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TYPES OF NON-TIMBER FOREST PRODUCTS IN YOBE STATE, NIGERIA.

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Abstract

The study identified the types of non-timber forest products (NTFPs) in Yobe State, as well as comparing the types available in the three geopolitical zones (Eastern Yobe, Southern Yobe and Northern Yobe: Zone A, B and C respectively) of the state. Structured questionnaire complemented with interview were used to collect data from 600 forest users (hunters and traditional herbalist) residing in the main towns of the three geopolitical zones of the State. The data collected were analyzed using descriptive statistics. The findings of this study include the presence of more than fifty (50) different plants' and animals' common to the three geopolitical zones. In addition, each of the three geopolitical zones has not less than 40 species of NTFPs. The study also revealed Southern Yobegeopolitical zonehad the highest species diversity and quantities of plants' and animals related NTFPs with 91% and 100% of the total identified NTFPs respectively. Similarly, nearly all the species and products of animals related NTFPs identified in both Eastern Yobe and Northern Yobe were found in Southern Yobe meaning that there were many NTFPs thriving in Southern Yobe but absent in Eastern Yobe and Northern Yobe. The study also found fruits, nuts, honey, fibre, oil, bush meat among others as the major NTFPs in the state. Thus, there is the need to create awareness among the people by both government and NGOs on the sustainable use of these resources so as to ensure continuous supply both now and in the future.

Key words: Survey, NTFPs, Plant, Animals, Hunters, Herbalists

INTRODUCTION

A non-Timber forest product is defined by FAO (1991) as "Market or subsistence goods and services for human or industrial consumption derived from renewable forest resources and biomass, bearing promise for augmenting in real terms household incomes and employment." By FAO,1995, this had been simplified to: "goods of biological origin other than wood, as well as sources derived from forests and allied land uses" (FAO, 1995a). The broad view of definition of NTFPs include some non-industrial uses of wood, such as fuel wood and poles for construction of huts, the services and the non-wood plant and animal products that are derived from forests. NTFPs are also frequently referred to by many authors as non-wood forest products (NWFPs), minor forest products, or secondary forest products.

Many people see forest as a place for the provision of timber/wood, and many also think that wood in the forests is the main forest product. Truly and globally, timber/wood remains the highest forest product traded internationally, yet a diverse range of other products also have value in the market. In the past, forestry as a profession has been slow to recognize the importance of NTFPs. FAO (1995) underlined three factors that contributed to: In that most of these products are used for subsistence or traded only in local markets and, as such, are often mot moted on official statistics, many NWFPs are not recognized as originating from the forest and modern forestry profession has traditionally focused on timber and long-scale ventures neglecting other products or services provided by the forest.NTFPs are broadly classified into two (2) groups. The plant related NTFPs as outlined by FAO (1991) include food, forage, pharmaceuticals, aromatics, ornamentals, fibres, wood, biochemicals and toxins.

The plants related NTFPs as outline by FAO, (1991) include:

1. **Food**: These are the wild, domesticated, semi-domesticated plants, useable weeds, fungi, etc. and their edible roots, tubers, bulbs, stems, leaves, shoots, flowers, fruits, seeds, etc. to provide cereals, vegetables, edible fats and oils, spices and flavourings, salt substitutes, sweeteners, rennet substitutes, meat tenderisers, beverages, cordials and infusions, thirst quenchers, etc.
2. **Forage**: Include the food for livestock and wildlife, including birds, fishes, and insects such as bees, silkworms, etc.
3. **Pharmaceuticals**: These are the drugs, anaesthetics, salves, ointments, lotions, purgatives, etc. for both human and veterinary use.
4. **Aromatics**: Are the essential oils for cosmetic and perfume industries (international market highly specialized and vulnerable),incense, et c.
5. **Ornamentals**: Are the aesthetically pleasing plants for horticultural and amenity planting, cut- and dried-flower trades. In fact, are those ‘architectural’ plants used for decoration etc.
6. **Fibre**: Include the Cloth, matting, basketry, brooms, stuffing for pillows, cork, etc.
7. **Woods**: These are the wood for hand crafts
8. **Biochemicals**: These are the non-edible fats and oils, waxes, gums and latex, dyes, tannins, biochemicals for plastics and coatings, paints and varnish industries, etc.
9. **Toxins**: Are used for hunting. Hence are ordeal poisons, hallucinogens, pesticides, fungicides, etc. Note, some may have pharmaceutical potential, especially as anaesthetics.

