**NON-TIMBER FOREST PRODUCTS AND ITS CONTRIBUTION TO RURAL LIVELIHOODS IN GBOKO LOCAL GOVERNMENT AREA OF BENUE STATE, NIGERIA**

**Abstract**

This study assessed the contribution of forest resources to rural livelihoods in Gboko Local Government Area of Benue State, Nigeria. Pre-tested semi-structured questionnaires were administered to 250 respondents selected through multi-stage and simple random sampling, based on their proximity to forest areas and utilization of Non-Timber Forest Products (NTFPs). Descriptive statistics, including frequency, percentages, mean, and Likert scale rating, were used to analyze the data. The results revealed that fuelwood (14.9%) had the highest proportion of NTFPs collection, followed by bush meat (12.1%), fruits (10.6%), medicinal plants (9.6%), and charcoal (9.3%). In contrast, the lowest proportions were recorded for mushrooms (3.3%), fodder (2.8%), bush mango, honey, essential oil (1.9% each), and forest insects (1.3%). The Likert scale results indicated a high level of contribution for NTFPs in food (WMS, 4.6), fuel (WMS, 3.9), medicine (WMS, 3.6), trade (WMS, 3.3), and recreation (WMS, 3.2). The findings suggest that NTFPs play a vital role in rural livelihoods, serving as a safety net. Therefore, deliberate policy measures are necessary to ensure sustainable harvesting practices and establish community-led conservation initiatives for sustainable forest management.

Keywords: Non-Timber Forest Products (NTFPs), Rural Livelihoods, Sustainable Forest Management, Forest Resources Utilization.

**1.0 Introduction**

Forests play a vital role in supporting rural livelihoods, providing ecosystem services and products essential for well-being. In developing countries, they are a primary source of food, healthcare, and income for rural communities (Solomon, 2016). The majority of rural livelihoods in these countries depend heavily on land and forests, which offer a range of essential resources. These resources include food, medicine, shelter, building materials, fuels, and cash income (Ibeagwa, 2020). Furthermore, forests serve as reservoirs of economic plants and animal species, supporting the livelihoods of forest-based communities globally. Approximately 2 billion people, representing 80% of the developing world, rely on non-timber forest products (NTFPs) as their primary source of income, food, nutrition, and medicine (Maske *et al*., 2011; Ochi and Zaman, 2019). The uses of NTFPs vary across communities due to differences in traditional practices and ethnic groups. However, their importance for local communities in and around forests is well recognized (Angelsen and Wunder, 2003; Fisher *et al*., 2010; Liswanti *et al*., 2011; Wunder *et al*., 2014).

In Sub-Saharan Africa, over 15 million people earn their income from forest-related enterprises, including firewood and charcoal sales, small-scale saw-milling, commercial hunting, and handicraft production (Kaimowitz, 2003). NTFPs encompass a broad range of products, including plant and animal products, and raw materials. The Food and Agriculture Organization (FAO) categorizes NTFPs into various categories, including: Plant-based products: fruits, nuts, honey, bark, tubers, roots, leaves, fruits, flowers, seeds, fodder, fibre, mushrooms, and medicinal extracts. Animal-based products: insects, animals, horns, tusks, bones, pelts, plumes, hides, and skins. Raw materials: construction materials, firewood, cosmetic and cultural products, natural dyes, tannin, gums, resins, latex, and other exudates. Specialty products: essential oils, spices, edible oils, decorative articles, non-wood lignocellulosic products, phytochemicals, and aroma chemicals (Sunderland *et al*., 2003; Aiyeloja and Ajewole, 2006; NTFP-EP, 2019; FAO, 2010).

The extraction of non-timber forest products (NTFPs) has significant economic benefits, generating employment and income through processing and trading activities. Although NTFPs may not be the primary source of income for local communities, they make substantial contributions to household income, food security, and healthcare (Endamana et al., 2016; Ojea et al., 2016). Additionally, NTFPs provide various social and cultural benefits. NTFPs also serve as a vital source of income for poor households and act as a safety net for rural households during times of economic and agricultural stress (Shackleton and Shackleton, 2004; Paumgarten, 2005; Angelsen *et al*., 2014).

