



## COMPENDIUM OF NON-TIMBER FOREST PRODUCTS USED FOR COMMUNITY LIVELIHOODS IN TARABA STATE, NIGERIA



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**Abstract:** NTFP are consumed locally in all the communities in Taraba State and this has been one of the means of livelihoods. Non-Timber Forest Products (NTFPs) have been identified to contribute to community livelihoods. Such contributions are people as well as site specific and may be short-lived if continuous availability cannot be guaranteed. Information on the role of NTFPs in community livelihoods is crucial to their sustainable management; however, this role has not been properly documented in Taraba State. Therefore, contributions of NTFPs to community livelihoods in Taraba State were investigated. A four-stage sampling procedure was used in the study. Three Local Government Areas (LGAs) were randomly selected from each of the three existing Agro-ecological zones (AEZs) in Taraba State. Five wards from each LGA was randomly selected. A total of 4,495 respondents were identified for this study. At 30% sampling intensity 1,350 respondents were randomly selected for this study. Five sets of questionnaire were administered to 435 Harvesters, (HVTs) 188 Livestock Managers (LMs), 338 Marketers, (MKTS) 327 Building and Energy materials Suppliers (BEMSr) and 62 Medicinal Herbs Collectors (MHCs). The NTFPs were identified and prioritised. Contributions of selected NTFPs to community livelihoods were evaluated using Food, (FD), Livestock Feed (LF), Income and Employment Generation (IEG), Building and Energy Material Supplies (BEMS) and Medicinal Herbs Utilisation (MHU) as indices of livelihoods to produce a compendium. Data were analysed using descriptive statistics and final Assign value. Two hundred and six NTFPs were identified including nine dietary supplements. Ten species having priority for community livelihoods were *Azelia africana* (35), *Balanites aegyptiaca* (34.5), *Vitellaria paradoxa* (34), *Parkia biglobosa* (33.5), *Irvingia gabonensis* (33), *Xylopia aethiopica* (32.5), *Faidherbia albida* (32), *Adansonia digitata* (32), *Brachystegia eurycoma* (32), and *Elaeis guineensis* (31.5). Forty-six species of NTFPs were used as Food (36 trees, 3 shrubs, 7 herbs), twenty-four as BEMSr (17 trees, 3 shrubs, 4 herbs) and twenty-nine for MHU (24 trees, 2 shrubs, 3 herbs). The two hundred and six NTFPs belong to forty-four families. Ten of the identified 206 Non-Timber Forest Products significantly enhanced livelihood status in Taraba State. These species are however under pressure due to multiple usages, which have implication for their sustainable management. *In situ* conservation is therefore recommended to mitigate the pressure on them. This can be done through intensive management and domestication of priority NTFPs through small holder cultivation in farms and gardens, commercial plantation and enrichment planting in forest reserves in the study area.

**Keywords:** Compendium, community livelihoods, priority tree species, NTFPs

### Introduction

The term “Non-Timber Forest Products (NTFPs)” refers to all biological resources, products and services other than timber that can be harvested from forest ecosystem for subsistence and trade (Zaku, 2013a, 2013b). They include fruits, nuts, spices, oils, vegetables, crafts, construction materials, fuel wood, charcoal, medicinal plants, fibers, resins, latex, gums, dyes, wild honey, bush meat, fish, rattans and bamboo (FAO, 1995, 2008; Jimoh and Adebisi, 2005; Jimoh and Adedokun, 2005; Ahekan and Boon, 2010; Shackleton and Shackleton, 2002, 2004; Ambrose, 2003; Jimoh, 2006; Jumbe *et al.*, 2013; Zaku, 2013a, 2013b).

The past twenty years have witnessed a rapid growth of interest in NTFPs. It is believed that, the promotion of sustainable use of NTFPs could lead to a win-win situation for poverty reduction and biodiversity conservation (FAO, 1995, 2008; Ahekan and Boon, 2010; Ambrose, 2003; Shackleton and Shackleton, 2002, 2004; Jimoh and Asinwa, 2006; Jumbe *et al.*, 2013; Zaku, 2013a, 2013b).

There is increasing recognition that NTFPs can contribute significantly to the livelihoods of forest-dependent-communities. NTFPs provide food security and nutrition for both human beings and live stocks. It also provides additional income, employment and foreign exchange earnings (Okafor *et al.*, 1994; Tewari 1998; FAO, 2008; Arnold *et al.*, 2011).

