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Research Article

# Market Survey of Non-Timber Forest Products in the Sunyani Municipality

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**Abstract**
This study sought to: (1) identify the types and sources of Non-Timber Forest Products (NTFPs) traded; (2) find the frequency of the NTFPs trade and (3) identify the challenges in NTFPs trading in the Sunyani Municipality. The survey was carried out from February, 2014 to April, 2014 mainly at the Sunyani Central and Nana Bosoma Markets in the Sunyani Municipality. The target population comprised NTFPs collectors (gatherers), sellers and consumers. Respondents were purposively sampled. A total of 100 respondents were engaged in this study. The NTFPs were grouped into six categories namely; food, medicine, building materials, packaging materials, artefacts and domestic utensils. Key informants' interviews were also conducted at the Sunyani Forest Services Division to triangulate the data already gathered. Statistical Package for Social Sciences was used to analyze the data obtained. The study demonstrated that domestic utensils (37%), food (33%), medicinal products (12%), packaging materials (9%), artefacts (6%) and building materials (3%) were the types of NTFPs traded in the two market centers. The results also showed that majority of the respondents (77%) harvest their NTFPs from forest lands as against 23% who harvest from communal lands. A significant proportion of the respondents (52%) traded in above 40 kg of NTFPs and only 4% were seen trading in 10 kg of NTFPs. The study further highlighted that food (28%) and domestic utensils (26%) were regularly brought to the market centers on weekly basis whilst significant proportions of medicinal products (9%), building materials (3%) and artefacts (4%) were brought to the market venues on monthly basis. Cumbersome permit procedure (40%), increased market demand (15%) and financial constraints (20%) were identified as some of the challenges encountered in NTFPs trading in the Sunyani Municipality. To ensure strict monitoring and sustainability of the resource, there is the need for sensitization programme on the importance of NTFPs in rural livelihood and why their conservation is vital in meeting the needs of the present generation whilst not undermining their potential in supplying the needs of future generations.

**Keywords**
Non-Timber Forest Products–Markets–Trade–Forest Conservation–Forest degradation–Forest Lands–Communal Lands

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## Contents



## 1. Introduction

Incomes from natural forests are mostly derived from trade in economic timber species and Non-Timber Forest Products (NTFPs).Whereas government major priority is in harvesting of timber to generate income, forest fringe communities and the rural people depend mostly on the NTFPs to meet their basic needs. Sharma et al [1] stated that, women, the landless, and the poor are the principal collectors of NTFPs. They depend on the NTFPs that are available on communal and forest lands for their basic needs as well as for income but their quest for these products are restricted by many barriers such as security of tenure, lack of processing skills, limited value addition at sources, support infrastructure, unregulated extraction and limited market access. Nevertheless, the income generated from these pursuits is sometimes taxed for the enhancement of economic development which often supplements farm income. NTFPs cover over 200 species of the forest resources, other than timber, harvested for commercial, personal or traditional purposes. These include fruits, nuts, vegetables, fish and, medicinal plants,

wild foods, resins, spirits, flowers and a range of barks and fibres as well as bamboo, rattans, and a host of other palms and grasses [2]. In Nepal, hundreds of plant species are used as NTFPs and have great conservation and economic value. NTFPs, previously used for subsistence purposes and small-scale trading by rural communities, are increasingly in demand for large-scale industries [3]. This is as a result of increase in technology, processing units, enterprises and information systems. The average tribal family drew about half of its annual income from forests and 13 per cent from cattle but little is known about their collection and marketing dynamics [4]. The volume of global forest products trade is estimated at $327 billion and though women are the major collectors of NTFPs, they sell these products at low prices. Likewise, forests of India are estimated to contribute over 1.7% to the country's GDP, besides providing priceless ecosystem services which cannot be estimated or interpreted precisely in economic terms. State policy on NTFPs mostly favoured the private business interests till present without considering the local people. As a way of contributing to foreign exchange earnings [5] and the support of biodiversity and other conservation objectives [6] government sometimes overlook the over exploitation of these Non-timber forest products though, community members keep harvesting them for commercial use. There is a gradual shrinkage of these common property resources in the Sunyani Municipality and the implications on the livelihood of the poor and the marginal who still collect the NTFPs for use is becoming enormous. Trade in NTFPs can act as an incentive for forest conservation by providing a source of income from resources that might otherwise appear to have little financial value. Despite rapid deforestation and biodiversity loss in Ghana's High Forest Zone, NTFPs still contribute substantially to people's cash and non-cash incomes. However, the over-exploitation of forest resources and a lack of local management will continue to lead to forest degradation and lost species. This poses several challenges for forest governance. Although, there had been several studies on NTFPs collection and livelihood relationships, there is no data currently on the kinds and availability of these NTFPs traded in the Sunyani Municipality. The collection and marketing of NTFPs are being promoted as a potential solution to the current high rates of malnutrition and the poor health of rural population and the spread and intensification of poverty. They play important role in meeting the needs of rural communities for food, poverty reduction and sustainable management of forest resources and livelihoods improvement. However, the management or regulation of trading of NTFPs requires proper documentation on these activities. The information gathered through this study will inform forest managers and other policy makers to make sound management decisions to enhance optimum economic benefits to communities trading in NTFPs in the Sunyani Municipality whilst also meeting their conservation objectives.