Theoretically, forest resource dependence has been conceptualized as a multifaceted construct with multiple temporal and spatial dimensions (Beckley 1998; Munanura *et al*., 2014). For example, forest resource utilization can be of different forms such as subsistence, commercial extraction of timber and non-timber forest products (NTFPs), tourism, education, and research. These various levels of utilization and dependence operate and interact differently at individual, community, national, and international levels (Munanura et al., 2014). Therefore, site-specific analyses of NTFP dependence are necessary to modify the interaction between people and forests, promoting biodiversity conservation and sustainable rural development. Due to Nigeria's high population density and limited off-farm income-generating opportunities in rural areas, households frequently depend on the resources found in nearby forests to augment their income (Jimoh *et al*., 2013).

In Nigeria, high population density and limited off-farm income opportunities in rural areas lead households to rely on nearby forest resources to supplement their income (Jimoh *et al*., 2013). The poverty of marginalized groups is often linked to rural and forest settlements (Jagger *et al*., 2022). With increasing poverty and inequality rates in Nigeria, people in rural areas and around forests depend heavily on natural resources, including NTFPs, for income, food, nutrition, and energy security. However, relying on NTFPs to alleviate poverty can lead to environmental problems, such as biodiversity loss, if not properly managed (Fagbemi et al., 2015).

 Research on the economic importance of non-timber forest products (NTFPs) has yielded varying results. A study by Shackleton and Shackleton (2006) in South Africa's Kat River Valley found that NTFPs contributed a relatively small share (about 20%) to total household incomes. However, other studies have reported significant income generation from NTFPs. For instance, Jimoh et al. (2013) found that rural households in Nigeria derived up to 80% of their incomes from NTFP sales. Fuelwood is another crucial NTFP, serving as the primary energy source for over 70% of Nigerian households, with a daily consumption estimate of 27.5 million kg (Ogunsawa and Ajala, 2002; Zaku *et al*., 2013). In Nigeria's high forest zones, game meat and snail harvesting have become major income-generating activities (Onuche, 2011). Similarly, in the Savannah zone, products like honey, fuelwood, fodder, medicinal herbs, and charcoal production generate substantial incomes for rural households (Jimoh and Haruna, 2007; Jimoh *et al.,* 2013; Suleiman, 2017). Similar contributions of NTFPs to rural well-being have been reported in other African countries, including Kenya and Tanzania (Campbell, 1991; Schaafsma *et al*., 2014; Mbuvi and Boon, 2009). CIFOR's global comparative study characterized NTFP case studies in Africa as predominantly part of a 'coping strategy' (Sunderland *et al*., 2004).

In North Eastern Pakistan, a study by Zubair *et al*. (2020) found that the primary motivation for collecting non-timber forest products (NTFPs), particularly medicinal plants, in Azad Jammu and Kashmir regions was income generation through extraction and processing. Notably, collectors often had to travel considerable distances of up to 4-6 kilometers to gather these products.

The growing demand for forest products in developing countries has improved rural livelihoods and expanded domestic markets, particularly in urban areas where wood fuels and other forest resources are scarce (Arnold *et al*., 2006). Non-timber forest products (NTFPs) offer income generation opportunities and contribute to poverty alleviation in both rural and urban areas through two key avenues (CARPE, 2001; Richardson, 2010; Adam *et al*., 2013; Malleson *et al*., 2014; Adedayo, 2018). First, the market for forest products provides revenue opportunities through NTFP collection, trade, and sale. Second, NTFPs offer urban households a reliable source of energy and affordable food.

NTFP activities have low entry requirements and provide accessible means of buffering against risks, shocks, and livelihood vulnerability by offering cash in times of need (Arnold *et al*., 2011; Marshall *et al*., 2006; Neumann and Hirsch, 2000). Although NTFPs are not a solution to eradicate poverty and conserve forests, they significantly contribute to rural livelihoods in unique ways (Agrawal *et al*., 2013). While NTFP income typically accounts for less than 50% of household income, its importance lies in its accessibility during times of need or when agricultural labour needs are low (Marshall *et al*., 2006; Arnold *et al*., 2011; Kusters *et al*., 2006). The income contribution of NTFPs and their role as a safety net will remain crucial for the poorest rural households without access to new economic opportunities and employment options

Despite their significant contributions to rural livelihoods, non-timber forest products (NTFPs) have been largely overlooked by policymakers, development planners, foresters, and economic planners (Adedayo, 2018). As a result, NTFP management has been neglected and restricted to local communities and urban poor, hindering its development.

