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The Role of Micro and Small Enterprises (MSEs) in Facilitating Non-Timber Forest Products (NTFPs) Exploitation and Economic Growth in Cross River State, Nigeria

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Abstract

Exploitation of forest resources is one of the main stay of economic livelihood in Nigeria in general and Cross River State (CRS) in particular. However, due to the increasing rate of deforestation and the campaign against logging and other forms of depletion of timber resources, what is left in the forests are largely the non-timber forest products (NTFPs). This study has, thus, focused on the exploitation of non-timber forest-products as a form of income by micro and small enterprises in CRS. Multistage sampling techniques and structured questionnaires were used to obtain a cross sectional data on the socioeconomic characteristics, the different types of NTFPs, their uses and the returns from NTFPs trade to households in 5 (Five) LGAs of the State. In all, 500 (Five Hundred) questionnaires were administered and 482 (Four Hundred and Eighty-Two) were returned. Out of these, 22 (Twenty-Two) were mutilated beyond use, while 460 (Four Hundred and Sixty) were found okay and used for analysis. The study revealed that 290 out of 460, representing 63.04% are engaged in exploitation and trading in NTFPs on full time basis. Almost 95% the respondents reside in the study area and more than 78% of them had at least primary education. Of the different types of NTFPs in the study area, thatch/bamboo has the highest prevalence usage due to its high demand for building construction and sundry purposes. These products also have highest average gross margin of N390,000 per year to an average household in the study area. This is followed closely by fruits with N370,000 per year of average gross margin to a household. This study has brought to light some facts on NTFP contribution to the

enhancement of livelihoods in the study area. The results show that while initially a support to other livelihood activities, NTFP extraction is rapidly becoming a mainstream income source. If reproduction enhancement and conservation of use are not factored into the extraction of these products now, a situation could well arise in the future where these resources could become less available.
Keywords: NTFPs, MSEs, alternative Livelihood, household income

Introduction

Cross River State (CRS), as one of the 36 States in Nigeria, has a land area of 98,000 sq. kms, with a population of 3.1 million, which gives it a population density of 20 persons per sq. kms. About 75% of the population lived in the rural areas of the 18 Local Government Areas (LGAs) that constitute the State. The Gross State Product (GSP) on the purchasing power parity is US$9.29 million, or a per capita income of $3,000. However, 50% of the population lives below $2 per day. The economy is mostly informal and public-sector driven, while the private sector is dominated by petty trading and agriculture. Agriculture comprises rich variety of crop farming, livestock, forestry resources, fishery etc. The State has an estimated 480 sq. kms of mangrove forests, 520 sq. kms of swamp forest, 7290 sq. kms of tropical high forest and about 216 sq. kms of woodland savanna. Public and private plantations occupy a total area in excess of 216 sq. kms. The State hosts a National Park covering an area of 5,480 sq. kms and is home to one of the most assorted concentration of plant and animal lives in the world. Timber species in the Cross River forests with economic value include mimosop, ebony, okwen, mahogany, cedar, mansonia, enoi, iroko, opepe, ukong, camwood, ekiki, black afara, afzelia, teak, obeche, gmelina, albura, abigia, aga, etc. Non-timber products include various species of animate and inanimate resources, depending on the geographical and other environmental composition of the area (CRS SEEDS, 2005 -2007).

Majority of rural dwellers in the State, who are mostly subsistent farmers, micro or small enterprises (MSEs) have traditionally depended on the exploitation of timber and non-timber forest products (NTFPs) as their principal source of revenue and livelihood.

MSEs which are the lower rung businesses have over the years provided multiple employment opportunities to the youths and women in the forest communities who are engaged in one form of agricultural activity or the other. These categories of businesses have accordingly been recognized as socio-economic and political development channels in these societies.

Statement of the problem

In recent years, there has been a sustained global campaign against deforestation and the general degradation of forest resources, most of which is timber. This has resulted in a huge loss of revenue by individuals and small businesses, whose main source of incomes were tied to timber based businesses in the host communities. To ameliorate the effects of this loss and provide soft landing for these rural persons as well as micro and small businesses, there has been a call for the redirection of efforts towards enterprises derived from non-timber forest resources. The question however is whether this move is commensurate to the loss suffered by moving away from the historic exploitation of the very lucrative timber based businesses.

