

Ethnobotanical Importance and Conservation of Plants Used As Carving Purposes in Oyo State, Nigeria.

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Abstract: The involvement in wood carving activities is one of the ways at which the rural people derived and sustained their livelihood. An ethnobotanical survey of wood used in sculpturing purposes was carried out. A total number of 13 species belonging to 12 families were identified as plants used for carving. They are *Butyrospermum paradoxum*, *Chenopodium ambrosioides*, *Cola nitida*, *Cordia millenii*, *Diospyros dendo* (Igi dudu), *Funtumia elastica*, *Gmelina arborea*, *Khaya ivorensis* (Mahogany), *Milicia excelsa* (Iroko), *Mangifera indica*, *Nauclea diderrichii*, *Nesogordonia papaverifera* and *Tectona grandis* (Teak). These plants were used to produce various carving products ranging from, Statues, Pestle and mortar, Atilogun drums, gaari stirrers, decorative and souvenir art work. The plants species were trees (90%) and 76% had become scarce on the abundance scale. The importance the wood carvers placed on these category of plants makes the supply to be dwindled, thus conservation measures were proposed.

Keywords: Wood carving species, Statues, Drums, Scarce, Conservation,

I. Introduction

Forest are essential for different purposes in the planet. It controls climate, recycles water, increases level of oxygen, prevents soil erosion and produces homes for the plants and animals (Ernest 2002). In spite of these benefits, human activities are rendering the forest incapacitated to offer such services to the planet. The rate at which forest is depleting is alarming. Park (1992) reported that developing world lost 2million km² of forest between 1980 and 1995 and most of the loss were from tropical rainforest. Similarly, Food and Agriculture Organization (FAO, 1999) reported that annual losses in the developing world was up to 15.5million hectares between 1990 and 1995. According to Sayer (2005), however, conservation is an essential tool that ensures the continuous availability of forest and its products for human use. Conservation involves satisfying present needs without compromising future options in forest management. It is not merely an issue of natural forest versus plantations, or clear felling versus selection logging system, but involved more fundamental question about the proper and scientific use of forests and its products. Non-sustainable forestry activities generally involved the removal of the timbers of economic purposes from their habitat. In these operation the most valuable trees are harvested for their worth while the poorly formed or undesirable species are left to grow. The role of wood products in sustaining livelihood of forest dependants (e.g rural and urban communities) is increasingly recognized. Wood has been used extensively for furniture such as chairs, beds, tool handles, cutleries, chopsticks and wooden spoon. Similarly, wood is used to make Sculptures and carvings for millennia, for instance, Professional Net Solution (2011) reported the existence and the importance of totem poles carved by North American indigenous people from conifer tree trunks and Western Red Cedar and the Millennium clock tower now housed in the National Museum of Scotland in Edinburgh. The advantages ranged from daily provision of income derived from people that visited the place on excursion, beautification, tourist and atheist purposes thereby improve the national economy of many developing countries (Campbell *et al.*, 2005). Tiri (1998) reported that woodcarving production is used as decorative and souvenir artwork of various styles and that different wood species are used in the Woodcarving industry. The wood species commonly used in Woodcarving industries according to Faleyimu (2010) are , *Diospyros dendo* (Igi dudu), Iroko (*Milicia excelsa*), Ire (*Funtumia elastica*), Omo (*Cordia millenii*), Emi(*Butyrospermum paradoxum*), Opepe (*Nauclea diderrichii*), Mahogany (*Khaya ivorensis*), Teak (*Tectona grandis*), Afara (*Terminalia ivorensis*), Asin (*Chenopodium ambrosioides*), Erinmado (*Ricinodendrom heudelotii*) and Gmelina (*Gmelina arborea*). Wood carving is a low resource input vocation, using mostly wood, offcuts, scants and reject from sawmills for carving. The carvers employing very simple locally made hand tools such as hammer, knife and axe for their operations. Incidentally, despite the good trends of the Woodcarving industry and its potential to sustain the livelihood of many dependants, the users both as an individual or industry is threatened by factors such as deforestation that resulted to insufficient wood for carving, finance for expansion and climate change (Matose, 2006; Shackleton, 2003; Sunderland and Ndoye, 2004; Steenkamp, 1999; Faleyimu and Agbeja 2004). The possibility of sustained supply of wood to the carvers is not guaranteed. Thus the consequences of forest degradation is great. It has lead to the replacement of wood based materials to the use of synthetic based products. The woodcarvers have been forced to turn away from their traditional pre-occupation, that are cheaper, natural and available to carve for a

new world that uses synthetic products which are expensive, not readily available to the end uses and toxic to human health. Consequent on the above, the work is design to carry out the ethnobotanical survey on the plants used for carving purposes in the study area thus suggesting sustainable management to conserve the wood based carving products.