“Community livelihoods” as defined by Loubser (1995) is the totality of the means by which people in a community secure a

living, have or acquire in one way or another, the requirements for survival and satisfaction of needs, as defined by the people themselves in aspects of their lives. Community livelihoods are therefore different from job, which is a specific piece of work or activity performed in exchange for payment. While communities work to obtain money, communities engage in a livelihood to support life; as such community livelihoods may or may not involve money. However, there are instances where a job is a means of livelihood. From the forgoing, livelihoods are the activities people undertake to meet basic needs and to generate income. The concept embraces not only the present availability of the means for making a living but also the security against unexpected shocks and crises that threaten livelihoods.

Non-Timber Forest Products (NTFPs) are important means for meeting the basic needs of communities in Taraba State. However, there is a dearth of information on the species of NTFPs that are used for community livelihoods in Taraba State. Most of these species are not documented and the indigenous knowledge of their relevance is steadily being lost particularly now that children who are supposed to inherit this knowledge spend most times in schools than on farms or forest.

### Materials and Methods

The study was conducted in Taraba State, North-Eastern Nigeria between January, 2010 and January, 2014. It is

located between Latitude 6° 30' & 9° 36'N and Longitude 9° 10' & 11° 50'E (Fig. 1). Taraba State is bounded in the West by Plateau and Benue states and on the East by Cameroon. The State has sixteen Local Government Areas. It is bounded by Bauchi and Gombe States on the Northern part, Plateau and Nasarawa States on the Western part and Adamawa on the Eastern part. Taraba State has a population of 2,300,736 (NPC, 2006).

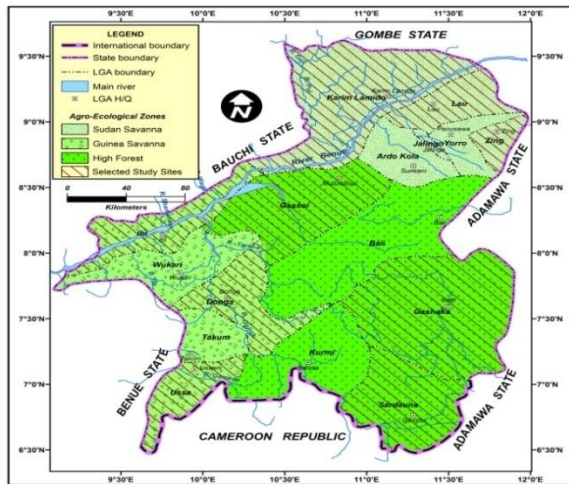


Fig. 1: Map of Taraba State showing the study areas

#### Sampling procedure and sample size

A total of 4,495 respondents were identified in the 45 wards of the 9 LGAs as 1,450 Harvesters (HVTs), 1,125 Marketers (MKTs), 1,090 Building and Energy Material suppliers (BEMS), 625 Livestock Managers (LMs) and 205 Medicinal Herbs Collector(MHC). At 30% sampling intensity, a total of 1,350 respondents were randomly selected. Five sets of questionnaire in the order of: HVTs, 435; LMs, 188; MKTs, 338; BEMS, 327 and MHC, 62 were administered to the respondents (Diaw *et al.*, 2002). Listing and prioritisation of NTFPs that contributed to community livelihoods in Taraba State were evaluated in terms of Food (FD), Livestock Feeding (LF), Income and Employment Generation (IEG), Building and Energy Material Suppliers (BEMS) and Medicinal Herbs Collector (MHC) as indices of community livelihoods in Taraba State.

Data generated was analyzed using descriptive statistics such as frequencies and simple percentages. Identified NTFPs were grouped according to local or vernacular names (Hausa), scientific names, family names and life forms. They were then presented in tables with their frequency of occurrence and this was followed by Ranking and prioritization using the method of Jimoh and Asinwa, 2012). In this method, each respondent listed ten most important NTFPs used for livelihood support over the years in their order of importance. The list of the NTFPs was then scored in ascending order from one to ten. The first most important NTFP was scored one while the least was scored ten. The scores for all the respondents were then pooled for all the identified NTFPs. To establish the final position of a NTFP species in the ranking exercise, the following parameters were calculated:

Number of times each NTFP was mentioned (MT), Mentioned value (MV), Ranked value (RV), Final Assigned value (FAV). The Final Assigned value (FAV) was calculated by adding up the mentioned value (MV) and the ranked value (RV) divided by two i.e.  $FAV = \frac{MV + RV}{2}$  ---1

Where;

FAV = Final Assigned value, MV = Mentioned value, RV = Ranked value

The decision rule: The ten NTFPs with the lowest Final Assigned Values were selected as priority species or species preferred by the communities in Taraba State for livelihood support.

#### Result and Discussion

A total of 206 NTFPs drawn from 44 families used for community livelihoods support were identified in Taraba State. This was reduced to 102 NTFPs species because of multiple uses (Table 1 – 5).

