

The Impact of Common Tree Categories on Archaeological Investigation in Nigeria: An Ethno-botanical Perspective on Sites in the Middle Belt Region

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Abstract: *Trees are scientifically win breakers and sun absorbers which release oxygen into the atmosphere. The leaves of trees that fall on the ground add nutrients to the soil which in turn enhances the growth of both plants and animals. Trees serve both as food, medicine and raw materials for making of tools, weapons, furniture, and construction or building of local bridges and structures amongst others. Trees, both in the past and present have also been utilized for religious and commercial purposes in various societies, and this entails why once archaeologists identifies certain categories of trees on the site, such immediately motivate an interest in to the investigation of their significance to the cultural development of the people under study. Thus, this article presents an overview of the significance of common tree categories often identified on archaeological sites in the Middle Belt Region of Nigeria. Major concern in this article is directed towards finding their botanical or scientific names, common names, local names and their significance to the cultural development of the host communities (both past and present). The overall aim of this research is to provide a reference material to students and other researchers in the fields of archaeology, anthropology, sociology, history, ethnography and geography amongst others, who are often, faced with the challenge of identifying appropriately; their names and significance, while on the field. Most of the data used is acquired from site and ethnographic surveys in the Middle Belt Region of Nigeria.*

Keywords: Impact, Tree categories, Archaeological investigation, Middle Belt Region.

Introduction

Trees are major players in ecosystem. Archaeologically, they are prominent amongst all the plants found on the site. Research has shown that trees were unconsciously identified by early humans for medicinal (Gera, et al. 2015), constructional, religious and other traditional purposes as a result of their interaction with the physical environment. Man later became selective in terms of usage of environmental resources as a result of the evolution of human cognitive abilities like, learning, remembering and communicating; otherwise known as 'the tree of knowledge' (Harari, 2014). The analogy here is that, man could identify and domesticate many of the trees due to their nature and importance. Since then, humans have continued to select these trees based on their seasonal behaviours, geographical features and ability to adapt to certain climatic conditions.

The early humans found that some of these trees were more economical than others. This was because; some of the trees were found to be strong enough for use in meeting such important purposes like, making of tools, weapons, construction of settlement structures, bridges and durable furniture amongst others. Other trees identified to be less strong and less economical were generally used for making fire. This practice have transcended into the present. More so, some of these trees formed part of human diet and thus, were domesticated around human settlements for easy accessibility. Therefore, such trees become the first indicators of past human occupation to the archaeologists and other field researchers. Consequently, archaeologists look out for such trees and survey around them to ascertain traces of past human cultural development in an area.

Information retrieved from archaeological study around certain trees guarantee professionals the knowledge about prehistoric plant use by the inhabitants of a site or locale and helps to reconstruct the nature and composition of vegetation communities that existed in the area under study (Adams, 2004).

Generally, archaeological investigation conducted directly on plan remains provide information about both wild and domesticated plant resources used for food, fuel, construction, medicine and other purposes. This is, "because people generally used resources that were available locally. Plant assemblages can also provide important clues about the characteristics of the natural vegetation

that formerly grew in the vicinity of heritage sites. Under certain circumstances, data derived from ancient plant assemblages can also provide insights into seasonality of site use and abandonment, paleoenvironmental conditions, and human nutrition and health; this is especially true when the plant data are evaluated in conjunction with other kinds of evidence, including pollen, tree-ring, faunal, and human osteological data” (Adams, 2004, p. 1).

Research Objectives

This research is aimed at documenting the native, common and botanical/scientific names of common trees on archaeological sites in part of the Middle Belt Region and to also research on the significance of these trees to the past and present cultural development of the host communities. This knowledge is targeted at students and other researchers in the fields of archaeology, anthropology, geography, sociology, ethnography, history and environmental biology amongst others, who are interested in carrying out field researches in the Middle Belt Region of Nigeria.

This becomes of great necessity because of the fact that students and other researchers in the fields of study mentioned above, are sometimes faced with the uncertainty of how appropriate these trees be identified, and their overall significance to the cultural development of the people under study also becomes difficult to decipher during a survey.