II. Materials And Method

Study Area

The study was carried out in Ibadan metropolis and Oyo town, Oyo state, Nigeria. There are two distinct seasons in the study areas, the rainy season (March-October) and dry season (November-February). The vegetation of the study areas is much endowed with fast forest resources, favorable rainfall and adequate agricultural soils types. The present vegetation however has been significantly altered from the original climax due to the human influence such as agricultural and urban development. The annual rainfall is within the range of 800mm in the derived eco-zone to 1500mm in the rainforest belt. The mean annual temperature varies between 21.1°C and 31.1°C. Ibadan metropolis has a population of 2, 228, 663 (NPC, 1991) while Oyo town has a total population of 260,898 people (NPC 1999). There is an extensive exploitation of forest resources, cattle grazing and burning of bushes for killing bush animals to meet up with their livelihood. Oyo and Ibadan are very rich in arts and craft such as wood carving, brass carving and bronze casting.

III. Method Of Data Collection

The administration of structured and semi-structured questionnaires were adopted in this study. A total of one hundred Semi-Structured questionnaires was administered to wood carvers in the study areas to obtain information on plants used for carving purposes. The questionnaires were designed to obtain information through the oral interpretation of the questions to the illiterate respondents and guided self-filling by the literate respondents. The information gathered included the names of the plants, the part used, different carving products, habit/forms of the plants from the respondents. The Relative frequencies of Citation of the species which specifies the level of awareness, acceptability and suitability of the plants by the respondents was calculated using the formula according to (Kayode *et al.*, 2015). Thus:

Frequency of Citation= Total numbers of carvers using a particular species (x) / Total number of the respondents (y) × 100. The formula is summarize as follow. $F = x/y \times 100$.

F (x) = Frequency of Citation

X = Total Number of Carvers and

Y = Total Number of Respondents

Also, the abundance status of the plants was estimated by determining the length of time taken to physically see the plants used for carving. The plants seen within ten to thirty minutes are regarded as very abundant, those that were found above thirty minutes were regarded as common while those that were found above thirty minutes from the centre of the study were considered as scarce.

The data collected were encoded into the Microsoft Excel spread sheet and processed using Statistical Package for Social Science (SPSS). Descriptive Statistical analysis (frequencies and percentage) were used to summarize the data.

IV. Results And Discussion

The results revealed thirteen plants species belonging to twelve families as being used for woodcarving purposes. The family name, local name, the habit and species availability of the plants among others were documented and presented in Table 1. Most of the carvers (80%) identified used both *Diospyros dendo* (*Igi dudu*) and *Funtumia elastica* (Ire) while 60% used *Khaya ivorensis* (*Mahogany*) and *Gmelina arborea*. Substantial number of carvers 52.5% used *Cordia millenii*. Only few (12.5%) used *Milicia excelsa* (Iroko). *Diospyros dendo* (Ebony) and *Funtumia elastica* (Ire) are strong, durable and elastic in nature. They can be bent and designed as needs arises. There are over 126 different tree species that grow to the size capable to be used for all wood working purposes (Francois, 1987) but only few ones are traditionally preferred for carving. The preference of these species could be based on their durability, workability and customers demand. They are also in high demand by the sawmillers because the species are trees used for building and construction purposes among others. This therefore resulted on pressure and overexploitation which eventually makes the species availability doubtful. More than 90 % of the plants species were trees while 76% had become scarce. The rate at which forest land and its resources are dwindled is high, thus many of the indigenous trees that are of immense advantages have disappeared. The preference to use trees for carving is because trees are strong, hard and have elastic qualities over synthetic made carving products. Also, timber species are high in demand by the sawmillers, industries and various agencies who used timbers as raw materials for their production. Also, the identified tree species were found used in the carving production of different products ranging from Garri stirrers, Atilogun drums, Decorative and souvenirs art work, Goje player, Ayo, Shadow, Mask, Drums etc

(Table 2). Different types of musical instruments and sports equipment such as guitar, the clarinet and recorder, the xylophone, cricket bats, skis, ice hockey sticks, are the traditionally made mostly or entirely of wood. This equipments however have been getting eroded as a result of species scarcity and being replaced with synthetic and modern materials seems to be readily available but not economical to the end users. Poor households depend on natural resources for their sustenance. The prices of the carving products showed the value placed on the products. The prices ranges between #500 - #50,000 showing that the business is lucrative and reliable enough to support the livelihood of its inhabitants.

