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Ethnobotanical Applications of some Floral Species in Bayelsa State, Nigeria

***Gordian Chibuzo Obute and Ekiye, Ebiare**

Department of Plant Science & Biotechnology
University of Port Harcourt
Port Harcourt, Nigeria
*E-mail: goddie_chi@yahoo.com

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ABSTRACT

The focal point of this study was documentation of indigenous uses/knowledge of the thinning populations of the valuable flora in parts of the Niger Delta. Forty-Eight plant species belonging to twenty-four taxonomic families were found to have various ethnobotanical applications among the indigenous people of Bayelsa State. Some of these still enter the local economy through the services provided by the products. Harvesting of flora for these purposes was observed to be unsustainable because of lack or presence of weak institutional and legal framework and enforcement for sustainability. This study also highlights the implications of forest fragmentation and over harvesting leading to depletion of vegetation resource base and consequently the loss of the knowledge about useful species along with their ethnobotanical applications.

INTRODUCTION

Ethnobotany -- the interface between indigenous people and their use of plants around them is a significant facet of "Biological Diversity" consideration. Defined as the variety of life on earth, encompassing the plants, animals and microorganisms and the ecological complexes which they are part of; biodiversity conservation has become a topical global issue. From prehistoric times, human existed by gathering fruits, seeds, leaves and roots of plants, and hunted animals that eventually depend on plants for their existence. Other needs afforded humans by plants include shelter, clothing, medicines, aesthetics, craft etc. Indeed plant and plant products remain the primary base upon which all modern civilization was built. Bayelsa State bestrides much of Africa's largest wetland and Nigeria's thriving petroleum business but has no formalized properly managed forest or wood industry. Even so, much of the timber from these parts services a huge proportion of the global wood needs via the Western axis of Nigeria. Pressures from environmental degradation, forest fragmentation, and unsustainable arable land use, urbanization and industrialization (Obute and Osuji, 2002; Obute 2005; Ayodele, 2005) are fast depleting much of Nigeria's tropical rain forests and are thus reducing the biodiversity of the country. Apart from this, several non-timber forest products (NTFPs) from the state informally service a wide range of clientele, local and abroad. For instance, the indigenous people in Sagbama area of Bayelsa State collect many wild plants or plant parts and process these into various products. Potential ethnomedicinal or other ethnobotanical uses of some of these plants are largely yet to be discovered and documented. In the recent past there has been renewed interest in sustainable management of natural resources like plants (Cunningham, 1994). Although the economic value of some trees (Cunningham, *et al*,. 2002) attract attention to them, the best of documented interest in people and plants is largely for plants with medicinal value (Gill, 1988; Cunningham, 1994;; Ndukwu and Nwadibia, 2003; Ayodele, 2005; Obute, 2005). In the current use of plant resources, Obute (2005) noted that the overexploitation of wild populations and lack of conservation programmes are two interlocking problems dealing with sustainable management of plant resources especially in the southern parts of Nigeria. This study is aimed at providing data on the application of some flora of Bayelsa State by the aborigines to solve economic,

recreational, medicinal, construction and sundry needs. The effort is another contribution to the documentation and provision of records of indigenous knowledge, use and conservation of these plants.

GEO-CLIMATIC DESCRIPTION OF BAYELSA STATE

Sagbama area of Bayelsa State located in the southern butt of Nigeria in the deltaic spread of the River Niger in West Africa. It has a tropical climate with high rainfall levels ranging between 2,000 – 4,000mm per annum. The terrain elevation is about 6 – 15m above sea level and most parts are flooded most part of the year. The soil type is the alluvial deposit type and is thus rich with organic matter for luxuriant growth of flora. It is a high biodiversity value area resulting from the diverse plant groups, which concomitantly attracts other mobile life forms.

MATERIALS AND METHODS

Field trips were undertaken to different villages and local government areas in Bayelsa State such as; Patani, Adagbabiri, Ogboloma, Kpetiama and Sagbama, Ekeremo, Brass, Yenagoa, and Ogbia Local Government Areas. Structured oral interviews administered to the folks directly involved in the use of forest products.

Pictures were also taken showing standing trees, felled trees, stumps, logs, sawed planks and finished products and the indigenous plants which were observed during these field trips were identified with the aid of Floras (Dalziel, 1937; Hutchinson and Dalziel, 1958), manuals (Keay, 1989) and Herbarium specimens in the University of Port Harcourt were employed in identification of not so easily identified species. Voucher specimens of these are deposited n the UPH-Herbarium.