### 1.1 Marketing chains of NTFPs

In Ghana, thousands of people across the country produce and market a diverse range of NTFPs on daily basis in the local, regional and international markets [7]. Despite the enormous potential of NTFPs to support rural livelihoods, the NTFPs supply chain has received very little attention from the scientific community. Several constraints hinder an effective management of the NTFPs supply chain for optimizing income generation and improvement of rural livelihoods. The information base of NTFPs in Ghana is still poor because research on them is relatively new and has received very little formal study. There is a serious lack of basic statistical information on their volumes, trade, income and nutritional values. The low representation of NTFPs in policy-making is due to the inadequate statistical information on NTFPs. NTFPs have not been accorded adequate attention in development planning and in nutrition improvement programmes in the country. Existing information sources are dispersed and no standardized system for compiling data on NTFPs is in place. In today's global market, an effective management of the entire supply chain of NTFPs has become a key factor for their successful commercialization [7]. The NTFPs supply chain typically comprises a range of actors involved in the production of the products at the farm level to the final consumer. It is a network of producers, gatherers, collectors, retailers, distributors, transporters, suppliers and sellers that participate in the delivery and sale of the products to the final consumer at the local, regional, national and international level. Improving the supply chain of NTFPs has become very important in the efforts of most developing countries trying to enhance the economic empowerment of the rural poor. In this paper we seek also to briefly examine the NTFPs supply chain activities, actors and the key challenges of supply chain management. The objectives of this study were therefore: to identify the types and sources of NTFPs traded in, find the frequency of the NTFPs traded and to identify the challenges in NTFPs trading in the Sunyani Municipality.