Studies on some field reports/projects often submitted by undergraduate students of some of the above mentioned disciplines in notable institutions in this region indicate that, most of the students usually find it difficult to identify these trees in an appropriate manner. This is particularly observed in their inability to allocate appropriate botanical or scientific names to the trees. Which also create a ditch in an effort to carry out a scientific investigation into the significance of these trees and their surroundings to the cultural development of both the past and present people under study.

Therefore, this study is presented as a reference material for students and other researchers in the relevant fields. It is meant to provide researchers with the opportunity to cross verify surveyed data (particularly those on plants), for the purpose of reporting field work in a richer and appropriate manner, and to also maintain professional standards.

Research Methodology

This research adopted the cross-sectional survey method using exploratory research tool in eliciting data for the study. The sample data was collected from the Middle Belt Region of Nigeria in selected states such as, Benue, Nasarawa, Taraba, Plateau, and the FCT as well as the Southern part of Kaduna State. Thus, a wide range of informants including community leaders, professionals and farmers who had knowledge about the subject matter were interviewed. A total of 56 informants, cutting across men and women from the age of 18 to 70 years were selected and interviewed using key informant interview method. Further, the study made use of secondary sources such as textbooks, thesis, and journals amongst others.

Location of the Study

As noted earlier, the trees selected in this research are mostly found in states like Benue, Nasarawa, Plateau, Taraba, and the FCT, as well as the southern part of Kaduna State (see figure 1 below). The area is characterized by the Guinea Savannah vegetation, which is transitional between tropical forest and drier savannah. Rainfall is the most vital element of the research area, as indeed elsewhere in the tropics. This has a direct bearing on the nature of vegetation, the people’s agricultural practices, modes of settlement and some other facets of culture (Ogundele, 2006).

Archaeological sites investigated in these areas include the Nok cultural landscape, Taruga, Katsina-Ala Basin, Ibinda complex, Bako, Kpe, Ushongo and Gboko hills, Ron Rock, Samun Dukiya, Mai Idon Toro, Dustsen Kongba, and the old Muri area amongst others (see Folorunso, 1981, 1983; Tubosun, 1981, 1995; Andah, 1983b; Ogundele, 1983; Gundu, 1984, 1999; Effah-Gyamfi, 1986; Mangut, 1986; Mangut, 1990; Ndera, 1991, 2009; Babangida, 2014; Chia, 2014; Nomishan, 2014, 2021).



Figure 1: Map of Nigeria showing the Middle Belt Region and the Study Areas
Source: Modified from Jonah & Vahyala, 2015

Presentation of Findings

In all the locations mentioned above, various common trees are used by the inhabitants for same or similar purposes. Thus, indicating that the past generations in these locations also used these trees for similar purpose. For example, baobab tree is the most common amongst the trees found in most ancient settlements in Nasarawa, Plateau, Kaduna, Taraba states and the FCT, with limited evidence on sites located in Benue State. This is certainly because of its adaptive nature, economic, religious and medicinal values.

Further, ethnographic investigation in the areas of study indicate that, other trees such as guava, cashew, and orange amongst others are rarely found within such ancient settlements. Rather, they are found in contemporary settlements which indicate that such trees were introduced in the region in later periods or probably lack the adaptive ability the baobab tree possess (see table 1 below).

Precisely, in states such as Benue, Nasarawa and Taraba, the presence of mango tree (particularly when it is more than one) in an area immediately alerts researchers of prior human existence (though such settlements are considered to have been left recently).

Other trees around such settlements include guava, cashew and orange amongst others. This further explains why trees with the history of association with human settlement such as baobab call the attention of researchers of early human cultures immediately they are sighted in an area on the African continent.

Table 1: Common Trees Identified on Archaeological Sites in the Middle Belt Region

