



Culturally Significant Edible Plants in Ovia area of Edo State-Nigeria

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Abstract

This paper is an inventory of culturally significant edible plants in Ovia area of Edo state. To achieve this objective, the study adopted a descriptive survey type of research design. Data required for the study were obtained from both primary and secondary sources. The method used for the primary data collection comprises of the personal interview and research questionnaire. Data collected were summarized and presented in a table. Result of the analysis shows that there were 39 culturally significant edible plants commonly exploited in the area for multiple uses. To sustain this trend, the need for active community participation in forest resource management was suggested for the benefit of all in this century.

Keywords: Culturally Significant, Edible Plants, Conservation, Community Participation

1.0 Introduction

In the history of mankind, forest resources have been exploited and are still being exploited from culture to culture by many as a major source of livelihood. One of such forest resource is edible plants. Literary sources show that there are more than twenty thousand (20,000) known species of edible plants in the world, many of which are "wild" or "semi-wild"

stands in "native" forests (Dawson, Leakey, Clement, Weber, Cornelius, Roshetko, Vinceti, et al, 2014). As Brandeis and Hodges (2015) note 50 per cent of all fruits consumed by humans originate from plants. In particular, the exploitation of these plant products has been found to contribute significantly to rural households (FAO, 2005). However, previous rural household surveys only capture conventional rural livelihood activities such as crop cultivation, livestock rearing and cottage activities and rarely incorporate the cultural value of plant products to the local people. Therefore, a study of this nature becomes imperative most especially as several studies including Dubois (2003), Shackleton (2004) and Dolon, Sobhan and Mukherjee (2015) have reported that plant products have many cultural benefits to the local people that are difficult to value precisely in economic terms such as cultural sites, species consumption and aesthetic benefits.

Flowing from the above, in Nigeria, as empirical evidence suggest the different ethnic groups have their unique and distinct cultural value regarding plant resources available in their area which they put to bear not only in their social relations but in relations with nature. This is often reflected in their lifestyles, customs, norms, arts and crafts, festivals, songs and folklore of the people of different communities in Nigeria. For example, many products derived from the palm tree (*Elaeis guineensis*) including palm wine, palm oil, local gin, palm kernel oil, brooms, mat, basket, hand fans, hats etc are culturally significant in the lifestyle and livelihood activities of the different ethnic groups such as the Ijaws, Igbo, Yoruba, Itsekiris, Ilajes, Edo's, Esan, Owan, Urhobo and Isoko people to mention but a few. Apart from the palm tree, many plant products have been identified in varying quantities and qualities in rural communities of the forested areas of the country but the ones that are often exploited by the people depend on the value they place on such products which also vary from one culture to another. For instance, the Bini speaking

people of Edo state are notable for wood carving, furniture making and multiple uses of plant products as a major source of livelihood. To preserve the plant products in an area apart from the existing use of the formal approach to forest resources management some communities in Nigeria such as the sacred forests communities in Akpugoeze of Anambra State and Luangwa community in Imo State as a matter of tradition still maintain sacred forests where spiritual consultations and collection of herbs take place for the benefit of community members (Nigeria Fifth National Biodiversity Report, 2015).

However, in the forested areas of Edo state in general and in Ovia area (which lies within the rain forest belt) in particular, the edible plants available are many and varied and their exploitation have been found to be significant to the livelihood of many urban and rural dwellers in the area but not well documented. This is due to lack of information on their true scientific identity or the botanical names of edible plants commonly exploited by the natives. If the scientific names of all the edible plant products were known, their value to the local economy would have been significantly higher. It is in this context that this paper sought to identify and document the edible plants commonly exploited from the forest and those cultivated in Ovia area of Edo state. This is the trust of this paper and the gap in knowledge that the study sought to fill.

The Study Area

The Ovia area of Edo State is made up of two local government areas: Ovia North- East and Ovia South-West local government areas, both of which lies within the rainforest belt in Edo state- Nigeria. The population of the area is about 417,211 as projected for 2018 at 3.5% annual growth rate (NPC, 2019). Ovia area is bounded in the North and West by Ondo State and in the

East by Uhumwode, Egor, Oredo and Ikpoba-okha local government areas and in the South by Delta State.

