



E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2018; 7(6): 509-513
Received: 13-09-2018
Accepted: 15-10-2018

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Contribution of non-timber forest products to rural household income and livelihood security in Jakusko local government area of Yobe state, Nigeria

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Abstract

The objective of this study is to examine the contribution of non-timber forest products to the rural household income in Jakusko local Government Area of Yobe state, Nigeria. Data was collected through random sampling with structured self-administered questionnaires and interview involving people participation. Data analysis included using descriptive statistics involving the use of percentage and tables as well as regression analysis as the statistical tools. Previous literature revealed that there some constraints faced in the operation of non-timber forest products. The present finding confirmed some of operational challenges such as illegal felling, bush burning, nature and distance of forest area, over exploitation etc. The result showed that majority 83.33% of the respondents were involved in collection of NTFPs as source of income while 8.33% for food, nutrition and medicinal purposes.

Keywords: NTFPs, household, economy, livelihood, Jakusko, food security and

Introduction

Majority of the forest and rural dwellers in the developing countries fulfill their construction, storage, agricultural, energy, nutritional and medicinal needs from forest. Access to forest resources helps rural household to diversify their daily needs. Millions of people generate parts of their income from selling forest products. Forest provides sources of varieties of food that supplement and complement what is obtained from agriculture. The terms non-timber forest products (NTFPs) and non-wood forest products (NWFPs) are used interchangeably. They are products of biological origin, other than wood, derived from forests, other wooded land and trees outside forests. NTFPs like fuel-wood, medicinal plants, wild edible vegetables, house building materials etc. are integral part of day-to-day livelihood activities especially for tribal people (Sarmah, 2006) [2]. Since the early 1990s the role of NTFPs for sustainable forest use and poverty alleviation has received increased attention (Peters *et al.*, 1989). The socio-economic importance and the value of NTFPs in the economics of tropical countries are now well recognized (Gupta and Gularis, 1982; FAO, 1995). NTFPs may be gathered in the wild or from trees outside forests or produced in forest plantations and agroforestry schemes. Examples of NTFPs include food additives (edible nuts, mushrooms, honey, fruits, herbs, spices and condiments, aromatic plants, game); fibres (used in construction, furniture, clothing or utensils); resins and gums; and plant and animal products (used for medicinal, cosmetic or cultural purposes) (FAO, 1991) [3]. Non-timber forest products (NTFPs) constitute an important source of livelihood for millions of people across the world. In India alone it is estimated that over 50 million people are dependent on NTFPs for their subsistence and cash income (Shaanker *et al.*, 2004). Mulenga *et al.* (2011) [4] reported the contribution of NTFPs to rural household income and food security in Zambia as well its influence on the national economy. Forest-based activities in developing countries Nigeria inclusive, which are mostly in NTFPs area, provide an equivalent of 17 million full-time jobs in the formal sector and another 30 million in the informal sector, as well as 13-5% of all rural non-farm employment (Duong, 2008) [5]. NTFPs are important forest products especially in dry land areas where they form alternative sources of livelihoods. They also contribute to poverty alleviation through generation of income providing food and improved nutrition, medicine and foreign exchange earnings (Chikamai and Kagombe, 2002) [6]. There is therefore a growing awareness of the contributions of NTFPs to household economies, food security, national economies and conservation of biodiversity. Non-Timber Forest Products provide food, medicines, fibres and cash income for rural households (Okafor *et al.*, 1994) [7].

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Much has been written about the negative impact of globalization on the world's poor people, and especially on women in relation to household food security. The non-cash income values of NTFPs for local people have rarely been incorporated in official land use planning and sustainable development schemes (CBD 2001). More recently, there has been a growing interest in the economic potential of NTFPs. This is because of the role they can play in reducing poverty levels and promoting sustainable development. Supporting programs to develop certain NTFPs for larger commercial markets, could provide more equitable income redistribution on the long term (Peters 2000) [8]. Most people rely on fuel wood to meet their energy needs such as cooking and heating. They collect fodder for their livestock. They also collect food products such as wild fruit, vegetable, nuts, edible roots, bush meat, edible insects, honey, and food additives like spices, flavoring, and fermentation agent (Abushe, 2005) [11]. Majority of the rural dwellers in most developing countries meet some parts of their construction, storage, agricultural, energy, nutritional and medicinal needs from forest. Access to forest resources helps rural household to diversify their consumption. Large numbers of people generate some of their income from selling forest products. Forest products provide sources of varieties of food that supplement and complement what is obtained from agriculture. The trees help to create a special environment which in turn affects the kind of animals and plants that exist in the forest. NTFPs like fuel-wood, medicinal plants, wild edible vegetables, house building materials etc. are integral part of day-to-day livelihood activities especially for tribal people (Sarmah, 2006) [2]. The forest is the major source of their livelihood and subsistence by providing them a variety of NTFPs (Muzayen, 2009) [10]. There has been renewed interest in the development of non-timber forest products (NTFPs) as an instrument for sustainable rural development (Tieguhong and Ndoye 2004)