S/N ₂	Scientific Name	Common or Family Name	Local Name (Hausa, Tiv, and Idoma)	Uses or purposes
1	<i>Azadiracta indica</i>	Neem	<i>Dogonyaro (Hausa)</i>	Medicine esp. Abortion and Firewood
2	<i>Lophiralan ceolata</i>	Savanna false shea	<i>Ikuranomso (Hausa)</i>	Medicine esp. Abortion and Firewood
3	<i>Burkea africana</i>	Wild syringa	<i>Gbagbongom (Hausa, Tiv)</i>	Medicine esp. Abortion, Building and construction, and firewood
4	<i>Adonsomia digitata</i>	Baobab	<i>Iccen Kuka (Hausa)</i>	Food/Medicine and Firewood
5	<i>Magnefera indica</i>	Mangoes	<i>Mangoro (Hausa)</i>	Food/Medicine and firewood
6	<i>Psidium guajava</i>	Guava	<i>Goiba (Hausa)</i>	Food/Medicine and Firewood
7	<i>Anacardium occidentale</i>	Cashew	<i>Yazawa (Hausa)</i>	Food/Medicine and Firewood
8	<i>Citrus sinensis</i>	Orange	<i>Lemu (Hausa) Alum (Tiv)</i>	Food/Medicine and Firewood
9	<i>Diospyros mespiliformis</i>	Ebony tree	<i>Kanya (Hausa)</i>	Medicine and Firewood
10	<i>Tamarindus indica</i>	Tarmarind	<i>Tsamiya (Hausa)</i>	Food/Medicine and Firewood
11	<i>Hyphaena thebiaca</i>	Dum palm	<i>Goruba (Hausa)</i>	Fruit
12	<i>Senna obtusifolia</i>	Yellow senna	<i>Tafasa (Hausa)</i>	Medicine and Firewood
13	<i>Senna occidentalis</i>	Coffee senna	<i>Raidore (Hausa)</i>	Medicine and Firewood
14	<i>Datarium microcarpum</i>	Yellow tree	<i>Taura (Hausa)</i>	Fuel/Medicine and Firewood
15	<i>Balanitus aegyptiaca</i>	Desert date	<i>Aduwa (Hausa)</i>	Gum, food/medicinal and Firewood
16	<i>Philiostigma thanningii</i>	Camels foot	<i>Kalgo (Hausa)</i>	Medicine, rope and Firewood
17	<i>Vitellaria paradoxia</i>	Shea tree	<i>Kadanya (Hausa), Chamegh (Tiv)</i>	Food/Medicine and Firewood
18	<i>Prosopis Africana</i>	Acacia	<i>Kiriya (Hausa), Gbaaye (Tiv)</i>	Food/Medicine, wooden objects and firewood
19	<i>Spondia mobin</i>		<i>Tsada (Hausa)</i>	Fruit/Medicine and Firewood
20	<i>Boswellia delzielii</i>		<i>Ararrabi (Hausa)</i>	Medicine and Firewood
21	<i>Butyrospermum Parkii</i>		<i>Iyiase (Tiv)</i>	Food and Firewood
23	<i>Elaeis guineensis</i>	Palm tree	<i>Ivile (Tiv)</i>	Food/Medicine and firewood
24	<i>Borassu aethiopum</i>		<i>Kovugh (Tiv)</i>	Building and construction and firewood
25	<i>Daniella Olivieri</i>	Caesalpiniaceae	<i>Chiha (Tiv)</i>	Building and construction and firewood
26	<i>Terminalia avicennoides</i>	Combretaceae	<i>Kuegh (Tiv)</i>	Medicine and firewood
27	<i>Detarium microcarpum</i>	Cesalpiniaceae	<i>Agalyem (Tiv)</i>	Food/Medicine and firewood
28	<i>Spondias Mombin</i>	Anacardiaceae	<i>Kon-kuaa (Tiv)</i>	Food/Medicine and Firewood
29	<i>Parkia biglobosa</i>	Locust beans tree	<i>Nune (Tiv)</i>	Food/Medicine, wooden objects and firewood