Objectives of the study

This study is interdisciplinary and involves coming together experts from Environmental Studies, Entrepreneurship and Finance. Our objective is to investigate the place of NFTPs as a source of income and livelihood option for rural households and businesses, especially the micro and small enterprises. In this context, the gathering and use of NTFPs can be a catalyst for livelihood, poverty alleviation and wealth creation. The specific objectives are;

- To describe the socioeconomic characteristics of the survey respondents;
- Enumerate the different types of NTFPs in the study area and their different uses;
- Determine the actual returns of NTFPs trade to households in the study area; and
- Highlight some of the implications of the findings.

2. Theoretical framework/Literature review

In investigating the place of NFTPs as a source of income and livelihood option for rural households and businesses, especially the micro and small enterprises, we were guided by the theory of non-renewable resources and the Homma's model.

Also known as Hotelling's theory, the theory of non-renewable resources proposes that owners of non-renewable resources will only continue to produce and make available their products, if it will yield more than the instruments available to them in the market. Non-renewable resources are exhaustive resources that when continued to be exploited would eventually be non available. The theory was used by Economists to predict the prices of oil and other non renewable resources based on prevailing market rates of interest on the assumption of efficient markets and that the owners of these resources are sometimes motivated by factors other than profits. This theory was criticized because its assumptions were not realistic in most cases and that it did not address the problem of conservation of biodiversity of forest resources, but assured optimal rate of substitutability and the discount rate of non-renewable resources like hydrocarbons and solid minerals like gold, silver, iron, coal, zinc etc which were the principle sources of raw materials at that time (Schulze, 1974).

Homma's model considers that agriculture will solve a major part of forestry problem. The theory pointed out that sometimes ago, all agricultural products (whether apples, oranges, domestic animals etc) were extractive products and for its increasing scarcity, they were domesticated and raised in large scale or substituted by other products. As a result, he concluded that all products of native forests were or may be substituted by like products, managed in better conditions of productivity and quality and states that an economy that is based on extractive resources is not sustainable nor viable as these resources surely will disappear in the long run and give way to domesticated, synthesized or other substituted products. This model

has again been criticized because though it is important in understanding how Economics sees and theorizes on forestry, it cannot help in assessing a new forestry where the benefits are all the plants and not uniquely the timber genre (Borges, 2003).

Also known as minor forest products, non-timber forest products have different definitions, but all tend to point to the same direction. While the Forestry Commission in Britain, defines minor forest products as any plant or animal resources found in woodlands except timber, the Forest Harvest, a project in Scotland, sees all materials derived from woodlands, with the exception of timber as non-timber forest products (Heubach, Wittig, Nuppenau, & Hahn, 2011). The above, which shall be taken as our working definition include natural resources such as valuable economic and social vegetables and other plants, wild and managed game, fish and insects. NTFPs in all cases highlight forest products which are of monetary or communal value to local people but have been overlooked in designing forest management priorities.

Most of the studies on NTFPs have focused principally on three perspectives. These are as a platform which focuses on improvement in incomes or livelihood options for rural households; as an expression of traditional knowledge and cultural preservation and finally as a key component of sustainable forest management and conservation strategies. These perspectives invariably promote forest products with useful or economic importance for income generation and as important instrument that can control degradation of forest resources and promotion of conservation of the gifts of nature (Emery & McLain, (eds.) 2001).

Types and characteristics of NTFPs

NTFPs are usually of various types, with different characteristics and yield per hectare according to the region where they are found. In most cases, they are commonly grouped into 6 (Six) broad categories namely; 1) foods, such as wild edible mushrooms, vegetables, fruits and nuts; 2) medicinal plants and fungi; 3) floral greenery and horticultural stocks; 4) fiber and dye plants, chalks, lichens; 5) oils,

resins, and other extracts from plants, lichens, and fungi, and 6) fuelwood and small diameter wood for poles, posts, and carvings (Jones, McLain, & Lynch, 2004).

