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RESEARCH ARTICLE

A SURVEY OF NON-TIMBER FOREST PRODUCTS USED FOR CLIMATE CHANGE ADAPTATION IN TARABA STATE

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ABSTRACT

Non-Timber Forest Products (NTFPs) have been identified as a coping strategy to climate change. Adaptation in Taraba State. This coping strategy is people and site specific and may be short lived. If continous availability of Non-Timber Forest Products cannot be guaranteed. Information on the Role of Non-Timber Forest Products to climate change adaptation is crucial for their sustainable Management. However this role has not been documented in Taraba State, therefore, "A survey of Non-Timber Forest Products used for climate change adaptation" was investigated.

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INTRODUCTION

Climate change is a shift or persistence variation in the average state of rainfall, humidity, sunlight, temperature, solar radiation over a period of 30 years with a visible and permanent sign on the ecosystem (Ayoade, 2005; IPCC, 2007). Climate change is one of the most serious environmental threats facing mankind worldwide, due to its multi-faceted nature (Ayoade, 2005; IPCC, 2007; FAO, 2006: Lyimo *et al*., 2010: Bahru *et al*., 2012: Chia *et al*., 2013). The impact of climate change in Taraba State is well documented (Adebayo, 2002, 2012: Oruonye, 2011: Ray and Yusuf, 2011). The effect of climate change are becoming more and more obvious in Taraba State; especially change in rainfall patterns which have severe negative impact for farmers, as crops fail, due to, too heavy, too little or too late rainfall. Also, desert encroachment in northern part of the State, destruction of houses, displacement of people, poor livestzck nutrition and increase in climate related diseases are impacts that emanates as a result of climate change in Taraba State. In fact, climate change has led to loss of livelihoods and as a result, people's incomes decrease and their livelihoods are jeopardized (Adebayo, 2002, 2012: Oruonye, 2011: Ray and Yusuf, 2011). To adapt to such impacts, households turn to a range of possible available livelihood strategies including using NTFPs in Taraba State as a coping strategy. 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 (Shamly *et al*., 2002; Arnold *et al*., 2011; Bahru *et al*., 2012). They include fruits, nuts, spices, oils, vegetables, crafts, construction materials, fuel wood, medicinal plants, fibers, resins, latex, gums, dyes, wild honey, bush meat, fish, rattans and bamboo. The gathering of NTFPs constitutes an important strategy for adaptation to the impact of climate change in Taraba State; but this role of NTFPs as a coping strategy in climate change adaptation is not well studied and documented in Taraba State, hence the need for this study. In view of the above, this study investigates, the crucial roles played by NTFPs in climate change adaptation in Taraba State.

Sampling procedure and sample size

A simple random sampling technique was adopted in this study using the method of Diaw *et al,* (2002). A total of 4,495 respondents were identified during the baseline survey in the order of; Harvesters, 1,450; Livestock Managers, 625; Marketers,1,125; Building and Energy Suppliers, 1,090 and 205 Medicinal Herbs Collectors. At 30% sampling intensity, a total of 1,350 questionnaires were administered to the respondents in the order of; Harvesters,435; Livestock Managers, 188; Marketers,338; Building and Energy Suppliers, 327 and 62 Medicinal Herbs Collectors. Listing and prioritization of NTFPs that are used for climate change adaptation in Taraba State was also done using the method of Jimoh *et al.,* (2012). In this method, each respondent listed ten most important NTFPs that are used for climate change adaptation over the years in Taraba State in their order of importance.