[11]. Most commonly NTFPs collected in Jakusko Local Government Area of Yobe State, Nigeria are wild vegetable, mushroom, palm fruit, locust-bean, mango fruit, orange fruit, guinea pepper, honey, gums, palm wine, etc.

Present study investigated the contribution of non-timber forest products (NTFPs) to rural household income in Jakusko Local Government Area of Yobe State, Nigeria. Specifically, it examined the socio-economic characteristics of respondents; identified the NTFPs available to the respondents in the area; determined the level of involvement of rural household in gathering of NTFPs; ascertained the level of rural household income of the respondents in the area. It was hypothesized that there is no significant relationship between selected socioeconomic characteristic variables, level of rural household and level of involvement of rural household in NTFPs gathering.

Materials and Methods

The study was carried out in Jakusko Local Government Area (LGA) of Yobe State, Nigeria. Jakusko is situated in the west at $12^{\circ}22'09''\text{N}$ to 12.36917°N and $10^{\circ}46'23''\text{E}$ to 0.77306°E . It has an area of $3,941\text{ km}^2$ and a population of 229,083 at the 2006 census, with an average temperature of 33°C . The average humidity level of the LGA is 29 percent while average wind speed in the area is 10 km/h. Jakusko LGA host the popular Al-karam river which flows through the LGA. It shared the border with Joshua from the north, Potiskum from the south, Bursali from the east and Jigawa state from the west. The LGA consist of more than sixty (60) villages, from which ten percent of the total villages were randomly selected, which amounted to a total of six (6) villages in all. From each village ten rural household were randomly selected summing up to a total of sixty (60) respondents that constituted the sample size for the study.