In temperate forests such as in the United States, wild edible mushrooms, medicinal plants, and floral greens abound. While these high-value species may attract the most attention, a diversity of NTFPs can be found in most forests of the world, especially in Africa. In tropical forests, NTFPs are also an important source of income that supplement farming and other more renown activities. A value-analysis in Peru found that exploitation of NTFPs could yield higher revenue per hectare than would timber while still conserving vital ecological services (Guillen, Laird, Shanley, Pierce, (eds.) (2002).

In Asia, minority people in Vietnam, Myanmar and Laos have been closely associated with the benefits derivable from forests for centuries, where much of their household subsistence and incomes are generated from the sale of NTFP products. In Vietnam, for instance, the calendar for NTFPs exploitation is spread all year to provide income for the people. From June to August is wild berry collection that provides the bulk of revenue. At this period, every family sends people into the forest for days or weeks to gather berries. Next comes bamboo, mushrooms and vegetable collection that goes through to February. People in Sa Pa also depend on NTFPs such as fruits, berries, leaves, mushrooms, fish, honey, bamboo, orchids for livelihoods. Here, the Friday market is full of orchids and other plants for both domestic and international tourists that flock there. The harvesting of leaves in the family diet is all year round, with different species available in specific months. Water from forest areas is yet another service that is useful in the livelihoods of these people. They have micro-hydro plants installed in streams that generate the much needed power for pounding (grain and seeds) and lighting. In the drier areas of Sri Lanka, the harvesting of curry leaves and velvet tamarind is an important income source to the rural people. This tree which is endemic to the country provides a fruit that has a high-popularity during certain months of the year. The return from the sale

of these two products is an important addition to the household incomes of rural people (Heubach, Wittig, Nuppenau, & Hahn, 2011).

As is the case in most tropical regions, CRS has a variety of NTFPs. Some of the very popular non-timber economic and social products that abound in almost every part of CRS include various perennial cooking condiments (egusi, okra etc) and small animals for local delicacies like various mushrooms, snails, edible insects and reptiles as well as vegetables and other cash crops. They also include irvingia, garcinia, gnetum, raffia, bamboos, thatch, game and wildlife (popularly known as bush meat), local cosmetics and lotions for beautification, plant based alcoholic and non-alcoholic beverages. Others include plantain and bananas, pineapple, climbers like yam, cocoyam, cocoa, cassava. Fruits like mangoes, oranges, cashew, kola nuts, bush mango (ogbono) and medicinal plants are also found in the State. Though exploitation of these and other NTFPs could be very profitable, most of the so called successful businessmen in the forest communities are those who deal on the timber resources (Personal Survey, 2017).

Uses and economic importance

NTFP are without doubt useful substances, materials or commodities that are available in the state which do not require logging of trees. They are important because they present alternative sources of materials, income, livelihood for households and communities and a critical component of global sustainable forest management and conservation strategy. In some cases forests can be managed to increase NTFP diversity and, consequently, to amplify biodiversity and economic diversity. While the uses of NFTPs are seen every day and everywhere, it is difficult to scientifically estimate their contribution to national or host communities as there is a lack of broad-based systems for tracking the combined value of the hundreds of products that make up various NTFP enterprise (Delang, 2006).

Many rural dwellers in tropical regions have traditionally depended on NTFPs for their sustainable livelihood and income needs. There are

therefore quite a number of forest-dependent households who realize a significant part of their cash income through the sale of NTFPs. Campbell (1995) observed that the contribution of NTFPs to the socio-economic benefits of the forestry sector in most countries is significant. Although they have been undervalued in the past, the demand for NTFPs is increasing as a result the increasing campaign against deforestation and degradation of forest resources. A greater number of people can therefore, increase their income by harvesting non- timber forest products from the wild. This activity is receiving increasing attention and making significant contribution to local economies (Campbell, 1995).

According to the FAO, there is an increasing rate of despoliation of forest resources both legally and illegally. Thus, the NTFPs which have increasingly caught the attention of more people because of their various uses are left in the forests. Although NTFPs have significant economic value they are mostly in the informal sector and therefore not explicitly recognized in legislation as natural resources to be included in multiple use management or even in determining the gross national product. The FAO further revealed that about 80% of the countries in the developing world depend on NTFPs for their primary wealth and nutritional needs. The implication of this is that the economic importance of NTFPs in these countries cannot continue to be overlooked.