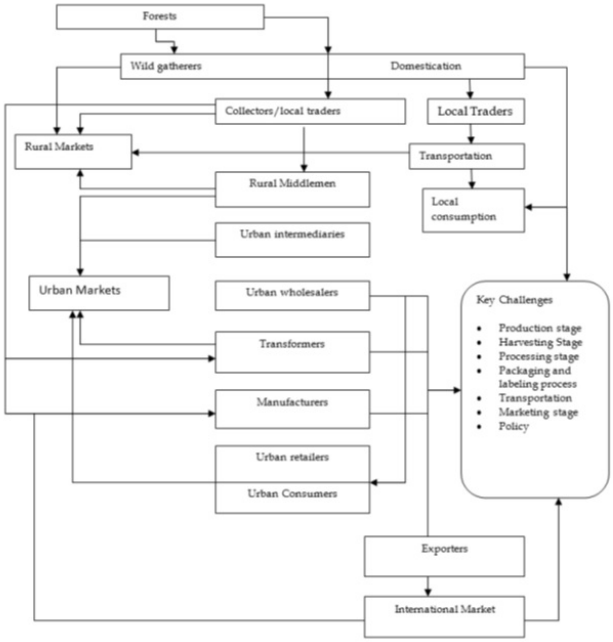


**Figure 1.** The Supply Chain of NTFPs
Source: Adopted from [7];[8]

## 2. Materials and Methods

### 2.1 Description Study Area

Sunyani Municipality is one of the twenty-two administrative districts in the Brong-Ahafo Region of Ghana. As the Municipality keeps on expanding and despite gradual socio-cultural transformation, the inhabitants have remarkable knowledge of plants and their uses. The reliance on folk medicines for health care is quiet predominant and more effective. An ocular estimation in the area indicated that selling of mortar and pestles, canes, twines and other related NTFPs products are more dominance in the market. According to Mensah [9], the Municipality is located in the heart of Brong-Ahafo Region, Sunyani. It lies between Latitudes 70º 55'N and 70º 35'N and Longitudes 20º W and 20º 30'W. It shares boundaries with the Wenchi Municipal to the north, Berekum Municipal and Dormaa East Districts to the west, Asutifi District to the south and Tano South District to the east. There are effective economic and social interactions with the neighbouring districts which promote resource flow among these districts. The municipality has a total land area of 829.3 Square Km2 (320.1square miles). Sunyani also serves as the Regional Capital for Brong-Ahafo. One third of the total land area is not inhabited or cultivated which provides arable lands for future investment. The municipality falls within the wet Semi-Equatorial Climatic Zone of Ghana. The mean monthly temperatures vary between 23ºC and 33ºC with the lowest around August and the highest being observed around March and April. The relative humidity is high, averaging between 75 and 80 percent during the rainy seasons and 70 and 80 percent during the dry seasons of the year which is ideal for luxurious vegetative growth. The average rainfall for Sunyani between 2000 and 2009 is 8900mm. Sunyani experiences maxima rainfall pattern. The main rainy season is between March and September with the minor between October and December. This offers two farming seasons in a year which supports higher agricultural production in the municipality. However, the rainfall pattern of the municipality is decreasing over the years as a result of deforestation and depletion of water bodies resulting from human activities [9]. Sunyani Municipality falls largely within the Moist – Semi Deciduous Forest Vegetation Zone. Most of the primary vegetation can be found in patches around the north-west, east and southern parts of the municipality. These include the Yaya and the Amama Shelter Belt forest reserves. This vegetation zone also contains most of the valuable timber species. As indicated by the characteristics of the vegetation cover, cocoa and citrus can thrive well in this zone. As a result of lumbering and farming practices, most of the forest areas have been degraded. Reforestation is therefore being undertaken in the forest reserves to reverse the trend [9].

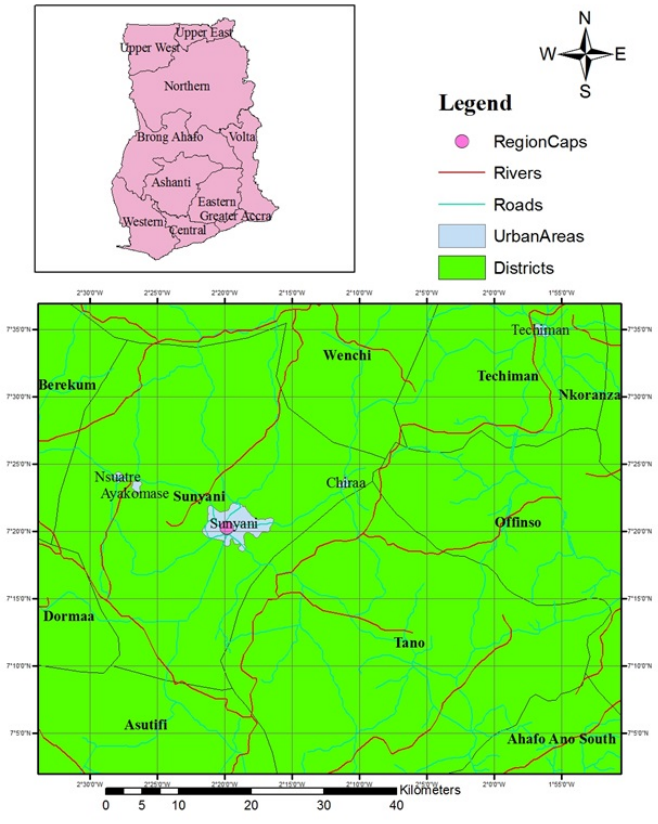


**Figure 2.** Regional Map of Ghana showing Sunyani Municipality.

## 2.2 Methods

### 2.2.1 Reconnaissance Survey

Prior to the selection of respondents, a reconnaissance survey was carried out to identify the types of NTFPs in the markets and the people involved. An interview checklist was pre-tested based on the findings from the survey. This was done to validate information from respondents. The reconnaissance survey was carried out at the two principal NTFPs trading centres namely; Sunyani Central Market and Nana Bosoma Market and some selected local restaurant commonly known as "chop bar" centers.

### 2.2.2 Sampling Method

The survey was carried out from the month of February 2014 to April, 2014 in the Sunyani Municipality. The target population comprised NTFPs collectors (gatherers), sellers and consumers. Purposive sampling method was used to select the respondents engaged in NTFPs trading at a sampling intensity of 100% in the Sunyani Central and Nana Bosoma Markets. The NTFPs were grouped into six categories namely; Medicine, Food, Building material, Packaging materials, Artifacts and Domestic utensils. The Food category comprised those edible NTFPs; NTFPs which are used for household chores were classified under the Domestic Utensils category; those NTFPs that were sold as health/ nutritional materials were grouped under Medicinal Products. NTFPs used for wrapping were also grouped under the Packaging/Wrapping category; those NTFPs that were calved and designed were also grouped as Artefacts. The NTFPs used for building or manufacturing of equipment were also grouped as Building Materials. The Rotary Scale was used to determine the weight of the NTFPs thus, the quantities of NTFPs traded in the market centres. Key informants' interviews were also conducted at the Sunyani Forest District as a means to supplement the data already gathered.