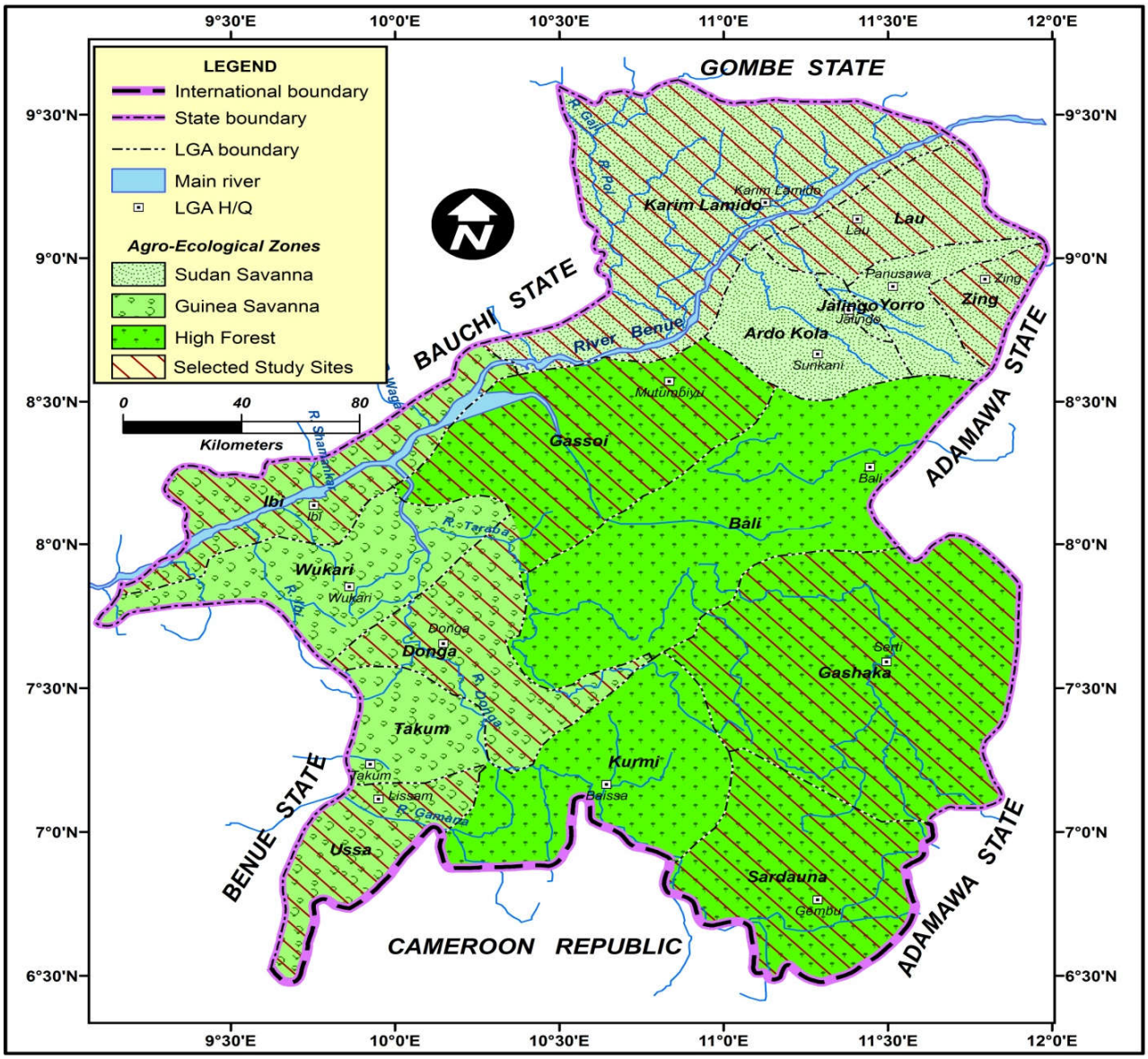

Fig. 1. Map of Taraba State showing the study areas

Description and Location of the Study Area

Taraba State is located on latitude 6^0 30^1, 9^0 36^1N and longitude 9^0 10^1, 11^0 50^1E (Fig.1).

