SPATIO-TEMPORAL INFERENCES FROM THE STUDY OF SOAPSTONE FIGURINES IN ESIE, KWARA STATE NIGERIA

By

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CERTIFICATION

I certify that this work was carried out by Kolawole Olugbenga Adekola in the Department of Archaeology and Anthropology, University of Ibadan.

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DEDICATION

This work is dedicated to the memory of my late mum, **Deaconess Esther Olufunke Adekola**who slept in the Lord in the early hours of Sunday February 12, 2012.

Alleluya! Alleluya!! Alleluya!!!

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NAME: Kolawole Olugbenga **ADEKOLA**
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ABSTRACT

Previous studies of Esie soapstone figurines located in Esie, Kwara State have been on origin, and artistic styles of the artefacts. The chronological framework which is necessary to situate the production of the soapstone figurines in time and space for the understanding of human and material development has not received due attention. Furthermore, there is also a need to determine the environmental condition under which the soapstone figurines were manufactured. Therefore, this study was designed to examine the spatio-temporal inferences from the soapstone figurine found in Esie, Kwara State, Nigeria.

The Julian Steward Cultural Ecology theory involving the determination of human development, ecology and ideology of the people was used for this study. Archaeological reconnaissance, excavation of sites and ethnography were the methods used. Archaeological reconnaissance was carried out to identify possible sites to be studied through observation to changes in soil colour, vegetation and other landscape features, and for collection of artefacts. Two sites in Igbo-Ilowe, one each from Ijan and the premises of the National Museum in Esie were reconnoitred. Excavation was undertaken at selected sites to reveal the cultural materials beneath the ground surface and to allow for sample collections. Soapstone samples collected were studied petrographically while pollen analysis was also undertaken. Charcoal was collected from excavation trenches and was dated by radiocarbon method. Eighteen purposively selected key informants were interviewed for the significance and uses of the cultural items recovered.

Archaeological reconnaissance revealed soapstone outcrops were observed in Esie, Igbo Ilowe and Ijan during reconnaissance survey. A possible soapstone quarry site was found in Igbo-Ilowe with quantities of partly worked and un-worked figurine pieces. Samples recovered were soapstones, potsherds and iron objects. Excavations revealed lithics, soapstones, potsherds, smoking pipes, terracotta, and organic materials such as snail shells, palm kernels, teeth fragments, seeds, bones and cowrie shells. Petrographic analysis identified the dominant mineral in the soapstone to be talc, which was available locally and found important to the figurine production. Pollen analysis yielded large quantity of whistling pine *Casuarina equisetifolia,* an excellent fuel known for its charcoal yield. Radiocarbon dates from recovered charcoal samples indicated that the culture of soapstone figurines flourished between 510 ±50 BP and 650 ±30 BP. Ethnographic materials such as beads, smoking pipes, and cowries revealed a community that had all the indices of a developed culture evident through the artistic manufacture of soapstone figurines.

The occurrence of talc in Esie allowed for the production of Soapstone figurines between 14th and early 15th century, the outcrop of talc in Esie and its environs may have served as the impetus for its production.

Keywords: *Soapstone figurines, Chronological framework, Cultural ecology, Casuarina equisetifolia*

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CHAPTER ONE

Introduction

1.1 Background of the study

This archaeological work focuses its attention on the study of the cultural materials of Esie, a Yoruba Community in Kwara State, Nigeria. Although, Esie is known for its soapstone which in West Africa remains the largest collection of soapstone objects, other materials as pottery, cowries, beads which are parts of the cultural manifestations of the heritage of Esie were also examined. This study is part of ongoing efforts at documenting the history and archaeology of Igbominaland. Scholars as Stevens (1978), Adepegba (1982), Onabajo (1988) Pogoson (1990,1991,1998,2001) Aremu (2006,2010), Aleru (1998,2006), Aleru and Adekola (2008), Usman (1987,1997, 2005) and Hambolu (1989) have made efforts in shedding light on the early human occupation of the area.

Soapstone is essentially impure talc. Theoretically, talc is a hydrous metasilicate of magnesium with a definite chemical composition expressed by the formula $H_2Mg_3 (SiO_3)_4$. The silica or magnesia content may vary from as much as 3% to 4% with little change in the appearance of the mineral. Iron oxide is the principal impurity of talc (Wells, 1976). Talc, commonly called steatite or soapstone, has a soapy feel and can be carved with a knife or a sharp object. Soapstone, in reality, is a metamorphic rock, composed of about 50%-80% of talc intimately mixed varying proportions of chlorite, amphibole, pyroxene and mica as well as pyrite, quartz, calcite or dolomite. Soapstone takes on heat slowly but once hot it tends to hold its absorbed heat considerably longer than other natural stones. It is fire proof but upon heating to a temperature of about 1800ºF, it changes colour and becomes quite hard. The specific heat and the dielectric strength of soapstone are unusually high (Frink, *et al.,* 2012).

Soapstones are rare occurrences hence the origin is yet to be determined. This is because soapstones are usually formed by the alteration of a basic igneous rock. Such rocks necessarily would have to be high in magnesia; as for example pyroxenite, amphibolite, dute or peridodite. In some minor occurrences, soapstone has resulted from the metamorphosis of dolomitic limestone (Hughes, 1932; Wells, 1976; Frink, *et*

al., 2012).

Soapstones have been found in selected places in various parts of the world and are used for various purposes. The earliest history of soapstone usage in history was by ancient Egyptians who used it as scarabs and amulets. The early Assyrians used it as fignets. The only evidence of carved soapstones objects in Africa (apart from Yorubaland) is from Zimbabwe where a number of soapstone birds mounted on pillars have been recovered from the Phillips Ruins (Walton, 1955). The history of soapstone reflects a global tradition, though of limited intensity. A cathedral in Norway, Trondhjem, built around 1200 A.D. (Wells, 1976) was built of soapstone from Gudbranadal. In Japan and China, weird figures rooted in steatite were known to have been carved by Asians for many centuries. In the United States, soapstones were first used by the American Indians who were the first set of Americans to recognise its heat retaining qualities. In many U.S. museums there can be found soapstone of bowls, pots, cooking utensils and other household items made by the Indians. The utilization gave rise to the term 'potstone' which is still applied to soapstone in some localities (Hughes, 1932; Walton, 1955; Wells, 1976).

Soapstones, which contains no carbonate impurities is comparatively inert, chemically even at high temperatures, and capable of resisting the action of strong acids and alkalis. The durability of the stone depends upon this same property. Although some grades may be easily abraded, soapstones show little or no deterioration when exposed to weathering agencies even for long periods. Another quality of soapstone is that it has little tendency to split or spall. Spalling involves having flakes of a material that are broken off a larger solid body and can be produced by a variety of mechanisms including a result of projectile impact, corrosion or excessive rolling pressure. The ease of workability is the most valuable characteristics of soapstones. Its comparative softness and its massive infinity combine to make it the most easily carved of all natural stones. It may be tongued, grooved, trimmed or bored with ordinarily wood working tools (Wells, 1976).

In contemporary times, soapstones are used in the United States for various purposes such include its use for laboratory equipment as many laboratories are furnished with soapstone table tops, sinks, boards, gutters, fume goods and shelves. In hospitals in the United States, soapstones are widely used in photography, blueprint, X-ray, cardiograph developing tanks, autopsy and mortuary as mausoleum slabs. It is

also in used as slabs for animal kennels and cages.

In Yorubaland, evidence of soapstone carving has been reported from places such as Ile-Ife. The figures in Ile-Ife include Idena in Igbo Ore, Alafere, Moremi and OpaOranmiyan which is 5.27 cm high stone obelisk. Inside the National Museum, Ile Ife is found a royal stone stool, soapstone heads and a stone pot (Stevens, 1978; Eluyemi, 1978; Aremu, 2010; Adekola, 2017). At Sekunde, a community near Ile-Ife (approximately 40 km southwest of Ife), Eluyemi (1977) excavated twenty one stone sculptures, and as well as charcoal that has been radio-carbon dated to the 18th or 19th century (Eluyemi, 1977). And in Eshure Ekiti, Willet and Dempster (1962) found seven stone carvings including the figure of a man with a visible height of 4ft 3". A small exploration down to a further sixteen inches reached the toes of the left foot (Willet and Dempster, 1962). Among the other objects found were two walking sticks (opa), one of which was 6ft 8" long with a maximum width of eleven inches. One end of it was roughly pointed while the other end was broken off. The other staff stood 3ft 3"out of the ground and was nine and half by six and a half inches in section and flat on one side. The upper end of this staff was rounded and flattened (Willet and Dempster, 1962).