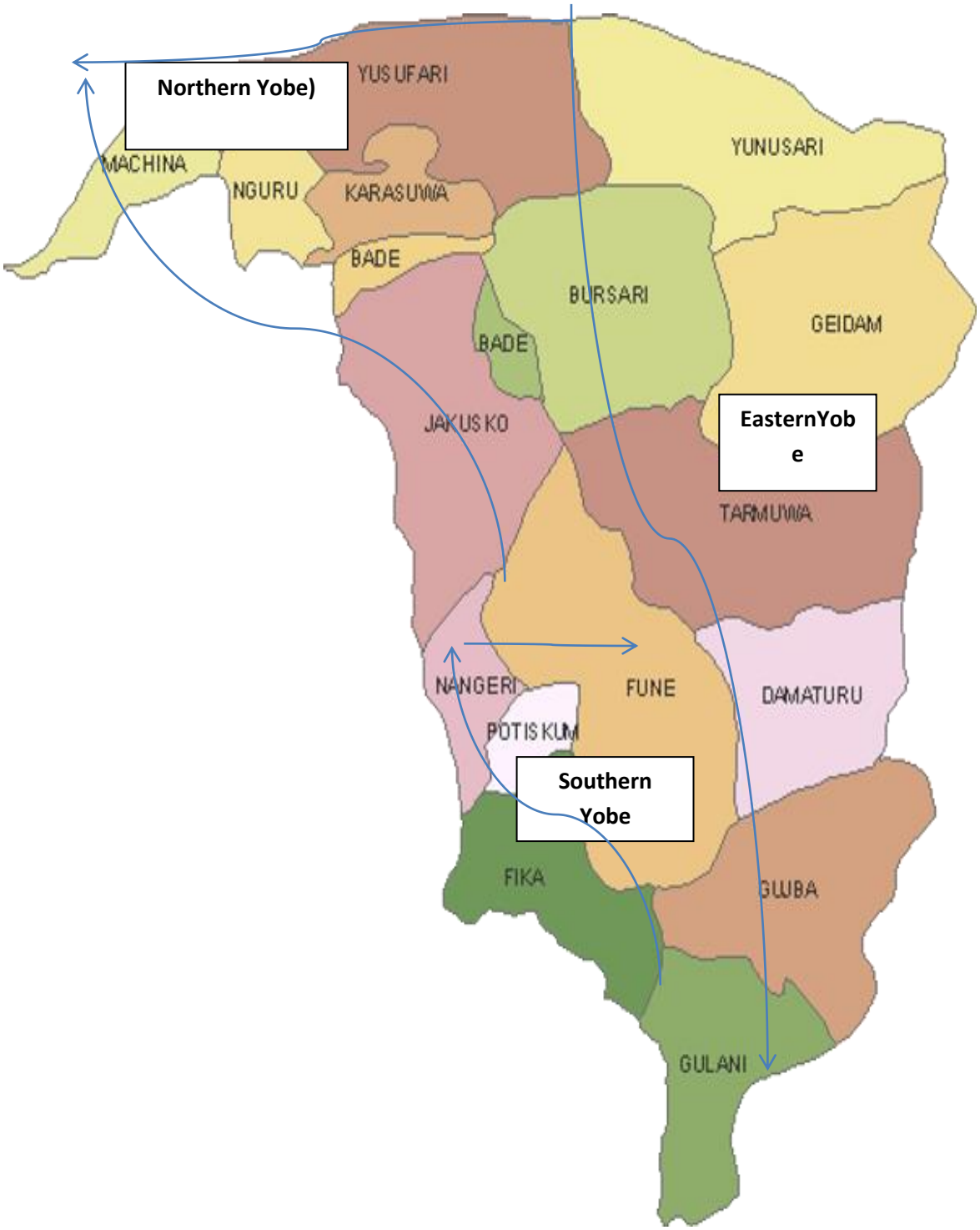
Animal is the second main category of food derived from the forests. For communities living in the vicinity of forests, natural woodlands and forest fallow areas, wild animals often play a significant part in local diets; in some cases they provide the single largest source of animal protein. Food from wildlife has tended to focus on the large game species such as antelope and deer. In fact, in term of their contributions to the daily diet. In addition, are the smaller wildlife species. These include rodents such as the grasscutter, or cane rat *(Thryonomys swinderanus*), and the giant rat (*Cricetomys gambianus*), both of which are highly popular in parts of West Africa.