RESULTS AND DISCUSSION

The result of NTFPs that are used in climate change adaptation in Taraba State showed that, a total of 206 NTFPs are used in Taraba State for this purpose. Out of this number, 57 NTFPs are used as food, 12 NTFPs are used for livestock feeding, 84 NTFPs are used for income and employment generation, 24 NTFPs are used both as building and energy materials while 29 NTFPs are used as medicinal herbs as a coping strategy during harsh climatic conditions in Taraba State (Table 1-5).

Listing and Prioritization of NTFPs

The result of the Final Assigned value on ranking and prioritization of NTFPs under compendium, that contributed to community livelihoods, indicated that, *Afzelia africana* (35), *Balanites aegyptiaca* (34.5), *Vitellaria paradoxa* (34), *Parkia biglobosa* (33.5), *Irvingia gaboneensis* (33), *Xylopia aethiopica* (32.5), *Faidherbia albida* (32), *Adansonia digitata* (32), *Brachystegia eurycoma* (32), and *Elaeis guineensis* (31.5) are the ten mostly utilized NTFPs for community livelihood in Taraba State (Table 6). NTFPs are used as a coping strategy during harsh climatic condition in Taraba State by providing forest foods, supplemental incomes from the sales of forest products, building materials, energy materials for building repairs and temporary shelters, livestock feeding and for solving human health challenges. 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. The high numbers of NTFPs recorded in the study area that are used for climate change adaptation implies that, Taraba State is highly diverse in terms of NTFPs species. The findings corroborated Zaku (2013) in a study in Gashaka-Gumti National

Table 1. NTFPs used as food during harsh climatic condition in Taraba State

S/N	Hausa name	Scientific name	Family	Live forms
NTFPs used as food in form of fruit, nut and seed during harsh climatic condition in Taraba State				
1	Jambe	*Dacryodes edulis*	Burseraceae	Tree
2	Goron birii	*Irvingia gaboneensis*	Irvingiaceae	Tree
3	Wa'awan Kurmi	*pluckenetia conophora*	Euphorbiaceae	Tree
4	Kuka	*Adansonia digitata*	Bombacaceae	Tree
5	Tsage	*Amblygonocarpus androgenesis*	Mimosaceae	Tree
6	Aya'a	*Cyperus esculentus*	Cyperaceae	Herb
7	Ya'alo'o	*Solanum incanum*	Solanaceae	Herb
8	Gwandar daji	*Anona senegalensis*	Annonaceae	Shrub
9	Magarya'a	*Ziziphus mauritiana*	Rhamnaceae	Tree
10	Kimba	*Xylopia aethiopica*	Annonaceae	Tree
11	Aduwa	*Balanites aegyptiaca*	Zygophyllaceae	Tree
12	Giginya	*Borassus aethiopicum*	Palmae	Tree
13	Dorowa	*Parkia biglobosa*	Leguminosae	Tree
14	Atile	*Canarium schweinfurthis*	Burseraceae	Tree
15	Tsamiyar Kurmi	*Dialium guineense*	Leguminosae	Tree
16	Tsadar masar	*Spondias mombin*	Anacardiaceae	Tree
17	Tsamiya	*Tamarindus indica*	Leguminosae	Tree
18	Dinya	*Vitex doniana*	Verbenaceae	Tree
19	Kadanya	*Vitellaria paradoxa*	Sapotaceae	Tree
20	Barabutu	*Artocarpus communis*	Moraceae	Tree
21	Tuwon birii	*Parinari excels*	Chrysobalanaceae	Shrub
22	Tsada	*Ximenia Americana*	Olacaceae	Tree
23	Attagar	*Cocos nucifera*	Palmae	Tree
24	Kwara	*Elaeis guineensis*	Palmae	Tree
25	Walnut	*Lovoa trichilioides*	Meliaceae	Tree
26	Wa'awan Kurmi	*Ricinodendron heudelotii*	Euphorbiaceae	Tree
NTFPs used as food in form of vegetables, soup, spices and condiments during harsh climatic condition in Taraba State				
27	Kawo	*Afzelia bella*	Leguminosae	Tree
28	Bambami	*Alchornia cordifolia*	Euphorbiaceae	Shrub
29	Rimi	*Ceiba petandra*	Bombacaceae	Tree
30	Maje/kadaura	*Daniella oliveri*	Leguminosae	Tree
31	Baure	*Ficus spp*	Moraceae	Tree
32	Madobiyar	*Pterocarpus erinaceus*	Leguminosae	Tree
33	Kurya	*Bombax costatum*	Bombacaceae	Tree
34	Katsari	*Albizia zygia*	Leguminosae	Tree
35	Hantsar giwa	*Kigelia Africana*	Bignoniaceae	Tree
36	Zaki-banza	*Amaranthus viridis*	Amaranthaceae	Herb
37	Rama'a	*Hibiscus cannabinus*	Malvaceae	Herb
38	Dargaza'a	*Grewia venusta*	Tiliaceae	Herb
39	Wambo	*Brachystagia eurycoma*	Caesalpiniaceae	Tree
40	Konkoli	*Beilschimiedia mannii*	Lauraceae	Tree
41	Tafarnuwa	*Allium sativum*	Alliaceae	Herb
42	Zurma	*Ricinus communis*	Euphobiaceae	Tree
43	Kirya	*Prosopis Africana*	Leguminosae	Tree
44	Masoro'o	*Piper guineensis*	Leguminosae	Climber
45	Borkono daji	*Aframomum letifolium*	Zingiberaceae	Herb
46	Kombi	*Mimosa pigra*	Mimosaceae	Herb
Dietary supplements used as food during harsh climatic condition in Taraba State				
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 2016