## 2.3 Data Collection

Primary data were gathered from selected respondents through personal interviews and Secondary data from related literature were obtained from the Libraries of the Faculty of Forest Resources Technology, Sunyani and the Sunyani Forest Services Division. The secondary data were used to increase the reliability and validity of the data collected.

## 2.4 Data Analysis

The data collected on the types, sources, frequency and challenges in NTFPs trading were analyzed in descriptive statistics using Statistical Package for Social Sciences (SPSS). The results were presented in bar graphs and in tables.

# 3. Results and Discussion

## 3.1 Demographic Information on NTFPs Trading in the Sunyani Municipality

The survey showed that trading of NTFPs in the Sunyani Municipality is mostly dominated by females (75%) as compared to the males (25%). About 40% of the respondents were between the ages of 26-35 years and the economically active group in NTFPs trading was found within this age group, 10% were aged between 15-25 years, 36-45 years accounted for 27% of the respondents and 23% of the respondents were aged above 45 years. The educational status of the respondents varied significantly among the actors in NTFPs trade; with the majority (43%) of the respondents having obtained only primary education, 12% had JHS education, 3% had obtained SHS education and 8% also having obtained tertiary education. Surprisingly, 34% of the respondents surveyed had no formal education. Majority (70%) of the respondents interviewed were involved in NTFPs trading as their main occupation, 15% of the respondents were subsistence farmers, 10% were hunters and 5% were engaged in other activities such as teaching, tailoring, nursing and food vendors (Table 1).

**Table 1**

| Variable | Category | Respondents |
|---|---|---|
| **Gender** | Male | 25 |
| | Female | 75 |
| | **Total** | 100 |
| **Age (years)** | 15 – 25 | 10 |
| | 26 – 35 | 40 |
| | 36 – 45 | 27 |
| | Above 45 | 23 |
| | **Total** | 100 |
| **Educational background** | Primary | 43 |
| | Junior High School (JHS) | 12 |
| | Senior High School (SHS) | 3 |
| | Tertiary | 8 |
| | No formal education | 34 |
| | **Total** | 100 |
| **Occupation** | NTFPs trading | 70 |
| | Subsistence farming | 15 |
| | Hunting | 10 |
| | Others | 5 |
| | **Total** | 100 |

Source: Field survey, 2014.

## 3.2 Category of NTFPs traded in the Sunyani Municipality

The survey revealed that 18 different kinds of NTFPs categorized under six (6) groups were traded in the Sunyani Municipality. Most of the respondents (33%) traded in the food category of NTFPs, 37% were actively involved in the trading of domestic utensils made from NTFPs, 9% traded in packaging/ wrapping materials, 12% traded in medicinal products, 3% were involved in trading in NTFPs used as building materials and 6% of the respondents were

engaged in the artistry (sculptural works) with NTFPs (Fig. 3). NTFPs are vital in daily use and consumption, whether as tools, construction materials or food. Trade in NTFPs is an important economic activity in all corners of the high forest zone (HFZ) involving a great number of people, including gatherers, producers, and wholesale and retail traders, often operating within complex trading channels. The study revealed that, women (75%) are the principal traders in NTFPs such as mushrooms, snails, Tetrapleura tetraptera (Prekese), chewsticks, and Marantaceae, the men (25%) are particularly involved in the harvesting and weaving of NTFPs such as fish traps, pestles, mortar and sculpture in the Sunyani Municipality. This therefore confirms the work done by [10] that, men are particularly involved in the harvesting and weaving of NTFPs, whilst women dominate the trade. This finding is also in line with Sharma et al [1] that, women, landless and the poor are the principal collectors of NTFPs.

