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Socioeconomic Uses of Non-Timber Forest Products among Urban Dwellers in Oyo State, Nigeria.

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Abstract
This study assessed the socioeconomic importance of Non Timber Forest Products (NTFPs) among the urban dwellers in Oyo State. Two hundred and thirty (230) structured questionnaires were administered at household level. Both random and proportionate sampling techniques were adopted. Data were sourced on the basis of senatorial districts. The three senatorial districts are Oyo South, Oyo Central and Oyo North with a population size of 1,764,217, 1,906,814 and 1,909,863 respectively. Descriptive statistics were used to describe the socioeconomic characteristics of the respondents; the multiple regression analysis was employed to determine the factors affecting the utilization of NTFPs. The result of the multiple regression coefficient of 0.79 indicates that 79% of the independent variables explain the dependent variable. Therefore educational level, marital status, household size and household income explain significant variation in the level of utilization of NTFPs in the study area, while variables such as age and sex were not significant in determining the variation in the level of the utilization of NTFPs. Some of the reasons given by the respondents for using the NTFPs include cheapness, availability and accessibility and some of the sources where they obtain the NTFPs were given as market, hawkers, forest and friends. Efforts should therefore be made by government and relevant research institutes to train the people on the domestication of these NTFPs to achieve sustainability, Pharmaceutical involvement to make more refine herbal or medicinal products, and create more awareness about efficacy of NTFPs in nutrition and medicine.
Keywords: Nontimber forest products, Utilization, Urban Dwellers,

INTRODUCTION

Non-timber forest products are biological products and services derived mainly from forests as well as marginal lands. Over the years, forest and its products have contributed immensely to the economic development of Nigeria [1]. Forests products can be classified into two: Timber, which constitutes the bulk of forests based materials used for economic purposes, and Non timber forest products. During the 1960s and 1970s, forest products earned large amounts of foreign exchange and the sector was ranked highest in employment generation. The forest sector earned annual foreign exchange of between 308 million to 412 million naira or about 4.2 percent of GDP [2]. The situation, however, turned around between 1970 and 1985, due to the discovery of oil.

Non Timber Forest Products (NTFPs) have been studied by researchers from many different academic fields and each field used a slightly different definitions. NTFPs include any product or service other than timber that is produced in a forest [3]. They include fruits, nuts, vegetables, fish medicinal plants, resins, essences, a range of barks and fibers, bamboo, rattans, honey, insects, animals, fodder, fertilizers, medicinal extracts, construction materials, cosmetic and cultural products, natural dyes, tannin, gums, latex and other exudates, essential oils, spices, edible oils, decorative articles, horns, tusks, bones, pelts, plumes, hides and skins, non-wood ligno-cellulosic products, phytochemicals and aroma chemicals. NTFPs are indispensable part of the livelihood strategy of communities living in and near forests. They constitutes an important source of livelihood for millions of people across the globe. The term non-timber forest product preferably called non-wood forest products in some regions of the world has been used (of recent) to replace minor forest product as it was formerly particularized. The regional expert consultation on NWFP for Africa held in Arusha Tanzania , defined NTFP as all vegetal and faunal products (other than wood) derived from forests, excluding industrial round wood, wood used for energy, horticultural and livestock products[4].

Rijsoort [5] defined NTFPs as all tropical forest products plants and animals or parts thereof other than industrial timber, which are (or can be) harvested for human use at the level of self-support or for commercial purposes. The use of non-timber forest products (NTFPs) is as old as human existence. The role of NTFPs in the daily life and welfare of people all over the world cannot be overemphasized. Different parts of a plant or animal often provide different products simultaneously and or at different times. About 80% of the population of the developing world depends on NTFP for their primary health and nutritional needs [4]. Osemeobo [6] noted that rural women were found to be making between N115 and N500 in fruit gathering and sale of NTFPs. It is therefore paradoxical that in spite of their real and potential value, most NTFPs remain grouped as minor forest products. These products rarely feature in statistics and are hardly studied or researched. Forest management in Nigeria has been largely focused on