At IjaraIsin, an accidental discovery by a farmer led to the exhumation of about eight seated soapstone figures. The spot from where the materials were recovered were excavated by Hallam (1978). Three trenches were dug and excavated and the excavation yielded fifteen fragments of stone sculptures (Hallam, 1978). Furthermore, Usman (1997) reports the discovery of nine soapstones fragments at the southern section of Pee, an abandoned settlement that lies about 1km west of Igbaja town in Kwara State, Nigeria. The objects comprise two torso, three heads with conical caps, one trunk, an almost complete figure with two strand necklace, and two unidentified fragments. They weigh between 13kg and 15kg (Usman, 1997)

The present study is carried out in Esie and its environs. The focus on the community is predicated on some salient facts. First, Esie is an integral part of the Igbomina speaking culture. Second, is the fact that although Esie has produced the largest concentrations of figurines in West Africa, the cultural configurations of the figurines are yet to be properly understood? Third, till date a comprehensive archaeological study is yet to be carried out in the community. Past efforts have been spontaneous and clearly attempt at searching for figurines than a holistic examination

of the study area. It is expected that this work will fill this gap.

Esie, a community in north central Yorubaland, is generally believed to have the largest collections of soapstone figurines in West Africa. They range in height from 14cm to over one metre. Most are seated on stools; a few are standing. Some are apparently revelling, laughing, playing musical instruments; most are stern; many are armed, as if for war. Their features suggest a diversity of influences (Stevens, 1963). The Esie figurines like other Africa works of arts in bronze, terracotta, quartz and granite were described by Frobenius (1913) as very crude. Following reports from the local population, H.G Ramshaw, a Schools Inspector for the Church Missionary Society became the first European to visit the site of the Esie soapstone figurines in 1933. Ramshaw did not publish an account of his visit but others as Milburn, Daniel, Clarke and Murray published theirs in 1936, 1937, 1938 and 1955 respectively.

The figurines, which are estimated at over a thousand, depict the finest collection of artwork of a culture yet to be fully understood. Unfortunately, other than the successes recorded in retrieving more figurines, the most salient questions about Esie soapstone figurines remain unanswered. This study is interested in offering explanations abouttheEsie soapstone figurines basically within the historical and environmental contexts of the culture that produced the artwork.

1.2 Research Problems

The Esie stone figurines are the foremost and best –known cultural objects of the North Central Yorubaland, infact of the entire Igbomina people. These objects are also considered by the people as the most celebrated of all known cultural endowments of the Igbomina people. This is not unexpected since it is the largest collection of carved stone structures in Africa and indeed one of the largest in the world. The discovery of the figurines led to the establishment of the first National Museum in Nigeria in Esie in 1945 (Aleru and Adekola, 2008). Ironically, the Esie stone figurines are also one of the least investigated of the cultural legacies of the Yoruba people. There are serious doubts as regard some of the claims of the historical background of the current population of Esie. For instance, how the year 1770 A.D was established as the date of arrival in Esie from Okodo is yet to be authenticated (Stevens 1978) coupled with this is the fact that Alaafin Abiodun, the monarch at the saddle in Oyo as of the time of Agbonbifa's exit reigned from 1770 to1789 (Johnson, 1921; Alabi, 2018)

1.3 Research Question

Existing studies have attempted to represent Esie soapstone figurines as extension of the artworks of Ife and Old Oyo, the two foremost Yoruba metropoles. For instance, Adepegba (1982) relying on body scarification and striation argues that the concentric circles on Esie figures could originally have been a component of a pattern which contains full striation, and that the striation on the Ife terracotta heads are related to the striations on the fully marked faces in Esie figures. The similarities between the various patterns on the faces of Esie images on the one hand and on the faces of some Ife terracotta on the other, according to Adepegba (1982) would normally suggest an Ife/Esie connections or relationship. Adepegba (1982) is thus of the view that the images were made or carried to Esie by early migrants from the direction of Ife if not from Ife itself. In contrast to Adepegba (1982) treatise, Stevens (1978) had provided an Old Oyo theory, in which Old Oyo was considered a possible source of the figurines.

Although Esie soapstone figurines could simply been seen as entangled in the many of the controversies that characterize Yoruba culture history, it is essential that explanations be offered outside of the prevailing ethno-migratory tendencies. Toward this end, an archaeologist Andah (1982) opined against art historians and anthropologists for merely treating the objects as if they were created in a vacuum, arguing that most dominant postulations were rather conjectural than factual (Andah, 1982). Andah (1982) thus canvassed a detailed archaeological, ethnographic and ethno-historical investigation to provide the needed chronological and contextual perspectives to the “mystery” of the figurines.

But very pertinent questions have remained unanswered: Can Esie soapstone figurines be adequately explained outside of the archaeology of Esie? How do soapstone figurines relate to the environmental dynamics that shape the culture history of Esie? Within which chronological framework can the entire material culture of Esie be situated? Are there surviving local narratives that embeded meaning about figurines or give identity to them and the makers? How adequate are past methods of investigation for offering insights into questions of origin and technology of figurines? And finally, of what significance are soapstone figurines to the archaeology of Esie, and by extension the entire North-central Yorubaland?

1.4 Aim and Objectives

The main aim of the study is to explore the historical and environmental contexts of the Esie soapstone with a view to extending our knowledge in the area of the cultural history of North-central Yorubaland. The specific objectives of the study are to:

i. Ascertain the antiquity of human settlement in Esie.
ii. Postulate on the makers of the soapstone figurines.
iii. Provide chronological framework for the material culture in the area.
iv. Examine the dynamics of the environment, and basically the ecological context of Esie cultural repertoire.

1.5 Significance of the Study

An extensive archaeological study of Esie is significant in many respects. In the first instance, the study is expected to situate the soapstone figurines within their historical and environmental contexts. A mineralogical investigation of soapstone objects through geologic thin sectioning will also reveal the composition of the elements that make up the soapstone, thereby providing clues into the cultural and environmental contexts of figurines production. Whereas previous archaeological works have been directed solely at recovering soapstone figurines of Esie, this study distinguishes itself by its approach of a detailed archaeology of Esie, which in itself has the prospect of providing update on the archaeology of North central Yoruba land. The study is also significant in terms of evidence it sets to provide of a dynamic formative settlement in an internal Yoruba frontier whose material life was not a mere copy of the metropolis. One main theme running through Oyo and Ife synthesis appears to be the misleading single dimensional readings of the centres - Oyo and Ife metropolis more or less as determining the salient features of other mini-states in North central Yoruba land and indeed the entire breadth of Yoruba land. This approach is not meant to discountenance or diminish the importance of the two metropolises to the cultural and social history of the Yoruba, but rather to represent the process of Yoruba civilization as not following a linear model.

1.6 Scope of the Study

The study covers both historical and environmental aspects of soapstones and other cultural manifestations. Conceptually, therefore, its interest in soapstone does not extend to the geology. Where such is done, it is only meant to establish a historical fact. Moreover, by archaeology of Esie the study does not pretend to

uncover all evidences of the culture history of Esie. Rather, the effort is geared toward a historical construction that is based principally on soapstone and other cultural materials

1.7 The study area

1.7.1 Location

Esie is one of the important Igbomina towns. Esie is located in Irepodun Local Government of Kwara state on latitude 8° 12′N and longtitude 4° 54′E (Figs 1 & 2). The town is about 60 km Southeast of Ilorin, the administrative and commercial hub of Kwara state. Esie is bounded by other Igbomina towns such as Okeya, Igbaja,Oke-ode, Buari and Oro in the North; Ijara, Oke-Onigbin, Isanlu-Isin, Oro ago and OwaKajola in the east; AjasseIpo, Omupo and Obaloyan in the west and; Ijan and Arandun in the south. Generally, the Igbomina towns are bounded in the north by the Nupe, in the West by Ilorin, in the north east by Yagba, in the Southeast by Ekiti, in the Southwest by the Ibolos and in the South by the Yoruba of Osun State (Aribidesi, 1987; Aleru, 1998; Aleru 2000). The towns are interlinked by motorable roads. A 7km asphalt road leading to Esie terminates at the National Museum, Esie which is also known as the House of Images. The museum houses more than 800 soapstone figurines that were found in the town and its neighbourhood. A privately owned guest in/relaxation centre-Image Garden located directly in front of the museum was recently added to Esie's landscape.

1.7.2 Climate

Esie like other Igbomina towns is located in the seasonal humid and sub-humid tropical climate which is characterized by seasonality of rainfall. Rainfall's distribution and duration are the most important climatic factor in the tropic, thus Esie like other Nigerian towns and cities experience marked wet and dry season with high temperature all the year round. The annual rainfall ranges from ca 1270 to 1524 per, annum, the rainy season extends from March to October while the dry season is from November till March. During the dry season temperatures are high thereby increasing evaporation/transpiration. At this time, some trees shed their leaves while others depend on their succulent leaves for survival. Rainfall in Esie is greatly influenced by the southwest monsoon winds blowing from the Atlantic. In the dry season, the effect of the North east trade winds is felt making the atmosphere dusty and also reducing visibility.