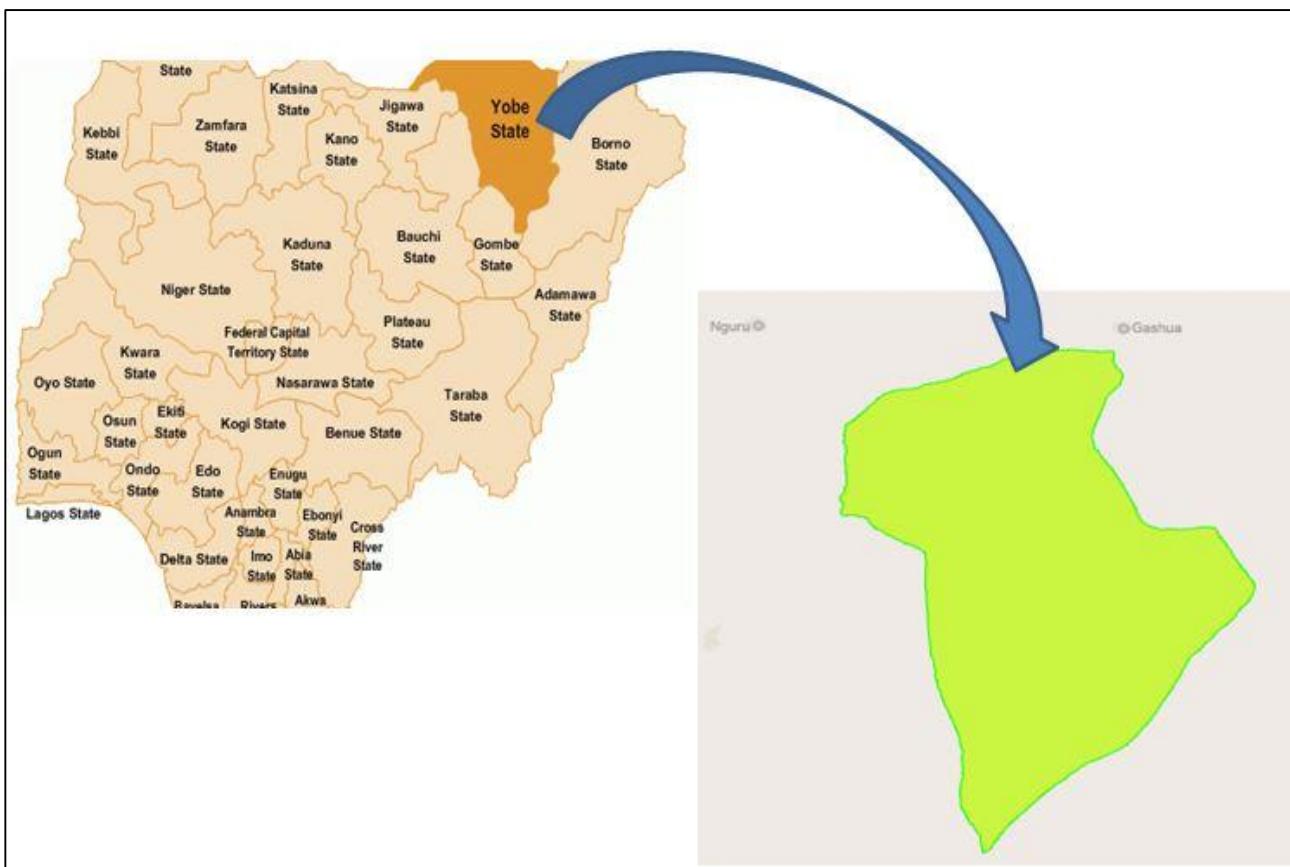


Fig 1: Map of Jakusko Local Government Yobe state, Nigeria

The data was obtained with the use of structured questionnaire and interview. Descriptive statistical tools used in data analysis include table, frequency counts, and percentages as well as regression analysis and were used as inferential statistical tools to test the formulated hypotheses of the study. Information on NTFP plant species and their utilization pattern were collected through personal interview with the village headman and other villagers of different age group and sex. Variables measured in the study include age, marital status: as married, single, divorce or widow, educational status: as formal or informal, Gender: as male or female, occupation: as farmer, trader or civil servant, Household size: measured as below 5, 6 - 10, 11 - 15, 16 and above.

Result and Discussion

Socioeconomic characteristics of the respondent

Age and Gender

Perusal of data presented in Table: 1 shows that maximum (>33.33%) rural household heads who involved in non-timber forest products extraction were within the age group of 41–50 years. This group represents those who are more economically involved in NTFPs extraction followed by age group of 31–40 (25%). This implies that majority of them are in their active age and are very nimble. This could be due to the fact that a lot of people of this age group would have taken it as their sources of income while some would have joined them as a result of retirement or cutback. While both male and female were involved in NTFP extraction, the result of the study shows that most 53.33% of those involved in NTFPs extraction activities were females while the remaining 46.67% were males. This result shows that female is better

positioned in terms of immediately in extracting product from the forest.

Educational Background

In terms of educational status of the respondents, it was revealed that a high percentage (70%) of the respondents had no formal education while the remaining (30%) were literate ranging from primary education to tertiary education

Marital Status

The study showed that more than 58.33 % of rural household involved in extraction were married. This shows that people have the tendency to settle down to do their businesses. Married people also have the advantage of family labour than the unmarried. Followed by 28.33% were single (unmarried) and about 13% was widow/widower and divorce higher percentage of married population in the study area indicates that they are expected to be responsible. The finding of this study is in line with Jibowo (2000) ^[12] that a high percentage of rural populations are married.

Occupation of respondents and Household Size

Data presented in Table: 1 shows that more than 76.67% of respondents in the area were farmers and they also involved in NTFP sex traction followed by 13.33% traders while the remaining respondents were solely involved in NTFPs extraction only. The result also shows that most of the household sizes were in the range of 6 – 10 and this constitutes 48.33% of the respondents. This implied that majority of those who extract NTFPs have relative big household size.