Table 1: NTFPs used as food in Taraba State, Nigeria

S/N	Hausa name	Scientific name	Family	Live forms
<b>NTFPs used as food in form of fruit, nut and seed</b>				
1	Jambe	<i>D. edulis</i>	Burseraceae	Tree
2	Goron birii	<i>I. gaboneensis</i>	Irvingiaceae	Tree
3	Wa'awan Kurmi	<i>P. conophora</i>	Euphorbiaceae	Tree
4	Kuka	<i>A. digitata</i>	Bombacaceae	Tree
5	Tsage	<i>A. androgenesis</i>	Mimosaceae	Tree
6	Aya'a	<i>C. esculentus</i>	Cyperaceae	Herb
7	Ya'alo'o	<i>S. incanum</i>	Solanaceae	Herb
8	Gwandar daji	<i>A. senegalensis</i>	Annonaceae	Shrub
9	Magarya'a	<i>Z. mauritiana</i>	Rhamnaceae	Tree
10	Kimba	<i>X. aethiopica</i>	Annonaceae	Tree
11	Aduwa	<i>B. aegyptiaca</i>	Zygophyllaceae	Tree
12	Giginya	<i>B. aethiopicum</i>	Palmae	Tree
13	Dorowa	<i>Prkia biglobosa</i>	Leguminosae	Tree
14	Atile	<i>C. schweinfurthis</i>	Burseraceae	Tree
15	Tsamiyar Kurmi	<i>D. guineense</i>	Leguminosae	Tree
16	Tsadar masar	<i>S. mombin</i>	Anacardiaceae	Tree
17	Tsamiya	<i>T. indica</i>	Leguminosae	Tree
18	Dinya	<i>V. doniana</i>	Verbenaceae	Tree
19	Kadanya	<i>V. paradoxa</i>	Sapotaceae	Tree
20	Barabutu	<i>A. communis</i>	Moraceae	Tree
21	Tuwon birii	<i>P. excelsa</i>	Chrysobalanaceae	Shrub
22	Tsada	<i>X. americana</i>	Olacaceae	Tree
23	Attagar	<i>C. nucifera</i>	Palmae	Tree
24	Kwara	<i>E. guineensis</i>	Palmae	Tree
25	Walnut	<i>L. trichilioides</i>	Meliaceae	Tree
26	Wa'awan Kurmi	<i>R. heudelotii</i>	Euphorbiaceae	Tree
<b>NTFPs used as vegetables, soup, spices and condiments</b>				
27	Kawo	<i>A. bella</i>	Leguminosae	Tree
28	Bambami	<i>A. cordifolia</i>	Euphorbiaceae	Shrub
29	Rimi	<i>C. petandra</i>	Bombacaceae	Tree
30	Maje/kadaura	<i>D. oliveri</i>	Leguminosae	Tree
31	Baure	<i>Ficus spp</i>	Moraceae	Tree
32	Madobiyar	<i>P. erinaceus</i>	Leguminosae	Tree
33	Kurya	<i>B. costatum</i>	Bombacaceae	Tree
34	Katsari	<i>A. zygia</i>	Leguminosae	Tree
35	Hantsar giwa	<i>K. africana</i>	Bignoniaceae	Tree
<b>NTFPs used as vegetables, soup, spices and condiments</b>				
36	Zaki-banza	<i>A. viridis</i>	Amaranthaceae	Herb
37	Rama'a	<i>H. cannabinus</i>	Malvaceae	Herb
38	Dargaza'a	<i>G. venusta</i>	Tiliaceae	Herb
39	Wambo	<i>B. eurycoma</i>	Caesalpinaceae	Tree
40	Konkoli	<i>B. mannii</i>	Lauraceae	Tree
41	Tafarnuwa	<i>A. sativum</i>	Alliaceae	Herb
42	Zurma	<i>R. communis</i>	Euphobiaceae	Tree
43	Kirya	<i>P. africana</i>	Leguminosae	Tree
44	Masoro'o	<i>P. guineensis</i>	Leguminosae	Climber
45	Borkono daji	<i>A. letifolium</i>	Zingiberaceae	Herb
46	Kombi	<i>M. pigra</i>	Mimosaceae	Herb
<b>Dietary supplements</b>				
47	Naman daji	Bush meat	Mammals	
48	Tsutsa	Caterpillar	Insect	
49	Gara	Termites	Insect	
50	Kodi	Snails	Analids	
51	Zuma	Honey	Insect	
52	Naman itace	Mushroom	Basidiomycetes	
53	Gya'are	Crickets	Insect	
54	Fa'ara	G/hoppers/Locust	Insect	
55	Kifi	Fish	Pisces	