Consequently, their contribution, which has not been given adequate credit in the past, is now being given more attention. Non-timber forest products are now being rightly promoted as a vital source of sustainable livelihood for a large proportion of the population living in or close to the forest area who extract these products at little or no cost. In this way, NTFPs also generate employment opportunities for those living around the forest areas (FAO, 1996).

Recently, because of the high rate of extraction globally, and the increasing awareness of the importance of NTFPs people have begun to pay some form of tariffs as token fees to the host communities at times and the government for extraction of NTFPs. Most of the rural

households tend to be generalists as they involve themselves in different combinations of activities like farming, hunting, leaf gathering and other forest product extraction. In spite of the fact that most agricultural products are inelastic in demand, NTFPs play an important role in food security. Domestication of forest resources can improve the quantity and quality of NTFPs, making them more attractive to farmers and more marketable, thus contributing to the alleviation of malnutrition and poverty and the enhancement of rural livelihoods (FAO, 2006).

Households from a wide range of socio-economic backgrounds gather NTFPs for various purposes. Some do it for subsistence, maintenance of cultural and familial customs, religious and sacred fulfillment as well as physical and emotional well-being. Others, for energy need, animal nutrition, local medicine, scientific learning and income. NTFPs also serve as basic raw materials for industries ranging from large-scale floral greens suppliers and pharmaceutical companies to micro-enterprises such as basket-making, fruits gathering, woodcarving etc. (Belcher, 2003).

Though it was erroneously assumed that NFTPs were more or less associated with Africa and Asian countries, in some temperate forests, wild edible mushrooms, medicinal plants, and floral greens and *sword fern* are multimillion-dollar enterprises. While these high-value species draw the most attention, a diversity of NTFPs exist in most forests globally. In 2002 in the US alone, NFTPs yielded 1.4 million US gallons (5,300 m^3) in the maple syrup industry worth US$38.3 million. In tropical forests also, NTFPs are a vital source of income that complements farming and other activities. A value-analysis in Peru for instance, found that NTFPs could yield higher net revenue per hectare than would timber harvest of the same area, while still conserving vital ecological services. Their economic, cultural and ecological value, when considered in total, makes managing NTFPs an important component of sustainable forest management and the conservation of biological and cultural diversity (Peters, Alwyn & Robert, 1989).

In another study, Heubach, et al examined the income from NTFPs and the dependency on these by different groups in Northern Benin. Using data from 230 (Two Hundred and Thirty) households in 2 (Two) villages, they compared incomes of 5 (Five) different ethnic groups differentiated by their customary source of living and place of origin. They also investigated variances between 3 (Three) income groups and found that on the average, income from NTFPs accounted for 39% (Thirty Nine percent) of total household income. They also observed that economic importance of NTFPs varied between households, with poorer households being more dependent on NTFPs in order to fulfill basic needs than wealthier ones. However, the latter extracted more NTFPs in quantitative terms and have higher cash returns than poorer ones due to a significant greater land holding. Moreover, the study revealed that net income from NTFPs reflected traditional sources of livelihoods of different ethnic groups (Heubach, et al, 2011).

According to Adeyoju 1975, the forest is a mainstay of economic development in Nigeria. It provides needed raw materials to the building, construction and forest-based industries and constitutes one of the largest and most important industries in Nigeria. The industry also provides materials for the use of other sectors of the economy. During the 1960s and 1970s, forest products, especially timber earned large amounts of foreign exchange and the sector was ranked as the highest in employment generation in the country (Adeyoju, 1975).

