



UTILIZATION PATTERNS OF NON-TIMBER FOREST PRODUCTS AMONG RURAL HOUSEHOLDS IN OSUN STATE, NIGERIA

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ABSTRACT

The study examined the utilization patterns of Non-Timber Forest Products (NTFPs) among rural households in Osun State, Nigeria. Forest resources play a crucial role in enhancing household income, food security, and livelihood sustainability, especially in developing countries. Despite their importance, NTFPs are often undervalued in national development planning. The study specifically sought to assess the socio-economic characteristics of rural households and identify the major NTFPs utilized in the study area. A multistage sampling technique was employed to select sixty (60) respondents from six communities across three randomly chosen Local Government Areas. Data were collected using a well-structured interview schedule and analysed using descriptive statistics such as frequency, percentage, and mean values. Findings revealed that most respondents were within the active age range of 47–57 years (51.7%), with the majority being married (85.0%) and possessing household sizes of 1–5 persons. Only 15.0% had no formal education, implying high literacy levels that could enhance willingness to adopt sustainable forest-use practices. Results further showed that fuelwood ($X = 2.93$), tree poles and bamboo (mean = 2.92 each), medicinal plants (mean = 2.88), teal leaves ($X = 2.81$), and seasonal vegetables ($X = 2.83$) were the most highly utilized NTFPs. These products were used for both income generation and household consumption, underscoring their significance in rural livelihoods. The study concludes that NTFPs make substantial contributions to economic resilience and food security in the study area. It recommends that policymakers and stakeholders integrate NTFPs into forest conservation and rural development strategies to ensure sustainable management and continuous availability of forest resources.

Keywords: Non-Timber, Forest, Products, Utilization, Rural, Households

INTRODUCTION

Forests provide essential domestic subsistence and consumption needs that help increase households' disposable incomes. They also serve as a form of insurance during periods of economic hardship and generate direct monetary benefits through sales (Ganiyu *et al.*, 2023). Forest products play an important role in supporting rural livelihoods and enhancing food security in many developing countries (Adejoba *et al.*, 2020). Forest products are broadly classified into timber and Non-Timber Forest Products (NTFPs) (Oni *et al.*, 2024). NTFPs are defined by Oni *et al.* (2020) as goods derived from biological resources—excluding timber—collected from forest ecosystems for survival or trade. Examples include fruits and nuts, vegetables, medicinal plants, gums and resins, bamboo, rattans and palms, fibres and flosses, grasses, leaves, seeds, mushrooms, honey, and lac.

According to Mahonya *et al.* (2019), NTFPs comprise all resources or products that can be extracted from forest ecosystems and used within the household, sold in markets, or valued for their social, cultural, or religious significance. Despite these significant contributions, especially in improving the financial wellbeing of rural dwellers, NTFPs are still perceived as less important to national development in many developing countries (Adejoba *et al.* 2020). Determining the factors influencing the degree of reliance on NTFPs among local populations is therefore crucial for understanding their socioeconomic impacts on rural livelihoods. A clear understanding of forest-based



income reliance is also vital for shaping national and local forest-use policies. Based on this background, the study was undertaken to examine the utilization patterns of NTFFPs among rural households.

- i. ascertain the socio-economic characteristics of the respondents;
- ii. Utilization pattern of NTFFPs in the study areas.

MATERIALS AND METHODS

Study Area

The study was carried out in Osun State. The state is located in the south-western part of Nigeria which has the incidence of poverty of 19.5% and 80.5% for food poor and non-poor, respectively (NBS, 2010). It covers a total area of approximately 14,875 km² while the land area is about 9,251 km². There are two distinct climatic seasons which are the rainy season which exists from March to October and the dry season from November to early March. Annual rainfall average is 1570 mm while temperature ranges from 25 to 27.5°C. Osun state is agrarian state with large production of tuber crops which is associated with soil area that is deep and well drained sandy loam (Afolami *et al.*, 2015). Agriculture is the traditional occupation of the people of Osun State. The topography is rolling hills and lies between 300 and 600 m above sea level. Soil types are varied and most contain a high proportion of clay and sand and are mainly dominated by the lateritic series.

Sampling Procedure and Sample Size

A multistage sampling procedure was adopted for the study. In the first stage, three Local Government Areas (LGAs) were randomly selected from the state. In the second stage, two communities were chosen from each of the selected LGAs, resulting in a total of six communities. The third stage involved selecting ten (10) respondents from each of the five communities, giving a total sample size of sixty (60) respondents for the study.

Method of Data Collection

An interview schedule was employed to obtain relevant information from the respondents, using a well-structured questionnaire designed specifically for the study.

Method of Data Analysis

To analyze the data collected for the study, descriptive statistics such as frequency distributions, mean values, and percentages were employed.

RESULTS AND DISCUSSION

Respondents' Socio-economic Characteristics

Table 1 shows that most respondents (51.7%) were between 47–57 years, indicating an older and economically active population with considerable farming experience. Only a small proportion (8.3%) were young adults. A large majority (85.0%) were married, suggesting stable households and greater family responsibilities.