CONCEPTUAL FRAMEWORK

Concept of Sustainable Resources Utilization

The study is based on sustainable forest resource utilization. The concept is an application of the United Nations Brundtland 1987 sponsored conference report on Environment and Development. The concept explains that humans should learn to use the available resources in their locality today, in a manner that will not jeopardize the chances of their use by others in the future. As the report put it 'humanity can make sustainable development possible – to meet the needs of the present without compromising the ability of future generations to meet their own needs'. According to Cronin, (2009) sustainable forest resources utilization means to harvest and utilize resources in a manner that will preserve the balance between the present human need, needs of the environment and that of the future human requirements. The concept is considered very relevant to this present study because it does not only prescribes a change of attitude towards natural resources exploitation, it also spurs us to action by way of conservation and protection, and to develop our natural resources-based industries up to the level that they can be able to manage wastes (reduce, reuse and recycle), and to minimize the rate at which we harvest and utilize timber and its derivatives. It also includes education and capacity building programmes such as communal forestry, beekeeping, cultivation of indigenous forest fruits and orchards (FAO, 2014). In all, the concept of sustainable forest resource utilization tends to balance the two competing moral demand of development and sustainability (Allaby, 1993), to

achieve its multiple environmental, social and economic benefits at global, national and local scales (FAO, 2010).

LITERATURE REVIEW

Many empirical studies have been carried out on the cultural value of plants. For instance, Dolon, Sobhan and Mukherjee (2015) evaluated plants in Hindu Mythology, Festivals and Rituals and found that about 70 plant species were found to perform different mythological, ritual and festival functions. Kakudidi (2004) investigated the cultural uses of plants in selected communities around Kibale National Park, Western Uganda and found that 89 plant species were exploited for 26 cultural and social uses. The highest numbers of plants were those used in wedding ceremonies (25 species), followed by those used against witchcraft (18), religious ceremonies (15) while others range between 1–9 species. Whole plants use contributed 24.8%, followed by leaves (24%), stems (22%), seeds (12.8%) flowers and bark (5.5% each), rhizomes (1.8%) and leaf sheath, root and fruit with 0.9% each.

Casey and Wynia (2010) investigated the cultural use of the Native Hawaiian Plants at Kīpuka Puaulu and reported that some plants such as side oats grama (*Bouteloua curtipendula*) was a type of grass often bundled, dried, and made into brooms and hairbrushes. Others include vanilla grass (*Hierochloe odorata*) used for the production of baskets, mats, rugs, bedding and cradleboards. It is widely acknowledged for its sweet and aromatic scent enhanced when it is rained on or burnt. Besides, the smoke from this plant is used to purify dancers: the leaves are mixed with tobacco and used in ceremonies where they are often burnt as a purifier. The same grass is also braided into women's hair to signify the Mother Earth whereby each of the three

strands that make up the braided hair have a specific cultural meaning: mind, body, and spirit. Similarly, Padma (2017) examined the importance of plants in religious festivals and the traditional healing system of the people of Telangana region. Result of the study revealed that the people of Telangana, Bathukamma, Bonalu, Ugadi and Vinayakachavithi had a unique culture of worshipping plants in regional festivals because of their role in rituals and alternative health care system. Almerico (2014) investigated the cultural value of plants in the Mediterranean diet. Result of the study showed that there was a positive relationship between food, culture and society. The food choices made by people, either as individuals or as a group reveal views, passions and background knowledge, assumptions and personalities. Also tell stories of families, migrations and assimilation, resistance, changes over time and reflects group identity.

Clement and Junqueira (2010) cited in Dawson et al (2014) in their study of the type of plant products consumed in Latin America, and reported that there were several tree species widely consumed including peach palm (*Bactris gasipaes*) and the Brazil nut (*Bertholletia excelsa*). In a similar study, Jamnadass et al (2014) cited in FAO (2018) reported that in Central, East and West Africa the seed of the allanblackia tree (*Allanblackia spp*) yield edible oil that has been observed to be low in trans-fats with the potential value for improving smallholders' livelihoods and global health. In Ethiopia, Muleta (2007 cited in FAO (2010) reported that the inclusion of fruit-bearing trees as shade in coffee plantations provides farmers with access to additional foods, such as mangoes, oranges, bananas and avocado pear. Other tropical food trees consumed include cocoa (*Theobroma cacao*), coffee (*Coffea spp*) and oil palm (*Elaeis guineensis*) as they are rich sources of vitamins, minerals, proteins, fats and other nutrients (FAO, 1993).

Stadlmayr et al. (2013) cited in FAO (2018) in their extensive literature review on selected African indigenous fruit trees identified varieties of fruit tree consumed because of their high nutritional value. In Nigeria, Egwumah (2009) reported that plant products that are widely consumed include Fruits: such as pear *Dacripids edulis*, African breadfruit *Treculia Africana* and African star apple *Gysophyllum albidium*, and condiments (*Irvingia gabonensis* (ogbone), *Parkiabiglobosa*, *Prosopis Africana* and *Tetarplura tetrapetera*). Others include the different type of herbal plants commonly consumed as fruits or for medicinal purposes. In Swaziland, Ogle and Grivetti (1985) Cited in FAO (1993) in their study reported that there were over 220 wild plants commonly consumed by the people (more than once a month). In Asia, pechay (*Brassica napus* L.) is one of the oldest and the most common vegetables in the diet of the Philippines and Chinese cuisine (<http://www.darfu4b.da.gov.ph/pechay.html>).