Understanding the role and potential of NTFPs in improving livelihoods and achieving conservation objectives is crucial for ensuring their sustainable management in Nigeria (Belcher *et al*., 2005). A clear policy framework is needed to promote and harness the potential of NTFPs in alleviating poverty and contributing to economic development (Oyun, 2009). This study aims to identify the NTFPs collected in the study area and assess their contribution to rural livelihoods, providing a comprehensive understanding of NTFPs and their role in supporting rural communities.

**2.0 Methodology**

**2.1 Study Area**

The study was conducted in Gboko Local Government Area (LGA) of Benue State, Nigeria. Gboko LGA is headquartered in Gboko town, situated in the central part of the state. A map of Gboko Local Government Area is presented in Figure 1, illustrating its boundaries, major settlements, and geographical features. LGA is located on latitude 70 190300 North and longitude 90 000 180 East. The LGA is one of the twenty-three local Governments in Benue and it is bounded by Tarka LGA on the north, Ushongo Local LGA to the south, Buruku LGA on the east, Gwer LGA on the west, Konshisha LGA on the south-west. The LGA is composed of the following districts: Yandev, Ipav, Mbayion, Mbatyav and Mbatyerev. Furthermore, it has eighteen (18) council wards with an estimated population of 358,936 people according to the 2006 Nigeria Population Census also with a landmass of 2,264 km2. The vegetation of the area is the Guinea savanna. It is characterized by moderate grasses and trees that grow rapidly during the rainy season. The primary occupation of the inhabitants is Agriculture (farming), trading, and civil service and their major produce is yam and rice.

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**Source**: Ministry of land and survey Benue State 2018

**Figur**e 1:Map of Benue State Showing Gboko Local Government Area

**2.2 Population, Sample Size and Sampling Techniques.**

The population of the study consisted of rural people in the study area. Multistage and simple random sampling techniques were adapted for the study. Five (5) council wards were purposively selected out of eighteen (18) based on their closeness to the forest. One (1) community was selected from each of the council wards. Two (2) villages were selected from each of the communities, making a total of ten (10) villages. 22 persons were randomly selected from each of the villages. Therefore, the sample size for the study was 220 respondents. However, only 215 questionnaires with complete data were used for data extraction and analysis.

**2.3 Data collection**

This study employed a multi-method approach, utilizing semi-structured questionnaires, oral interviews, and personal observations to collect primary data.

**2.4 Data Analysis**

Descriptive statistics such as frequencies and percentages were used. A five-point Likert scale rating was used to measure the contribution of NTFPs to poverty reduction. The weighted scale was derived based on the following values for specific questions to the respondents. Very High (VH) = 5, High (H) = 4, Medium (M) = 3, Low (L) = 2, Very Low (VL) = 1

The mean score of respondents is expressed as $MS = \frac{\sum\_{}^{}f}{n}$

Where:

f = summation of five-point rating scale and

n = number of points

MS = 1+2+3+4+5

 5

MS = 3.0

The Likert weighted score (WS) is expressed as: $Ws= \sum\_{i=1}^{n}fixi$

The Likert weighted mean score (WSC) is expressed as: $WMS= \frac{\sum\_{i=1}^{n}fixi}{N}$

Where:

F = frequency of respondent

X = Likert scale point

N = total number of respondents

Using the interval scale of 0.05, the Upper Limit (UL) cut-off is MS+0.05 (3.0+0.05). The Lower Limit (LL) cut-off is MS-0.05 (3.0-0.05 = 2.95). Based on these two extreme limits variables with WMS below 2.95 (WMS<2.95) is considered disagree. Variables with WMS between 2.95 to 3.05. undecided any variable WMS greater than 3.05 (WMS>3.05) Agree, (Dagba *et al*..,2017)

**3.0 Results**

**3.1 Socio-economic Characteristics of NTFPs Users**

As presented in Table 1, the age bracket range of 36-45 years had the highest proportion (40%), this was followed by the age bracket of 26-35(25.1%), 46-55(16.1%), 56-65(8.4%), 15-25(7.9%), 66-75(1.4%) while the least age bracket of 76-85 years recorded 0.5%.