Educationally, respondents had generally moderate schooling: 36.7% completed primary education, 28.3% secondary, and 20.0% tertiary education, while 15.0% had no formal education. This implies that many possess basic literacy, though a portion may still face challenges in understanding technical agricultural information.

Household size was mostly small to medium, with 66.7% having 1–5 members and 33.3% having 6–10 members, which may affect labour availability and resource use.

Overall, the respondents are mainly mature, married individuals with moderate education and manageable household sizes, characteristics that shape their engagement in agricultural and livelihood activities in the area. This aligns with the findings of Okeet *al.* (2023), who reported that a large proportion of smallholder food crop farmers in Ekiti State are educated. This implies that most respondents were literate, and their ability to read is expected to positively influence their willingness and capacity to adopt agro forestry practices



Table 1: Socio-economic Characteristics of Respondents in the Study Area

Socio-Economic Characteristics	Frequency	Percentage (%)	Mean
Age			
25-35	5	8.3	
36-46	16	26.7	
47-57	31	51.7	
>57	8	13.3	
Marital Status			
Married	51	85.0	
Single	9	15.0	
Educational Level			
No formal Education	9	15.0	
Primary education	22	36.7	
Secondary education	17	28.3	
Tertiary education	12	20.0	
Household Size (person)			
1-5	40	66.7	
6-10	20	33.3	

Source: Field Survey, 2026

Utilization Pattern of NTFPs

The results in Table 2 showed that fuelwood (mean = 2.93), tree poles and bamboo (mean = 2.92 each), and medicinal plants (mean = 2.88) recorded the highest levels of utilization in the study area. During discussions with selected respondents, it was revealed that some NTFPs such as bamboo, tree poles, and wild honey are sold in local markets to generate income for meeting household needs. Others—particularly medicinal plants and animals obtained through wildlife hunting—were mainly used for personal or household consumption.

Another NTFP with a high utilization pattern was *teal leaves*, used for food packaging, with a mean value of 2.81. This finding aligns with VIHI *et al.* (2023), who noted that forests play a highly significant role in the livelihoods of both rural and urban dwellers.

Implication of the Findings: The high utilization of fuelwood, bamboo, tree poles, medicinal plants, and teal leaves indicates that rural households depend heavily on NTFPs for both income generation and domestic needs. This strong reliance suggests that forest resources are central to the community's economic resilience and daily survival. Therefore, the findings imply that government agencies and relevant stakeholders should promote effective and sustainable management of forest resources to ensure their continuous availability and long-term contribution to rural livelihoods.



Table 2: Utilization Patterns of Non-Timber Forest Products

NTFP Type	Usage pattern	High F (%)	Moderate F (%)	Low F (%)	Mean
Bamboo	House-building materials, handicrafts, furniture, fuelwood and vegetable.	55(91.7)	5 (8.3)	-	2.92
Medicinal Plants	Curing different types of ailments	53 (88.3)	7 (11.7)	-	2.88
Tree poles	House-building materials, furniture, and fuelwood	55(91.7)	5(8.3)	-	2.92
Fuelwood	Residential and commercial cooking.	56(93.3)	4(6.7)	-	2.93
Teak leaves	Packaging foods and other consumable items	49(81.7)	11(18.3)	-	2.81
Wildlife hunting and poaching	Food for nutritional and medicinal purposes, rituals for festivals, and sale in the market	40(66.7)	12(20.0)	8(13.3)	2.53
Seasonal vegetables	Vegetables and curries food for nutritional and medicinal purpose	50(83.3)	10(16.7)	-	2.83
Wild honey	Food for nutritional and medicinal purposes	36(60.0)	17(28.3)	7(11.7)	2.48

Source: Field Survey, 2026. Weighted Mean Score= 2.79. < 2.79=low, ≥ 2.79=High

CONCLUSION AND RECOMMENDATION

The study concluded that fuelwood, seasonal vegetables, medicinal plants, bamboo, and other related products were the major Non-Timber Forest Products (NTFPs) utilized in the study area. It further established that these NTFPs had a high usage pattern, indicating their potential to enhance food security and support sustainable livelihoods within the community.

Based on these findings, the study recommended that stakeholders and policymakers should prioritize the NTFP sector in forest conservation efforts. Such measures should aim to sustainably manage forest resources while meeting the needs of forest-dependent households.

Strengthen Extension Services and Capacity Building on NTFPs: Many respondents possess only primary or secondary education, indicating the need for targeted training. Extension agents should provide education on improved harvesting techniques, value addition, domestication of key NTFPs (such as medicinal plants and vegetables), and market access. This will enhance income generation, reduce waste, and promote more efficient use of forest resources.
Develop Supportive Policies and Market Structures for NTFPs: Since NTFPs contribute significantly to household income and livelihood security, state and local governments should develop policies that formalize NTFP markets, improve market infrastructure, and support small-scale processors. Creating credit schemes or cooperatives for NTFP collectors will also enhance economic benefits and encourage sustainable engagement in the NTFP sector.

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