30	<i>Pericopsis laxiflora</i>		<i>Jiagba (Tiv)</i>	Food/Medicine and Firewood
31	<i>Stereopermun kunthianum</i>	Bigniniaceae	<i>Umanatumba (Tiv)</i>	Medicine and Firewood
32	<i>Pterocarpus osun</i>		<i>Kpagh (Tiv)</i>	Food/Medicine and construction
33	<i>Ceiba pentandra</i>	Cotton wood tree	<i>Vambe (Tiv)</i>	Food/Medicine and Firewood
34	<i>Grewia mollis</i>	Savanna Grew tree	<i>Hueza (Tiv)</i>	Food/Medicine and Firewood
35	<i>Annona senegalensis</i>	Sour sop	<i>Ahur (Tiv), Ukpokpo (Idoma)</i>	Food/Medicine esp. Apollo and Firewood
36	<i>Stereospermum kunthianum</i>	Kunth's stereospermum	<i>Umanatumba (Tiv)</i>	Medicine and firewood
37	<i>Sarcocapholus latiolius</i>	Savanna nauclea	<i>Ikurakase (Tiv)</i>	Medicine esp. Jaundice and Firewood
38	<i>Anacardium occidentale</i>	Anacardiceae)	<i>Ishase (Tiv)</i>	Food/Medicine and firewood
39	<i>khaya gradiflora</i>	Meliaceae	<i>Haa (Tiv)</i>	Medicine, construction and firewood
40	<i>Conyzoides ageratum</i>	Goat weed	<i>Anagbabgo (Idoma)</i>	Medicine esp. Gastric disorder and cuts and Firewood
41	<i>Newboidea leavis</i>	Boundary Tree	<i>Ogbrishi (Idoma)</i>	Medicine esp. Bleeding after child delivery and gastric disorder and Firewood
42	<i>Senna siamae</i>	Golden shower tree	<i>Ogblogodo (Idoma)</i>	Medicine esp. Typhoid and Firewood
43	<i>Erythrina senegalensis</i>	Cora tree	<i>Acheche (Idoma)</i>	Medicine esp. Whooping cough and Firewood
44	<i>Entada Africana</i>		<i>Uri (Idoma)</i>	Medicine esp. Jaundice and Firewood
45	<i>Tectonia grandis</i>	Teak Tree	<i>Malaina (Idoma)</i>	Medicine esp. Anaemia and Firewood
46	<i>Ficus capensis</i>	Cape fig (broom cluster fig)	<i>Okoklodu (Idoma)</i>	Medicine esp. Low packed cell volume (PCV) and Firewood
47	<i>Xlauclea latifolia</i>	African peach	<i>Oya (Idoma)</i>	Medicine esp. Typhoid and Firewood
48	<i>Vitellaria paradoxa</i>	Shea butter (shea tree)	<i>Okopi (Idoma)</i>	Medicine esp. Typhoid and Firewood
49	<i>Sterculia stiger</i>	Gum tree	<i>Owulumi (Idoma)</i>	Medicine esp. Nasal congestion and Firewood
50	<i>Irvingia gabonensis</i>	Bush mango tree	<i>Upi (Idoma)</i>	Medicine esp. Yellow fever and Firewood
51	<i>Bridelia ferruginea</i>		<i>Ikpine</i>	Food/Medicine and firewood and Firewood

People all over the world use different trees to fulfill their various environmental and socio-cultural needs. This is not in any way different from ancient practices or past ways of using same to meet societal needs. In the Middle Belt Region of Nigeria where this research is located, people have had a lot of exceptional achievements through the use of trees, both in the present and past eras. This span from the use of trees to make wooden terracotta in the Nok cultural landscape – down to the Katsina Ala and Ibinda complex, smelting of iron ore from Taruga to Ibinda complex, blacksmith work in all the areas selected, construction of local huts

all over the region, cooking of food and selling for money and lots more.

Below are examples of some of the most popularly trees and their significance to the host communities (both in the past and present).

Baobab Tree: the baobab is one of the trees in Africa with vast scope of usage both in the past and present. Among the Tiv, Idoma, Dogon, Hausa and other Plateau/Southern Kaduna communities, the baobab tree is used for spiritual, medical, and economic purposes, and it also constitutes part of their diet (Babangida, 2014).

These people use the leaves of baobab tree in making soup (kuka soup) and tradition soap. For example, the leaves of baobab tree are collected, sundried, pounded, sieved and cooked for consumption. Some do this for commercial purpose, as excess of it is sold to people within and outside these regions, thus using it as means of income. Therefore, following the fact that baobab tree has the ability to survive in different climatic and weather conditions, the archaeologists, anthropologists, ethnographers and historians use it as site indicators while on the field.

The Shea Tree: the Shea tree is another common tree on archaeological sites in the region under consideration. The shea tree serves different purposes to different people. Some use it as source of food, fuel and for medical purposes. The shea tree is used as a medication against different diseases. For example, its trunk is collected, cooked and giving to a child (mostly within the age of one to five years) who is suffering from measles. The adults also take it intermittently to prevent common sicknesses.

