



Effect of Non-Timber Forest Products Activities on Income of Rural Household in Nigeria

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ABSTRACT

The dependency of rural household on non timber forest products to meet livelihood objectives such as food security, social security and income generation cannot be over emphasized. Non timber forest products plays a major role in the daily subsistence of rural populace servings as source of food, fodder, fuel, medicine ,tools and handcrafts, construction materials, these in turn create employment and income generation activities for rural household. This study was carried out to investigate the effect of some selected Non-Timber Forest Products (NTFPs) activities on income among rural households in Nigeria. The National Living Standard Survey (NLSS) data collected by Nigeria's National Bureau of Statistics were used for the study. Data were analysed using descriptive tools. Results showed that a number of forest products activities were found to be of importance to the livelihood of households in the study area. These include hunting, honey processing, palm wine tapping, fruit processing, hides, and mushroom gathering. About 17% of the respondents were engaged in hunting, 17.43% in honey processing, 17.36% in palmwine tapping, and 15.85% mushroom gathering. With respect to income generation, the most important of these activities is palmwine tapping with income share of 87.51%. The results also show that the poor were found to be more dependent on the forest than the non-poor, while households from the Southern zones were more forest dependent than households from the Northern zones. It is recommended that poverty reduction strategies in rural Nigeria should target the forest dependent poor households in order to provide support in the areas of specific forest products development.

Keywords: Forest products, income generation, rural Nigeria

Introduction

In early times, humans around the world have relied on products derived from forest species for their survival and well-being. The term for forest produce ("forest produce") was defined as 'all material yielded by a forest estate'. Tropical forests provide ample goods and services; these mainly include timber and Non-Timber Forest Products (NTFPs). Timber and firewood were termed as timber forest products while other items received from forests were called non-timber forest

products. NTFPs have been studied by researchers from many different academic fields and each field used a slightly different definition of NTFPs. Odebode (2003) and Adepoju (2007) defined NTFPs as all goods and services for commercial, industrial, or subsistence use derived from forests and allied land uses, other than timber, fuel wood and fodder. Adepoju (2007) included crops grown under the shade of trees, certain agroforestry crops which depends on wild sources for seed or planting stock as NTFPs. CIFOR (2009) gave their own definition as any product or



service other than timber that is produced in a forest. They include fruits, nuts, vegetables, fish and, medicinal plants, resins, essences, and a range of barks and fibers such as bamboo, rattans, and a host of other palms and grasses”.

NTFP harvesting remains widespread throughout the world. People from diverse income levels, age groups, and cultural backgrounds harvest NTFPs for household subsistence, maintaining cultural and family traditions, obtaining spiritual fulfillment, maintaining physical and emotional well-being, scientific learning, and earning income (Malleon *et al.*, 2014). Other terms synonymous with harvesting include wild crafting, gathering, collecting and foraging. Very large numbers of third world rural households generate some of their income from selling non-timber forest products (NTFPs). As pressures on the agricultural land base increase, leading to progressive fragmentation of farm holdings and overuse of arable land, the ability of farm households to achieve food self-sufficiency from their land has been declining widely. Rural populations are becoming increasingly reliant on farm and non-farm income in order to meet their food and other needs. Forest product activities have repeatedly been found to provide one of the main sources of non-farm income to rural households (Kuponiya, 2007).

The FAO estimated that 80% of the population of the "developing" world use NTFPs to meet some of their health and nutritional needs (FAO, 1997, 2008). The importance of NTFPs in supporting livelihood of forest dependent communities has been widely promoted due to the recognition that NTFPs can contribute to improve the livelihoods and household food security

(FAO, 1995); generate additional employment and income (Marshall *et al.*, 2003); and offer opportunities for NTFP-based enterprises (Subedi, 2006).

NTFPs are a dependable source of income and food supply in the rural areas. However, it is a diminishing resource as a result of its dependency on land which is known to be under pressure of depletion from agriculture and development of public infrastructures. Non-timber forest products constitute a critical component of food security and it is an important source of income for the poor in many developing countries. Several opportunities for improved rural development are linked to NTFP. In many areas, rural populations are traditionally depend on local forest resources to provide additional income through collection and marketing of NTFPs. Where employment opportunities from traditional industries are declining, workers looking for alternative income sources often turn to collection of these products from nearby forest.