Squirrels, porcupines, bats, mice and other small mammals are also eaten, together with birds and various types of insects, snails, snakes and other reptiles**.** The objective of this study is to enumeratethe types of non-timber products in Yobe State

METHODOLOGY

Study Area

Yobe State is geographically located on latitude11.7139: Latitude (DMS) 11^0, 42' 50N and Longitude 11.081: Longitude (DMS)11^0, 4' 52E in North-eastern part of Nigeria. It boarders the Diifa and Zinder regions of the republic of Niger to the North. Borno and Gombe states to the East and Bauchi and Jigawa state to the West and still Bauchi state to the South. The highest temperature in some areas of Yobe state reaches 40.7^0c in April and the coldest month is January at about 12.8^0c. Relative humidity is 27%.Yobe State as an agricultural state has a total population of 2,321,501 (Geoname 2015). The state is divided in to three geo-political zones as eastern Yobe, Yobe Southern and NorthernYobe respectively. The Northern Parts of Yobe State of Nigeria lies on the longitude 12.875" N and along river Yobe (Yobe 'kumodugu'). The area is within the Sahel belt and is therefore mostly hot and dry for the most part of the year, while the Southern part of the State and to some extent the greater part of the Eastern part lie in the Sudan Savannah. Both the Southern and Eastern parts of Yobe State have high amount and longer duration of rainfall than the northern part. Generally they all have similar vegetation pattern though much denser in the southern part of the state. The main occupations of the people are farming, fishing and trading. Majority of the population are illiterate or 'semi literates' in terms of western education and speak different languages such as Manga/Kanuri, Fulani. Hausa, Bole, Ngzim, Kare-Kare. Yobe state is of ecological interest as it is believed to contribute in the production of 80% of the National output of Gum Arabic. This and other related characteristic has aroused the attention of the World Conservation Body and other related organizations.



Source: Geoname (2015):Yobe State

FIG. 1: Map of Yobe State showing the 17 local governments in the three geo-political zones

Design of the study

The researchers adopted a survey design where the opinions of the sample of the population were used to represent the entire forest users of the state in the three geo-political zones namely: Eastern Yobe, Southern Yobe, Yobe Northern Yobe. Survey design is seen as systematic collection of data from entire population of people or sample drawn from the

population through the use of questionnaire, interview or observation in order to find out the opinions of individuals about something. It is also used to investigate the changes that take place in the behaviour or characteristics of a group of individuals over a certain period of time in their lives(Igwue,1999).

Population and Sample

The sample of this research is 600 forest stakeholders with 200 people from each of the three geopolitical zones.Thus, purposive sampling was adopted in the collection of data. The Forest Stakeholders considered for this study were the hunters and traditional herbalist who the topic of the research closely relates with. Therefore, People who attained the age of 35 yearsand above residing in the main Towns in the three geopolitical zones (Eastern Yobe, Southern Yobe and Northern Yobe of the state were considered. The researchers considered the above range of age due the consideration of awareness of forest and forest products and policies. Therefore, adopting Ali (2009) who stated that there is a significance difference in the awareness of forest products by different age groups in Yobe state and individuals of ages 35 and above were identified with greater knowledge of forest products and policies in Yobe State.

RESULTS AND DISCUSSION

Table 1 showed the list of plant related NTFPs identified and utilized by the people of Yobe State. There were 50 identified species of plants' related NTFPs produce/products in the three geopolitical zones in which Fourty five (45) were fully identified (having both English and scientific names). In addition, five (5) plant related NTFPs were identified with either their English or botanical names. While, three (produce and/or products were identified using their common names peculiar to the people of the state. Southern Yobe (Zone 'B') was identified with the richest species among the three geopolitical zones having 92% of all the species obtainable within the zone while Eastern Yobe (Zone 'A') had 87% and Northern Yobe (Zone 'C') had 83% of the total species/products and produce identified.