In terms of gender, the majority of the respondents were females with 60% while only 40% were males. The marital distribution shows that married persons had the highest proportion (62.8%), this was followed by singles (31.2%), and separated marriages (3.7%), while divorcees were only 0.5%. On the educational status of respondents, the majority (34%) had tertiary education, this was followed by secondary education (31.6%), and primary education (20.5%) while only 14% had no formal education. Based on occupation, farmers (41.4%) were the majority, followed by civil servants (34.9%), students (14%), traders (7.4%), and hunters (2.3%) were the least among the occupations. The household size of 6-10 (47.0%) members had the highest proportion, this was followed by that of 11-15 (14.8%), 16-20 (3.3%), 21-25 (2.8%) while those of 1-5 and 26-30 had 1.1% and 1.0% respectively. Result on religion show that Christians were the majority (97.7%) while only 2.3% were Islam.

Based on the period of residence of respondents, the majority (28.8%) had settled between 31-40 years, 14.2% between 21-30 years, 13.2% between 11to 20 years, 9.3% had settled up to 10 years, while 3.2% and 1.3% had settled between 41-50 years and 51-60 years respectively.

Table 1: Socio-Economic Characteristics of Non-Timber Forest Products Users in Gboko Local Government Area.

|  |  |  |  |
| --- | --- | --- | --- |
| Characteristics  | Category | Frequency(n:215)  | Percentage |
| Gender | MaleFemale | 86129 | 40.060.0 |
| Age | 18-3536-4546-5556> | 71863622 | 3340.016.710.3 |
| Marital status | SingleMarriedDivorcedWidowSeparated | 67135148 | 31.262.80.51.93.7 |
| Level of education | Non-formalPrimarySecondaryTertiary | 30446873 | 14.020.531.634.0 |
| Occupation | Civil servantFarmerHunting TraderStudent | 758951630 | 34.941.42.37.414.0 |
| Household size | 1-56-1011-1516> | 671013215 | 31.147.014.87.1 |
| Years of residency | 1-1011-2021-3031-4041> | 2028956210 | 9.313.214.228.84.3 |
| Religion | ChristianityIslam | 2105 | 97.72.3 |

**3.2 Types of Non-Timber Forest Products in Gboko Local Government.**

The result in Table 2 indicates that fuel wood (14.9%) had the highest utilization proportion, followed by bush meat (12.1%), fruits (10.6%), medicinal plants (9.8%), charcoal (9.3%), herbs (6.5%), condiments (5.6%), cricket (5.1%), leaves for soup (5.1%), and caterpillar (4.2%). while honey (1.9%), Oils (91.9%), and forest insects (1.3%) were the least utilized in the study area.

**Table 2: The Utilization of Non-Timber Forest Products in Gboko LGA**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S/No.** | **NTFPs** | **Frequency**  | **Percentage**  | **Ranking**  | **Uses** |
| 1 | Fuelwood | 32 | 14.9 | 1 | Fuel |
| 2 | Bush meat | 26 | 12.1 | 2 | Food |
| 3 | Fruits | 23 | 10.6 | 3 | Food |
| 4 | Medicinal plants | 21 | 9.8 | 4 | Medicines |
| 5 | Charcoal | 20 | 9.3 | 5 | Fuel |
| 6 | Herbs | 14 | 6.5 | 6 | Medicines |
| 7 | Condiments | 12 | 5.6 | 7 | Food |
| 8 | Cricket | 11 | 5.1 | 8 | Food |
| 9 | Leaves for soup | 11 | 5.1 | 9 | Food |
| 10 | Caterpillar | 9 | 4.2 | 10 | Food |
| 11 | Climbers | 8 | 3.7 | 11 | Food |
| 12 | Mushroom | 7 | 3.3 | 12 | Food |
| 13 | Fodder | 6 | 2.8 | 13 | Feed |
| 14 | Bush mango (*Irvingia gabonensis)* | 4 | 1.9 | 14 | Food |
| 15 | Honey(wild) | 4 | 1.9 | 15 | Food |
| 16 | Essential oil | 4 | 1.9 | 16 | Gream |
|  17 | Forest insects | 3 | 1.3 | 17 | Food |
|  |  | 215 | 100 |  |  |