The fatty substance extracted from the shea tree, Known as 'Shea butter' is processed in different ways for different purposes in different communities within the study areas. Its fruits serve as food in many of these communities, while its seeds are broken to get the inner part which is pounded and dried before usage. The oil extracted from the pounded seeds is used as lubricant (applied to cure body injuries and other skin diseases).

Acacia Tree (*Prosopis Africana*) and Locus Bean Tree (*Parkia biglobosa*): the acacia and locus bean trees (also known as gbaaye and nune in Tiv language) are popular soup spices amongst the Tiv (Nomishan, 2014; Tee, et al. 2009), Idoma, and many other ethnic groups in the Middle Belt Region. The seeds of acacia and locust beans trees are uses in producing local magi or spices used as cooking flavour.

Specifically, the Acacia tree is used all over Nigeria for the production of charcoal, used as fuel by blacksmiths and for cooking in the kitchen. This is because of its high ability in retaining flame of fire for a slow and steady burning effect. The tree is cut down into pieces and burned to produce charcoal, which is sometimes transported to far distances for commercial purposes.

On a general note, all the other trees provided in table 1 above also possess similar significance to the communities around them (both in ancient and contemporary days). As highlighted in the table, the trees are used for several purposes. This includes food, medicine, firewood, fuel for iron work, religious/traditional and constructional/building purposes amongst others.

Seemingly, the significance of these trees is depended upon their geographical location, features and the ability in members of the host communities to understand their applicability.

Discussion and Conclusion

Generally, Trees absorb carbon dioxide (CO₂), remove and store the carbon while releasing oxygen back into the air, thereby contributing to the state of climatic conditions in a said environment. Trees also clean the air as they absorb odors and pollutant gasses (nitrogen oxides, ammonia, sulphur dioxide and oxygen) and filter particulates out of the air by trapping them on their leaves and barks. Some of the general importance of trees to the study of human cultural development includes the following;

1. In the past, trees were a blessing to the human race because they provided shade to the early humans. These shades were used as rest places, shrines and places of worship amongst others.
2. Trees conserve energy, save water and prevent soil erosion; thereby protecting cultural material remains in situ to provide an opportunity for the archaeologists to explore the untold history of mankind. This process also helps in preventing settlements (both in the past and present era) from washing away following pressure from erosion.
3. Trees provide different varieties of food, processed in different ways from one society to another. The leaves, roots and bark/trunk of certain trees serve as sources of medication to both the past and present generations. This knowledge was tapped from the ancient generations and developed gradually to provide the present generation with the knowledge of modern pharmacological breakthrough. This also resulted into a revolution in the field of medicine that helped in repositioning the use of drugs in our hospitals up to date.
4. Since the evolution of man, trees have been carefully selected for the purpose of construction, making of weapons, furniture and for iron working amongst others. As knowledge kept increasing, blacksmiths in African societies identified and adopted the charcoal produced from the acacia tree (*prosopis Africans*) as the best for smelting iron, blacksmithing

and other metal works because of its slow but intense and steady burning effects. The charcoal from acacia tree is today, one of the most reliable sources of cooking fuel in African societies.

5. Wood carving also came as a result of early human ability to use specific trees in the production of agricultural implements or tools, weapons, and domestic objects (like holes, knives, machete, seats, and mortars/pestles amongst others). Consequently, this knowledge provides job opportunities amongst artist today, as a lot of house utensils and furniture are produced from the manipulation of certain wood parts.
6. In archaeological research, plant remains are collected and studies under a sub-discipline called 'archaeobotany'. This study helps archaeologists to understand prehistoric plant use by the inhabitants of a particular place or locale and to reconstruct the nature and composition of vegetation communities that existed in the past. The plant remains provide archaeologists with information about both wild and domesticated plant resources used for food, fuel, medicine, construction, and other purposes by ancient people.

Therefore, archaeologists and other professionals in cultural heritage studies have taken time to investigate and establish that the early humans had complex relationship with environmental resources like plants (trees in this case) and mastered the craft of their manipulation for their advantage. Consequently, once certain trees are found in an archaeological site, they served as indicators of past human existence. Their presence also prompts researchers to swing into action; to investigate past and present human achievements associated with them, and this is not an exception to the study of sites within the Middle Belt of Nigeria.

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