Table 2 showed the list of animals identified and consume/utilize by the people of Yobe State. About 56 animals and/or products were identified, with Southern Yobe (Zone 'B') having 100% of the total species and/or products identified thus, making it the richest in species availability. The findings of this research that showing the ecological distribution of fauna and florain Yobe State indicated that theSouthern Yobe (Zone 'B')that falls within the Sudan savannah zone contains the richest flora and fauna compared to Eastern Yobe (Zone 'A') and Northern Yobe (Zone 'C') that lie within Sahel vegetation of the State. The findings corroborate World Bank report on biodiversity (2010) which stated that two third of the global biodiversity is in the tropic.

CONCLUSION AND RECOMMENDATIONS

The study has shown that Yobe State is rich in some important flora and fauna in respective of the zonal structure. The NTFPs identified by this study also showed their importance in livelihood sustenance of the people. In order for the people to enjoy these resources in

perpetuity, there is the need for more researches to unveil other NTFPs and more awareness campaign especially in the area of their uses by both the Government and Non-governmental Organizations.

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Table 1: Species list of plants in the three Geo Political Zones of Yobe State

S.N	English name of plant/produce	Botanical Names/ common names	Zone A	Zone B	Zone C
1	Desert date/soapberry tree	*Balanites aegyptiaca*	X	X	X
2	Gum Arabic Tree or Egyptian thorn	*Acacia nilotica*	X	X	X
3	Locust bean tree	*Parkia higlobosa*	_	X	_
4	Paperback thorn	*Acacia sieberiana*	X	_	X
5	Winter thorn/Apple ring acacia	*Faidherbia albida*	X	X	X
6	Jackal berry or African Ebony or Jakkals bessies	*Diospyros mespiliformis*	X	X	X
7	Prosopis-tree/ Mesquite	*Prosopis africana*	X	X	X
8	African mahogany	*Khaya senegalensis*	_	X	_
9	Ber/Chinee apple or Jujube or Indian plum	*Ziziphus mauritiana*	X	X	X
10	African birch	*Anogeissus leiocarpus*	X	X	X
11	Tamarind	*Tamarindus indica*	X	X	X
12	Baobab Tree	*Adansonia digitata*	X	X	X
13	Doum palm	*Hyphaene thebaica*	X	_	X
14	Date palm	*Phoenix dactylifera*	X	X	X
15	Applering acacia	*Acacia albida*	X	X	X
16	Big's egg grass	*Eragnosis tenella*	X	X	X
17	Bitter leaf	*Vernonia baldwini*	_	X	_
18	Black plum	*Prunus prunus*	X	X	X
19	Camels' foot	*Piliostigma t.*	X	_	_
20	Wild cotton	*Gossypium spp.*	X	X	X
21	Miracle tree	*Moringa Oleifera*	X	X	_
22	Coffee senna	*Senna cocidentalis L*	X	X	X
23	Mahogany	*Khaya senegalensis*	X	X	X
24	Fig tree	*Ficus polita*	_	X	X
25	Fleabane	*Conyza sumatrensis*	_	X	_
26	Gamba grass	*Andropogan gayanu*	X	X	X
27	Purple nut	*Cyperus rotundus*	X	_	X
28	Spinyamaranthus	*Amaranthus Spinosu*	X	X	X
29	Shea butter	*Vitellaria paradoxa*	X	X	X
30	Prosopis tree	*Prosopis africana*	X	X	_
31	Wild cucumber	*Citrullus lanatus*	X	_	X
32	Zizyphus	*Ziziphus mauritiana*	X	X	X
33	Zizyphus	*Ziziphus Spinachrist*	X	X	X
34	Gamba grass	*Andropogon gayanu*	X	X	X

35	Delab Palm	*Borassus aethiopum*	X	X	X
36	*Copaiba basalm*	*Danillia oliveri*	X	X	X
37	_	*Crateva religiosa*	X	X	X
38	Custard apple	_	X	X	X
39	Spondias spp	*Annona senegalensi*	X	X	X
40	_	*Sclerocarya birrea*	_	X	X
41	African ebony	*Diospyros spp*	X	X	X
42	Spiny plum	*Ximenia americana*	X	X	X
43	_	*Detarium spp*	X	X	X
44	Monkey Tamari	*Dialium guineense*	_	X	X
45	Gutta percha tree	*Ficus platyphylla*	X	X	X
46	Bamboo	-	X	X	X
47	Neem tree	*Azadirachta indica*	X	X	X
48	Egyptian thorn	-	_	X	_
49	Wild date palm	-	_	X	_
	TOTAL		**47 (87%)**	**49 (92%)**	**44 (83%)**

Source: Field Survey, (2015).