Table 1: The list of plant species identified in the study areas

S/no.	Name of the plants	Family name	Local name	Habit/Fo rm	Frequency citation (%)	of	Species Availability
1	Butyrospermum paradoxum (C.F.Gaertn)	Sapotaceae	Emi	Tree	25		Scarce
2	Chenopodium ambrosioides	Chenopodiaceae	Asin	shrub	30		Scarce
3	Cola nitida ("L")	Malvaceae	Kola	Tree	53		common
4	Cordia millenii (ValeriusCordus)	Boraginaceae	Omo	Tree	60		Scarce
5	Diospyros dendo (B.Walln, I.Richardson)	Ebenaceae	Ebony	Tree	80		Scarce
6	Funtumia elastica (Smith)	Moraceae	Ire	Tree	80		Scarce
7	Gmelina arborea(Sida)	Verbenaceae	Gmelina	Tree	60		Common
8	Khaya ivorensis (Lova)	Meliaceae	Mahogany	Tree	70		Scarce
9	Milicia excelsa (Welw)	Moraceae	Iroko	Tree	53		Scarce
10	Mangifera indica ("L")	Anarcadiaceae	Mango	Tree	10		Common
11	Nauclea diderrichii (De Wild.andT.Durand)	Rubiaceae	Opepe	Tree	15		Scarce
12	Nesogordonia papaverifera	Sterculiaceae	Kotibe	Tree	35		Scarce
13	Tectona grandis(A.Chev)	Lamiaceae	Teak	Tree	40		Scarce

Table 2: List of Wood carving tree species and the art works produced from them in the study areas.

S/NO	Species	Part of wood Used	Products or artwork obtained	Uses of the artwork	Prices of the artwork
1	Ebony (Diospyros spp)	Stump, tree branches, offcuts, stem and log	Garri stirrer, Statues, Atilogun drums, Mother and child, Goje player, Ayo, Shadow, Mask, Drum etc	Decoration, Gift, Souvenirs, Trading award, Export, Aesthetic, National monument, and Traditional worshippers.	Price ranges from #500 -#50, 000 and above depending on the size
2	Gmelina (Gmelina arborea)	Stump, tree branches, off cuts, stem and logs	Atilogun drums, Statues, Mother and child, Intimacy, Ayo, Shadow, Beds, Mask, Panel etc	Gift, Souvenirs, Trading award, Decoration, National monument and Traditional worshippers.	Price ranges from #1000 -#35, 000 and above depending on the size.
3	Ire (Funania elastical)	Stump, tree branches, offcuts, stem and logs	Opon-ola, Drum,, Ayo, Mask etc	Studies, Decoration, Gift, Trading award, Aesthetic and National monument.	Price ranges from #500-#40, 000 and above depending on size
4	Iroko (Milicia excelsa)	Stump, tree branches, offcuts, stem and logs	Drums, Mother and child, Intimacy, Goje player, Shadow, Gymnastics, African flutelist, Mask, Panel, Staffs	Decoration, Gift, Souvenirs, Aesthetic, Trading award, Export, National monuments etc	Price ranges from #1,500-35,000 and above depending on size
5	Mahogany (Khaya ivorensis)	Stump, tree branches, offcuts, stem and logs	Statues, Animals, Figures, Portraits, Beds, Panel	Decoration, Gift, Souvenirs, Trading award, Aesthetic, National monuments and Traditional worshippers	Price ranges from #1000-#40, 000 and above depending on size
6	Omo (Cordial millenii)	Stump, tree branches, offcuts, stem and logs	Drum, Mother and child, Garri stirrer, Atilogun drums, Mask, and Goje player etc	Decoration, Gift, Souvenirs, Aesthetic, Trading award, National monuments.	Price ranges from #1500-#35, 000 and above depending on the size

V. Conclusion

The results obtained revealed that the study area is consisted of plant species suitable for carving purposes. The products obtained from the wood carving activities is capable of sustaining the growth of the livelihoods of its inhabitants. However, the availability of the raw materials (the wood) is dwindled thus making the carving products disappearing and difficult to obtained. Therefore, it is expedient that conservation measures and domestication that will sustained the available species before it is finally eroded is embark upon.

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