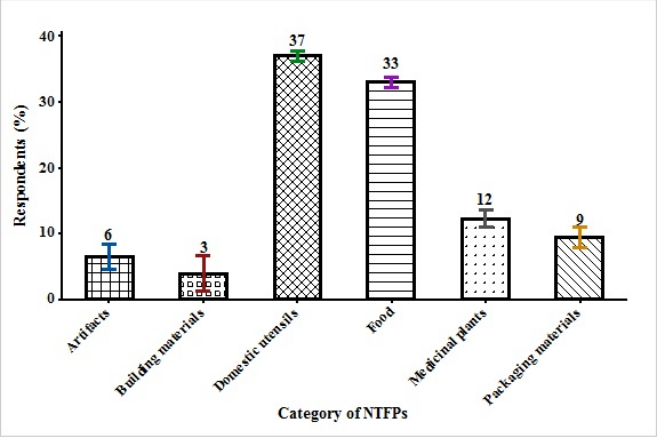


**Figure 3.** The category of NTFPs traded in the Sunyani Municipality

### 3.2.1 The Kinds of NTFPs of the various Category of NTFPs Traded in the Sunyani Municipality

The survey revealed that in the food category, 15% of the respondents traded in mushroom, 8% were involved in snail trading, and 4% of the respondents traded each in 'Prekese' and Honey respectively. Only 2% of the respondents were involved in trading of bush meat (Grasscutter). In the domestic usage of the NTFPs, 12% of the respondents traded in each of pestles and mortars, 4% were engaged in the trade of 'banku sticks', 3% were trading in baskets woven with canes, 2% of the respondents were also seen trading in fish-traps. Only 4% were engaged in the trading of chewing-sticks in the Sunyani Municipality. In the artistry usage of NTFPs, only 6% of the respondents were engaged in wood carving (sculpture). Six percent of the respondents were actively involved in trading of Marantaceae (packaging/wrapping materials). In use of NTFPs as medicine, 4% of the respondents traded in the barks of Mahogany, 3% of the respondents were also identified trading each in the barks of Guarea, 'kodroso' and 'wiwie' in the Sunyani Municipality (Table 2).

The survey revealed that 18 different NTFPs categorized under six (6) groups were traded in the Sunyani Municipality and this is a fulfilment of the 1994 Forest and Wildlife Policy of Ghana which gives a more detailed and comprehensive strategies to enhance maximum benefits from the forests for all segments of the society. Most of the respondents (33%) traded in the food category of NTFPs and the trading of domestic utensils (37%) made from NTFPs. This may be due to the daily consumption of these products as food is a vital commodity for sustenance on earth and the increasingly necessity of domestic materials for household chores accounted for the vast number of respondents trading in it. However, a significantly lower proportion of people (9%) trading in packaging/wrapping materials may be due to the presence of plastic alternatives such as polythene bags which are easily come by and this confirms the assertion made by [7] that, *Marantaceae* is of no use to people due to the availability of plastic alternatives which are always available and can be re-used again. Although,*Marantacaea* is being traded in smaller quantities which is good for forest conservation, the increasing trade in plastic alternatives will result in environmental degradation. The study also showed that a lower proportion (12%) of the respondents traded in medicinal products and this may be attributed to the presence of synthetic (chemically manufactured) drugs which are easily acquired by people than the medicinal counterparts [10]. The survey also indicated that only 6% of the respondents were engaged in the artistry (sculptural works) with NTFPs and this decrease in patronage could be attributed to the fact that these artefacts are used for decoration purposes and leisure. As such, once they are purchased, it takes a longer time to replace (based on eventually new design or spoilage).

**Table 2.** Respondents (%) surveyed in the Sunyani Municipality trading in the various categories of NTFPs (n = 100)

| Food | % | Domestic utensils | % | Packaging/wrapping materials | % | Medicinal products | % | Building materials | % | Artefacts | % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mushroom | 15 | Pestles | 12 | **Marantaceae* | 6 | Mahogany (barks) | 4 | Canes | 3 | Wood Carvers | 6 |
| Snails | 8 | Mortars | 12 | | | | | | | | |
| | | | | | | *Guarea* (barks) | 3 | | | | |
| Prekese | 4 | Banku Sticks | 4 | | | | | | | | |
| Honey | 4 | Baskets | 3 | | | 'Kodroso' | 3 | | | | |
| Bush meat | 2 | Chewsticks | 4 | | | 'Wiwie' | 2 | | | | |
| | | Fish traps | 2 | | | | | | | | |
| **Total** | **33** | | **37** | | **6** | | **12** | | **3** | | **6** |

Source: Field survey, 2014.

### 3.2.2 Sources of NTFPs

The study showed that the NTFPs traded in the Sunyani Municipality are harvested from Forest (77%) and Communal (23%) lands. However, the NTFPs harvested from Forest Reserves was significantly higher than those harvested from Communal lands. In the communal lands,

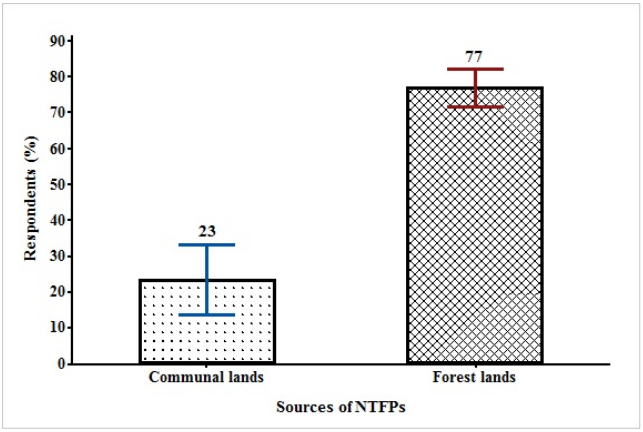


**Figure 4.** Irrigation farmers' perception of temperature and rainfall variations

8% of the respondents harvest their NTFPs from the Nsoatre off-reserve, 7% harvest from Ntotroso, 6% harvest from Atuahene and 2% also harvest from Ayakomaso as illustrated in Fig. 5 below.

