. From each selected extension cell four communities were randomly selected totaling twenty (20) communities' sampled for the study. From each of the selected communities six respondents (household head) were randomly chosen; making a total of one hundred and twenty (120) respondents selected and interviewed to elicit useful information for the study through the use of structured interview schedule. Effects of NWFPs were measured on a 2-point scale of favourable depicted 1 and non-favourable depicted 0 with a cut-off mean value of (0.5). Calculated mean greater than (0.5) was regarded as favourable and mean value less than (0.5) was regarded as not favourable. While constraints to NWFPs were measured on a 3-point Likert-type scale of very serious, serious and not serious depicted with 3, 2 and 1 respectively. With a cut-off mean of (2.0) calculated mean value greater than (2.0) was regarded as serious and mean value less than (2.0) was regarded as not serious. Data collected were subjected to statistical analytical techniques like frequency counts, percentages, mean ranking, multiple regression and Chi square.

3.0 Results and Discussion

3.1 Socio economic characteristics of the respondents

Table 1 shows that 87.5% of the respondents were within the age category of 30-59 years; while 6.7% and 5.83% were between the age category of 20-29 and above 60 years respectively. This implies that youths were interested in non-wood forest products (NWFPs) based economic activities such as collecting, processing and marketing. This result disagrees with Nzeh and Eboh (2008) who reported that youth appear uninterested in NWFPs based economic activities, further on the table 53.3% of the respondents were male, while 46.7% were female. This implies that male has more access and is interested in NWFPs economic activities, like killing bush animals, charcoal production, collection of herbs and bark. This supports the findings of Falconer and Arnold (1991), Nzeh and Eboh, (2008) who reported that men have greater access to the cash economy from NWFPs based economic activities. These findings disagree with the finding of Raufu et al (2012) who stated that women had greater access to forest. Majority 88.3% of the respondents were married, 68.3% had between 6-15 years of experience of NWFPs based economic activities. Also majority (95.8%) of the respondents had low level of education. This implies that majority of the respondents were literate. Table 1 further reveals that 69.2% of the respondents had household size of 1 to 5, 17.50% had between 6-10 household size. However all respondents were farmers'. This implies that NWFPs based economic activities are the minor occupation of the respondents.

3.2 Non wood forest products available in the area.

Table 2 reveals that all (100.00%) of the respondents indicated bush meat as the NWFPs available in the study area, 80.83% indicated herbs, 74.2% indicated snails, also 67.5% of the respondent indicated wild honey. This implies that NWFPs which provide income for the respondent in the highest net return, are the one depend on in their economic activities due to available many forest products. These agree with Falconer (1992), Nzeh and Eboh, (2008), Raufu (2012) who stated that those NWFPs continue to contribute significantly to the economy and the diet of many rural household. Also the results conform with findings of RosToneen and Wiersum, (2005) who reported that NWFPs add to the economy of the rural households. Furthermore the result agrees with Obaidullahkham (1995) who posited that NWFPs provide considerable opportunities for local income generation especially in developing countries in which Nigeria is not an exception.

3.3 Effects of non wood forest products

Table 3 shows that respondents indicated eating of quality food, as the favourable effect of NWFPs with mean value of (1.8), always having money with mean value of (2.0), member of organizations with mean value of (1.5), external orientation (cosmopolitanism) with mean value of (1.6) discovery of many channels of marketing with

mean value of(2.4) and increase in knowledge of the use of NWFPs available in the area. This implies that effect of NWFPs was favourable on rural household economic activities, this may due to the fact that some of the NWFPs were edible and those that are not are sold for money.

3.4 Non wood forest products based economic activities

Table 4 shows that 48.3% of the respondent indicated collection and marketing of NWFPs as their economic activities, 20.0% indicated collection processing and marketing of NWFPs as their economic activities, while 13.3%, 8.3%, and 4.1% indicated marketing of NWFPs, collection of NWFPs only and processing NWFPs only as their economic activities respectively in the study area. This implies that NWFPs economic activities which the respondent depends on are the one that provide highest net returns to supplement their farming income. This conform with Nzeh and Eboh (2008) who find that 40.0% and 30.0% of the rural household indicated, gathering, processing and marketing, and gathering and marketing of forest products as their income earning activities in forestry respectively.