Park of Taraba State where he recorded 97 numbers of NTFPs that are used for community livelihoods. The difference in the numbers of NTFPs recoded could be attributed to fact that, the former was a Local Government while the later involves the whole State. The findings of the study revealed that, NTFPs during harsh climatic condition were under pressure due to incessant use. The implication is that, inhabitants now travel far distances before they can sight these NTFPs. This has management implication on the composition and status of the NTFPs in the study area. Similarly, the ten NTFPs with the lowest assigned value implies that, these NTFPs species are the species mostly preferred or used for climate change adaptation in the study area.

There is therefore heavy pressure on these NTFP species during harsh climatic condition and something has to be done fast to prevent the extinction of these NTFPs in the study area. The high level dependence on some NTFPs for climate change adaptation may lead to the depletion of such species in the study area. The use of NTFPs as a coping strategy to climate change adaptation can best be assured through a process of gradual domestication of 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. Similarly, Government and Non-governmental organizations

Table 2. NTFPs used for feeding livestock during harsh climatic condition in Taraba State

S/N	Hausa name	Scientific name	Family	Live forms
1	Dogon yaro	*Azadirachta indica*	Anacardaceae	Tree
2	Gwanda daji	*Anona senegalensis*	Annonaceae	Shrub
3	Kuka	*Adansonia digitata*	Bombacaceae	Tree
4	Kalgo	*Pilliostigma thonningii*	Legumnosae	Tree
5	Kawo	*Afzelia Africana*	Legumnosae	Tree
6	Dumshe	*Acacia spp*	Mmosaceae	Tree
7	Gawo	*Faidherbia albida*	Mimosaceae	Tree
8	Dorowa	*Parkia biglobosa*	Leguminosae	Tree
9	Kirya	*Prosopis Africana*	Leguminosae	Tree
10	Giginya	*Borassus aethiopicum*	Palmae	Tree
11	Dinya	*Vitex doniana*	Verbenaceae	Tree
12	Zakaimii	*Datura metel*	Solanaceae	Herb

Source: Field survey 2016

Table 3. NTFPs used as building and energy materials during harsh climatic condition in Taraba State