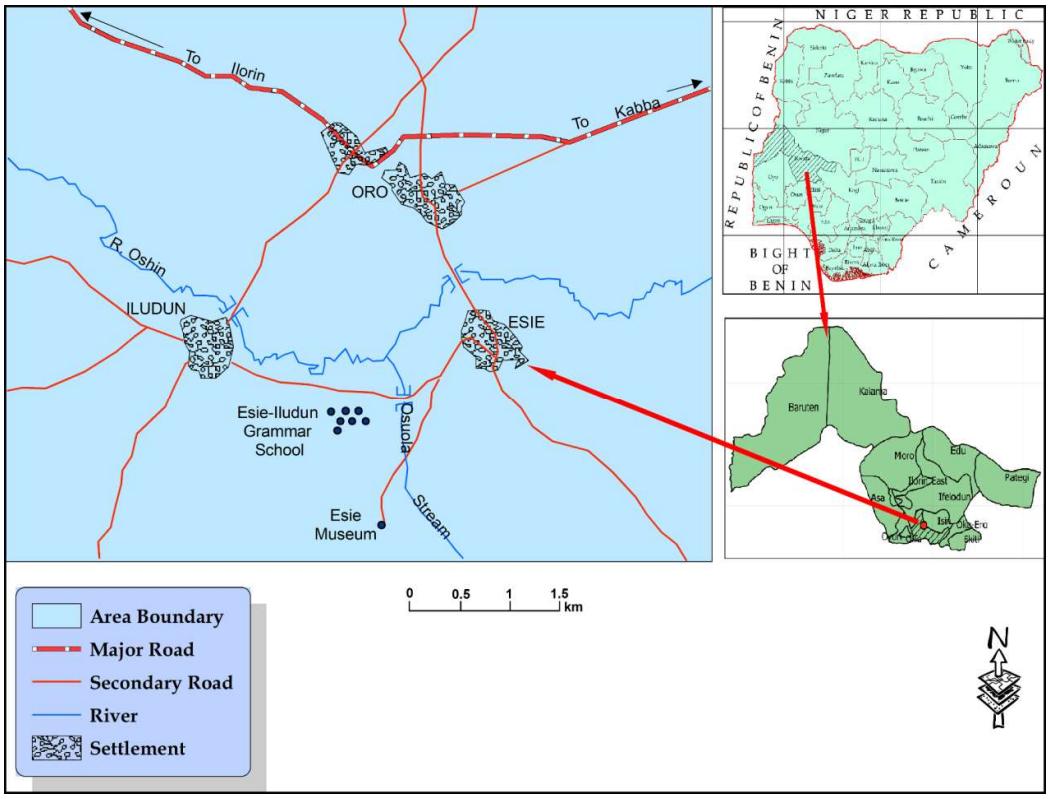

Fig.1: Map of Esie in Kwara State

Often, the beginning and end of the rainy season is characterised by intense thunderstorms usually accompanied by strong gusty winds. The two seasons respond to the pressure pattern resulting from seasonal shift of pressure belts tied with apparent movement of the overhead sun. The beginning and the end of the season follows the north south migratory pattern of the inter-tropical discontinuity. Esie like all other communities in the North central Yorubaland enjoys bright sunshine throughout the year.

1.7.3 Relief/Topography

The topography is dominated by ridge of hills mostly domed hills composed of either a mixture of quartzite, quartz-schists or quartz-mica, schists. The whole of Igbominaland is dotted by inselbergs mostly of low lying rock outcrops which are adjacent, dissected and undulating to flat plains.

1.7.4 Soil/Geology

In terms of its geology, Esie is underlain by igneous and metamorphic rocks belonging to the pre-cambrian basement complex (Fig 3). These form the major characteristic geology of this part of Nigeria. They are mainly in the form of gneiss, a grey, quartz-biotite, plagioclase, and hornblende paragneiss. This weather very rapidly and as a result only very few fresh outcrops are exposed (Jeje, 1978). The area is generally hilly with an average elevation about 300m above sea level. It is broken intermittently by flat terrain and undulating plains. The topography is characterized by ridge of hills, mostly domed, composed of either a mixture of quartzites, quartz-schists and quartz-mica, schists (bands of these rocks are often intruded by harder amphibolites-coarse grained and irregular in form) or low-lying ridges of exposed laterite (Raeburn, 1924 in Aleru 1988). Also widely occurring are other metamorphic and igneous rocks among which are mica, gneiss and dolerite. Esie like other Igbomina areas is dotted by inselbergs, mostly of low-lying rock outcrops, which are dissected and undulating and adjacent to flat plains. The inselbergs are erosional residues suggested to have been formed due to the variation in the composition and lithology of the parent rocks that give rise to them as well as in their resistance to weathering and erosion (Jeje, 1978).

Esie itself is located with the schist belt. The 1,200km long schist belt of

Nigeria is a supracrustal sedimentary succession containing minor amounts of basic and ultrabasic volcanic and plutonic rocks. The schist belt has undergone deformation and low to medium grade metamorphism that transformed the basic, and ultramatic rocks to amphibolites, metapryoxenites, metaperidotites and amphibole-talc schists (soapstones) (Ige, and Swanson, 2008). Soapstones occur as lenses and bands of talc-tremolite schist. The rocks are composed of variable amounts of amphibole (tremolite, cummingtonite and anthophyllite) set in a fine-grained matrix of flaky talc. Accessory minerals include chlorite and various FeTiCr oxide minerals (Ige and Swanson, 2008).

Weathering of rock surfaces in south western Nigeria has yielded depositional materials of geomorphic features. The weathered rocks tend to form fertile soils which can be used for the cultivation of crops. According to Burke, the dry phase of aridity (20,000-18,000BP) in South- western Nigeria brought about pediment formation and ferruginised crusts (Burke *et al.,* 1971).The formation of these geomorphic features have been recognized not to be only due to alternation between wet and dry conditions but also to other conditions as water availability, precipitation of iron, oxidation and geological nature of basement complex rocks.

Soil in Esie has a very high sand content because of its richness in quartz. This type of soil has kaoline as its dominant clay hence it has low moisture holding capacity. A consequence of this is that the soil can only be cultivated when there is abundant rainfall (See Fig 1.4). The fertility of the soil is further reduced by clearing and bush burning. The soil favoured the cultivation of root crops mainly yam, cassava, potato, maize and cowpea.