Source: Field survey 2014

Out of this number, 46 were used as food, 12 were used for livestock feeding, 84 were used for income and employment generation, 24 were used both as building and energy materials while 29 were used as medicinal herbs. The result on life forms of NTFPs that contributed to community livelihoods in the study area, showed that, 36 trees, 3 shrubs, 7 herbs were used as food while 10 trees, 1 shrub and 1 herb were used for livestock feeding. Similarly, 58 trees, 3 grass, 3 climbers, 5 shrubs, 15 herbs were used for income and employment generation while 17 trees, 1 grass, 3 shrubs, and 3 herbs were used for building and energy material respectively. On the other hand, 24 trees, 2 shrubs and 3 herbs were used as medicinal herbs in the study area. Nine dietary supplements such as bush meat, caterpillar, termites, snails, honey, mushroom, crickets, grasshopper/locust and fish were also recorded. The above result implies that, Taraba state is highly diverse in terms NTFPs composition (Table 1 – 5). The result of the final assigned value on ranking and prioritization of NTFPs that contributed to community livelihoods indicated ten NTFPs with the lowest final assigned values. They include; *Azelia africana* (35), *Balanites aegyptiaca* (34.5), *Vitellaria paradoxa* (34), *Parkia biglobosa* (33.5), *Irvingia gabonensis* (33), *Xylopia aethiopica* (32.5),

*Faidherbia albida* (32), *Adansonia digitata* (32), *Brachystegia eurycoma* (32), and *Elaeis guineensis* (31.5). This implies that, these NTFPs species are the species mostly preferred or used for community livelihoods in the study area (Table 6).

**Table 2: NTFPs used for livestock feeding in Taraba State, Nigeria**

S/N	Hausa name	Scientific name	Family	Live forms
1	Dogon yaro	<i>A. indica</i>	Anacardaceae	Tree
2	Gwanda daji	<i>A. senegalensis</i>	Annonaceae	Shrub
3	Kuka	<i>A. digitata</i>	Bombacaceae	Tree
4	Kalgo	<i>P. thonningii</i>	Leguminosae	Tree
5	Kawo	<i>A. africana</i>	Leguminosae	Tree
6	Dumshe	<i>A. spp</i>	Mimosaceae	Tree
7	Gawo	<i>F. albida</i>	Mimosaceae	Tree
8	Dorowa	<i>P. biglobosa</i>	Leguminosae	Tree
9	Kirya	<i>P. africana</i>	Leguminosae	Tree
10	Giginya	<i>B. aethiopicum</i>	Palmae	Tree
11	Dinya	<i>V. doniana</i>	Verbenaceae	Tree
12	Zakaimii	<i>D. metel</i>	Solanaceae	Herb