In a World Bank report, it was estimated that at that period, the forest sector earned annual foreign exchange in Nigeria of between 308 million to 412 million naira or about 4.2 percent of GDP. This, however, changed between 1970 and the early 1980s, due largely to the discovery and exploitation of crude petroleum oil. In spite of this, the sub-sector still performs functions which are critical to the socio-economic growth and development of the nation. These functions include the supply of forest products to infant industries and the protection of the environment. Forest-related industries engage in processing and marketing of forest products which indirectly provide employment for people and contribute to the gross domestic product (Akinleye, Olubanjo & Idowu, 2006)

Akinleye, et al (2006) conducted a study on multiple use and relative profitability of non-timber forest-products in Ogun State, Nigeria. They used multistage sampling techniques and structured questionnaires to obtain cross sectional data on the socioeconomic characteristics, different types of NTFPs, their uses and the returns to households. The observed that majority of those engaged in extraction and trading in NTFPs, reside in the study area, half of them had primary education and engage in this on full time basis. Of the different types of NTFPs, bamboo was mostly used due to its high demand for building construction purposes. Similarly, snail, mushroom and bush meat have highest average gross returns of N21,700, followed by bamboo with N17,000 per month of average gross returns to households (Akinleye, et al, 2006).

3. Data and research methodology

The study was carried out in CRS, in the Niger Delta area of Nigeria. The State lies within latitude 5°32' and 4°27'N and longitude 7°50' and 9°28E. The State is bounded on the east by the Republic of Cameroun, on the west by Akwa Ibom, Abia and Ebonyi States, on the north by Benue State and on the south by the Atlantic ocean. It covers a total area of land of about 23,072.42 sq. km out of which 22.62% is government forest reserves. The predominant climate is tropical but semi-temperate in the north eastern fringes with rain and dry seasons all year round. There are 18 (Eighteen) LGAs and the agro-ecological zones are rainforest, swamp forest, savannah and montane zones. Agriculture is the major occupation of the people, particularly those in the rural areas, which occupies more than three quarters of the State. The climate as well as other environmental factors, favour production of crops such as trees, tuber crops and cereals, as well as forestry, animal husbandry, fishery and tourism etc. Buying and selling are the other major economic activities in the State (CRSG, 2012).

Sampling Procedure:
Multistage sampling techniques was used in sample selection. In the first stage, Akpabuyo, Bakassi, Akamkpa, Biase and Odukpani LGAs were purposively chosen because they have large forest coverage areas. These LGAs are all in the Southern senatorial district of the State. They are all almost surrounded by a body of water and as such, they have a large area of swamp forests, with high rainfall.

After a preliminary investigation, 10 (ten) of the prominent NTFPs in these LGAs were selected based on their use and socioeconomic importance. Primary data was thereafter collected using structured questionnaires, with 100 (One Hundred) administered to the NTFP exploiters and dealers in each of the study locations, totaling 500 (Five Hundred) in all. At the end, 482 (Four Hundred and Eighty-Two) were returned. Out of these, 22 (Twenty-Two) were mutilated beyond use, while 460 (Four Hundred and Sixty) were found okay and used for analysis.

Analytical Techniques:
Descriptive statistics are the analytical tools used for the data. Frequency tables were also used in some instances to obtain the distribution of respondents by certain socioeconomic features like age, gender, level of educational attainment, marital status, years of experience in the business, major occupation, secondary occupation and area of residence. In enumerating the different types of NTFPs and their uses, distribution of respondents by product specialization, sources and rationale for NTFP collection, the results were presented by way of frequency tables. Finally, gross margin analyses was used to determine the returns of NTFP trade to households.

4. Findings and Discussion. From the survey, the under listed findings were obtained.

Table 1: Distribution of Respondents by socioeconomic characteristics

		Full Time		Part Time		Total	
S/N	Characteristics	Number	%	Number	%	Number	%
1.	Level of Education attained						