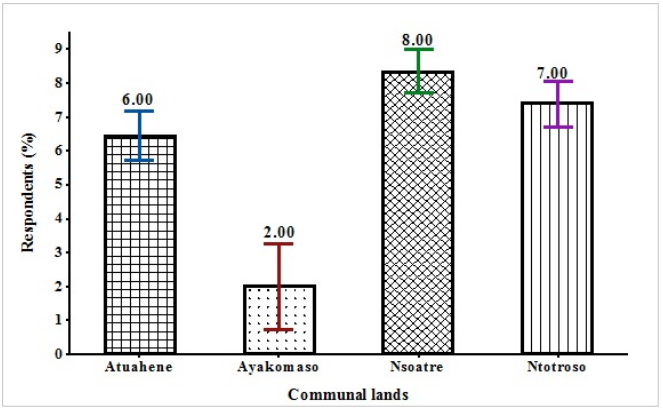


**Figure 5.** Percentage of respondents harvesting NTFPs from Communal Lands.

In the forest reserves, 25% obtain their NTFPs from the Ayum Forest Reserve, 18% also harvest their NTFPs from the Bia Tano Forest Reserve, and 17% of the respondents harvest NTFPs from Bosomkese and Amama Forest Reserves respectively (Fig. 6).

The study also indicated that significant proportion of the NTFPs are harvested from the forest lands (77%) such as Amama Shelterbelt, Bosomkese, and Ayum Forest Reserves whilst only a smaller percentage (23%) of NTFPs are harvested from the community lands in Nsoatre, Fi-

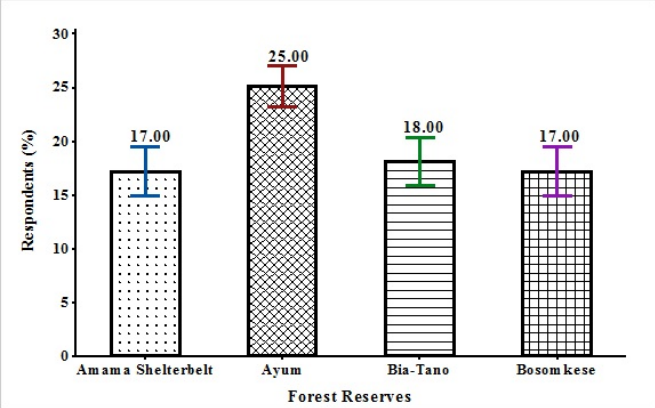


**Figure 6.** Percentage of respondents harvesting NTFPs from Forest Lands.

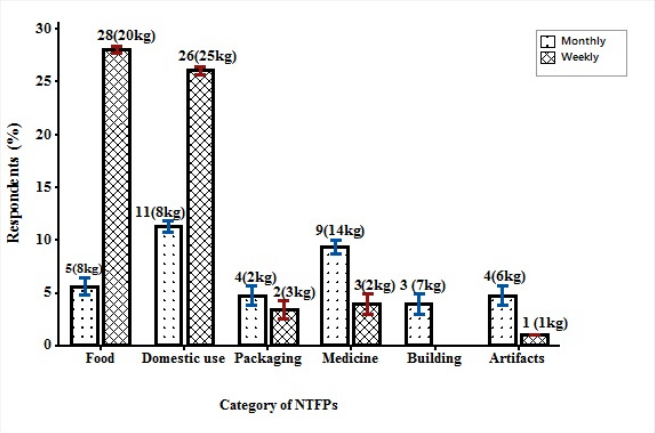


**Figure 7.** Variation in the number of days (frequency) that NTFPs are brought to the market centres.

apre, Atronie etc. The products obtained from these forest and communal lands are recognized as resources that contribute directly to communities' well-being especially during the agricultural lean seasons [11]. Trading in different kinds of NTFPs is in line with sustainable forest management because forestry regards forests as a multi-purpose, multi-benefit resource system that should be managed to enhance the welfare of multi-stakeholders in local communities. With a significantly diverse NTFPs traded in the Sunyani Municipality, it contends that Non-Timber Forest Products have a high comparative advantage to address the needs of local communities both for household consumption and market sale to enhance family incomes. However, this may a negative effect on the forest resource base and consequently hinder sustainable forest management especially in reserved areas where permit systems are loose; because majority of the respondents harvest the NTFPs from the forest reserves.