timber production ever since the beginning of organized forestry. However, in the recent time, there has been increasing recognition of the fact that this approach to forest management is neither conducive to sustainable management of the forests particularly of the tropical moist forest nor is it in the best economic interest of the predominantly rural societies in the tropics. Due to the relative scarcity of most of the NTFPs as a result of deforestation, [7] and the present awareness of their importance, more value is being added which has made the NTFPs highly marketable. Research at a global scale has identified that rural households draw from a diversity of income sources, adopt a range of livelihood strategies in order to achieve and maintain a sustainable livelihood. These include the use of NTFPs both for household consumption and for sale. The contribution of forest to poor people's livelihoods goes largely unrecorded in national statistics. This is due to subsistence economy and the informal sector, from which reliable and quantifiable data are inherently difficult to obtain.

Most high-valued NTFPs are collected from the wild without paying attention to the quantity and quality of harvested material. Being the least benefitting groups, collectors often tend to harvest more than the harvestable quantity to get more money. Similarly, competition among collectors compels them to collect NTFPs prematurely, resulting in their gradual disappearance from the wild.

SPECIFIC OBJECTIVES

1. To identify Non timber forest products (NTFPs) in the study area.
2. To determine the factors influencing the utilization of NTFPs by urban dwellers
3. To identify the constraints to availability of NTFPs.

METHODOLOGY

The research was carried out in Oyo State, which is an inland state in South-western Nigeria, with a population of about 5,580,894 [8] and its capital at Ibadan. It is bounded in the south by Ogun State and in the north by Kwara State. In the west it is bounded partly by Ogun State and partly by the Republic of Benin while in the east it is bounded by Osun State. The State is located on Latitude 8^0 and Longitude 4^0 east and covers a total of 27,249 square kilometers of landmass. The vegetation pattern of the state is that of rainforest in the South and guinea savannah to the North. Thick forest in the South gives way to grassland interspersed with trees in the North.

Oyo state is divided into three senatorial districts: Oyo South, Oyo North and Oyo Central.Oyo North has 13 Local Governments viz: Saki West, Saki East, Atisbo, Irepo, Olorunsogo, Kajola, Iwajowa, Itesiwaju, Ognomoso North, Ogbomoso South, Orire, Oorelope and Iseyin.Oyo Central comprises 11 Local Governments of Afijio, Akinyele, Egbeda, Ogo-Oluwa, Surulere, Lagelu, Oluyole, Ona-Ara, Oyo East, Oyo west and Atiba .While Oyo South consists of 9 Local Governments. They are Ibadan North, Ibadan North East, Ibadan North-west, Ibadan South-East, Ibadan South-West, Ibarapa Central, Ibarapa North, Ibarapa East and Ido.

Method of Data Collection Data were collected on the basis of Senatorial District and the three senatorial districts are Oyo South, Oyo Central with and Oyo. Both random and proportionate sampling techniques were adopted. Random sampling technique was adopted in selecting the Local Government Areas from each Senatorial District. The proportionate sampling technique was used to determine the exact number of questionnaire that was administered to respective communities in the chosen Local Governments in relation to the population of the Senatorial District they belong. A total of 230 questionnaires were administered at household level out of which 217 were used. The copies of the questionnaire were administered proportionately on the basis of the population of the senatorial districts.