Source: Field survey 2014

**Table 3: NTFPs that generate income and employment in Taraba State, Nigeria**

S/N	Hausa name	Scientific name	Family	Live forms
<b>NTFPs sold as fruit, nut and seed</b>				
1	Jambe	<i>Dacryodes edulis</i>	Burseraceae	Tree
2	Goron birii	<i>Irvingia gabonensis</i>	Irvingiaceae	Tree
3	Wa'awan kurmi	<i>Plukenetia conophora</i>	Euphorbiaceae	Tree
4	Kuka	<i>Adansonia digitata</i>	Bombacaceae	Tree
5	Tsage	<i>Amblygonocarpus androgenesis</i>	Mimosaceae	Tree
6	Aya'a	<i>Cyperus esculentus</i>	Cyperaceae	Grass
7	Ya'alo'o	<i>Solanum incanum</i>	Solanaceae	Herb
8	Gwandar daji	<i>Anona senegalensis</i>	Annonaceae	Shrub
9	Magarya'a	<i>Ziziphus mauritiana</i>	Rhamnaceae	Tree
10	Kimba	<i>Xylopia aethiopica</i>	Annonaceae	Tree
11	Aduwa	<i>Balanites aegyptiaca</i>	Zygophyllaceae	Tree
12	Giginya	<i>Borassus aethiopicum</i>	Palmae	Tree
13	Dorowa	<i>Parkia biglobosa</i>	Leguminosae	Tree
14	Atile	<i>Canarium schweinfurthii</i>	Burseraceae	Tree
15	Tsamiyar Kurmi	<i>Dialium guineense</i>	Leguminosae	Tree
16	Tsadar masar	<i>Spondias mombin</i>	Anacardiaceae	Tree
17	Tsamiya	<i>Tamarindus indica</i>	Leguminosae	Tree
18	Dinya	<i>Vitex doniana</i>	Verbenaceae	Tree
19	Kadanya	<i>Vitellaria paradoxa</i>	Sapotaceae	Tree
20	Barabutu	<i>Artocarpus communis</i>	Moraceae	Tree
21	Gwa'aba	<i>Psidium guajava</i>	Myrtaceae	Tree
22	Tuwon birii	<i>Parinari excels</i>	Chrysobalanaceae	Shrub
23	Tsada	<i>Ximenia americana</i>	Olcaceae	Tree
24	Attagar	<i>Cocos nucifera</i>	Palmae	Tree
25	Kwara	<i>Elaeis guineensis</i>	Palmae	Tree
26	Walnut	<i>Lovoa trichilioides</i>	Meliaceae	Tree
27	Kabaiwa	<i>Cucurbita pepo</i>	Cucurbitaceae	Herb
28	Ayaban daji	<i>Ensete gillettii</i>	Musaceae	Herb
29	Daddagu	<i>Momordica charantia</i>	Momordica	Climber
<b>NTFPs sold as vegetables, oils, spices and condiments</b>				
30	Kumbi	<i>Mimosa pigra</i>	Mimosaceae	Herb
31	Zaki-banza'a	<i>Amaranthus viridis</i>	Amaranthaceae	Herb
32	Rama'a	<i>Hibiscus cannabinus</i>	Malvaceae	Herb
33	Dargaza'a	<i>Grewia venusta</i>	Tiliaceae	Herb
34	Wambo	<i>Brachystegia eurycoma</i>	Caesalpiniaceae	Tree
35	Konkoli	<i>Beilschmiedia mannii</i>	Lauraceae	Tree
36	Tafarnuwa	<i>Allium sativum</i>	Alliaceae	Herb
37	Zurma	<i>Ricinus communis</i>	Euphorbiaceae	Tree
38	Kirya	<i>Prosopis africana</i>	Leguminosae	Tree
39	Citafo	<i>Zingiber officinale</i>	Zingiberaceae	Herb
40	Masoro	<i>Piper guineensis</i>	Leguminosae	Climber
41	Borkono daji	<i>Aframomum letifolium</i>	Zingiberaceae	Herb

**NTFPs sold as cattle and chewing sticks**

42	Fasa kwari	<i>Zanthoxylum zanthoxyloides</i>	Rutaceae	Tree
43	Sanda kiwo'o	<i>Carpolobia lutea</i>	Polygaceae	Shrub
44	Sanda kiwo'o	<i>Randia spp</i>	Rubiaceae	Shrub
45	Itace brush	<i>Massularia acuminata</i>	Rubiaceae	Tree
46	Gawo	<i>Faidherbia albida</i>	Mimosaceae	Tree

**NTFPs sold as fuel wood and charcoal**

47	Madaci	<i>Khaya senegalensis</i>	Meliaceae	Tree
48	Madobiya	<i>Pterocarpus erinaceus</i>	Leguminosae	Tree
49	Kojoli	<i>Anogeissus leiocarpa</i>	Combretaceae	Tree
50	Ice mai ci wuta	<i>Leucaena leucocephala</i>	Leguminosae	Tree
51	Kafafago	<i>Uapaca togoensis</i>	Euphorbiaceae	Tree
52	Ajenana	<i>Trema orientalis</i>	Ulmaceae	Tree
53	Kawo	<i>Azalia africana</i>	Leguminosae	Tree
54	Kasfiya	<i>Crossopteryx febrifuga</i>	Rubiaceae	Tree
55	Kalgo	<i>Pilliosigma thonningii</i>	Leguminosae	Tree

**NTFPs sold as wrapping leaves**

56	Katemfe	<i>Thaumatococcus danielli</i>	Marantaceae	Herb
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**NTFPs sold as weaving materials or rope**

57	Gwangwala'a	<i>Bambusa vulgaris</i>	Poaceae	Grass
58	Ramaa'a	<i>Hibiscus cannabinus</i>	Malvaceae	Herb
59	Kwagiri	<i>Ancistrophyllum opacum</i>	Arecaceae	Tree
60	Ma'ajigii	<i>Baphia nitida</i>	Fabaceae	Tree

**NTFPs sold as sponge**

62	Soso	<i>Luffa cylindrica</i>	Cucurbitaceae	Climber
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**NTFPs sold as dyes**

63	Majigi	<i>Baphia nitida</i>	Papilionaceae	Tree
64	Talaki	<i>Lonchocarpus cyanescens</i>	Leguminosae	Tree
65	Fisa	<i>Blighia sapida</i>	Sapindaceae	Tree
66	La'ale	<i>Lawsonia inermis</i>	Lythraceae	Tree