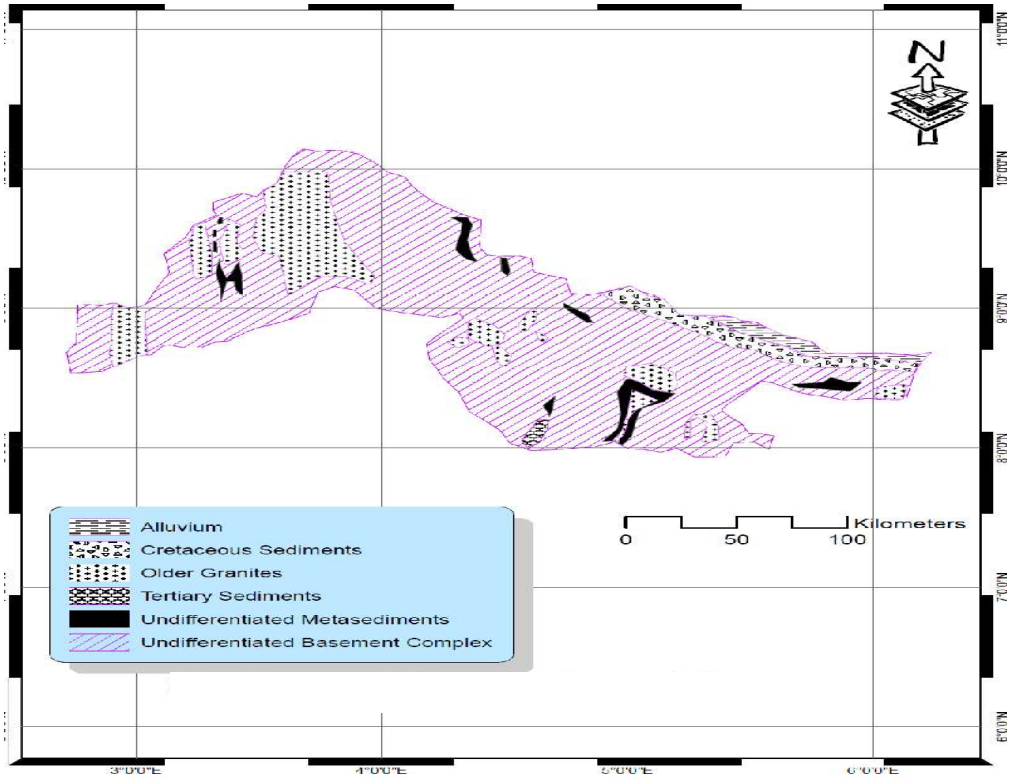

Fig. 2: Map of the geology of Kwara State

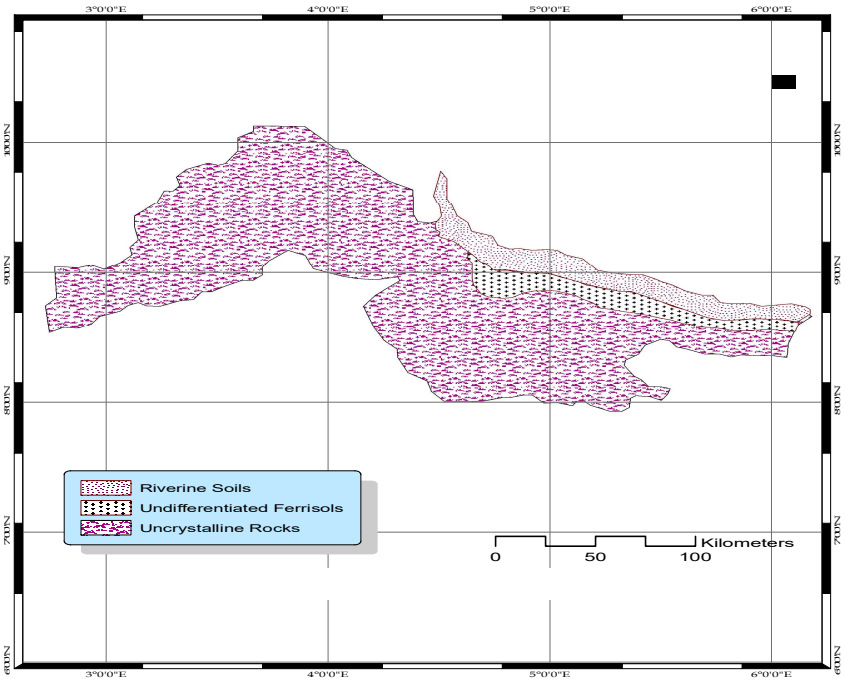

Fig. 3: Map of the soil formation in Esie and other parts of Kwara State

1.7.5 Drainage

Esie is drained by four streams namely Osin, Osuolo, Ayaoba and Eidu located in the East, North, West and South respectively. Generally, the Igbomina area is well drained by a number of perennial rivers (Oshi, Oyi and Awere among others). The Oshin and Oyi, tributaries of the great Rivers Niger to the north cut across most of Southern Igbominaland (west-east).

1.7.6 Vegetation

The broad vegetation of the area is that of Southern Guinea Savanna which in appearance is similar to the derived savannah. The present vegetation of the guinea savannah has been largely influenced by man's diverse activities such as cultivation, bush burning and cattle grazing. One of the human agencies that have been recognized as a possible mechanism of influence on environmental change is deliberate bush burning (Oyelaran, 2011:8). A variety of vegetation types straddled the entire belt of Guineasavanna; there is a transitional zone from rainforest to savannah woodland. Among the trees in the rain forest are *Chlorophoraexcelsa* (Iroko), *Khaya senegalensis*, *Khaya grandifoliola,Terminaliaspp* and *Pterocarpusspp.*

In some areas, the rainforest has been opened to raise food crops such as maize or yam. At such places, the forest becomes devastated to the extent that it will never again attain its original form. This is due to intense farming by man as well as extensive grazing by animals.

Following the abandonment of the farms, a mass of shrubby growth and grass comes in which burn annually and complete the destruction of the remaining vegetal component of the rainforest. Relief forest shrubs and trees particularly *Elaeisguineensis* can always be found where there is some protection from fire. Along the main rivers and streams are riparian or gallery forest. Interestingly, there are more trees in the riparian forest than in the mainland. The vegetation of this forest is typified by large trees as *Chlorophoraexcelsa*, *Terminalia spp* and *Cassipoureabarteri.*

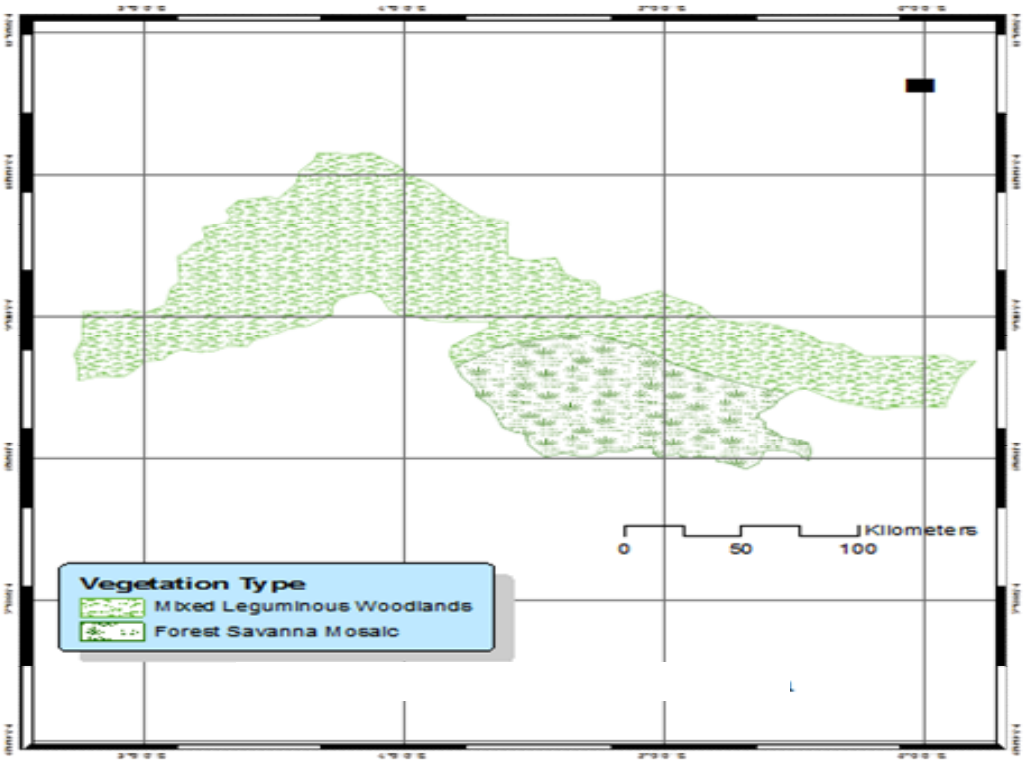

Fig. 4: Map of the natural vegetation of Esie and other parts of Kwara

The southern guinea savannah itself is typified by a mixture of tree species. These trees and shrubs have twisted and gnarled trunks owing to frequent fire. The barks of most species are very thick, this probably account for their fire tolerance. Common trees found include *ParkiaClappertoniana* (African locust bean,) *Butyrospermumparadoxum* (Shea butter), *Afzeliaafricana* (Mahogamy bean), *Elaeisguineensis(*Oil palm), *Danielliaoliveri*and *Terminalia superba.* Grass types include *Andropogonspp,Hyparrheniaspp*, and *Pennisetum spp.* Other grass types are *Monocymbiumceressiforme* and *Pennisetumpedicellatum*. The grasses which are always tall are cut off and burnt during the dry season. Shrubs are mainly *Sansivieratriasciata, Sansiviera senegambia,Sansivieraliberia, Brideliamieranthan* and *Crysophullumalbidum* popularly referred to as agbalumo in Yoruba speaking areas. Trees dotting the woodland savannah are not as diversified as that of the rainforest. Among them are*Danielliaoliveri, Parkiabiglobosa, Butyrospermumparadoxum, Berlinia grandiflora, Vetexdoniana,* and *Protea elliotti*. The rest are *Phyllanthus discoidea, Cochlospermumplanchomi, Afzela African, Tetracerapotaroria, Pterocarpus erinaceus, Entada africana* and *Acacia arabica.*

The leaves of *Triplochitonscherexylon* are highly favoured for their dietary value. The leaves are used in making a popular soup among the Igbomina known as *ogbungbun*. Farming is the mainstay of the subsistence economy in Esie and environs. As a result of the climatic conditions in Esie, it is possible to grow tropical forest crops a as well as the savanna crops. Mostly grown plants include varieties of yam, *Dioscorea spp,* cassava-*Manihot utilissama,* beans, melon, cocoyam, maize,sorghum, cotton and groundnuts. The fallow system of agriculture is the most popular agricultural strategy. This system restores soil fertility after a particular cultivated plot is abandoned for a number of years. The type of agriculture practiced involves the use of simple tools as hoes and cutlasses. Occasionally fire is used for clearing large plots of land in preparation for the farming season (Aleru, 1998).

