ROLES OF WOMEN IN NON-TIMBER FOREST PRODUCTS PROCESSING IN IKOLE LOCAL GOVERNMENT AREA, EKITI STATE, NIGERIA

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ABSTRACT

This study evaluates the roles of women in Non-Timber Forest Products processing in Ikole Local Government Area, Ekiti State. Purposive sampling technique was employed for the selection of the sampled site based on the prevalence of NTFPs in this area. Four representative communities including Ijesa-Isu Ekiti; Oke-Ayedun Ekiti; Oke-Ako Ekiti and Ikole Ekiti were selected. One hundred and twenty copies of a semi-structured questionnaire were administered to 30 respondents from the selected communities. Data obtained were analyzed using descriptive statistics and Chi-square X^2. The result revealed that the majority (86.67%) of non-timber forest products processors are female, (38.33%) are between the age brackets of 31 to 40 years, (68.33%) are married, (55.00%) with a household size of 5 to 8 persons, and 63.33% are involved in farming activities as major occupation. This study prioritized and identified four major NTFPs processed in the study area (Table 3). The result of Chi-square (X^2) calculated at (p= 0.05) revealed a significant relationship between Gender, Household size and NTFP processing, while Age and NTFP processing showed no significant relationship. The major challenges to NTFP processing are start-up capital and high transportation costs. Consequently, it was thereby recommended that there should be adequate training for women involved in NTFP processing on sustainable resources management to prevent wastage during processing. Also, incentives to improve processing mechanisms should be provided by the government and other relevant bodies to ease the stress involved in processing some NTFPs.

Keywords: Ikole, NTFPs, Processing, Roles, Women

1. INTRODUCTION

Non-timber forest Products (NTFPs) are goods of biological origin apart from timber derived from the forest or harvested by humans in natural ecosystems, which are consumed either directly as food, drugs or medicine or contribute non-consumptive values to human welfare (Shackleton C., Shackleton S. (2004)). These resources range from fuelwood, charcoal, and wood used for tools and other household purposes in addition to livestock fodder, gums, resins, honey, fruits, nuts, tubers, mushrooms, spices, fish, wild meat, and other wild foods, plants, and oils for pharmaceuticals and cosmetic products, as well as rattans and bamboos (Belcher, 2003). Akanni (2013) noted that these products originate from several sources, including plants, animals, and other abiotic elements of the ecosystem.

NTFPs have massive uses among people in rural areas. It is a major source of livelihood for a larger population of forest-dependent communities as the source of food. Many forest dwellers, forest margin communities, and urban populations in Nigeria have benefited extremely from a varied variety of non-timber forest products to meet their basic needs for survival and livelihood (Chao, 2012). However, NTFP utilization differs from individual, community to national and international levels according to Munanura *et al.,* (2014). Utilization of some begins in situ while some are further processed and value-added before

utilized. Preliminary observation revealed that processed NTFPs mostly utilized command higher market prices than when not processed. Women's associations with non-timber forest products remain a significant aspect of their labour and obligations. The collection of non-timber forest products, especially for sustenance, energy, and crafting resources, has traditionally been the responsibility of women (Neumann and Hirsch, 2000). The majority of informal trading in common raw and processed non-timber forest products (NTFPs) is conducted by women, while men are traditionally involved in the collection (Kalu and Rachael, 2006) and cultivation. Rural women often confronted by many factors that hamper their ability to engage in economic activity (Carr, 2008) because, they spend most of their time taking care of their household, elders, and other members of the family. As a result, they become economically reliant and susceptible, educationally deficient, and politically and socially marginalised. These subsequently incur significant social, economic, and environmental consequences on society, particularly affecting rural development (Hill, 2011). Women are generally the poorest of the poor ICPD (1994), Eradicating socio-cultural, political, and economic prejudice against them is essential for the elimination of poverty. Consequently, it is essential to focus on the economic empowerment of disadvantaged women globally to enhance their developmental initiatives through forest resources, making it crucial to examine their participation in the processing of prioritised non-timber forest products in the research area.

2. METHODOLOGY

2.1 Study Area

The study was conducted in Ikole local government area of Ekiti State, Nigeria. Ekiti states was created from the old Ondo state on 1st October, 1997. It covers an area of approximately 7,000 square kilometers. It is bordered to the south by Ondo state; in the west by Osun state; towards the north by Kwara state and the east by Kogi state. The approximate location is between latitude 70^0 – 8.20^0 North of the equator and between longitude 4.80^0 – 60^0 East of the Greenwich meridian. Ekiti has the characteristics of the West African monsoonal climate, marked by distinct seasonal shifts in the wind pattern (Oguntoyinbo, 1987). The regime of rainfall is bimodal. The State is endowed with natural forest resources, mineral deposits with extensive fertile soils.