**NTFPs sold as palm wine, local magi, oils and soap**

67	Tukuruwa	<i>Raphia mambillensis</i>	Palmae	Tree
68	Kwara	<i>Elaeis guineensis</i>	Palmae	Tree
69	Kadanya	<i>Vitellaria paradoxa</i>	Sapotaceae	Tree

**NTFPs sold as medicine**

70	Madachi	<i>Khaya senegalensis</i>	Meliaceae	Tree
71	Kirya	<i>Prosopis africana</i>	Leguminosae	Tree
72	Dogo yaro	<i>Azadirachta indica</i>	Meliaceae	Tree
73	Zakamii	<i>Datura metel</i>	Solanaceae	Herb

**NTFPs sold as gum**

74	Dumshe	<i>Acacia seyal</i>	Mimosaceae	Tree
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**NTFPs sold as beads**

75	Idon Zakkara'a	<i>Coix lacryma</i>	Poaceae	Herb
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**NTFPs sold as building and construction materials**

76	Gwangwalaa	<i>Bambusa vulgaris</i>	Poaceae	Grass
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**NTFPs sold as dietary supplement**

77	Naman itace	Mushroom	Basidiomycetes	
78	Naman daji	Bush meat	Mammals	
79	Tsutsa	Caterpillar	Insect	
80	Gara	Termite	Insect	
81	Kodi	Snails	Annelids	
82	Zuma	Honey	Insect	
83	Gya'are	Crickets	Insect	
84	Fara	G/hopper/Locust	Insect	
85	Kifi	Fish	Pisces	

Source: Field survey 2014

A total of 206 categories of NTFPs used for community livelihoods were later reduced to 102 NTFPs species. This was because some of the NTFPs have multiple uses and was classified under two or more uses. These uses include; food, livestock feeds, income/employment generation, building/energy material supplies and medicinal herbs utilization. The findings of this study corroborate the submission of Zaku (2013a, 2013b), that Taraba State is highly endowed with NTFPs. The fact that its utilization and knowledge cut across all the Agro-ecological zones in the study area, implied a strong affirmation that the communities in Taraba State relied to some extent on the NTFPs. This is

line with the findings of Zaku, (2013b). Nevertheless, determining the level of removals of NTFPs for each type of collector and the purpose of collection is usually difficult, since the collector groups are not well established or structured and since individuals may not wish to divulge information about their collecting activities for fear of having privileges constrained or alerting others to secret "foraging" spots for desirable NTFPs. This corroborates Ahekan and Boon (2010). It is also in line with Jumbe *et al.* (2013) and the conclusion of Zaku (2013a, 2013b) that, harvesters do not disclose their harvesting spots. This also agrees with the findings of Jimoh (2006).



**Table 4: NTFPs supplied as building and energy materials in Taraba State, Nigeria**

S/N	Hausa name	Scientific name	Family	Live forms
1	Zindi/Baushe	<i>Terminalia spp</i>	Combretaceae	Tree
2	Kafafago	<i>U. togoensis</i>	Euphorbiaceae	Tree
3	Gawo'o	<i>F. albida</i>	Mimosaceae	Tree
4	Kuka	<i>A. digitata</i>	Bombacaceae	Tree
5	Dumshe	<i>Acacia spp</i>	Mimosaceae	Tree
6	Rama'a	<i>H. cannabinus</i>	Malvaceae	Herb
7	Kwaagiri	<i>A. opacum</i>	Arecaceae	Tree
8	Magarya'a	<i>Z. mauritiana</i>	Rhamnaceae	Tree
9	Aduwa	<i>B. aegyptiaca</i>	Zygophyllaceae	Tree
10	Aduruku	<i>N. leavis</i>	Bignoniaceae	Tree
11	Sanda kiwo	<i>Randia spp</i>	Rubiaceae	Shrub
12	Sanda kiwo	<i>C. lutea</i>	Polygalaceae	Shrub
13	Kalgo	<i>P. thonningii</i>	Leguminosae	Tree
14	Gwangwala'a	<i>B. vulgaris</i>	Poaceae	Grass
15	Wambo	<i>B. eurycoma</i>	Caesalpiniaceae	Tree
16	Kadanya	<i>V. paradoxa</i>	Sapotaceae	Tree
17	Kasfiya	<i>C. febrifuga</i>	Rubiaceae	Tree
18	Kwara/kwakwa	<i>E. guineensis</i>	Palmae	Tree
19	Gamba	<i>P. maximum</i>	Gramminae	Grass
20	Ciyawa	<i>C. gayana</i>	Gramminae	Grass
21	Ciyawa	<i>P. purpureum</i>	Gramminae	Grass
22	Tofa	<i>I. cylindrica</i>	Gramminae	Grass
23	Gamba	<i>A. tectorum</i>	Gramminae	Grass
24	Kwari	<i>A. nobilis</i>	Gramminae	Tree