The most popular agriculture practice is mixed farming. Two or more crops are usually planted on a plot of land. The average plot for an adult male is about one acre. Along the streams and other seasonal bodies of water are rich alluvium basins known as *akuro* which are used for the planting of early maize, yams, vegetables, cocoyams, plantain and bananas. They are usually farmed during the dry season or when the water level is very low (usually between December and May).The characteristic soil of the *akuro* is a mixture of friable loamy soil, highly fertile and productive humus-rich surface layers. Farming is supplemented by hunting which is a pre-occupation during the dry season. Large and small games are killed and burnt to make a typical delicacy common around northern Yorubaland. Such animals commonly hunted include monkeys (*Erythocebuspatas*), spotted nose monkey (*Cercopithecus petaurista*), green monkey (*Cercopithecus mona*), land squirrel, gray rat, grass cutter, hare, antelopes and warthog. Snakes of different species are hunted among the popular ones are black cobra (*Najamelanoleura*), Rainbow boa (*Epicratescenchris*), spitting cobra (*Najanigvicollis*) and royal python (*Python regius*). Hunted birds include (*Numida ptileryhyca*)and guinea fowls (*Numida meleagris*). Palm wine tapping is also very common occupation. This may be a result of the abundance of *Elaiesguineensis*.

1.8 Historical Background

There are two prominent traditions of Esie people. The first account has to do with the stone figurines which archaeology, art history and ethnography are yet to properly account for in terms of origins, the makers as well as the social, economic and political configurations.

Basically there are three variants of oral traditions as regards the Esie soapstone images which the current inhabitants of Esie related in the course of this study. The first account has it that a group of strange migrants came to the community a long time ago (no date was given). The visitors were believed to have come from a far distant area to settle outside of Esie town. The visitors (numbers and identity not known) settled in an open field in the community and sent an emissary to Elesie to formally receive them in his palace.

Following the non-disclosure of the time of the unscheduled visit to the palace and the fact that the hosts were weary of staying idle at home, the Elesie prompted by

his most senior wife decided to go to the farm to tend to his crops. According to this account, the Elesie, in the bid to return to the palace clean had stopped at a stream close to the village and was unfortunately seen by the visitors while he was taking his bath. The visitors pretended that all was well and left the Elesie at the streamside. On getting to the palace, the visitors were left stranded following the absence of the king, and when the Elesie eventually appeared, his attempts at deceiving his guests by pretending that he had been indoors all day long was betrayed by a piece of okra leaf which stuck to his cheeks. To the migrants who were reported to be ‘’powerful medicine men,” it was a clear evidence that the Elesie had flouted their instructions. The visiting party left the palace to their camp in great annoyance. On getting to their camp, they were subsequently turned into stones (Oba Yakubu Babalola, 2008.Personal Communication; Stevens, 1978)

A version of same account said the migrants placed a curse on the Elesie and his people for attempting to deceive them. The Supreme Being (Olodumare) intervention led to the petrification of the migrants. He (Olodumare) considered their terms of neighbourliness to be wicked and harsh. It was the Supreme Being himself that turned the “heady fellows” to stones.

A second account also reiterated that some visitors from a far distance place decided to visit Esie. These migrants sent a message informing the Elesie not to go to work on the appointed day as it was sacred and there was the need to avoid any form of work. Unfortunately, the Elesie and his people did not keep the terms of the mutual agreement mainly because it was the time of the year they thought the crops needed their attention and secondly, they Esie people appeared to detest laziness and idleness. The strangers who were reputed medicine men summoned their powers and turned the Elesie and his people to stone for their failure to adhere strictly to instructions (Pa Isaiah Oyebanji, 2008; Chief Timothy Omopemola, 2008.Personal Communication)

Yet another variant of the traditions claimed that a once powerful hunter Atankoro turned the visitors to stones following persistent intrusions to his territory. He accused them of killing his cattle and used his magic to turn the visitors who had settled in an open field into stones because they failed to curtail their excesses, particularly as it related to his cattle whose numbers kept decreasing each time they moved to the open stream to drink water.

While oral traditions on the origin of Esie soapstone figurines appear to be a subject of controversies, there is a consensus by our informants as regards the traditions of origin of the current inhabitants of Esie town. All our informants were in agreement that the current inhabitants of Esie descended from Oyo, a reputable Yoruba Empire that came into prominence in the seventeen century and expanded and controlled peoples far beyond its heartland.

According to oral tradition obtained, the Elesie and his people left Oyo, although the name of the particular Elesie was not known, and neither was the time also known. The moving band initially settled at Okodo-Oke, now an abandoned settlement that serves as farmlands for current inhabitants of Esie. Interestingly, Igbo-Ilowe and Igbo Eji, two other early settlements in the area are also currently used as farmlands.This account is a bit at variance with the oral accounts given by Stevens (1978). Stevens explained that the moving group settled briefly at Igbo-Eki, which they found unsuitable because of an unreliable water supply. From Igbo-Eji, they moved to Okodo because of the same problem which was later resolved by the discovery of streams, Osin and Osuolo by Baragbon, a brave hunter that eventually became the leader of his people (Stevens, 1978). It is instructive to know that Baragbon is highly revered in Esie even in present days.

According to Chief Timothy Olabanji Omopeola (personal communication, 2008) soapstone figurines, in the past, and up till the late 1970s were objects of worship in Esie but the entrenchment of Islam and Christianity coupled with the complete acquisition of the images by the National Commission for Museum and Monuments (NCMM) drastically reduced the practice of propitiating the images (Omopeola, 2008. Personal Communication).

In the account provided by Oba Yakubu Babalola (personal communication, 2008) there was the Ere cult headed by Aworo, a priest whose pre-occupation was to conduct the annual festival of the images. It was also the duty of the Aworo to be on call throughout the year particularly in times of crisis and distress to appeal to Oba Ere. Indigenes (from far and near) and even foreigners then trooped in to Esie during such festivals to supplicate before the Oba Ere for their various desires. The entrenchment of Christianity and Islam however appears to have taken its toll on the festival as the annual festival was abandoned for almost three decades and even nobody was willing to take the responsibilities of Ayarun (Aworo) the chief priest

(Oba Babalola, personal communication, 2008).Items used in the worship of Oba Ere included food items such as *Iyan*-pounded yam, *eba*, garri, eggs, palm oil and kolanut among others. Oral tradition also claimed that till the late 1970s, the blood of goats and rams werenormally sprinkled on the images, but all of these have changed.

The oral traditions collected from (Oba Yakubu Babalola; Chief Timothy Olabanji Omopeola; Pa Isaiah Oyebanji, Alhaji Busari Bojuwoye; Mr kayode Oyewusi and Mr Johnson Ajayi-personal communication, 2008) were invaluable to the archaeological investigations. Though the immediate forebears of the current inhabitants of Esie met the soapstone figurines in the community, it was farmers, hunters and chiefs of Esie and its environs that gave information as regards possible archaeological sites. An informant, Pa Isaiah Oyebamiji (personal communication, 2008) in particular, played a great role in identifying sites that were promising for archaeological exploration. The intensive and extensive archaeological reconnaissance that followed covered the length and breadth of the community with keen attention paid to surface finds which could perhaps give signals of the materials embedded in the sub-surface.

Three major lines of arguments have been canvassed for the origin of the figurines. Stevens (1978) who spent more than one and half years in Esie taking inventory, cataloguing, photographing as well as giving the figurines a sense of orderliness believes that the Esiesoapstones are of Old Oyo origin (Stevens, 1978). According to him, the fact that the stone figurines combine elements from various traditions and as such could have been derived from a place that had served as a meeting point for such diverse influence (Stevens, 1978; Adepegba, 1982; Andah, 1982). A view related to that of Stevens was that of Meyerowitz (in Stevens, 1978) who argued that the figurines at Esie were made by the Nupe who were the earliest inhabitants of Esie but had to flee in the wake of attacks by the Oyo. Adepegba (1982) on the other hand argued that the Esie figurines have Ife origin based on the facial patterns and markings. According to him, the fact that the body markings and the recent sculptures of the Yoruba land tends to lend weight to the idea that Ife art traditions might have continued to flourish in Northern Yoruba country particularly in Oyo speaking areas after it had ceased in Ife (Adepegba, 1982).

As regards the historical background of the current inhabitants of Esie, oral information as well as historical documents have it thatEsie was established about

three centuries and five decades ago, when the progenitor of the royal clan, Agbonbifa left Oyo owing to land shortage (Stevens, 1978). On arrival at the virgin expanse of land, Agbonbifa and his followers settled at Igbo-Eki where they encountered acute water shortage (Pers comm. Oyebanji 2008, Stevens, 1978). The desire to have regular water supply necessitated a further movement from Igbo-Eki to Okodo (currently abandoned and uninhabited) which is about 8 km south of Esie. Agbonbifa died in Okodo as well as two other succeeding Elesie, Orogbesasa and OkinkinSefiniwo (Stevens, 1978).