3.5 Income earned from non wood forest products based economic activities

Table 5 revealed that 87.5% of the respondents indicated that N100-N2000 was the amount of money earned from NWFPs based economic activities, while 17.5% earned between N2, 600-N3000. This source of income is only to supplement the major sources of income (farming) especially during the off farming season. The results conform to Amos et al (2010) who reported that agriculture is associated with other livelihoods particularly the exploitation of NWFPs. Further agrees with Sieberts and Belsky, (1985) who stated that, forest based economic activities are engaged in part-time by farm households which cannot raise enough, to be food self-sufficient year round

3.6 Constraints to non wood forest products economic activities

Table 6 reveals that the respondent indicated that the constraints hindering their NWFPs based economic activities are development with mean score(2.8)rank 1st deforestation with mean score of (2.6) rank 3rd, extinction of NWFPs with mean score of(2.5) rank 4th lumbering with mean score of (2.0) rank 5th unemployment mean score of (1.9) rank 6th and lack of control in entering forest with mean score of (1.4) rank 8th. This implies that mentioned constraints development, deforestation extinction of NWFPs and lumbering were considered to be serious constraints to the respondents as their mean scores exceeded (2.00) while unemployment and lack of control in entering the forest are not serious constraints to the respondents, as their mean score less than (2.00). This indicated that respondents were sure of earning more income from NWFPs based economic activities, if there is prompt and adequate remedy to those identified constraints.

3.7 Regression results of the determinants of level of income from non wood forest products economic activities.

Regression analysis results in Table 7 shows that there was positive and significant relationship at (P<0.05) level of significance between nearness to markets (x3) non-wood forest products available in the area (x4) age of the respondents (x5) years spent in school (x6) years of involvement in non-wood forest products economic activities and income. This predicted 78.4% of the variables that determined the level of income. This explains that the more the years of experience on NWFPs by the respondents the more they were able to identify those NWFPs they can depend on for economic activities in the area. This result agree with Plotkin and Famolore (1992) who stated that increase in use and other economic activities related to forestry accompanies increase in knowledge about its uses as people spend more time in the fields and bush, the opportunity to learn about forest products increased that influence good knowledge about which plants to be collects, process, consumed and market.

3.8 Chi –square results of relationship between non wood forest products based economic activities and constraints.

Table 8 shows the results of Chi-square analysis of the relationship between non-wood forest products based economic activities and Constraints. It was revealed that there was significant relationship between collection of NWFPs, processing of NWFPs, marketing of NWFPs, collection and processing of NWFPs, collection, processing and marketing of NWFPs and constraints at (p<0.01) level of significance. This implies that NWFPs based economic activities have been seriously affected by those identified problems in the area. These resulted into low income earned from the NWFPs depend on by the respondent.

Conclusion and Recommendations

Available data analyzed in this study had shown that NWFPs had significant and positive impacts on rural-household, due to dependency for economic activities. People that were involved in collection, processing and marketing of non wood forest products were middle aged people and youth. Some NWFPs identified as traditional source of food and a means of obtaining little cash income to supplement income from agriculture, in order to contribute to absolute poverty alleviation. There should be a policy on forestry that need to restricted non rural based people from collecting NWFPs free. Also extension personnel need to be encouraged in order to

disseminate appropriate information on forest protection, forest products harvesting technique and economic and environmental value of forest. However it is absolutely imperative that deforested land need to be regrowth by afforestation for regeneration of extinct NWFPs