Method of Data Analysis

Descriptive statistics such as frequency and percentage were used to explain the socioeconomic characteristics of the respondents. Multiple Regression Analyses was employed to analyze the factors affecting the utilization of Non Timber Forest Products as medicine and food. The implicit form of the Multiple Regression model is given by:

$Y = f(X_1, X_2, X_3, X_4, X_5, X_{6,U})$

Where:

Y= Total amount spent on NTFPs for food and medicine (in Naira)
X_1= Gender of Respondents
X_2= Age of Respondents (in years).
X_3= Educational Level of Respondents
X_4= Marital Status of Respondents
X_5= Household size of Respondents
X_6= Household monthly income (in Naira)
U = Stochastic error term

Three functional forms were fitted to the model to determine the factors influencing the utilization of NTFPs by

urban dwellers. These are linear, semi-log and exponential functions. These are explicitly expressed as follows:

(i) Linear Function

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + e$$

(ii) Semi-log Function

$$Y = Logb0 + b_1LogX_1 + b_2LogX_2 + b_3LogX_3 + b_4LogX_4 + b_5LogX_5 + b_6LogX_6 + e$$

(iii) Exponential Function

$$Log\ Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + e$$

Where b_0 = Constant term

b_1 - b_6 = Coefficients to be estimated

e = error term

Considering the coefficients of multiple determinations (R^2) as well as the a priori expectation of the signs and significance of the coefficients, the linear function was chosen as the best functional form, because it has the highest value of R^2 and greatest number of significant coefficients.

E= Expected Frequency

Hypothesis

H_0: Null hypothesis

H_1: Alternative hypothesis

H_0: There is no significant relationship between respondents' socioeconomic characteristics and their feelings about the efficacy of NTFPs as medicine

H_1: There is significant relationship between respondents' socioeconomic characteristics and their feelings about the efficacy of NTFPs as medicine

RESULTS AND DISCUSSION

The socioeconomic characteristics of the respondents are summarized in Tables 1 and 2. From Table 1, it is shown that majority (62.8%) of the respondents were male and 37.2% were female. This may not be unconnected to the fact that the male folk are mainly household head and the major controller of household resources, as confirmed by Edeh and Mbam[9] in their research .It was discovered from the field that male uses NTFPs as medicine more as they move in their daily activities. For instance the hawkers of the traditional medicine are seen more on the street, in front of offices and motor parks in the study area. About 64.7% of the respondents were between age range of 31-50 years; an indication that the respondents were within the active workforce, with majority (84.1%) married. The respondents that were Christians accounted for 52.7% while 47.3% were Muslims. This implies that both Christians and Muslims use NTFPs both as food and medicine in the study area. Larger proportion (about 45%) of the respondents were traders, 23% were artisan, about 18% were civil servants and about 6% were farmers. About 62% of them either had primary or secondary school education. This is an indication of low level of educational attainment among the respondents. About 74% of the respondents had household size of six or more people, with households with monthly income of less than/equal to N30, 000 accounting for about 74% of the respondents as shown in Table2. This implies that majority of the respondents are within the low income class.

Table1: SOCIOECONOMIC CHARACTERISTICS OF RESPONDENTS

Variable	Frequency	Percentage
Sex		
Male	130	62.8
Female	77	37.2
Total	**207**	**100.0**
Age(years)		
≤ 30	25	12.1
31-40	63	30.4
41-50	71	34.3
Above 50	48	23.2
Total	**207**	**100.0**
Marital Status		
Single	28	13.5
Married	174	84.1
Divorced/Widow/Separated	5	2.4
Total	207	100.0
Religion		
Christianity	109	52.7
Islam	98	47.3
Total	**207**	**100.0**
Occupation		
Civil Servant	37	17.9
Trading	93	44.9
Artisanship	48	23.2
Farming	13	6.3
Others	16	7.7
Total	**207**	**100.0**

Source: Field Survey,2012.