RESULTS AND DISCUSSION

The investigation revealed that a total of 48 species, distributed into different and some similar genera and 24 unrelated angiosperm families are used for a wide range of applications in Bayelsa State, Nigeria. In utilizing these plants several activities that are a bane to conservation of species are carried out howbeit, through ignorance rather than by design. Below in Table 1 are highlights of some the uses to which some plants are put in this part of the world.

Table 1. Checklist of floral species folk identification and uses in Bayelsa State

S/n	Botanical name	Family	Native name	Trade name	Parts used	Uses
1	*Mammae africana*	Guttiferae	Bolo	Okricapet	Trunk	Making canoes, sculptures, serves as timber
2	*Symphonia globulifera*	Guttiferae	Akololor or okilolo	Akololor	Trunk	Construction especially roofing, for furniture
3	*Allablanckia floribunda*	Guttiferae	Obobiobo	Black Akololor	Trunk	Construction and furniture making
4	*Mitragyna ciliata*	Rubiaceae	Baa	Abura	Trunk, fibres from trunk	Furniture, construction and mat weaving
5	*Alstonia congensis*	Apocynaceae	Kigbe	Egbu	Trunk	Build ships, decking, lintel work, furniture and construction
6	*Alstonia boonei*	Apocynaceae	Endoudou	Man-egbu	Trunk, stem	Making shoes i.e. Those with wooden sole

7	*Ceiba petandra*	Bombacaceae	*Assessai*	Cotton tree (akpu)	Trunk, leaves	Construction; lintel and concrete work. Leaves are edible
8	*Piptadeniastrum africanum*	Leguminosae: mimosoideae	*Esiansia*	Ekhimi	Trunk	Boat building
9	*Lophira Alata*	Ochnaceae	*Kuru*	Ironwood	Trunk	Railway slippers and electrical pole
11	*Picanthus agolensis*	Verbenaceae	*Aboh*	Akomu	Trunk	Ceiling work
13	*Uapaca heudelotti*	Euphorbiaceae	*Edisin*	Etewor	Trunk, stem	Door frames, picture frames and very fine firewood. It is classified as hard wood, used in building boats and market stalls
14	*Scottellia mimfiensis*	Flacourtiaceae	*Ewonor*	Ironwood	Trunk	Building bridges and jetty
16	*Combretodendron macrocapum*	Lecythidaceae	*Ozen*	Owewe		
17	*Guarea cedrata*	Meliaceae	*Akurantin*	Afara		Timber
18	*Anophyxis klaineana*	Rhizophoraceae	*Aku*	Ironwood	Trunk	Build ships
19	*Endodesima calophylloides*	Guttiferae	*Bonasun*	Ironwood	Trunk	Build market stalls
20	*Garcinia kola*	Guttiferae	*Akan*	Bitter kola	Trunk	
23	*Alchornea cordifolia*	Euphorbiaceae	*Epain*	Epain	Stem	Very fine firewood
24	*Elais guinensis*	Palmae	*Loo/Etuboi*	Palm tree	Leaves, stalk	Brooms, roof of thatch houses
25	*Irvingia gabonensis*	Irvingiaceae	*Ogbein (ogbono)*	Bush mango	Trunk, stem	Roofing firewood
26	*Raphia vinifera*	Palmae	*Kuruo*	Raphia tree/bamboo	Stalk, trunk, leaves	Building thatch houses (both frame and roof ie. the leaves), yields palm wine from which local gin is obtained
27	*Raphia mannii*	Palmae/Arecaceae	*Biyai*	Banibo	Leaves, fibre	Fibre from the stalk is used in weaving mats, baskets, fans, pot stands, drink covers and other crafts
28	*Bambusa vulgaris*		*Ekrai*	Indian bamboo	Stem	For thatch houses, fence, as support for climbing plants, toothpick manufacture, other decorative items
29	*Erasmopatha microcapa*	Anacardiaceae	*Dee*	Cane rope	Stem	Cane furniture, baskets, Straight canes to discipline stubborn children (Apiu)
30	*Lacosperma secumdiflora*	Anacardiaceae	*Boru*	Cane rope	Stem	Same as above
31	*Oncucallamus mannii*	Anacardiaceae	*Egba*	Cane rope	Stem, thorns	Same as above, also has tiny thorns which are used as hooks in fishing nets
32	*Nauclea dederrichii*	Rubiaceae	*Kiriwoso (land opepe)*	Opepe	Trunk	Construction, door frames electric pole