2.2 Sampling techniques and sampling size

Ikole local government Area was purposively selected based on the prevalence of NTFPs in the area. Four sampled representative communities including Ijesa-Isu Ekiti; Ake-Ayedun; Oke Ako Ekiti and Ikole Ekiti were also selected purposively. In each selected community, thirty (30) respondents were picked using the snowballing technique, and a total of one hundred and twenty (120) respondents were used for this study.

2.3 Data Collection and analysis

Pre-tested semi-structured questionnaires were administered to one hundred and twenty respondents in the study area. Data collected were analysed using SPSS Statistics 27 package to develop descriptive statistical tables and figures. Also, the Chi-square (X^2) test was used to ascertain the relationship between respondents' demographic characteristics (gender; age; household size) and NTFP processing.

$X^2 = \sum$ o - e2e
O = frequencies observed, e = frequencies expected, $\sum$ = the 'sum of'

3 RESULTS

3.1 Demographic Characteristics of the Respondents

The result in Table 1 showed that 13.33% of the respondents are male while 86.68% are female. Results on respondents' age distribution revealed that 25.00% are between the age bracket of 21 to 30 years, the age class 31 to 40 years recorded 38.33%, those between ages 41 to 49 were 20.00% while respondents above 50 years of age were 16.67%. The result shows that 21.67% of the respondents are single, 68.33% are married and 10.00% and 0.00% are widowed and divorced respectively. The result on respondents' household size showed that about 35.00% of the respondents had between 1 to 4 dependents, 55.00% had between 5 and 8 dependents and 10.00% had above 9 dependents. The result also showed that 45.00% are Christians, 19.33% are Muslims and 36.67% are Traditional worshipers. The result of the respondents' educational status shows that 15.00% of them had no formal education, 30.00% had primary education, while those with secondary and tertiary educations were 31.67% and 23.33% of the respondents respectively.

Table 1: Socio-economic Characteristics of Respondents

Variables	Frequency	Percentage %
Gender		
Male	16	13.33
Female	104	86.67
Total	**120**	**100.00**
Age (years)		
21-30	30	25.00
31-40	46	38.33
41-50	24	20.00
51-above	20	16.67
Total	120	100.00
Marital Status		
Single	26	21.67
Married	82	68.33
Widowed	12	10.00
Divorced	0	0.00
Total	120	100.00
Household size		
1-4	42	35.00
5-8	66	55.00
9 and above	12	10.00
Total	120	100.00
Religion		
Christianity	54	45.00
Isl am	22	18.33
Traditional	44	36.67
Total	120	100.00
Educational Background		
No formal education	18	15.00
Primary	36	30..00
Secondary	38	31.67
Tertiary	28	23.33

Total	**120**	**100.00**

3.2 Major Occupation of respondents by gender

Table 2 presents the respondents' distribution by occupation in the study area. The result indicated that 63.33% of the respondents are farmers, 26.67% are Artisans, this was followed by Civil servants (6.67%) and hunting (3.33%) respectively,

Table 2: Major Occupation of respondents by gender

Occupations	Male	Female	Grand Total
Farming	10(62.50)	66(63.46)	76(63.33)
Artisan	2(12.5.)	30(28.85)	32(26.67)
Civil servant	0(0.00)	8(7.69)	4(6.67)
Hunting	4(25.00)	0(0.00)	4(3.33)
Total	**16(100.00)**	**104(100.00)**	**60(100.00)**

Note: Figures in parentheses are in percentages

3.3 Prioritized non-timber forest products collected, and processed in the study area.

The result of prioritized common non-timber forest products collected and processed presented in Table 3, showed that Alligator pepper (*Aframomum melegueta),* wrapping leaves (*Thaumatococcus daniellii),* Charcoal, and (Honey) are the major non-timber forest product collected and processed. The result also revealed that both males and females are involved in the harvesting and collection of Alligator pepper while the processing is done by females. Females are the major harvesters, collectors, and processors of wrapping leaves. Both males and females are involved in the collection and gathering of materials (logs and water) for charcoal production, while males are the major processors. The result also showed that the males are the major collectors/harvesters and processors of honey.