S/N	Hausa name	Scientific name	Family	Live forms
1	Zindi/Baushe	*Terminalia spp*	Combretaceae	Tree
2	Kafafago	*Uapaca togoensis*	Euphorbiaceae	Tree
3	Gawo'o	*Faidherbia albida*	Mimosaceae	Tree
4	Kuka	*Adansonia digitata*	Bombacaceae	Tree
5	Dumshe	*Acacia spp*	Mimosaceae	Tree
6	Rama'a	*Hibiscus cannabinus*	Malvaceae	Herb
7	Kwaagiri	*Ancistrophyllum opacum*	Arecaceae	Tree
8	Magarya'a	*Ziziphus mauritiana*	Rhamnaceae	Tree
9	Aduwa	*Balanites aegyptiaca*	ZygophyllaceaeTree	
10	Aduruku	*Newbouldia leavis*	Bignoniaceae	Tree
11	Sanda kiwo	*Randia spp*	Rubiaceae	Shrub
12	Sanda kiwo	*Carpolobia lutea*	Polygalaceae	Shrub
13	Kalgo	*Pilliostigma thonningii*	Leguminosea	Tree
14	Gwangwala'a	*Bambusa vulgaris*	Poaceae	Grass
15	Wambo	*Brachystegia eurycoma*	Caesalpiniaceae	Tree
16	Kadanya	*Vitellaria paradoxa*	Sapotaceae	Tree
17	Kasfiya	*Crossopteryx febrifuga*	Rubiaceae	Tree
18	Kwara/kwakwa	*Elaeis guineensis*	Palmae	Tree
19	Gamba	*Panicum maximum*	Gramminae	Grass
20	Ciyawa	*Chloris gayana*	Gramminae	Grass
21	Ciyawa	*Pennisetum purpureum*	Gramminae	Grass
22	Tofa	*Imperata cylindrical*	Gramminae	Grass
23	Gamba	*Andropogon tectorum*	Gramminae	Grass
24	Kwari	*Anthocleista nobilis*	Gramminae	Tree

Source: Field survey 2014

Table 4. NTFPs used to generate income during harsh climatic condition in Taraba State

S/N	Hausa name	Scientific name	Family	Live forms
NTFPs sold for money in form of fruit, nut and seed				
1	Jambe	*Dacryodes edulis*	Burseraceae	Tree
2	Goron birii	*Irvingia gaboneensis*	Irvingiaceae	Tree
3	Wa'awan kurmi	*Plukenetia conophora*	Euphorbiaceae	Tree
4	Kuka	*Adansonia digitata*	Bombacaceae	Tree
5	Tsage	*Amblygonocarpus androgenesis*	Mimosaceae	Tree
6	Aya'a	*Cyperus esculentus*	Cyperaceae	Grass
7	Ya'alo'o	*Solanum incanum*	Solanaceae	Herb
8	Gwandar daji	*Anona senegalensis*	Annonaceae	Shrub
9	Magarya'a	*Ziziphus mauritiana*	Rhamnaceae	Tree
10	Kimba	*Xylopia aethiopica*	Annonaceae	Tree
11	Aduwa	*Balanites aegyptiaca*	Zygophyllaceae	Tree
12	Giginya	*Borassus aethiopicum*	Palmae	Tree
13	Dorowa	*Parkia biglobosa*	Leguminosae	Tree
14	Atile	*Canarium schweinfurthii*	Burseraceae	Tree
15	Tsamiyar Kurmi	*Dialium guineense*	Leguminosae	Tree
16	Tsadar masar	*Spondias mombin*	Anacardiaceae	Tree
17	Tsamiya	*Tamarindus indica*	Leguminosae	Tree
18	Dinya	*Vitex doniana*	Verbenaceae	Tree
19	Kadanya	*Vitellaria paradoxa*	Sapotaceae	Tree
20	Barabutu	*Artocarpus communis*	Moraceae	Tree
21	Gwa'aba	*Psidium guajava*	Myrtaceae	Tree
22	Tuwon birii	*Parinari excels*	Chrysobalanaceae	Shrub
23	Tsada	*Ximenia Americana*	Olacaceae	Tree
24	Attagar	*Cocos nucifera*	Palmae	Tree
25	Kwara	*Elaeis guineensis*	Palmae	Tree
26	Walnut	*Lovoa trichilioides*	Meliaceae	Tree
27	Kabaiwa	*Cucurbita pepo*	Cucurbitaceae	Herb
28	Ayaban daji	*Ensete gilletii*	Musaceae	Herb
29	Daddagu	*Momordica charantia*	Momordica	Climber