33	*Nauclea vanderguchtii*	Rubiaceae	*Ope (swamp opepe)*	Opepe	Trunk	Timber, furniture, if not properly seasoned it produces powder
34	*Staudtia stipitata*	Myristicaceae	*Abala/yowetin*	Ichanu	Trunk	Making paddle
35	*Vitex chrysocarpa*	Verbenaceae	*Buron*	Land abural (black guarea)	Trunk	Hard wood for construction
36	*Spondiatus preussii*	Euphorbiaceae	*Eginiyai*	Live tree	Trunk	Pulp is extracted for paper
37	*Chlorophora excelsa*	Moraceae	*Sibeyetin/olokpata*	Iroko	Trunk	Furniture, export wood in the past
38	*Khaya ivorensis*	Meliaceae	*kuu*	Mahogany	Trunk	Furniture
39	*Musanga cecropioides*	Moraceae	*Oforimofo (ukporwe)*	Cork tree	Trunk, stem	Shoe heels and as floater
40	*Diospyros mespiliformis*	Ebenaceae	*Ongblo*	Ebony	Trunk	Timber; furniture and sculpture
41	*Pterocarpus osun*	Leguminosae: Papilionoideae	*Eseletin*	Caton wood (Bar wood)	Trunk	Construction
42	*Newbouldia laevis*	Bignoniaceae	*Abode*	Life tree	Whole tree	It never dies, it is used for boundary adjustment and in shrines
43	*Psidium guajava*	Myrtaceae	*Guava*	Guava	Trunk, stem	Handle in hoes and other farm instruments
44	*Rhizophora sp.*	Rhizophoraceae	*Aka Duon Kemi*	Chewing stick	Stem	To treat tooth ache and cleanse teeth
45			*Oro Gbissa*	Oro Gbissa	Whole plant	Weaving mat
46	*Hevea brasiliensis*	Euphorbiaceae		Rubber tree	Trunk, extract	Rubber is extracted for production of plastics etc
48	*Rhizophora racemosa*	Rhizophoraceae	*Angalatin*	Salt water tree	Salts and extracts	Tannins and salts are obtained for leather work

FOLK KNOWLEDGE OF THE FLORA AND GOVERNMENT CONTROL

The indigenous people of this area have a working folk taxonomy of the plants they have long been associated with. Plants could be identified by vernacular names with ease though the younger folk appear totally uninterested in the plant resources around. Some of the loggers interviewed revealed that the only touch with government officials is at the level where concession or permit is given a major logger who now dispenses portions to the lesser loggers. Non-timber forest products are harvested by any who can since there are no limits. The general belief is that the resources can never run out since according to them the forests are so vast that it is unthinkable to finish its largesse. However, pressure from deforestation, bush burning, migrant farmers, industrialization and urbanization combine to yield a harvest of biodiversity depletion and loss. Pictorial highlights of the ethnobotanical uses of some plants from Bayelsa State are presented in the following plates:

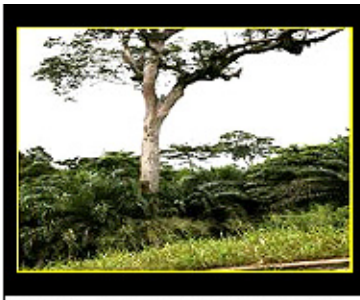

Plate 1. Stand of *Lophira alata*.

Plate 2. Timber from *L. alata*.

Plate 3. Planks from *L. alata* logs.

Bonasun is the local name for this wood. But it is the Ironwood of commerce *called Lophira alata*. The hard wood is invaluable for several timber needs. It is getting thinned out in population in this area due to over harvesting. In felling these trees, loggers cause a lot of collateral damage to other flora. No replanting programme is in place to renew this resource.

Plate 4. Stand of *Calamus rotang*.

Plate 5. Canes from *C. rotang*.

Plate 6. Cane chair made from *C. rotang*.

Plate 7. Cane baskets *from C. rotang* ready for sale.

Calamus rotang, climbing palm is hardy plant with tough and stretchable rachis or mid rib, which can be fashioned into several craft.

Called 'Dee' locally it finds use in cane furniture, disciplinary canes, fishing gears (traps) and fancy baskets.

In recent times it has been combined with padded foam to make cushions. Where impracticable cotton wool, another plant product is used for stuffing the cushions rather than synthetic foam

Plate 8. A. Stand of *Psidium guajava*, Family Mrytaceae.

Plate 9. Hoes made from curved /angular branches of the plant and fabricated metal plates ready for sale

Plate 10. Used in the construction of indigenous distillation units

Although synthetic products are competing with plant products to meet the needs of the people, the forests are still under enormous pressures fro anthropogenic activities that deplete forest resources. That some of the species have gone extinct was confirmed by the users themselves who bemoan the disappearance of certain types of plats used for several purposes.

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