3.4 Women's Roles in the Processing of non-timber Forest Products

Table 4 revealed that women are majorly involved in harvesting and processing Alligator pepper by plucking the fruits directly from the field and sun-drying. They are also involved in harvesting and processing wrapping leaves by cutting off the leaves (lamina) and the petioles, sorting and arrangement of lamina into bundles for sale, and conversion of petioles into mats by weaving. While women are less involved in charcoal and honey processing.

Table 3: List of prioritized common Non-timber forest products collected and processed

Common name	Scientific name	Primary Harvesters/Collectors			Primary Processors		
		Male	Female	Male and female	Male	Female	Male and female
Alligator pepper	*Aframomum melegueta*	•	•	•		•	
Wrapping leaves	*Thaumatococcus danielli*		•			•	

Charcoal		•	•	•	•
Honey(Bee)	*Apis mellifera*	•			•

Table 4: Women's roles in the processing of non-timber forest products

NTFPs	Stage(s) of women's Involvement	Activities/Roles	End product(s)
Alligator pepper	Harvesting	Plucking of fruits from the mother plant on the field.	
	Processing	Boiling and sun-drying of fruits	Dried fruits
Wrapping leaves	Harvesting	Cutting of leaves (Lamina) and leaf stalks (Petioles).	
	Processing	Longitudinal cutting and opening of leaf stalks, drying, dyeing, sorting and weaving of the leaf stalks (Petioles).	
		Sorting and arrangement of leaves (Lamina) into bundles for sale.	Mat
			Leaves
Charcoal	Pre-processing	Gathering/pilling of logs for charcoal production.	Charcoal
Honey	Post-processing	Bottling of processed honey	Honey

Results of respondents' years of business experience presented in Figure 1 shows that 5.00% of the respondents had between 1 and 9 years of business experience, 26.67% between 10 TO 19years of experience, 46.67% had between 20 and 29 years while 15.00% and 6.67% of the respondents had between 30 and 39 years and 40 years and above working experiences respectively.

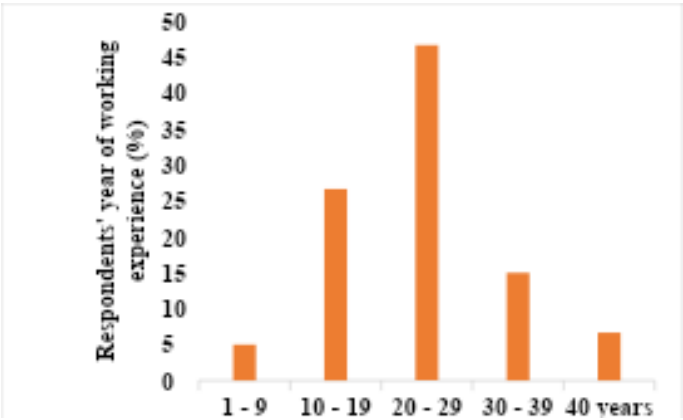

Figure 1: Respondents years of business experiences

3.5 Contributions of non-timber forest products to Respondents' households

Table 5 presents the contributions of non-timber forest products to the respondents' livelihood in the study area. The majority (100.00%) of the respondents reported that non-timer forest products had been a source of income generation, 65.00% reported employment and 96.67% reported food as the contributions of NTFPs to their households. Among the stated contributions of non-timber forest products to the respondent households, income was ranked 1st, food and employment were ranked 2nd and 3rd respectively while medicine was ranked 4th.

Table 5: Contributions of prioritized Non-timber forest products to respondents' households

Contributions of NTFPs to households	Frequency	Percentages (%)	Ranking
Income	120(120)	100.00	1st
Employment	102(120)	85.00	3rd
Food	116(120)	96.67	2nd
Medicine	92(120)	76.67	4th

Note: The figures in parentheses are numbers of respondents interviewed

3.6 Constraints to non-timber forest products processing

Constraints to non-timber forest products processing in the study are presented in Table 6 as follows. The result showed that capital was reported as the major (100.00%) constraint to non-timber forest products processing in the study area. Other constraints reported by the respondents are high transportation costs recorded at 96.67%; poor road network (73.33%); low patronage and difficulties in processing some of the available non-timber forest products.