### 3.3 The Frequency of NTFPs traded in the Sunyani Municipality

The survey shows that majority of the NTFPs were brought every week (60%) to the trading centres. Food (28%, 20 kg) and domestic utensils (26%, 25 kg) are the most dominant NTFPs brought in every week to the market centres. A significant proportion of the NTFPs: medicine (9%, 14 kg), packaging materials (4%, 2 kg), artefacts (4%, 6 kg), and building materials (3%, 7kg) were brought monthly (40%) to the market centers (Fig. 7). The survey revealed that majority (52%) of the respondents traded in larger quantities of NTFPs (>40 kg) and this may be due to the significant number (70%) of the respondents engaged in NTFPs as their main occupation. However, with a fraction of the respondents (48%) trading in smaller quantities (<40 kg) of NTFPs could also be attributed to the people engaged in NTFPs trading as secondary occupation to their farming (15%) and hunting activities (10%). The perishable nature of most NTFPs such as mushroom may be the underlying factor influencing people to adopt NTFPs trading as their minor occupation since there are no effective storage methods to keep these NTFPs throughout the year. They may be engaged in NTFPs trading to supplement their income. This confirms the work done by Ahenkan et al [11] that, trading in NTFPs is used by rural people to supplement their income from agricultural activities. With the study revealing that majority of the people engaged in the trading of NTFPs as their main occupation and coupled with most of the NTFPs harvested from the forest lands (77%), it implies that the resource base is at risk and that is an indictment on sustainable forest management. This confirms the study made by Ahenkan et al [11] that, the extraction of NTFPs from natural forests is obviously unsustainable due to the limited potential of these NTFPs. The periodic (weekly) (60%) supply of NTFPs to the market centres could be attributed to the closeness of the people to the resource base and the increasingly market demand of these products. Nevertheless, food and domestic products of NTFPs are the principal resources brought to the market centres often (weekly) and this may be due to the importance of these products for sustenance on earth. The study therefore confirms the work done by Falconer (1992) [10] that, gatherers, and sellers of NTFPs live closer to the resource base and as such larger quantities are harvested and sold for income to many forest-based communities. Although, forest-fringed communities undoubtedly pick up NTFPs freely from the resource base, their extraction is unregulated and that poses a serious threat to sustainable forest management in Ghana.

### 3.4 Challenges in NTFPs Trading in the Sunyani Municipality

Most of the respondents (40%) claimed that their major challenge in the NTFPs trading is the cumbersome permit

procedure/systems which prevents them (local people) from obtaining harvesting permits, 20% of the respondents attributed their challenge to destruction of natural habitats in both forest and communal lands which results in prolonged travelling/walking hours in search of the right species for NTFPs. Also, 15% of the respondents admitted that increased market demand of the NTFPs as a result of overpopulation, coupled with habitat destruction and seasonality of the NTFPs have led to quantities demanded than the quantity supplied. Moreover, 20% of the respondents also cited financial constraints as their major challenge due to their self-financing in trading in NTFPs in the Sunyani Municipality. A minority (5%) of the respondents claimed that poor transportation networks significantly affect their trade in NTFPs (Fig. 8).