…… *Continue*

NTFPs sold for money in form of vegetables, oils, spices and condiments during harsh climatic condition in Taraba State			
30	Kumbi	*Mimosa pigra*	Mimosaceae Herb
31	Zaki-banza'a	*Amaranthus viridis*	Amaranthaceae Herb
32	Rama'a	*Hibiscus cannabinus*	Malvaceae Herb
33	Dargaza'a	*Grewia venusta*	Tiliaceae Herb
34	Wambo	*Brachystegia eurycoma*	Caesalpiniaceae Tree
35	Konkoli	*Beilschmiedia mannii*	Lauraceae Tree
36	Tafarnuwa	*Allium sativum*	Alliaceae Herb
37	Zurma	*Ricinus communis*	Euphorbiaceae Tree
38	Kirya	*Prosopis Africana*	Leguminosae Tree
39	Citafo	*Zingiber officinale*	Zingiberaceae Herb
40	Masoro	*Piper guineensis*	Leguminosae Climber
41	Borkono daji	*Aframomum letifolium*	Zingiberaceae Herb
NTFPs sold for money in form of cattle and chewing sticks during harsh climatic condition in Taraba State			
42	Fasa kwari	*Zanthoxylum zanthoxyloides*	Rutaceae Tree
43	Sanda kiwo'o	*Carpolobia lutea*	Polygaceae Shrub
44	Sanda kiwo'o	*Randia spp*	Rubiaceae Shrub
45	Itace brush	*Massularia acuminate*	Rubiaceae Tree
46	Gawo	*Faidherbia albida*	Mimosaceae Tree
NTFPs sold for money in form of fuel wood and charcoal during harsh climatic condition in Taraba State			
47	Madaci	*Khaya senegalensis*	Meliaceae Tree
48	Madobiya	*Pterocarpus erinaceus*	Leguminosae Tree
49	Kojoli	*Anogeissus leiocarpa*	Combretaceae Tree
50	Ice mai ci wuta	*Leucaena leucocephala*	Leguminosae Tree
51	Kafafago	*Uapaca togoensis*	Euphorbiaceae Tree
52	Ajenana	*Trema orientalis*	Ulmaceae Tree
53	Kawo	*Afzelia Africana*	Leguminosae Tree
54	Kasfiya	*Crossopteryx febrifuga*	Rubiaceae Tree
55	Kalgo	*Pilliostigma thonningii*	Leguminosae Tree