	i. None	69	23.79	30	17.65	99	21.52
	ii. Primary	130	44.83	75	44.12	205	44.57
	iii. Secondary	80	27.59	60	35.29	140	30.43
	iv. Tertiary	11	3.79	5	2.94	16	3.48
2.	Gender						
	i. Male	88	30.34	35	20.59	123	26.74
	ii. Female	202	69.66	135	79.41	337	73.26
3.	Age in years						
	i. 18 - 25	65		42	24.71	107	23.26
	ii. 26 - 35	110		73	42.94	183	39.78
	iii. 36 - 45	65	22.41	34	20.00	99	21.52
	iv. 46 - 55	35	12.07	18	10.59	53	11.52
	v. 55 and above	15	5.18	3	1.76	18	3.92
4.	Marital Status						
	i. Married	192	66.21	135	79.41	327	71.09
	ii. Single	98	33.79	35	20.59	133	28.91
5.	Place of residence						
	i. In the LGA	275	94.83	160	94.12	435	94.56
	ii. Outside the LGA	15	5.17	10	5.88	25	5.44
5.	Experience in the extraction in years						
	i. Less than 6	77	26.55	54	31.76	131	28.48
	ii. 6 - 10	59	20.34	40	23.53	99	21.52
	iii. 11 - 15	48	16.55	35	20.59	83	18.04
	iv. 16 - 20	41	14.14	26	15.29	67	14.57
	v. 21 - 25	37	12.76	10	5.88	47	10.22
	vi. 26 and above	28	9.66	5	2.95	33	7.17
TOTAL		290	100	170	100	460	100

Source: Compiled from survey data, 2020

Socioeconomic characteristics of Respondents

Table 1 presents the results of analyses on some socioeconomic features of the respondents. The result shows that 290 (63.04%) of all respondents exploit NTFPs on full time, while 170 (36.96%) are on part time. Distribution by educational attainment shows that 78% had a minimum of primary school. 23.79% who do it on full time, lack formal education, 44.83% had primary education while 27.59% had secondary education and only 3.79% had post secondary education. This shows that larger percentages of NTFP dealers have some form of education while only few (21.52%) are without any education. The table also shows that more women (337, representing 73.26%) are engaged in the business. 30.34% of all NTFP dealers operating on full time basis are male and 69.66% are females, while 20.59% of male and 79.41% of female are operating on part time. The prevalence of

women is due to the fact that NTFP is a business with paltry earnings, making it more attractive to females who have their incomes augmented by their husbands in most instances.

The age of the dealers is a key factor that impacts on their involvement, productivity and overall coping ability. From Table 1, the age of respondents were aggregated into 18 - 25, 26 - 35, 36 - 45, 46 - 55 and 56 years and above. These were chosen because they represent the active age groups in the communities. Under the above, we observed that the most productive age bracket was 26 - 35, followed by 18 - 25 years, with 39.78% and 23.26 % respectively of all respondents. From the data, it can be deduced that the active age group is engaged in the NTFPs business. Even on part time basis, most active age groups are involved because they have the necessary skills and capacity to carry out production and trading. The results also show that 71.09% of the respondents are married. The high percentage shows that good numbers of people feed their family through this means. Experience was measured in years based on the period they have been engaged in the business. The table shows that 28.48% have been on the occupation for less than 6 years. The percentage continues to decrease as the number of years increase, leaving a paltry 7.17% for those who have been in the trade for 26 years and above. This means that some people take the business as a stop gap trade and exit as time goes on into other trades.

Table 2: Distribution of respondents by type of product exploited

S/N	Product exploited	Full Time		Part Time		Total	
		Number	%	Number	%	Number	%
1.	Roots and tubers	24	8.28	12	7.06	36	7.83
2.	Medicinal plants	15	5.17	9	5.29	24	5.22
3.	Plantain and Banana	40	13.79	21	12.35	61	13.26
4.	Palm products (Oil and raffia)	47	16.21	25	14.71	72	15.65
5.	Vegetables	22	7.59	20	11.76	42	9.13
6.	Snails, game, mushroom	19	6.55	9	5.29	28	6.09
7.	Thatch/Bamboo	82	28.28	40	23.53	122	26.52

8.	Fruits	13	4.48	13	7.65	26	5.65
9.	Condiments (melon, okra etc)	22	7.58	16	9.41	38	8.26
10.	Domesticated animals	6	2.07	5	5.54	11	2.39
TOTAL		290	100	170	100	460	100

Source: Compiled from survey data, 2017

NTFP types and their economic uses:

Table 2 shows the varieties and use of NTFPs in the study area, indicating that Thatch/Bamboo had the most prevalent dealership with an engagement rate of 26.52%. This was followed by palm (oil and raffia) products with 15.65% of respondents. This result could be as a result of the vegetation of the study area, as earlier highlighted. The types and utilization of the NTFPs under study vary from one household to another. Snail, mushroom and bush meat, soup condiments, plantain and banana, fruits and kola serve as food and for the market. Others like medicinal plants, palm products and leaves have multi applications, while thatch, bamboo are basically for construction. Bamboo derivatives include bamboo shoot, tooth pick, paper, household furniture, building materials and musical instruments. Millions of people depend on this plant for their sustenance. Furthermore, there are 150 documented traditional uses for bamboo. (FAO, 2006).