**3.3 Contribution of Non-Timber Forest Products to Improve Livelihoods**

Table 3 shows the extent of the contribution of non-timber forest products to poverty reduction and livelihood enhancement. The Weighted Means Score (WMS), indicates that food (WMS =4.6>3.05), the highest mean, followed by fuel (WMS =3.9>3.05), medicine (WMS =3.6>3.05), trade (WMS =3.3>3.05) while recreation (WMS =3.2>3.05) indicated the least mean score. The result in Table 3 indicates that the non-timber forest products are mostly used for food, medicines, fuel and cream in the study area.

Table 3: Extent of Contribution of Non-Timber Forest Products to Livelihood Enhancement.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | VL | L | M | H | VH | N | WS | WMS | Decision |
| Food  | 1(1)  | 1(2)  | 18(54)  | 38(152)  | 157(785)  | 215  | 994  | 4.6  | high  |
| Fuel  | 3(3)  | 16(32)  | 59(177)  | 63(252)  | 74(370)  | 215  | 835  | 3.9  | high  |
| Medicine  | 2(2)  | 10(20)  | 74(222)  | 124(496)  | 5(25)  | 215  | 835  | 3.6  | high  |
| Trade  | 2(2)  | 9(18)  | 152(456)  | 35(140)  | 17(85)  | 215  | 701  | 3.3  | high  |
| Recreation  | 3(3)  | 34(68)  | 129(384)  | 21(84)  | 28(140)  | 215  | 679  | 3.2  | high  |

VL= Very Low, L- Low, M= Moderates, H=High, VH= Very high

Number of respondents (N) =240, Mean Score (MS)= 3.0, Upper Limit (UL) =3.05 and Lower Limit (LL)= 2.95, WMS =Weighted mean score.

**Note:** Values in brackets are products of Likert scale values and values outside the brackets are the frequency of respondents

**4.0 Discussion**

**4.1 Socio-Economic Characteristics of the Respondents**

The socio-economic characteristics of the respondents reveal that individuals in their active ages (younger population) comprised the majority, outnumbering the elderly. This is attributed to the labor-intensive nature of non-timber forest product (NTFP) collection, which demands physical strength for tasks such as collection, harvesting, and processing (Mamo et al., 2007). Consequently, younger individuals are more likely to engage in NTFP collection and may be more dependent on forest products than their elderly counterparts. This finding is supported by McElwee (2008), who observed that elderly individuals are less likely to collect NTFPs due to physical limitations, instead relying on their farms for sustenance.

The higher proportion of females to males indicates that women rely more heavily on non-timber forest products (NTFPs) due to their traditional roles within the family. According to the division of labor, women are primarily responsible for gathering fuel, fodder, and wild foods, while men focus on growing cash crops for profit (Malhotra et al., 1993). Studies have shown that women play a significant role in NTFP collection. For instance, Shackleton et al. (2003) and Paumgarten (2005) found that in 85% of rural South African households, women collected 73% of the total NTFPs for consumption purposes, whereas only 27% of men were involved in NTFP gathering.

The survey revealed that married individuals more than single individuals, indicating their active involvement in the usage and supply of non-timber forest products (NTFPs). Married individuals typically bear the responsibility of providing for their households' nutritional, health, and other needs. This finding aligns with Ojo and Jibowo's (2008) study, which highlighted the significant family responsibilities of married individuals in rural African communities. Maurice *et al*., (2015) also noted that being married connotes a higher level of social responsibility. The majority of respondents (86%) were literate, while only 14% had non-formal education. This suggests that most respondents possessed a level of knowledge that would make them more receptive to development policies and sustainable practices related to NTFPs. Farming was the dominant occupation among respondents, indicating that farmers are the primary users of NTFPs. The collection of NTFPs is a traditional activity for households, essential for their livelihoods. Household sizes ranging from 6-10 members were predominant, which could be advantageous in terms of labor required for non-timber forest product (NTFP) activities. Adhikari (2014) noted that larger households tend to have a greater demand for NTFPs, making them more likely to engage in NTFP collection. Studies by Rodrigez (2007) and Tassou (2017) found that having additional household members increases the likelihood of NTFP collection. The labor provided by household members can significantly aid in NTFP collection.