Source: Field survey 2014

**Table 5: NTFPs used as medicinal herbs in Taraba State, Nigeria**

S/N	Hausa name	Scientific name	Family	Liveform
1	Gawo	<i>F. albida</i>	Leguminosae	Tree
2	Kuka	<i>A. digitata</i>	Bombacaceae	Tree
3	Dogonyaro	<i>A. indica</i>	Meliaceae	Tree
4	Adywa	<i>B. aegyptiaca</i>	Zygophyllaceae	Tree
5	Giginya	<i>B. aethiopum</i>	Palmae	Tree
6	Kadanya	<i>V. paradoxa</i>	Sapotaceae	Tree
7	Guadar daji	<i>A. senegalensis</i>	Annonaceae	Shrub
8	Hantsar giwa	<i>K. africana</i>	Bignoniaceae	Tree
9		<i>M. excelsa</i>	Meliaceae	Tree
10	Aduruku	<i>N. laevis</i>	Bignoniaceae	Tree
11	Dorowa	<i>P. biglobosa</i>	Leguminosae	Tree
12	Tsamia	<i>T. indica</i>	Leguminosae	Tree
13	Kasfiya	<i>C. februga</i>	Rubiaceae	Tree
14	Dinya	<i>V. doniana</i>	Verbenaceae	Tree
15		<i>B. pilosa</i>	Asteraceae	Tree
16	Fisa	<i>B. sapida</i>	Sapindaceae	Tree
17	Kirni/kisni	<i>B. ferruginea</i>	Euphorbiaceae	Tree
18	Rimi	<i>C. pentandra</i>	Bombacaceae	Tree
19	Maje/kadaura	<i>D. oliveri</i>	Leguminosae	Tree
20	Kwara	<i>E. guineensis</i>	Palmae	Tree
21	Tawaatsaa	<i>E. Africana</i>	Mimosaceae	Shrub
22	Baure	<i>Ficus spp.</i>	Tiliaceae	Tree
23	Laaale	<i>L. inermis</i>	Lythraceae	Tree
24	Gwaaba	<i>P. guajava</i>	Myrtaceae	Tree
25	Fasa kwari	<i>Z. xanthoxyloides</i>	Rutaceae	Tree
26	Madobiya	<i>P. erinaceus</i>	Leguminosae	Tree
27	Tukuruwa	<i>R. mambillensis</i>	Palmae	Tree
28	Tsadar masar	<i>S. mombin</i>	Anacardiaceae	Tree
29	Zakamii	<i>D. metel</i>	Solanaceae	Herb

Source: Field survey, 2014

The high number of NTFPs recorded in the study area implied that, Taraba State is diverse in terms of NTFPs composition (Zaku, 2013a, 2013b). This diversity can be seen in terms of the high number of the different species and different families of the NTFPs recorded in the study area. The identification of the NTFPs by their vernacular names was very difficult as only few Hunters and Medicinal herbs collectors could do so. The indigenous knowledge of the NTFPs and their relevance is steadily being lost, particularly now that, children who are supposed to inherit this indigenous knowledge now spend most of their times in schools than on farms or forest. Also, medicinal herbs collectors normally hide the identity of NTFPs used for different ailments largely for fear of lack of

patronage, should the sufferer learn to cure himself. In order to mystify their trade, cultivation of NTFPs are not encouraged, thus, all the collections of the NTFPs for the treatment of various ailments in the study area are virtually from the wild. If these medicinal herbs collectors, harvesters of NTFPs and the hunters pass away with their wealth of knowledge, a huge loss and a large vacuum will be left (FAO, 1995, 2008; Ambrose, 2003; Ahekan and Boon, 2010; Shackleton and Shackleton, 2002, 2004; Jimoh, 2006; Jimoh and Haruna 2007; Jimoh and Asinwa 2012; Jumbe *et al.*, 2013; Zaku, 2013a, 2013b). There is therefore the need to harness and document this indigenous knowledge of NTFPs and their relevance in the study area.