According to the Nigeria Fifth National Biodiversity Report (2015) plant species such as sorghum (*Sorghum bicolor*), cowpeas (*Vigna unguiculata*), West African rice (*Oryza sativa*), Yams (*Dioscorea spp.*), Bambara groundnuts (*Vigna subterranea*), Kersting's groundnut (*Macrotylomageocarpum*), African yam bean (*Sphenostylis stenocarpa*), and winged bean (*Psophocarpus tetragonobus*) provides 70-80% of the food requirements for 70% of the rural dwellers and about 30-50% of the nutritional support for urban communities. In the same way, varieties of palm trees such as raffia palm, coconut and oil palm, dum palm, phoenix and borassus palm also provide food and food supplements (FEPA, 1999). Other edible leaves of wild African trees including baobab (*Adansonia digitata*) and tamarind (*Tamarindus indica*) are high in calcium and therefore, constitute sources of protein and iron (Brandeis and Hodges, 2015). Fruits trees such as mango (*Mangifera indica*) have also been found to be high in pro-vitamin A, while the iron contents of dried seeds of the African locust bean (*Parkia biglobosa*)

and raw cashew nut (*Anacardium occidentale*) are comparable with or even higher than, that of chicken meat (FAO, 2018). Iron absorption is enhanced by the intake of vitamin C, which is found in high amounts in many tree fruits (WHO/FAO, 2004), and the consumption of only 10 to 20 g of baobab fruit pulp (or a glass of its juice) covers a child’s daily vitamin C requirements (Allen, Breshears and McDowell, 2015).

Research Methods

The study adopted a survey type of research design. Data required for the study was obtained from primary and secondary sources. The major instrument used for the primary data collection was the structured type of research questionnaire and personal interview. The questionnaire was administered to 661 respondents purposefully selected from 77 forest-dependent settlements while the personal interview was carried out among 46 major stakeholders in forest-based activities in the area selected using the snowball sampling technique as part of P.hd research between June and December 2019. Data collected was analyzed using descriptive statistics, multiple regression and stepwise regression. However, it is only the relevant section of the research findings to this paper that is reproduced here.

RESULT AND DISCUSSION

Result of the analysis of data collected in the course of the study revealed that there were about 39 culturally significant edible plants commonly exploited in the area for multi-purpose use: food/fruits/condiments/herbal by the people in the area. This is presented in Table 1.

Table 1: Edible Plants Exploited in Ovia area and their Uses

S/N	Botanic Name	Common name in Edo /English language	Products	Use
1	<i>Crurculingo pilosa</i>	<i>O’riema</i>	Seed	Spices/Herbal