The majority of respondents (over 20 years) have been settled in the study area, indicating a long-term dependence on forest land for NTFPs and other income-generating activities. This suggests that the community has a permanent land tenure system, with access to NTFPs governed by various rules and tenure arrangements.

**4.2 Contribution of Non-Timber Forest Product to Improve Livelihood in Gboko LGA**

A significant portion of the extracted non-timber forest products (NTFPs) were utilized for fuel, food, medicine, and oil. This finding aligns with the studies by Talukdar *et al*., (2021) and Jerin *et al*., (2022) which reported that rural households use NTFPs for consumption and trade them for income. These products serve as essential safety nets for poor and vulnerable agricultural communities during economic or agricultural stress. NTFPs, such as medicinal products, wild fruits, leafy vegetables, bush meat, nuts, wild honey, and mushrooms, provide crucial food and nutrition benefits to rural households. According to Jumbe *et al*., (2008), 68% of total forest products harvested by rural households are consumed within the household, while the remaining 32% are sold or exchanged for household goods. In areas where households face food insecurity due to soil infertility and traditional agronomic practices, forest resources become a primary source of sustenance (Mohammed et al., 2010).

The extensive collection of non-timber forest products (NTFPs) indicates that rural livelihoods heavily rely on these products to meet daily household needs. This finding is consistent with Ochi and Zaman's (2019) study, which reported that firewood, medicinal products, wild fruits, and vegetables were the most commonly collected NTFPs. In their research, nearly all households (93%) living near the Afaka Forest Reserve in Kaduna State, Nigeria, collected NTFPs, with firewood, wild fruits, and vegetables exceeding 70% of total collections. The high level of NTFP collection can be attributed to several factors, including; easy access to NTFPs, which are often obtained freely from the forest, limited alternative energy sources in the area and high costs associated with other energy sources A study by Ancha et al. (2019) on the Odoba Forest Reserve in Benue State, Nigeria, also found that firewood, water supply, edible vegetables, fodder, and medicinal plants were the most commonly collected NTFPs. These products contributed significantly to the livelihoods of rural people, providing food, income, medicine, employment, and trade opportunities.

The study by Suleiman et al. (2017) found that households in Fagore game reserve commonly collected fuelwood (99%), medicinal herbs (84%), fruit nuts (80%), and fodder (67%). Non-timber forest products (NTFPs) significantly contributed to food, fuel, medicine, trade, and recreation in all investigated areas. These findings align with Talukdar et al., (2021) study in Northeast India, which reported that NTFPs are used for various purposes, including food, fodder, fiber, traditional medicine, and trade for cash incomes. The majority of people used NTFPs for food, with herbs being the most commonly used plant (64.28%), followed by shrubs (14.28%) and trees (21.43%). The stem was the most utilized plant part (50%), followed by leaves (15%) and fruits (14%). Approximately one-fourth of the villagers relied on NTFPs for sustaining their livelihoods. Aiyeloja and Ajewole's (2006) study on NTFP marketing in Nigeria's Osun state found that bushmeat and medicinal plants contribute to people's nutritional and medicinal needs and are viable business ventures. The study revealed that 98% of respondents preferred bushmeat to other meat, although 48% consumed it occasionally. Medicinal plants competed favorably with orthodox medicine, and many have been incorporated into successful therapies.