Table 2. SOCIOECONOMIC CHARACTERISTIC CONT'D

Variables	Frequency	Percentage
Educational Background		
No Formal	30	14.5
Primary	60	29.0
Secondary	68	32.9
Tertiary	49	23.6
Total	**207**	**100.0**
Household Size		
1-5	54	26.1
6-10	85	41.1
Above 10	68	32.8
Total	**207**	**100.0**
Household Monthly Income		
<N10,000	26	12.6
N10,000-N30,000	128	61.8
N31,000-N50,000	34	16.4
>N50,000	19	9.2
Total	**207**	**100.0**

Source: Field Survey, 2012

Regression Result

Multiple regression analysis was used to determine the factors that influence the utilization of NTFPs among the respondents. Table 3 shows the summary of the multiple regressions on utilization of NTFPs among the respondents in the study area. Three functional forms of multiple regressions, Exponential, Semilog and Linear were fitted to the regression model. Based on *a priori* expectation and the significance of its coefficients, the linear function was chosen as the lead equation.It is shown from the table that educational level, marital status,

household size and household income explain significant variation in the level of utilization of NTFPs in the study area. However, variables such as age and sex were not significant in determining the variation in the level of the utilization of NTFPs. This is a little at variance with the study conducted by Ogundele *et al*[10] in which, in addition to education, household size and monthly income, age and sex were also significant in determining the variation in the level of forest utilization in Akwa Ibom State, Nigeria. The F-value of 3.525 obtained from the Analysis of Variance (ANOVA) and which is significant at 5% shows that the independent variables jointly explain the significant variation in the level of NTFPs utilization in the study area

Table 3 : SUMMARY OF REGRESSION RESULT OF DETERMINANTS OF NTFPS UTILIZATION

Variable	Linear	Semi-log	Exponential
Constant	*24.496	*20.881	18.210
	(7.659)	(10.011)	(9.813)
X_1	66.858	60.139	78.408
	(78.207)	(79.504)	(58.113)
X_2	22.389	-19.836	20.434
	(61.517)	(59.176)	(50.930)
X_3	*49.224	*38.766	*32.676
	(7.248)	(8.472)	(6.720)
X_4	*69.553	62.887	*49.760
	(18.813)	(41.831)	(20.081)
X_5	*72.638	*67.364	*55.631
	(8.520)	(9.730)	(11.372)
X_6	*0.014	*0.057	*1.031
	(0.003)	(0.014)	(0.131)
F-value	*3.525	*2.761	*2.480
R^2	0.76	0.69	0.71

***Significant at 5% Level**
Figures in parentheses are standard errors
Source: SPSS Window Output.

Table 4 shows Chi-square analysis testing the relationship between socioeconomic variables of respondents and their perception about the effectiveness of the utilization of NTFPs as medicine. In other words, the test was to ascertain whether there was any significant relationship between the selected socioeconomic variables of the respondents and what they felt about the effectiveness of the medicinal use of NTFPs. It was found that occupation, educational status,income and age were statistically significant. This implies that occupation of respondents, their level of education, their level of income as well as age play significant role in determining how the respondents feel as to whether medicinal use of NTFPs is more effective and efficient than orthodox medicine. But religion and gender were not significant. This implies that religion and gender have nothing to do with what the respondents feel about the effectiveness of medicinal use of non timber forest products in the study area. This conforms with the work of Odebode *et al*[11] in which religion was found not to be significant in determining the perception of consumers about the consumption of grasscutter meat within Ibadan Metropolis.Hence the null hypothesis that there is no significant relationship between the socioeconomic variables of the respondents and their perception about the effectiveness of the utilization of NTFPs as medicine was rejected for occupation, educational status, income and age, while it was upheld for religion and gender.

Table 4 : CHI-SQUARE RESULT OF RELATIONSHIP BETWEEN SOCIOECONOMIC VARIABLES OF RESPONDENTS AND THEIR PERCEPTION ABOUT THE EFFECTIVENESS OF THE UTILIZATION OF NTFPS AS MEDICINE

Variable	X^2	DF	P-value	Decision
Occupation	12.217	4	P<0.05	Significant
Educational Status	16.014	3	P<0.05	Significant
Income	18.337	3	P<0.05	Significant
Age	19.194	3	P<0.05	Significant
Gender	3.102	1	P>0.05	Not significant
Religion	3.006	1	P>0.05	Not significant

Source: Chi-square Analysis

CONCLUSION AND RECOMMENDATION

This study assessed the Non Timber Forest Products (NTFPs) used as food and medicine by urban dwellers of Oyo State, Nigeria. Study revealed that majority (62.8%) of the respondents was male while 37.2% were female.