NTFPs sold for money in form of wrapping leaves during harsh climatic condition in Taraba State			
56	Katemfe	*Thaumatococcus danielli*	Marantaceae Herb
NTFPs sold for money in form of weaving materials or rope during harsh climatic condition in Taraba State			
57	Gwangwala'a	*Bambusa vulgaris*	Poaceae Grass
58	Ramaa'a	*Hibiscus cannabinus*	Malvaceae Herb
59	Kwagiri	*Ancistrophyllum opacum*	Arecaceae Tree
60	Ma'ajigii	*Baphia nitida*	Fabaceae Tree
NTFPs sold for money in form of sponge during harsh climatic condition in Taraba State			
61	Soso	*Luffa cylindrical*	Cucurbitaceae Climber
NTFPs sold for money in form of dyes during harsh climatic condition in Taraba State			
62	Majigi	*Baphia nitida*	Papilionaceae Tree
63	Talaki	*Lonchocarpus cyanescens*	Leguminosae Tree
64	Fisa	*Blighia sapida*	Sapindaceae Tree
65	La'ale	*Lawsonia inermis*	Lythraceae Tree
NTFPs sold for money in form of palm wine, local maggi, oils and soap during harsh climatic condition in Taraba State			
66	Tukuruwa	*Raphia mambillensis*	Palmae Tree
67	Kwara	*Elaeis guineensis*	Palmae Tree
68	Kadanya	*Vitellaria paradoxa*	Sapotaceae Tree
NTFPs sold for money in form of medicinal herbs during harsh climatic condition in Taraba State			
69	Madachi	*Khaya senegalensis*	Meliaceae Tree
70	Kirya	*Prosopis Africana*	Leguminosae Tree
71	Dogo yaro	*Azadirachta indica*	Meliaceae Tree
72	Zakamii	*Datura metel*	Solanaceae Herb
NTFPs sold for money in form of gum during harsh climatic condition in Taraba State			
73	Dumshe	*Acacia seyal*	Mimosaceae Tree
NTFPs sold for money in form of beads during harsh climatic condition in Taraba State			
74	Idon Zakkara'a	*Coix lacryma*	Poaceae Herb
NTFPs sold for money in form of building and construction materials during harsh climatic condition in Taraba State			
75	Gwangwalaa	*Bambussa vulgaris*	Poaceae Grass
NTFPs sold for money in form of dietary supplement during harsh climatic condition in Taraba State			
76	Naman itace	Mushroom	Basidiomycetes
77	Naman daji	Bush meat	Mammals
78	Tsutsa	Caterpillar	Insect
79	Gara	Termite	Insect
80	Kodi	Snails	Analids
81	Zuma	Honey	Insect
82	Gya'are	Crickets	Insect
83	Fara	G/hopper/Locust	Insect
84	Kifi	Fish	Pisces

Source: Field survey 2014

Table 5. NTFPs used as medicinal herbs during harsh climatic condition in Taraba State

S/N	Hausa name	Scientific name	Family	Liveform
1	Gawo	*Faidherbia albida*	Leguminosae	Tree
2	Kuka	*Adasonia digitata*	Bombacaceae	Tree
3	Dogonyaro	*Azadirachta indica*	Meliaceae	Tree
4	Adywa	*Balanites aegyptiaca*	Zygophyllaceae	Tree
5	Giginya	*Borassus aethiopum*	Palmae	Tree
6	Kadanya	*Vitellaria paradoxa*	Sapotaceae	Tree
7	Guadar daji	*Annona senegalensis*	Annonaceae	Shrub
8	Hantsar giwa	*Kigelia Africana*	Bignoniaceae	Tree
9	NA	*Melicia excels*	Meliaceae	Tree
10	Aduruku	*Newbouldia laevis*	Bignoniaceae	Tree
11	Dorowa	*Parkia biglobosa*	Leguminosae	Tree
12	Tsamiya	*Tamarindus indica*	Leguminosae	Tree
13	Kasfiya	*Crossopteryx februga*	Rubiaceae	Tree
14	Dinya	*Vitex doniana*	Verbenaceae	Tree
15	NA	*Bidens pilosa*	Asteraceae	Tree
16	Fisa	*Blighia sapida*	Sapindaceae	Tree
17	Kirni/kisni	*Bridelia ferruginea*	Euphorbiaceae	Tree
18	Rimi	*Ceiba pentandra*	Bombacaceae	Tree
19	Maje/kadaura	*Daniella oliveri*	Leguminosae	Tree
20	Kwara	*Elaeis guineensis*	Palmae	Tree
21	Tawáatsáa	*Entada Africana*	Mimosaceae	Shrub
22	Baure	*Ficus spp.*	Tiliaceae	Tree
23	Láale	*Lawsonia inermis*	Lythraceae	Tree
24	Gwaaba	*Psidium guajava*	Myrtaceae	Tree
25	Fasa kwari	*Zanthoxyllum xanthoxyloides*	Rutaceae	Tree
26	Madobiya	*Pterocarpus erinaceus*	Leguminosae	Tree
27	Tukuruwa	*Raphia mambillensis*	Palmae	Tree
28	Tsadar masar	*Spondias mombin*	Anacardiaceae	Tree
29	Zakamii	*Datura metel*	Solanaceae	Herb