The World Health Organization (WHO) estimates that up to 80% of the population in many developing countries relies on traditional medicines, mostly plant-based drugs, for primary healthcare (Pandey *et al*., 2016). In areas with limited access to modern medicines, plant medicines serve as a prime source of healthcare for the poor, and many people use these remedies. The study by Suleiman *et al*., (2017) found that households in Fagore game reserve commonly collected fuelwood (99%), medicinal herbs (84%), fruit nuts (80%), and fodder (67%). Non-timber forest products (NTFPs) significantly contributed to food, fuel, medicine, trade, and recreation in all investigated areas. These findings align with Talukdar *et al*., (2021) study in Northeast India, which reported that NTFPs are used for various purposes, including food, fodder, fiber, traditional medicine, and trade for cash incomes. The majority of people used NTFPs for food, with herbs being the most commonly used plant (64.28%), followed by shrubs (14.28%) and trees (21.43%). The stem was the most utilized plant part (50%), followed by leaves (15%) and fruits (14%). Approximately one-fourth of the villagers relied on NTFPs for sustaining their livelihoods. Aiyeloja and Ajewole's (2006) study on NTFP marketing in Nigeria's Osun state found that bushmeat and medicinal plants contribute to people's nutritional and medicinal needs and are viable business ventures. The study revealed that 98% of respondents preferred bushmeat to other meat, although 48% consumed it occasionally. Medicinal plants competed favorably with orthodox medicine, and many have been incorporated into successful therapies. The World Health Organization (WHO) estimates that up to 80% of the population in many developing countries relies on traditional medicines, mostly plant-based drugs, for primary healthcare (Pandey *et al*., 2016). In areas with limited access to modern medicines, plant medicines serve as a prime source of healthcare for the poor, and many people use these remedies.

 According to Azeke (2002), Plant medicines are generally the first recourse for rural households. and can only turn either to traditional healers or Western-type medicines when they fail. Generally, a large number of forest plants have medicinal value hence, the forest is the richest drugstore (World Bank, 2016). Similarly, Barirega *et al*., (2012) in Uganda maintained that the importance of wild plants as valuable source of food and medicines is increasing for many households which are also traded for household incomes. Many NTFPs collected are sources of cash income for many rural households and this has been reported by many studies. Jimoh *et al*., (2013) reported that rural households in Nigeria derived up to 80% of their incomes from the sales of NTFPs. Plant medicines are often the first resort for rural households, according to Azeke (2002). These households may only seek traditional healers or Western-type medicines when plant medicines fail. The forest is a rich source of medicinal plants, with many species having medicinal value (World Bank, 2016). Barirega *et al.,* (2012) noted that wild plants are increasingly important for many households in Uganda as a source of food and medicine, and are also traded for income. Non-timber forest products (NTFPs) are a significant source of cash income for many rural households. Jimoh *et al*. (2013) reported that rural households in Nigeria derived up to 80% of their incomes from NTFP sales. Similarly, Brian et al. (2012) found that NTFPs contributed about 33% to household income, while Suleiman *et al*., (2017) reported that NTFPs accounted for one-third of the total rural household economy. In terms of market profitability, Ibeagwa *et al.* (2020) reported a profitability index of 0.43%. Ojomah et al. (2020) found that most rural households generated an income of ₦61,000 and above monthly. Ochi and Zaman (2019) estimated that firewood accounted for the highest gross earnings of N4,661,440 in the Afaka forest reserve in Kaduna State in 2015. NTFPs can serve as a source of wealth creation and aid poverty alleviation, particularly for rural inhabitants with limited income (Akinta *et al*., 2013). However, the high rate of extraction may threaten the sustainability of forest tree species and carbon sinks, resulting in a trade-off between public goods and private short-term benefits.

**5.0 Conclusion and Recommendation**

**5.1 Conclusion**

Residents of Gboko Local Government Area (LGA) in Benue State actively collect and utilize non-timber forest products (NTFPs). The study revealed that the most commonly collected and utilized NTFPs in the area are fuelwood, bushmeat, fruits, and medicinal plants

**5.2 Recommendations**

Further research is necessary in the study area to provide comprehensive information that can inform policies and strategies for sustainable utilization of non-timber forest products. Prioritizing highly utilized products in the area also requires additional research. To ensure the long-term benefits of these resources, it is essential to adopt goals that promote inclusive growth, human capital development, equity, and social stability.

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