Legend: 'X' = Obtainable and '-' refer to Not-Obtainable

Table 2: Species list of Wild Animals in the three political Zones

SN	Name of Animal	Scientific name	Animal's name in Hausa Language	Zone A	Zone B	Zone C
1	Antelope	*Red fronted Gazzelle*	Barewa	X	X	X
2	Grey monitor		Damo	X	X	X
3	Nile monitor	*Varanidae examthematicus*	Guza	X	X	X
4	Warthog	*Phacochoerus aetheiopicus*	Gadu	X	X	X
5	Diker		Gada	X	X	X
6	White tail mangoose	*Ichneumia albicauda*	Tunku	X	X	X
7	Sand fox		'Yanyawa	X	X	X
8	Civet cat	*Vitvera civetta*	Muzurun juda	X	X	X
9	Wild fowl\Clapperton's Francolin	*Francolinus clappertoni*	Fakara	X	X	X
10	Royal python	*Python sabae*	Mesa	X	X	X
11	Leopard	*Panthera padus*	Damisa	_	X	_

12	Puff adder	*Bitis orientans*	Kasa	X	X	X
13	Giant rat	*Cricetomys gambianus*	Gafiya	X	X	X
14	Mouse	_	Bera	X	X	X
15	Hare	*Lepus cepensis*	Zomon Daji	X	X	X
16	Squirrel	*Xerus erythropus*	Kurege	X	X	X
17	Hedgehog	*Atelerix albiventris*	Bushiya	X	X	X
18	Guinea fowl	*Numida melliagre*	Zabuwan daji	X	X	X
19	Spur winged Geese	*Plectropterus gambensis*	Dinya	X	X	X
20	Porcupine	_	Beguwa	X	X	X
21	Grimm's duiker	*Sylvicapra grimmia*	Gada	X	X	X
22	Ostrich	*Struthio camelus*	Jimina	X	X	X
		Milus migrans				
23	Kite		Shirwa	X	X	X
24	Palmut Vulture	*Necrosyrtes monachus*	Ungulu	X	X	X
25	Cattle egeret	*Bubulcus ibis*	Balbela	X	X	X
26	Dove	*Streptopelia senegalensis/S. semitorquata*	Kurciya	X	X	X
27	Owl	*Tyloalba spp*	mujiya	X	X	X
29	_	_	Cinge	X	X	X
30	Hyena	*Crocuta crocuta*	Kura	X	X	X
31	Grasscutter	*Thyronomys swinderianus*	*Gyazbi*	X	X	X
32	Fruit bat	_	Jemage	X	X	X
33	Frog	_	Burduddugi	X	X	X
34	Honey Bee	_	*Zuma*	X	X	X
35	Bush Bucks	*Tragelphus scriptus*	Mazo	X	X	X
36	Elephant	*Loxondata africana*	Giwa	X	X	_
37	Tortoise	_	Kunkuru	X	X	X
38	Chimpanze	*Red patas*	Jan-biri	X	X	_
39	Gorilla	*Papio anubis*	Goggon biri	X	X	_
40	Crocodile	_	Kada	X	X	_
41	Hippopotamus	*Hippopotamus amphibius*	*Dorinan-ruwa*	X	X	_
42	Grasshopper	_	Fara	X	X	X
43	Snail	_	Dodon kodi	X	X	X

44	Jackal	*Canis aureus*	Dila	X	X	X
45	Ruppell's griffon	*Gyx rappelli*	Mikiya	X	X	_
46	_	_	Mugundawa	_	X	_
47	_	_	Karen 'biki	_	X	_
48	_	_	Mitsau	_	X	_
49	_	_	Damagere	_	X	_
50	_	_	Kwantarafi	_	X	_
51	Tragalaphus	*Tragalaphus orya*	Gwanki	_	X	_
52	Ganet	Ganetta poensis	Cimola	X	X	X
53	_	_	Tulo-tulo	X	X	X
54	Maraboutou storn	*Spurwinged*	Babba da jaka	_	X	_
55	Ratal horney	*Badger*	Damagere	X	X	_
56	Buffalo	*Cape eland*	Bauna	X	X	X
	TOTAL			**47 (83%)**	**56 (100%)**	**50 (89%)**

Source: Field Survey, (2015**). Legend = Obtainable and '-' refer to Not-Obtainable**