In Nigeria, food security of rural dwellers is improved by growing trees in the home gardens and on farms. Leaves, rattan, honey, sap, gums from the small scale industries are important sources of income (Okafor *et al.*, 1994). Due to the diverse varieties for species obtainable from NTFPs, a lot of household were able to meet their immediate needs by collecting these products from the nearby forest. While other households earn income to meet other needs through the marketing of NTFPs harvested.

Against this background, NTFPs are obviously very important as they contribute to meeting food and other basic needs. They provide a source of input into the agricultural system, help households control exposure to risk of various kinds. A better understanding



of the magnitude and nature of the role of NTFPs is therefore central to making decision about forest management that adequately reflects society's demand upon the forest resource. By disaggregating into different socio-economic categories, this study therefore identified the various NTFPs activities that rural households in Nigeria are engaged in order to generate income.

Data and Methodology

The study employed secondary data for analysis. The data used for the study were collected by National Bureau of Statistics (NBS). They were based on the Nigeria Living Standards Surveys (NLSS) of households. The questionnaire development was a joint effort of the Nigerian Bureau of Statistics, the World Bank and the National Planning Commission. The survey covered the rural areas of the 36 states of the Federation and the Federal Capital Territory. The national sample size was 19,158. Although there are 19,158 urban and rural households in the full sample, the analysis focused on rural households, which total 13,033. The following forest products activities were identified hunting, honey processing, palmwine tapping, fruit processing, hides and mushroom gathering. Data were analysed using descriptive statistics such as frequency and percentages.

Measurement of poverty

Poverty is multidimensional and no single indicator can capture all the aspects of poverty. In this study, the poor are defined as

those who subsist below the poverty line. The national poverty was interpreted as the monetary value of the food and non-food expenditures needed for an individual to achieve a basic level of welfare (NBS, 2010). In calculating poverty line for 2003-04, the threshold which was considered to represent a poor household was NGN 28,836.70 per person per year, while 2009-10 poverty line was defined at NGN55,235.20 per person per year. Those with per capita expenditures that are less than two-thirds of the poverty line are considered to be poor, while those above are non-poor.

In this study, poverty groups were computed as the terciles of the poverty index.

Results And Discussion

Forest Products Activities and Income

Forest products activities being engaged by households in the study area include (Table 1): hunting (17.57 percent), honey processing (17.43 percent), palmwine tapping (17.36 percent), fruit processing (16.03percent), hides (15.87percent) and mushroom gathering (15.85percent). With respect to income generation, the most important of these activities are palmwine tapping with income share of 87.51 percent, hides (10.02 percent), fruit processing (6.65 percent) and hunting with income share of 5.71 percent. This conform to the findings of Suleiman *et al.*(2017),that NTFPs contribute significantly to household income and thus can act as a safety net during the period of hardship and other emergencies.

Table 1: Forest Products Activities and Income

Activities	No of Households	No of Households in %	Income in %
Hunting	2372	17.47	5.71



Honey processing	2366	17.43	0.10
Palmwine	2357	17.36	87.51
Fruit processing	2176	16.03	6.65
Hides	2154	15.87	10.02
Mushroom gathering	2152	15.85	0.01

Calculations from Nigerian Living Standard Survey

Income from Forest Products by Zone

The zonal distribution of income from forest products shows that 69.67 percent of it originates from the Southwest (Table 2). About 30 percent of this income is from the Southeast, while the remaining income is from the South-south. There was no data on

income from forest products from the North. With respect to participation, the proportion of households who participated in these activities is evenly distributed between the Southern zones; 34.74 percent in the Southeast, 27.81 percent in the South-south and 37.45 percent in the Southwest.