Following increment in population, Esie gradually started experiencing inadequate water supply once more. The next Elesie, Baragbon, a popular hunter credited with the discovery of the stone figurines decided to explore his environment further for possible sources of water. The water problem was solved when Baragbon located the present site of the town which is surrounded by four rivers Osin, Esuolo, Ayaoba and Edu.

The history of Esie appears to be complex. Oral traditions and even material culture evidences have shown that there were settlements in Esie before the descendants of the current inhabitants who tend to have occupied the Esie landscape towards the period of the collapse of the Old Oyo Empire. The new group was perhaps attracted by various factors including the favourable environment for farming which was a key factor in determining their settlement location. However, the non-availability of water was a problem. This critical resource-water was essential for a lot of functions including drinking and other domestic activities.The water problem was solved after the adventures of their leader, Baragbon, a brave hunter that led his pople to the current site of Esie after attempts at settling at various locations such as Okodo and Igbo Eji (Oba Yakubu Babalola; Pa Isaiah Oyebanji, 2008. Personal Communication)

CHAPTER TWO

Literature Review and Theoretical Framework

2.1 Literature review

A literature review is an account of what has been published on a topic by scholars and researchers. Apart from helping to define specific thesis, problem or research question, a literature review helps to identify areas of controversy in the literature and offer insights into what is and is not known about a subject. In this research, the literature review has been organized around a number of themes, all of which are related to the materiality of soapstones figurines and other cultural materials and their archaeological contests in Yorubaland.

2.1.1 Art History and Anthropological Investigations of Esie

One of the most important cultural heritages in Esie, the soapstone figurines has been investigated extensively by art-historians and anthropologists. Anthropologists Ramshaw (1936) and Stevens (1978) and art historians Adepegba (1982) and Pogoson (1990, 1998) have investigated the soapstone figurines from different perspectives with a view to understanding their origin, possible sources of raw materials and the links with other Yoruba/Nigerian artworks. On account of art history and relying on body scarification and striation Adepegba (1982) claimed that the concentric circles on Esie figures could originally have been a component of a pattern which contains full striation. The striation on the Ife terracotta heads are related to the striations on the fully marked faces in Esie figures. Secondly, that the concentric circles are combined with the short horizontal marks beside the eyes which as a common element in the striations on Ife terracotta heads and Esie stone figures, span the temple. The similarities between the various patterns on the faces of Esie images on the one hand and on the faces of some Ife terracotta on the other would normally suggest an Ife/Esie connections or relationship. As a result of this relationship, Adepegba (1982) is of the view that the images were made or carried to Esie by early migrants from the direction of Ife if not from Ife itself. He adduced further that such migrants might also be responsible for the presence of ‘cat whiskers’ in Yagba as the rulers of some Yagba communities also claim Ife origin.

In accounting for the great number of the images on a particular spot, Adepegba (1982) affirmed that it was in one of the immigrants encounters with the Nupe trying to regain Igbominaland that the images were abandoned by the original Yoruba owners thrown into disarray (Adepegba,1982). Stevens (1978) argued that the images have elements from various origins that could be got at a meeting point of diverse influences and some of the elements on the objects are Old Oyo in origin and practice. In his views, the Oyo indices include the representation of one of the images, Oba ere, the presence of arm-carrying female figures which to him represent Iyalode, the women chief in charge of public affairs, the figures with half shaven heads like those of the Ilari, the court messengers and the coiffure on some of the images, which the aworo, the local priest in charge of the images has identified as being of Sango priests (Stevens, 1978, Adepegba, 1982) On the above premises, Stevens(1978) maintained that the Esie figures were transported and abandoned during the early encounters of Old Oyo kings with the Nupe. Stevens, however, recommends that his hypothesis needed a confirmation by either archaeological or geological investigation.

In a critique of Stevens (1978) Old Oyo theory, Adepegba (1982) dismissed Old Oyo as a possible source of Esie soapstone figurines. First, he noted that all the Oyo elements that Stevens cites are not exclusive to Oyo in origin and practice. Second, the Ilari, the half shaven court messengers are not peculiar to Oyo court. According to Adepegba (1982) they are also in Ife though known by another name, emese. He further submitted that there is also nothing in Stevens (1978) text to prove the Oyo origin of the Iyalode institution while the coiffure of Sango priests are not necessarily one type; the essence of the practice is to show them as Sango's wives; the priests heads could be braided in any style.

In a similar vein, Pogoson (1991) who did a stylistic analysis of the images debunked the Old Oyo hypothesis on the accounts that (i) there is an apparent lack of similarity to present manifestations of Old Oyo arts; (ii) cultural motifs which characterize Old Oyo arts are not present in the stone images; (iii) the common themes of Old Oyo arts such as the equestrian figure or even people involved in commercial activities, from which the ancient Oyo kingdom developed its power was lacking and; (iv) there is no clear cut evidence that stone carving was practiced in ancient Oyo and finally that the proposers of Old Oyo theory attached the images to the ancient simply because of the prominence of the Kingdom (Pogoson, 1991:31).

Until recently, there had not been any proper scientific archaeological excavations in Esie. Earlier efforts were merely ‘unearthing’’ and ‘’digging’’ for soapstone images. J. D Clarke and S. Milburn (Stevens, 1978) were the first individuals to excavate the grove where the images were discovered. According to Stevens (1978) they cleared away the grass, brushed and unearthed some of the figures.Daniel (1937) drew a schematic sketch of the site in 1936. It shows the high grass and trees at the outer part enclosing a peregun tree *Dracenafragrans* and the images arranged in a semi-circular form with palm frond curtains leading to the semi-circle (Stevens, 1978; Aremu, 2006).

In 1937, a shelter was erected to protect “the best of the figures” (Clarke, 1938:106). This suggests that some of the objects were discarded. “When the site was cleared and some excavations were carried out in the 1930’s under J.D Clarke’s direction, a number of fragments of terracotta figures were found” (Daniel 1937:46) including several complete heads of people and animals; many of which had disappeared (Stevens, 1978:9; Aremu, 2006). In 1957, Chief Justus Akeredolu, Mr H.K Rashid and MrOsuola carried out reconnaissance of the Esie site, the National Museum Premises. They dug a number of test holes at various points around the site. Some new figures were recovered during these excavations and the number of figurine fragments was increased (Stevens, 1978).

From the accounts above, it is obvious that the pioneer ‘archaeological’ efforts were exploratory with the sole aim of retrieving stone sculptures. In short, the ‘excavators’- J.D Clarke (1938), S, Milburn (1936), Justus Akeredolu (Stevens, 1978), Rashid (Stevens, 1978) and Osuola (Stevens, 1978) were mainly pre-occupied with adding new collections (which could be broken parts or complete figures) to the existing soapstone assemblages in Esie.

Prior to the current investigation, the most detailed archaeological work till date in Esie was by OpeyemiOnabajo (1988). Onabajo’s (1988) interest in the archaeology of Esie was triggered by the lack of enough empirical studies to put the history of the work of art in their proper place (Onabajo, 1988) According to Onabajo (1988) before his work no connection has been made between the Esie soapstone sculptures and any archaeological or historic cultures, explanation had been limited to comparison to other art objects and ethnographic inferences.In his bid to write the story of the carvers /soapstone makers, Onabajo focused his attention on an

undisturbed area, Igbo-Iwoto. This according to him was because the areas around which the over 800 soapstone sculptures were found have been vigorously farmed.

Secondly, an asphalt road had been constructed leading to the museum in Esie while the museum in itself was constructed on the spot where the images were recovered. All of these must have impacted negatively/distorted the archaeological evidence. Consequently, Onabajo's sites were on a much sacred and relatively undisturbed location. His excavations yielded finds including potsherds with diverse decorative motifs as groove, string roulette, incision, groove string, impression and stamping. Other materials were cowry shells which he claimed was used as 'money' and rituals, two metallic objects one of which has a triangular shape. The finds also include an ivory comb with crisscross hatching decoration and land snail shells. He postulated that the metallic objects might have been used in the carving of the stone sculptures (Onabajo, 1988).

Onabajo (1988) obtained six dates:

1070 ±100 BP 912A.D

930 ±140BP 1052A.D

560 ± 80 BP 1422A.D

500 ±220 BP 1482A.D

270 ± 160BP 1712A.D

250 ± 120 BP 1732A.D

The first four dates reflect antiquity while the other two reflect modern times. On the basis of the dates, Onabajo concluded that Esie could be regarded as a transitional site between Nokand Ife. A major handicap of Onabajo's work is the limited information on the context of the radiocarbon dates and the uncritical interpretation of his finds.