It was also discovered that the utilization of NTFPs has no religious barrier as both Christians (52.7%) and Muslims (47.3%) used them. Some reasons given by the respondents for using the NTFPs include cheapness, availability and accessibility and some of the sources where they obtain the NTFPs were given as market, hawkers, forest and friends.

Regression result showed that educational level marital status, household size and household income explain significant variation in the level of utilization of NTFPs in the study area, while variables such as age and sex were not significant in determining the variation in the level of the utilization of NTFPs. Chi-square analysis was used to examine the relationship between socioeconomic attributes of respondents and how they felt about the efficacy of NTFPs when used as medicine. Result showed that occupation, educational status, income and age of respondent had significant influence in determining the respondents' feeling about the effectiveness of the use of NTFPs as medicine.

Some of the constraints encountered by the respondents in obtaining the NTFPs included seasonality (63.1%), perishability (22.9%), transportation (8.9%), with others such as proximity, affordability, e.tc, accounting for 5.1%. In view of this, efforts should therefore be made by governments at all levels and relevant research institutes to train the people on the domestication of these NTFPs so as to achieve sustainability. Pharmaceutical companies should work on processing of NTFPs medicinal plants to make it more available in a refined form, less chemical and still natural. More awareness should be made about utilization of some NTFPs as food for their nutritional value and medicinal value especially when Organic food is advocated for Globally.

REFERENCES

1. M.W. Fonta, K. K. Ogujiuba and U. Amakom, 2010, 'Modeling and understanding the interrelationship between natural resource extraction, poverty and inequality: the case 2004,of forestry in sub Sahara Nigeria, environmental modeling *for Sustainable Regional Development: System Approaches and Advanced Methods,* (eds.,) Vladimir Olej, Ilona Obršálová and Jiří Křupka**, 2010** IGI Global Publishers, www.igi-global.com
2. World Bank, World Development Report,**1988**, Washington D.C
3. CIFOR, Forest Products Livelihood and Conservation, CIFOR Annual Report, **2004**, pp 12.
4. Food and Agriculture organization FAO, "Non wood Forest Products for Rural Income and Sustainable Forestry" Rome **1995**, No7 series pp 4-9.
5. J.V. Rijsoort, Non-timber Forest Products: Their Role in Sustainable Forest Management in the Tropics.**2010** p. 64.
6. G.J. Osemeobo, 'Effects of Common Property Resources Utilization on wildlife conservation in Nigeria', *Geojournal* **1991**,23:241-148.
7. J, Nwooboshi, 'Meeting the Challenges of Deforestation in Nigeria through Effective Reforestation'. In Oguntala AB (ed) **1986**. Annual Conference of the Forestry Association of Nigeria. Minna.134-139.
8. National population Censor Report**, 2007,pp4-6**
9. H.O. Edeh and B.N. Mbam, , Constraints Limiting Efficient Utilization of Improved Cassava Technologies in Abakaliki Local Government Area of Ebonyi State: A Factor Analysis Approach. *Journal of Agriculture, Forestry and the Social Sciences.* **2010** *Vol 8 (1):36-44*
10. F.O.Ogundele, E. A, Utin, A.I. Iwara, G. N. Njar and T.N Deekor, 'An assessment of non-timber forest products (NTFPs) utilization on rural livelihoods in Ini Local Government Area of Akwa Ibom State, Nigeria'. **2012**
11. A.V. Odebode, F. Awe, O.O. Famuyide, O. Adebayo, O.B. Ojo and G. Daniel Households' Consumption Patterns of Grasscutter (Thryonomys swinderianus) meat within Ibadan Metropolis, Oyo State, Nigeria'. *Continental Journal of Food Science and Technology*, **2011**. *Vol 5 (2):49-57.*

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