Source: Field survey 2014

Table 6. Ranking and Prioritization of NTFPs used for community livelihoods in Taraba State

S/No	NTFPs	No of times mentioned	Mentioned value	Ranked value	Final assign value
1	*Irvingia gaboneensis*	15	60	6	33
2	*Borassus aethiopum*	21	111	27	69
3	*Ximenia Americana*	22	108	22	65
4	*Ziziphus mauritiana*	20	110	33	71.5
5	*Annona senegalensis*	36	171	21	96
6	*Xylopia aethiopica*	15	60	5	32.5
7	*Vitex doniana*	23	109	20	64.5
8	*Brachystegia eurycoma*	15	60	4	32
9	*Parinari excels*	10	60	53	56.5
10	*Prosopis Africana*	32	167	26	96.5
11	*Parkia biglobosa*	15	60	7	33.5
12	*Piper guineensis*	20	110	32	71
13	*Vitellaria paradoxa*	15	60	8	34
14	*Spondias mombin*	22	108	24	66
15	*Tamarindus indica*	32	167	25	96
16	*Elaeis guineensis*	16	61	2	31.5
17	*Momordica charantia*	14	59	15	37
18	*Grewia venusta*	20	110	34	72
19	*Anacardium occidentale*	30	165	35	100
20	*Balanites aegyptiaca*	15	60	9	34.5
21	*Afzelia Africana*	15	60	10	35
22	*Luffa cylindrical*	20	110	36	73
23	*Lawsonia inermis*	22	108	23	65.5
24	*Thaumatococcus danielli*	30	165	29	97
25	*Faidherbia albida*	18	63	1	32
26	*Azadirachta indica*	20	110	30	70
27	*Datura metel*	20	110	31	70.5
28	*Newbouldia laevis*	10	60	39	49.5
29	*Ancistrophyllum opacum*	13	58	18	38
30	*Ficus spp.*	15	60	11	35.5
31	*Pluckenetia conophora*	15	60	12	36
32	*Habiscus cannabinus*	27	162	40	101
33	*Solanum incanum*	10	60	41	50,5
34	*Allium sativum*	10	60	42	51
35	*Mimosa pigra*	10	60	43	51.5
36	*Cyperus esculentus*	10	60	44	52
37	*Aframomum letifolium*	15	60	14	37
38	*Massularia accuminata*	10	60	45	52.5
39	*Carpolobia lutea*	10	60	46	53
40	*Bambussa vulgaris*	25	111	16	63.5
41	*Adansonia digitata*	16	61	3	32
42	*Coix lacryma*	10	60	47	53.5
43	*Raphia mambillensis*	10	60	48	54
44	*Leucaena leucocephala*	10	60	49	54.5
45	*Khaya senegalensis*	28	168	38	103
46	*Imperata cylindrical*	10	60	50	55
47	*Pilliostigma thonningii*	10	60	51	55.5
48	*Treculia Africana*	8	58	54	66
49	*Lonchocarpus cyanescens*	24	110	19	64.5

Source: Field survey 2014

can come together with the inhabitants of Taraba state to mount a program of sustenance and conservation of the priority NTFPs. 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 are used for climate change adaptation around their houses and on their farms, the pressure on the wild species will be reduced. Based on the above, the following recommendations are made; The identification of the NTFPs by their vernacular names was very difficult as only few hunters and medicinal herbs collectors could do so. This was further worsening by medicinal herbs collectors that hide the identity of these NTFPs. Also to mystify this, they do not encourage the planting of these NTFPs and so all their collections were from the wild. The indigenous knowledge and relevance of these NTFPs are steadily being lost in the study area. There is therefore 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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