Table 1: Socio-economic characteristics of the respondents

Variables	Frequency	Percentage
Age		
20-29	08	6.7
30-39	29	24.2
40-49	31	25.8
50-59	45	37.5
60 and above	07	5.8
Total	120	100.0
Sex		
Male	64	53.3
Female	56	46.7
Total	120	100.0
Marital Status		
Married	77	64.1
Single	03	2.5
Divorced	11	9.2
Widow/widower	29	24.2
Total	120	100.0
Years of experience		
1-5	10	8.3
6-10	46	38.4
11-15	24	20.0
16 and above	40	33.3
Total	120	100.0
Educational level		
No formal education	05	4.2
Primary education	54	45.0
Secondary education	51	42.5
Tertiary education	10	8.3
Total	120	100.0
Household size		
1-5	83	69.2
6-10	21	17.5
11-15	12	10.0
16 and above	04	3.3
Total	120	100.00

Table 2: Non-wood forest products available in the area.

Non-wood Forest Products*	Frequency	Percentage
Charcoal	72	60.0
Food wrapping leaves	56	46.7
Chewing stick	81	65.0
Bush meat	120	100.0
Sponge	48	40.0
Wild fruits	69	57.5
Snails	89	74.2
Mushrooms	57	47.5
Wild honey	78	67.5
Herbs	97	80.8
Wild vegetables	65	54.2

Source Field Survey 2012.

* Multiple Responses

Table 3 Effect of non-wood forest products

Effects	Mean	Mean
Eating quality food		1.8
Always having money		2.0
Member of organization		1.5
External orientation(cosmopolitaness)		1.6
Marketing channel use		2.4
Knowledge of uses of many NWFPs		1.3

Source Field Survey 2012.

Table 4: Non-wood forest products respondents based economic activities

Economic activities	Frequency	Percentage
Collection of non-wood forest products only	10	8.3
Processing of non-wood forest products only	05	4.2
Marketing of non-wood forest products only	16	13.3
Collection and processing of non-wood forest products	07	5.8
Collection and marketing of non-wood forest products	58	48.4
Collection processing and marketing of non-wood forest products	24	20.0
TOTAL	120	100.0

Source Field Survey 2012.

Table 5: Income earned from non-wood forest products based on economic activities

Income	Frequency	Percentage
100-500	73	60.8
600-1000	21	17.5
1100-1500	08	6.6
1600-2000	03	2.5
2100-2500	02	1.7
2600-3000	05	4.2
3100 and above	08	6.7
TOTAL	120	100.0

Source Field Survey 2012.

Table 6: Mean score of constraints to non-wood forest products economic activities.

Constraints	Mean score	Rank
Deforestation	2.6	2 nd
Lumbering	2.8	1 st
Bush burning	2.5	4 th
Unemployment and inadequate extension services	2.5	3 rd
Lack of control in entering forest	1.9	7 th
Extinction of forest products	1.4	8 th
Less Pricing of non word forest products	2.5	5 th
	2.2	6 th

Source Field Survey 2012.

Table 7: Regression results of the determinants of level of income from non-wood forest products economic activities

Variable	Coefficients	t-ratios
Available of extension service	0.40	0.653
Other source of income	0.026	0.302
Nearness to market	0.365	2.566*
Non-wood forest products in the area	0.346	2.594*
Age of household head	0.539	2.468*
Number of years in school	0.462	2.487*
Years of experience	0.529	2.045*
Constraint term	3.468	
R ²	0.784	
Adjusted R ²	0.849	
F-Value	4.8	

Source - Data analysis 2012

*Significantat5%

Table 8: Chi-squar results on relationship between non-wood economic activities and constraints

Variables	Degree of freedom	X ² tabulated	X ² calculated	Decision
Collection of non-wood forest products	3	6.58	14.42	Significant
Processing non-wood forest products	2	4.69	28.37	Significant
Marketing of non-wood forest products	5	5.17	38.71	Significant
Collection and processing of non-wood forest products	9	9.36	15.41	Significant
Collection and marketing of non-wood forest products	6	7.51	8.42	Significant
Collection processing and marketing of non-wood forests products	4	9.36	26.53	Significant

Source-Data analysis 2012

Significant at 1%

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