The findings indicate that apart from providing sustainable livelihood options for the households, NTFPs also, and more importantly provides materials for the building, construction and other forest-based enterprises. Though we did not research into the actual figures that could be attributed to this sub-sector as far as socio-economic growth and development is concerned, it could be safe to assume that Cross River State's socio-economic growth is enhanced by the activities of micro and small enterprises in this sector.

Table 3: Cost and incomes from extraction per year

S/N	Product exploited	FC	VC	TC	Income	Margin
1.	Roots and tubers	150,000	50,000	200,000	360,000	160,000
2.	Medicinal plants	50,000	25,000	75,000	325,000	250,000

3.	Plantain and Banana	150,000	50,000	200,000	480,000	280,000
4.	Palm products (Oil and raffia)	150,000	30,000	180,000	450,000	270,000
5.	Vegetables	75,000	25,000	100,000	350,000	200,000
6.	Snails, game, mushroom	250,000	25,000	275,000	500,000	225,000
7.	Thatch/Bamboo	300,000	30,000	330,000	720,000	390,000
8.	Fruits	75,000	25,000	100,000	450,000	350,000
9.	Soup condiments	75,000	15,000	90,000	360,000	270,000
10.	Domesticated animals	105,000	15,000	120,000	480,000	360,000

Source: Compiled from survey data, 2020

Key:

1. FC = Fixed Costs
2. VC = Variable Costs, including labour
3. TC = Total Cost

Costs and returns of NTFP extraction:

The average gross income of those in the NTFP value chain varies for various reasons. For instance, some of the products are seasonal, some could be exploited more than once in a year, so it is feasible for some to be in the market throughout the year but others only for a season.

In Table 3 it can be seen that thatch/bamboo recorded the highest margin or profit of N390,000 (Three Hundred and Ninety Thousand Naira only) per annum, due to their multiple usages, the high domestic demand and relative cheap cost of exploitation. This was followed by domesticated animals exploitation, which recorded N360,000 (Three Hundred and Sixty Thousand Naira only) due to the protein needs of the households and the daily consumption of the items. The remaining commodities have appreciable annual gross profit which the dealers take as their earning for their effort.

5. Summary, conclusion and implications

This study was undertaken to investigate the role of micro and small enterprises (MSEs) in non-timber forest products (NTFPs) exploitation and economic growth in Cross River State, Nigeria. A survey was carried out in 5 (Five) LGAs in the State with the objectives of describing the socioeconomic characteristics of the survey

respondents, enumerating some of the different types of NTFPs, their uses and determining the returns to NTFPs trade to households in the study area; and finally, highlighting some of the implications of the findings.

In summary, the study brought to light some facts on NTFP enterprise in the State. Since the geological and socio-economic configuration of the State, the findings from the sample population could be generalized to other areas in the State that were not covered in the work. Our findings highlighted the great varieties of NFTPs in the State and their contribution to the enhancement of livelihoods in the selected LGAs in Cross River State, Nigeria. It indicated that a great number of the active population is involved in this business, which has several varieties and is very rewarding as a livelihood option. The results also show that while initially exploitation of NTFPs was regarded as a supplement to other livelihood activities, it is gradually becoming a mainstream income source. Thatch/bamboo, domesticated animals and fruits are the most sought after NTFPs in the survey area.

One of the critical implications of our finding is that since these are exhaustible products, the continuous depletion if not checked would lead to a situation where the commodities become exhausted or extinct. There is therefore the need for controlled exploitation, reproduction enhancement and conservation of use to be factored into the exploitation of these resources now as has been the case with timber product. Government and civil society should therefore start a sensitization exercise to let the people know the implications of their actions. On their own part also, the communities should be responsive in the dealings.

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