Table 6: Constraints to non-timber forest products processing

Constraints	Frequency	Percentage (%)	Ranking
Capital	120(120)	100.00	1st
Poor road network	88(120)	73.33	3rd
Low patronage	80(120)	66.67	4th
Transportation cost	116(120)	96.67	2nd
Difficulty of processing some NTFPs	74(120)	61.67	5th

Note: The figures in parentheses are the numbers of respondents interviewed

The result of the Chi-square (X^2) in Table 7 revealed that there is a significant relationship between Gender and NTFPs processing, Household size, and NTFPs processing, while Age and NTFPs showed no significant relationship at 5% (P=0.05) level of significance.

Table 7: Chi-square (X^2) showing the relationship between respondents' demographic characteristics (Gender Age, Household size) and NTFPs processing

	Gender	Age	Household size
X^2 calculated	32.27	6.54	188.30
Critical Value	3.841	7.815	5.991
Df	1	3	2
Conclusion	Reject Ho	Accept Ho	Reject Ho

Level of significance 5% (P = 0.05)

4.2 DISCUSSION

The selection of NTFPs was based on the prioritization of Major NTFPs collected and processed using the percentage mentioned as a criterion in the study area. The result obtained from this finding identified four major non-timber forest products (NTFPs) namely; Alligator pepper (*Aframomoum melegueta),* Wrapping leaves (*Thaumutococcus danielli),* Charcoal, and Honey. The result of the respondents' age distribution revealed that processing on NTFPs was dominated by women. The dominant roles played by women in processing NTFPs as indicated in Table 4 could be associated with their ability and skill to convert raw NTFPs to other tangible products. This is in agreement with the findings of Kalu and Egharevba, (2006) who reported that women possessed outstanding knowledge and skills in NTFP processing. The result of respondents' distribution by age (Table 1) also showed that 83.33% of the processors are between the age class of 20 and 50 years. This implies that a larger proportion of the processors are within an active and productive age range, which agrees with the findings of Farinola *et al.,* (2014), and Tee, Edet, and Osang (2015) who reported that individuals within the age of 20 and 40 and those with the average age of 47 years are very active and can move round to source for NTFPs and also contribute meaningfully to the National economy.

The marital status of respondents showed that 68.33% are married, also about 90.00% of the respondents had six and above dependents. The higher proportion of married respondents and large family sizes in the study area portend heavy reliance on family labour for NTFP extraction, processing, and other related activities to cater for their family needs. This is in conformity with Amanda and Annet (2017) who opined that women are the main caregiver who always provides for their children and ill family members in addition to providing food, fuel, and fodder. The result on the level of education indicated that NTFP processing is independent of educational background. However, the higher proportion (85.00%) of respondents with formal education implies that the respondents are likely to adopt any conservative innovation. This is in support of Newton *et al.,* (2016) who reported that a high level of education would lead to the extraction of fewer forest products, opening alternative employment opportunities and diverting people from subsistence livelihood activities of gathering NTFPs from the forest to a more advanced level of processing.

The fact that the majority of respondents are male farmers, while others are engaged in other occupations/professions) such as artisans, civil servants, and hunting implies that there is a diversification of different means of livelihood among the people in the study area. Also, the level of respondent experiences made them more familiar with NTFPs and increased their knowledge and skills in the conversion and processing of the products. This complies with Hag (2004) women's familiarity and involvement in NTFP utilization and also Kalu and Egharerba (2006) who reported that the outstanding knowledge and skills of women had encouraged their involvement in NTFP processing. NTFPs Contribution to livelihood revealed that income is the major input to respondents' livelihood, followed by food, and Employment as revealed by the respondents. The major constraints to NTFPs processing reported by the respondent include insufficient start-up capital, others are transportation costs, poor road network, low patronage, difficulties, and stress involved in processing some NTFPs.

CONCLUSION

Processing non-timber forest products has been a long-time practice in Ikole local government area. NTFP processing has contributed tremendously to the livelihood of the people in terms of income and employment generation as well as sources of food and food supplements. This study further revealed that women are more involved in the processing of NTFPs whose processes are less tedious while males are involved in NTFPs activities that require greater effort; more tasking, and are risky. In most cases, the income realized or generated by women is much higher when measured and compared with the earnings of men after processing because of value added during processing activities. Therefore, empowering women in processing NTFPs will facilitate employment creation, and reduce outright dependence on husbands for daily needs by acquiring financial freedom. Consequent to the findings of this study, it is therefore recommended that women should be empowered through soft loans to encourage them to participate more in the processing of NTFPs, and there should be adequate training for women involved in the processing of NTFPs on sustainable resources management to prevent wastage during processing.

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