2	<i>Vernonia amygdalina</i>	<i>O' riewo(bitter leave)</i>	Leaves	Vegetable
3	<i>Maeseobotrya barteri</i>	<i>O' ru-ru</i>	Seed/stem	Fruit/chewing stick
4	<i>Cassia alata</i>	<i>Akoria-ovbi ore</i>	Leaves	Herbal
5	<i>Mondora myristica</i>	<i>Ikpo-osa</i>	Seed	Spices/Herbal
6	<i>Garcina kola</i>	<i>E'dun (better kola)</i>	Seed/Stem	Fruit/chewing stick
7	<i>Spondias mombim</i>	<i>Oghe-ghe</i>	Seed	Fruit
8	<i>Plukenetia conophorum</i>	<i>Okhwae</i>	Seed	Fruit
9	<i>Thaumatococcus danielli</i>	<i>E'bie-ba</i>	Wrapping leave	Condiment
10	<i>Bryophyllum pinnatum</i>	<i>Idan-wesin</i>	Leaves	Herbal
11	<i>Xylopiya aethiopica</i>	<i>U'nnien</i>	Seed	Herbal
12	<i>Denntia tripetala</i>	<i>A'ako (pepper fruit)</i>	Seed	Fruit
13	<i>Rauwolfia vomitoria</i>	<i>Akata</i>	Root/Seed	Herbal
14	<i>Afromomium melagueta</i>	<i>Ehien-edo(alligator pepper)</i>	Seed	Snack/ Herbal
15	<i>Mimosa pudica Legumino</i>	<i>Awu-hiore (touch-me-not)</i>	Leaves/Stem	Herbal
16	<i>Dacryodes edulus</i>	<i>Orunmwun (African pear)</i>	Seed	Food
17	<i>Anacardium-occidentale</i>	<i>Ekashu (Cashew)</i>	Seed/Back	Fruit/Herbal
18	<i>Capsicum frutescent Solanaceae</i>	<i>Ehien (pepper)</i>	Seed	Condiment
19	<i>Carica papaya Caricaceae</i>	<i>Uhro (Pawpaw)</i>	Seed	Fruit
20	<i>Celosia argenteae Amarantha</i>	<i>Ebe-afor (Sokoyokoto)</i>	Leaves	Vegetable
21	<i>Chromlaena odorota Compositae</i>	<i>EbaAwolowo/Akintola</i>	Leaves	Herbal
22	<i>Corchorous olitorius Tiliaceae</i>	<i>Ebiyoyo</i>	Leaves	Vegetable
23	<i>Colocasia esculentum Araceae</i>	<i>Aka-ara (Cocoyam)</i>	Tubers	Food
24	<i>Ficus exasperata Moraceae</i>	<i>Eba-amen-men</i>	Leaves	Herbal
25	<i>Plukenetia Euphorbia conophora ceae</i>	<i>Okhue (African walnut)</i>	Seed	Fruit
26	<i>Talinum trianulare Portulacaceae</i>	<i>Ebodun-dun(Water leave)</i>	Leaves	Vegetable
27	<i>Terminalia catalpa Combreta</i>	<i>Ebelebo</i>	Seed	Fruit
28	<i>Gnetum africanaum</i>	<i>Ebe-amwokho</i>	Leaves	Vegetable
29	<i>Alstonia boonei Apocynaceae</i>	<i>Ukhu</i>	Leaves/Back	Herbal
30	<i>Irvingiagabonensis</i>	<i>O'he-re (Ogbonor)</i>	Seed	Fruit/Condiment
31	<i>Prunus Africana</i>	<i>Otien (African cherry)</i>	Seed	Fruit
32	<i>Mangifera indica</i>	<i>Mango</i>	Seed/Leave/Back	Fruit/Herbal
33	<i>Theobroma cacao</i>	<i>Cocoa</i>	Seed	Fruit
34	<i>Coffea spp</i>	<i>Coffee</i>	Seed	Fruit
35	<i>Elaeis guineensis</i>	<i>Oil palm tree</i>	Whole plant	Food/Products
36	<i>Azadirachta indica</i>	<i>Dogoyoro (Nimtree)</i>	Leaves/Stem	Herbal
37	<i>Citrus aurantiifolia</i>	<i>Lime orange</i>	Leaves/Fruit	Herbal
38	<i>Cymbopogon citrates</i>	<i>Lemon grass</i>	Whole grass	Herbal
39	<i>Zingiber officinale</i>	<i>Ginger</i>	Whole plant	Spice/Herbal

Source: Field Survey, 2019 *Interpretation/ Botanical Names by Osayimwen (2019) of the Department of Forestry and Wildlife Management, University of Benin, Benin City.

Table 1 show that there were about 39 semi-domesticated and cultivated culturally significant edible plants exploited in the area for multiple uses. For instance, *Crurculingo pilosa* (*O'riema* in Edo language) is not only widely used to spice traditional meals it is also combined

with others like *Mondora myristica* (*ikposa*), *Xylopiya aethiopica* (*unnien*) and *Afromomium malagueta* (*ehienedo-alligator pepper*) to serve as herbal remedies for treating common cold and malaria fever, while many others are used as condiments, consumed as fruits and food. The presence of these edible plants and their uses in the area is in line with the findings of previous studies such as Dolon, Sobhan and Mukherjee (2015) who reported that there were more than twenty thousand (20,000) species of edible plants known in the world, and Brandeis and Hodges (2015) who indicated that 50 per cent of all the fruits consumed by humans originate from forest trees and plants.

Conclusion

The study has been able to document some of the edible plants culturally significant to the rural dwellers in the forested and cultivated areas in Ovia area of Edo State for record purpose. Mindful of the unavoidable implications of their exploitations to man and nature, the exploitation of edible plants like other forest resource has been and will continue to be a major source of livelihood to many urban and rural dwellers in the area and beyond. If we must sustain this trend, there is, therefore, the urgent need not only to use the appropriate channels of information dissemination to sensitize the people on the need for conservation but to empower them using appropriate legislative structures to take active part in forest resource management for the benefit of all stakeholders in this century.

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