Opadeji and Ameje (2006) carried out salvage excavations in 2006 in Esie. This followed the construction of the Esie National Museum fence. Parts of the materials retrieved during the work include broken parts of soapstone figurines, all of which have been deposited at the Esie National Museum (Opadeji, 2008, 2013 Pers. Comm).Early in 2006, Aremu appraised the stone figurines from technological perspective. His objective was to see how to reconstruct the technology of the ancestors who left the precious items behind and see how they can be improved upon

for a national indigenous technological development.(Aremu, 2006). He advocated for researches to replicate soapstone images in Esie and its environs. According to him, small modern replicas might be marketable at the site and beyond as they might serve as souvenirs for local and international tourists. Aremu (2006) concluded by calling for the adoption of Esie as an industrial centre by the various tiers of government for the production of local crafts from other raw materials in the area. He added that the craft industry apart from stone carving may include some of the following: pottery making, calabash carving, bronze and brass casting, bead working, wood working, soap making, tie and dye, palm oil production and raffia weaving (Aremu, 2006).

Apart from these works other archaeological works carried out in Esie include the one by Hambolu (2010).Hambolu (2010) considered the heritage and tourism potentials of the sculptures. He raised the questions of the significance of the objects. Hambolu (2010) stated that a thorough significance of the images will rest on (i) carrying out an examination of the objects (ii) conducting oral interviews with some elders and chiefs in Esie (iii) embarking on archaeological fieldwork around Esie and lastly (iv) the examination of the reports and papers of earlier workers (Hambolu, 2010).In his views, the primary importance of the objects lies in the fact that like all other works of art, they constitute the most authentic evidence of what happened in the past. These artefacts help in elucidating and illuminating the course of human history in the region and the role the inhabitants of Esie played in the process. The sculptures have a way in which they appeal to visitors, being concrete and tangible evidence of past human activities. The picture of the day to day life presented by the sculptures has a lot to say about what life looked like in those days (Hambolu, 2010:123).

This current work is designed to provide the needed chronological and contextual perspectives to the story of the Esie soapstone figurines. It is anchored on answering such questions as who were the authors of the Esie soapstone figurines; when the figurines were fashioned; in what kind of settings were they fashioned and what manner of society was responsible for their creation. These are gaps in literature that are yet to be answered.

2.2 Theoretical Framework

This study utilized multiple sets of theories to understand the archaeological record of Esie. The major ones are Cultural ecology by Julian Steward and Historical Particularism by Frank Boas.

Cultural ecology is anchored on the fact that humans over millions of years have been adapting to the challenges and opportunities imposed by their environments. Such responses differ from one community to the other. Some of the basic assumptions of this theory include the fact that there is a causal relationship between natural resources, subsistence technology and behaviours in a population that facilitate the use of resources at a given level of technological development (Steward, 1955). A major view of this theoretical perspective is that man's relationships with the environment are conditioned by technology and that parts of culture can be explained by the knowledge of the relationship between technology and environment.The belief is that humans, more than any other animal depend on technology to exploit resources, compete and cope with problems of environmental adaptation (Steward, 1955).

As a result of the reliance by humans, technology is among the most important aspects of culture everywhere. Owing to the fact that the essential purpose of technology is to aid people in making a living in their environment, the environment itself also helps determine the culture.

Cultural ecology firmly established that consequent upon the application of technology over long time periods, people discovered that certain resources are preferable to others and that some ways of organizing their groups and activities work better than others. According to Steward (1955) methodologically, research needs to identify and examine core attributes of culture such as technology, subsistence, economy, the organization of works, land holding and inheritance since these are placed closely as the interface between environment and culture.

Historical Particularism in a similar vein is hinged on the perspective that each culture must be understood in terms of values and ideas of that culture and should not be judged by the standard of another culture (Boas, 1948; Harris and Johnson, 2007;

and Miller, 2011). Boas theoretical viewpoint contradicts the earlier popular theoretical framework known as evolutionism. The evolutionists – Spencer (1961), Morgan (1985), Tylor (1920) believe that society progresses from the simple to the complex (Harris and Johnson, 2007; Eriksen and Nielsen, 2001). Spencer (1975) for instance stated that evolution was progressive and that it moved from small to large, simple to complex and independent to interdependent. He further affirmed that evolution was a pervasive force in the universe. It was not only people and societies that were evolving but all things. Among people, however, Spencer (1961) believed that evolution was driven by a struggle for survival in which only those with superior skills and traits succeeded. It was Spencer (1975) who coined the term survival of the fittest.

Spencer (1975) was also known for his organic analogy. In one of his writings, he compared human societies with biological organisms. He used the analogy to link biological and social evolution implying both followed the same processes and direction. In other words, societies could be studied in the same, manner as biological organisms.

Like Spencer (1975), Morgan (1895) and Tylor (1920) believed in evolution. They stressed that there were universal evolutionary stages of cultural development that characterized the transition from primitive to complex societies. As a result of this belief, Morgan and Tylor are regarded as unilineal evolutionists (Harris &Johnson, 2007). However while Morgan (1895) focused on the evolution of elements such as the family and subsistence patterns, Tylor (1920) concentrated on the idea that one could trace the evolution of a society by studying survivals, a form of cultural remnant (Miller, 2011; Eriksen andNielsen, 2001). Morgan harped on the fact that evolutionary progress was not achieved through competition but was propelled by the flowering of germs of thought. The increasingly complex technologies produced after such events were markers of evolutionary progress (Harris and Johnson, 2007; Eriksen andNielsen, 2001).

Tylor (1920) on the other hand outlined two ideas for which he is noted for. First, he argued that one could reconstruct earlier stages of cultural evolution by studying survivals. Tylor (1920) opined that virtually everything in contemporary society that did not have a function was a survival from a previous stage of cultural evolution. Consequently, one could learn something about past stages of a society

development through the study of these cultural left over (Miller, 2011; Eriksen and Nielsen, 2001) Tylor's second idea was on the evolution of religion. He postulated that the most basic concept underlying invention was animism, the belief that all objects and aspects of the world are imbued with spirit (Eriksen and Nielsen, 2001; Harris and Johnson, 2007).

Both Morgan (1895) and Tylor (1920) believed in the fundamental similarity of human thought around the world, a concept called the psychic unity of humankind. Their unilineal evolutionary theory rest firmly on this belief and supported their contention that societies progressed through parallel (but independent) evolutionary stages (Tylor, 1920; Morgan, 1895; Harris and Johnson, 2007; Eriksen and Nielsen, 2001). A basic assumption of evolutionism is that similar cultural traits were the result of parallel development driven by universal evolutionary law. In other words, all societies were following the same path of development from savagery to civilization (Tylor, 1920; Morgan, 1985; Harris and Johnson, 2007; Eriksen and Nielsen, 2001).

Historical Particularism attributed to Franz Boas (Kroeber, 1948) was coined by Marvin Harris (Kroeber, 1948; Eriksenand Nielsen, 2001) in the 1960s. The theory is hinged on the belief that the explanation of cultural customs could only be through these fundamental indices-environmental conditions under which they developed, the psychological factors and the historical connections (Kroeber, 1948)). According to Boas (Boas, 1901)) of these three factors the historical connections was the most important though the other two are also essential. Consequently, a thorough explanation of cultural phenomena was to be acquired by studying the historical developments of the societies in which they were found (Boas, 1901).

In rejecting such terms as *primitive,inferior* and *superior* Boas (Boas, 1901; Boas, 1974)) maintained that societies were the result of their own unique histories. In other words cultures could only be understood with respect to their unique historical development. By so doing there could not be a universal yardstick to judge societies as their traits were the result of their historical and environmental circumstances and this could only be understood within that context. In order to understand-history, it is essential to know, not only how things are but also how they have come to be. In short, the unique historical character or cultural growth in each area is an important element in the history of cultural development.

The summary of Boas perspectives is that historical changes in human cultures do not follow general laws. He therefore advocated for a rigorous scientific presentation of data to allow for the construction of an evolutionary model of human society. Boas arguments are on the premise that the presence of similar traits in many societies is not necessarily an evidence for either psychic unity or large scale diffusion. He further argued that this may be the result of convergent evolution and independent invention.

These two theories perhaps explain why the ancient settlers of Esie decided to have their settlements in the community. Consequent upon having the skills of stone carving, it was perhaps important to seek for places with large deposits of talc. In otherwords, the environment and culture of the ancient community play significant roles in determing their settlement location.

2.3 Conceptual Frameworks

Historical archaeology and ethno-archaeology are the conceptual frameworks used for this archaeological investigation.