Table1: Socioeconomic characteristics of the respondent Jakusko Local Government Yobe state, Nigeria

Socioeconomic characteristics of the respondent		
Age	Frequency	Percentage (%)
20 and below	6	10.00
21 - 30	10	16.67
31 - 40	15	25.00
41 - 50	20	33.33
51 and above	9	15.00
Total	60	100
Gender	Frequency	Percentage (%)
Men	28	46.67
Women	32	53.33
Total	60	100
Education	Frequency	Percentage (%)
Formal	18	30.00
Informal	42	70.00
Total	60	100
Marital Status	Frequency	Percentage (%)
Single	17	28.33
Married	38	63.33
Divorce	3	5.00
Widow	2	3.33
Total	60	100
Occupation	Frequency	Percentage (%)
Farming	46	76.67
Trader	8	13.33
Civil servant	6	10.00
Total	60	100
House hold size	Frequency	Percentage (%)
Below 5	25	41.67
6 - 10'	29	48.33
11 - 15'	4	6.67
16 and above	2	3.33
Total	60	100

Forest-Base Activities of the Respondents

Data presented in Table: 2 showed that majority of the respondents (81.67%) were allowed to collect product from the forest while very less (18.33%) were not allowed access the forest areas. This could be due to government policies and traditional law to reserve some areas. The table depicts the general purpose of collecting non-timber forest products. The result obscure that more than 83.33% of the respondents extract products for the purpose of income generation, while 8.33% were extract for medicinal and for food and nutrition. The result also showed that more than 83.33% of the respondents said that nature and distance of forest determined the quantity of products that is collected while 16.67% said that it does not determine the quantity of products that is collected. The studies revealed that 66.67% of the respondents do not always get products. This could be due to bush burning, deforestation, illegal feelings for energy and structural development, govt. policies and seasonal availability. Value mentioned in Table shows that the price of other product does not affect their product due to the fact that most of the products from forest do not have closed substituted. The result shows that majority 66.67% of the respondents sold their products both in singly or bundle.

Table 2: Forest-Base Activities of the Respondents of Jakusko Local Government Yobe state, Nigeria

Forest-Base Activities of the Respondents		
Variables questions	Frequency	Percentage (%)
1. Are you always allowed to collect (NTFPS)		
YES	49	81.67
NO	11	18.33
2. Purpose of collecting the products		
Income generation	50	83.33
Medicinal purpose	5	8.33
Food and nutrition	5	8.33
3. Do nature and distance of the forest affect the quantities of what you collect		
Yes	35	58.33
No	25	41.67
4. Do you always get the products whenever you go for collection		
Yes	40	66.67
No	20	33.33
5. Does the market price of other products affect the market price of your products		
Yes	50	83.33
No	10	16.67
6. How are the various products sold		
Small quantity	10	16.67
Large quantity	10	16.67
Both	40	66.67

Challenges face by Rural Household during extraction of Non timber forest products

The result presented in Table 3 shows the general challenges that are faced by various respondents of the study area. The study implied that more than, (21.31%) of the respondents were affected by deforestation (illegal felling) which could be for energy purpose, income etc. making the extraction difficult because of the distance from the town, while (17.05%) encountered problem of bush burning followed by distance from the forest (18.13%), lack of marketing of NTFPs (11.36%). The result shows that deforestation and bush burning are the major challenges faced during extraction. This is followed by over exploitation (9.94%), and nature of forest (3.41%) could be due to the denseness of the forest, poor road etc.

Table 3: Challenges face by Rural Household during extraction of Non timber forest products

Challenges face by Rural Household during extraction of Non timber forest products		
Challenges	Frequency	Percentage (%)
Lack of marketing	40	11.36
Bush burning	60	17.05
Deforestation	75	21.31
Nature of the forest	12	3.41
Over exploitation	35	9.94
Distance from forest	50	14.20
Market price of other products	80	22.73
Total	352	100

Conclusion

Findings of above study conclude that non - timber forest products contribute greatly to the livelihood of the study area, but facing lots of challenges during extraction of the products. Government policies should be put into action properly to harness the illegal felling and minimize bush burning in the area, so that people will have regular and constant extraction of the products to improve their socioeconomic status as well maximizing utilization of forest resources.

Acknowledgement

The authors are grateful to the Department of Forestry and Wildlife management, Nigeria and local communities for providing all necessary helps and facilities during the course of study and valuable comments of anonymous reviewers helped us a lot to improve this manuscript.

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