Table 2: Income from Forest Products by Zone

Zone	Southeast	Southsouth	Southwest	Northcentral	Northeast	Northwest
No of Households	832	666	897	0	0	0
% of Households	34.74	27.81	37.45	0.00	0.00	0.00
Income in %	30.02	0.30	69.67	0.00	0.00	0.00

Calculations from Nigerian Living Standard Survey

Income from Forest Products by Poverty Group

Analysis of income from forest products in table 3 revealed that the share of households generating income from forest products is highest among the poorest households with 51.98 percent of them participating and generating 51.73 percent of their income from

these activities. This implies that the proportion of households who engaged in forest products drops significantly with increasing wealth. This result conforms to findings by Mulenga *et al.* (2012) that poorer households are relatively more dependent on income from extraction and sale of NTFPs than wealthier households.



Table 3: Income from Forest Products by Poverty Group

Poverty level	Core poor	Moderately poor	Non-poor
No of Households	1245	760	390
% of Households	51.98	31.73	16.28
Income in %	51.73	25.37	22.90

Calculations from Nigerian Living Standard Survey

Income from Forest Products by Gender of the Household Head

When income from forest products was analysed according to gender of the household head (Table 4), it was revealed that the males participated in these activities (82.38 percent) than females (17.62 percent). This can be explained with the fact that male household head participate more in forest

activities because of the risk involved in going to the forest compared to female are more involved in forest activities. Also males generated a higher income from these activities (61.61 percent) than females (38.39 percent). This could be as a result of the cultural belief in the study area which limit the participation of women in engaging in forest activities

Table 4: Income from Forest Products by gender of the Household Head

Gender	Male	Female
No of Households	1973	422
% of Households	82.38	17.62
Income in %	61.61	38.39

Calculations from the Nigerian Living Standard Survey

Perceived effect of deforestation on NTFPs activities

The major perceived effect of deforestation on NTFPs is the non- availability of NTFPs as 43.55% of the respondents reported, followed by more time spent in NTFPs collection with 35.18% and perceived effect due to soil degradation was 18.10% (Table 6). This implies that deforestation has effect on the availability of NTFPs. This is supported by the study of Raufu *et al.* (2012) who also reported that Deforestation has a significant effect on the availability of the NTFPs in the

forest. Clark, 2004 said that many who approach NTFPs sector as conservation tool begin with a set of basic assumptions. It is assumed that natural forest will have greater long-term benefits if left standing; that local people will tend to manage their forest resources more sustainable if they directly benefit from doing so; and that poverty in forest communities is both caused by, degradation of the forest resources and the logical conclusion is that if poverty can be alleviated through harvesting forest products, then there will be greater incentive to



conserve those forests according to Neumann and Hirsch (2000).

Table 5: Percentage distribution of respondents by perceived effect of deforestation on NTFPs activities.

Deforestation Effect	Frequency	Percentage %
Soil degradation	2,458	18.10
Non-availability of NTFPs	5,912	43.55
More time spent in NTFPs Collection	4,777	35.18
No response	430	3.17

Calculations from the Nigerian Living Standard Survey

Distribution of Respondents by Constraints Encountered in NTFPs Activities

Result in Table 6 showed that most of the respondents were faced with insufficient labour during NTFPs activities, followed by storage problem, lack of access to forest,

marketing problems and lastly thieves stealing their produce. This is in consonants with Raufu *et al.* (2012) who stated that insufficient labour was a major constraint during NTFPs activities.

Table 6: Percentage distribution of respondents by constraints encountered in NTFPS activities

Constraints	Frequency	Percentage
Lack of access to forest	1739	12.8
Storage problem	2037	15.0
Insufficient labour	6788	50.0
Thieves	991	7.3
NTFPs marketing	1592	11.73
No Response	430	3.17

Calculations from the Nigerian Living Standard Survey

Conclusion and Recommendation

This study examined the effect of the non timber forest activities on rural households in Nigeria. It was observed that most important income generating non timber forest activities, are palmwine tapping, fruit processing and hunting. Southwest region generate more income from non timber forest activities as compared to other geopolitical regions in Nigeria. The study further revealed that the share of households generating income from forest products is highest among the poorest households. However

deforestation was identified by the respondents as a major effect of non availability of NTFPs.

It is recommended that poverty reduction policy should highlight the importance of non forest products in income generation especially for rural household. Afforestation programs should also be encouraged for sustenance and management of our forest resources. In addition, training on value addition, processing and market access by stakeholders in forestry will further encourage



more participation of rural household on non timber forest activities.

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