**Table 6: Ranking and prioritization of NTFPs used for community livelihoods**

S/N	NTFPS	No. of times mentioned	Mentioned Value (MV)	Ranked Value (RV)	Final Assigned Value MV+RV/2
1	<i>K. senegalensis</i>	28	168	38	103
2	<i>H. cannabinus</i>	27	162	40	101
3	<i>A. occidentale</i>	30	165	35	100
4	<i>T. danielli</i>	30	165	29	97
5	<i>P. africana</i>	32	187	26	96.5
6	<i>A. senegalensis</i>	36	171	21	96
7	<i>T. indica</i>	32	167	25	96
8	<i>L. cylindrica</i>	20	110	36	73
9	<i>G. venusta</i>	20	110	34	72
10	<i>Z. mauritiana</i>	20	110	33	71.5
11	<i>P. guineensis</i>	20	110	32	71
12	<i>D. metel</i>	20	110	31	70.5
13	<i>A. indica</i>	20	110	30	70
14	<i>B. aethiopum</i>	21	111	27	69
15	<i>T. africana</i>	8	58	54	66
16	<i>S. mombin</i>	22	108	24	66
17	<i>L. inermis</i>	22	108	23	65.5
18	<i>X. americana</i>	22	108	22	65
19	<i>L. cyanescens</i>	24	110	19	64.5
20	<i>V. doniana</i>	23	109	20	64.5
21	<i>B. vulgaris</i>	25	111	16	63.5
22	<i>P. iexcelsa</i>	10	60	53	56.5
23	<i>P. thonningii</i>	10	60	50	55
24	<i>I. cylindrical</i>	10	60	50	55
25	<i>L. leucocephala</i>	10	60	49	54.5
26	<i>R. mambillensis</i>	10	60	48	54
27	<i>C. lacryma</i>	10	60	47	53.5
28	<i>C. lutea</i>	10	60	46	53
29	<i>M. accuminata</i>	10	60	45	52.5
30	<i>C. esculentus</i>	10	60	44	52
31	<i>M. pigra</i>	10	60	43	51.5
32	<i>A. sativum</i>	10	60	43	51
33	<i>S. incanum</i>	10	60	41	50.5
34	<i>N. laevis</i>	10	60	39	49.5
35	<i>A. opacum</i>	13	58	18	38
36	<i>M. charantia</i>	14	59	15	37
37	<i>A. letifolium</i>	15	60	14	37
38	<i>P. conophora</i>	15	60	12	36
39	<i>Ficus spp.</i>	15	60	11	35.5
40	<i>A. africana</i>	15	60	10	35
41	<i>B. aegyptiaca</i>	15	60	10	34.5
42	<i>V. paradoxa</i>	15	60	8	34
43	<i>P. biglobosa</i>	15	60	7	33.5
44	<i>I. gaboneensis</i>	15	60	6	33
45	<i>X. aethiopica</i>	15	60	5	32.5
46	<i>B. eurycoma</i>	15	60	4	32
47	<i>A. digitata</i>	16	61	3	32
48	<i>F. albida</i>	18	63	1	32
49	<i>E. guineensis</i>	16	61	2	31.5

Source: Field survey, 2014

Ayodele (2005) challenged Nigerian taxonomist and conservation biologist to rise up to the task of properly identifying and conserving plants. I extend this challenge to all stakeholders in the forestry sector of Taraba State of the

need to properly document both timber and NTFPs resources of the State. Similarly, the 10 NTFPs with the lowest final assigned values indicated that, they are mostly preferred by the communities in Taraba State and this may also implied that, these NTFPs are priority or target NTFPs for community livelihoods in the study area. Since the communities preferred these NTFPs species, they may likely depend more on these NTFPs and this may lead to heavy pressure on these species in the wild due to incessant use and this may lead to the depletion of such NTFPs in the study area. This may have management implication because no cultivated or plantation of any of the priority NTFPs species were sighted anywhere in the study area. Already inhabitants now travel far distances before sighting these NTFPs that were hitherto very close to them. There is therefore, the need for management strategies to be put in place to ensure the continuous presence and availability of these NTFPs species that are used for community livelihoods in the study area.

### Conclusion and Recommendation

The high level dependence on some NTFPs (Priority species) for community livelihood may lead to the depletion of such species in the study area. The continuous availability of these NTFPs can best be assured or guaranteed through a process of gradual domestication of such NTFPs in human modified forest types. This can be done through intensive management and domestication of priority NTFPs through small holder cultivation in farms and gardens, commercial plantation and enrichment planting in forest reserves in the study area. Taraba State government should also liaise with the state department of forestry to raise seedlings of the priority NTFPs and should supply same to the inhabitants of the State for on-ward planting by them. This is because if communities in Taraba State raise seedlings of NTFPs that contributed to community livelihoods, around their houses and on their farms, the pressure on the wild species will be reduced. There is again, the need to document the indigenous knowledge of these NTFPs and their relevance in the study area to give room for continuity in this knowledge and relevance.

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