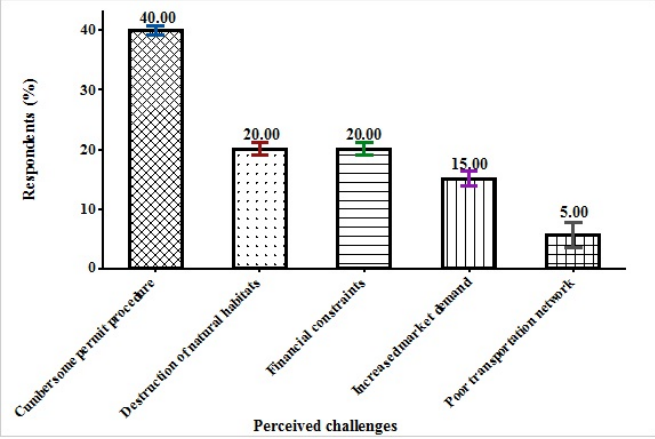


**Figure 8.** Challenges faced by respondents who trade in NTFPs in the Sunyani Municipality.

Most of the respondents (40%) claimed that their major challenge in the NTFPs trading is the cumbersome permit procedure/systems which prevents them (local people) from obtaining harvesting permits. This confirms the work done by Afrifa (2014) [12] that, the permit system and procedure could be too cumbersome for the poor community members, mostly women, who may consider the procedure too costly. They have to travel so many kilometres from their communities to District Forest offices such as Goaso, Bechem and Sunyani to submit an application to harvest NTFPs and again, after inspection has been done, to go back for the permit just to harvest few NTFPs applied for. However, the permit allocation process had been quite prohibitive and mostly patronized by those who could pay and were closer to the District Office where permits had been allocated. This undoubtedly depicts that most of the NTFPs traded in the Sunyani Municipality are unlawfully harvested from the resource base and this is an indictment on procedures outlined in ACT 547 of the Forest Ordinance in Ghana. The widespread concern about the status of our forest is that, the forest is disappearing at an alarming rate and that the loss of so much of the forest has potential disastrous effects on the supply of basic necessities of life such as NTFPs. Also, 20% of the respondents attributed their challenge to destruction of natural habitats in both forest and communal lands which results in prolonged travelling/walking hours in search of the right species for NTFPs. However, gatherers, principally women in the rural areas, travel so many kilometres into the forest in search of NTFPs for domestic and or commercial uses in their communities. This effect emanates from the unsustainable harvest of the resources by large volumes of extraction and their periodic supply to the market centres [13]. Also, 15% of the respondents admitted that increased market demand of the NTFPs as a result of overpopulation, coupled with habitat destruction and seasonality of the NTFPs have led to quantities demanded than the quantity supplied. This asserts the claim by Falconer (1992) [10] that, the recent reduction of forest areas due to increased human livelihood activities such as unsustainable farming, wildfires, and indiscriminate logging are putting the forest under pressure and therefore, has put a strain on the availability of most of these forest resources to an extent where the demand far exceeds the supply. Moreover, 20% of the respondents also cited financial constraints as their major challenge due to their self-financing in trading in NTFPs in the Sunyani Municipality. A minority (5%) of the respondents claimed that poor transportation networks significantly affect their trade in NTFPs. The overexploitation of the NTFPs and a lack of local management will continue to lead to forest degradation and loss of species. This poses several challenges for forest governance. The lives of the rural poor are intrinsically integrated with these forest resources for their [14] and to this effect, they depend much more on the environment for their survival, their actions trigger environmental degradation, which deepens their poverty and the consequence which is a further degradation of the environment [15, 16].

## 4. Conclusion

The survey showed that 18 different NTFPs grouped into six (6) categories were traded in the Sunyani Municipality thus: food (33%) – mushroom (15%), snails (8%), 'prekese' (4%), honey (4%), and bushmeat (2%); domestic utensils (37%) – pestles (12%), 'banku sticks' (4%), baskets (3%), chewingsticks (4%) and fish traps (2%); medicinal plants (12%) – barks of mahogany (4%) and Guarea (4%), 'kodroso' (3%) and 'wiwie' (2%); packaging/ wrapping materials (9%) – Marantaceae (6%); building materials (3%) – canes (3%); and Artefacts (6%) – canes (6%). The study showed that these NTFPs are harvested from forest lands (77%) was significantly higher than those harvested from communal lands Majority of the respondents (52%) traded in above 40kg of NTFPs

in the Sunyani Municipality, 30% traded in an estimated average quantity of 30kg of NTFPs, 14% of the respondents traded in 20kg of NTFPs and 4% of traded in an estimated average quantity of 10kg of NTFPs. The survey shows that majority (60%) of the respondents bring the NTFPs weekly to the market centres. Food (28%) and domestic utensils (26%) being the most dominant ones; and 40% of the respondents bring NTFPs monthly to the market centres with a significant proportion of the NTFPs being medicinal products (9%), packaging materials (4%), artefacts (4%), and building materials (3%). Cumbersome permit procedure/ systems was the respondents' major challenge in NTFPs trading, 20% attributed their challenge to destruction of natural habitats in both forest and communal lands, increased market demand of the NTFPs accounted for 15% of the respondents, 20% of the respondents also attributed financial constraints as their major challenge in trading in NTFPs in the Sunyani Municipality and 5% of the respondents claimed that poor transportation networks significantly affect their trade in NTFPs. Trading in different kinds of NTFPs is in line with sustainable forest management because forestry regards forests as a multi-purpose, multi-benefit resource system that should be managed to enhance the welfare of multi-stakeholders in local communities. With a significantly diverse NTFPs traded in the Sunyani Municipality, it contends that Non-Timber Forest Products have a high comparative advantage to address the needs of local communities both for household consumption and market sale to enhance family incomes. However, this may a negative effect on the forest resource base and consequently hinder sustainable forest management especially in reserved areas where permit systems are loose; because majority of the respondents harvest the NTFPs from the forest reserves. The rural communities must be educated on the need for domestication of NTFPs such as snails, mushroom etc. and there should be sensitization programme on the importance of the NTFPs species and the need to protect them in order to curtail the destruction of these resources by the fringe communities.

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