2.3.1 Historical Archaeology

Historical archaeology is the study of the human past through the corroborative use of archaeology and other historiographic systems. In historical archaeology, there are two basic schools of thought. First, is the Euro- centric/Islamic-centric focus which is a product of the colonial experience, such views were expressed by scholars as Deetz (1985) who defines it as the archaeology of the spread of European cultures throughout the world since the 15th century and their impact on and interaction with the cultures of indigenous people (Deetz,1985). This definition just like that of Moreland (2001), Noel Hume (1969), Schuyler (1970) and South (1977) places emphasis on European expansion. These Eurocentric definitions and explanations merely represented a one sided view of contact and do not take into account the impact on indigenous populations.

The other school of thought and which is of interest to us is the Africa based perspective which emphasize Africa based histories and their materialities where question asking derives from African knowledge. (Schmidt 2006, Gundu 1999, Aleru 1998) Historical archaeology in Africa is concerned with such salient issues as: addressing specific historical themes which by their very nature can be better studied through archaeological means, pushing the temporal frontiers of the histories of

specific African peoples under study, thereby establishing the antiquity of the continent (Gundu, 1999). As Pikirayi (1999) rightly explained the historical archaeologists in Africa or elsewhere is merely looking at archaeological sites which can be interpreted with the aid of historical evidence such as written sources, oral traditions and historically dateable artefacts.

Recently historical archaeology has acquired a complex dimension; the theoretical leanings of the discipline have expanded from mere descriptions (which characterized early historical archaeology reports) and concern with chronologies to include aspects of cultural history and problems of culture process and cognition (Pikirayi, 1999). The concern in all cases is that historical archaeologists bring an awareness of how much of daily life remain undocumented, unspoken and yet is far from insignificant and often leaves material traces.

2.3.2 Ethno-archaeology

Ethno-archaeology is predicated on the assumption that there are some degree of closeness between the present and the past. In other words that some relationships exist between the past and present, that is, an understanding of the present way of life of a given group in an area can shed light on the behavior of the past inhabitants of the area. This is more so, if we establish that the past and the present inhabitants of the area are historically/culturally related (Okpoko, 1989).

Ethno-archaeology has been defined at various times by different scholars depending on their research pursuits. As a result of this, the approach lacks a universal definition which is acceptable to all scholars (Okpoko, 1989). Tringham sees ethno-archaeology as the structure for a series of observations on behavioural patterns of living societies which are designed to answer archaeologically oriented questions (Tringham, 1978)

Gould in his assessment of ethno-archaeology considers it to be an empirical approach designed to cover the totality of variables that determine human behavior in particular situation and to posit general principles that will show these variables consistently interact (Gould, 1978). Gould maintains that it is '"a peculiar kind of ethnography, one with unabashed materialist bias" Gould's assertion was on the premise that ethno-archaeology is "living archaeology" that is, the efforts made by an archaeologist or ethnographer to do fieldwork in living societies with special

reference to the archaeological patterning of the behaviour of those societies.

Schifer (1978) considers living archaeology as an apt designation which lacks the generality of ethno-archaeology. To him, ethno-archaeology is the study of material culture in systemic context for the purpose of acquiring information both specific and general that will be useful in archaeological investigation.

Stiles (1977) opine that ethno-archaeology is an archaeological ethnography which encompasses all the theoretical and methodological aspects of comparing ethnographic and archaeological data in particular the use of ethnographic analogy. Posnansky (1982) regards 'ethno-archaeology as the unconscious application of ethnographic knowledge by scholars to provide insights into the interpretation of archaeological evidence rather than a definite formulation of a new theoretical approach' (Posnansky, 1982).

Stanislawski (1974) affirms that ethnographic analogy is the "direct observation in the field of the form, manufacture, distribution, meaning and use of artefacts and their institutional setting and social correlates among living non-industrial people for the purpose of constructing better explanatory models to aid archaeological analogy and inferences". This definition of ethno-archaeology has however been faulted. For example, Folorunso (1993) noted that the phrase "non-industrial people" which serves as a limiting factor is inappropriate because certain aspects of the behavioural pattern of the industrial societies may be useful to understand the past" and that no society can claim a total break from its past (Folorunso, 1993).

Ethno-archaeology according to Oswalt (1974) is the study from an archaeological perspective of material culture based on verbal information about artefacts obtained from persons or their direct descendants who were involved with the production. This definition seems to be narrow because it fails to account for circumstances whereby the ethnographic and archaeological data are broadly disparate in time and space. Schwartz (1978) described an ethno-archaeologist as an anthropologist conducting ethnographic research for an archaeological purpose, linking material remains to the human behavior from which they resulted.

Kramer (1979) goes a mile further in his definition of the concept by stating that ethno-archaeology involves the explicit integration of ethnographic and ethno-

historic data with archaeological data while Okpoko during his investigations at Anambra valley in Nigeria posited that ethno-archaeology is the study of aspects of culture (including oral traditions) material culture and linguistic data of a study area in order to derive information useful for (i) location of archaeological sites (ii) interpretation of such sites, features and artefacts and lastly the reconstruction of material and non-material aspects of the ways of life of former inhabitants of the area under investigation (Okpoko 1982; 1984; 1989).

The use of oral traditions and linguistic data in ethno-archaeology has however been debunked. According to Folorunso (1993) linguistic and oral traditions are separate data which can be useful on their own henceforth they need not be subsumed under ethno-archaeology. It is therefore suffice to say that ethno-archaeology is the study of how technology, diet, settlement (including burial places and practices) reflect other aspects of culture and how archaeologists can reconstruct past ways of life from such material remains. In such a study according to Adams (1982) emphasis is placed on three major areas-technologies, cognitive and distributional aspects of material culture made and used by a given society (Adams, 1982).

MacEachern (1996) defined ethno-archaeology as 'a research that involves investigations of the material culture, behavior, beliefs of present day populations with the object of that research being the generation of propositions about the cultural contexts of residues recovered from archaeological occurrences' (MacEachern,1996) This definition according to Allsworth Jones (1996) is all encompassing. Jones argued that it covers a multitude of different approaches which have been adopted in Africa depending on geographical location-Francophone and Anglophone traditions of research, changing professional paradigms and concerns and the dominance of certain individuals among other things. MacEachern's viewpoints are similar to that of Sillar (2000) who described ethno-archaeology as the study of how material culture is produced, used and deposited by contemporary societies in relation to the wider social, ideological, economic, environmental and/or technical aspects of the society concerned and with specific reference to the problems of interpreting archaeological materials (Sillar, 2000 in Politis, 2014).

The definitions and explanations above show that analogy in archaeology serves to provoke certain types of question which on investigation lead to the

recognition of more comprehensive ranges of order in the archaeological data. In essence, unlike ethnographic analogy, which involves the observation of living people on the field to explain past cultures, ethno-archaeology seeks solution to archaeologically relevant questions (Gould, 1978). Moreover, it serves as a limitation to the uncritical use of ethnographic analogy in archaeological interpretation.

In summary, the roles of ethno-archaeology include serving as resources for testing hypothesis which seek to relate material and behavioural cultural phenomenon (Binford, 1967).It is also a basis for models of particular social relations which are postulated to have been the context for an observed archaeological structure (Binford, 1967). It is to aid in the interpretation of archaeological remains: to start from archaeological data and to determine as much as possible about associated behavior (Atherton, 1983).

Ethno-archaeology suggests possibilities, variations and limitations thereby allowing more comprehensive report on relevant archaeological sites. Okpoko (1989) asserts that for a proper understanding of the relationship between archaeological materials and human behaviours, archaeologists have no alternative than to rely on directly observed behavior since we are living in the present and not in the past.

According to Andah and Okpoko (1989)ethno-archaeology affords a unique opportunity for archaeologist in that it attempts at identifying what, and how religious, social and political ideas guided settlements and substance strategy, as well as other aspects of culture.Schwartz (1978) opines that ethno-archaeology enhances the development of a fresh scientific orientation toward hypothesis testing. He sees it as a dual avenue to the humanistic and scientific knowledge.

Through ethno-archaeological studies, archaeologists can henceforth develop a common explanation “for observed variability in a number of formally independent classes of archaeological data and thereby they can approach more closely the isolation of systematic variables which operated in the past (Binford, 1967). Ethno-archaeology provides one of the many ways that are of tremendous value for the understanding of linkages between behavior and residues, and can be used not only for developing models for understanding particular archaeological situations, but also for noticing general regularities in the links between living cultures and their material remains (Atherton, 1983). The scopes and scales of research in ethno-archaeology are expanding rapidly not only in archaeology but also in geography, chronology method

and theoretical stance, from variables conditioning the manufacture of traditional technology to the evolution of symbolic expression and virtual behaviours (Yu, Pei-Lin).

It must, however, be borne in mind that ethno-archaeology is not useful for the understanding of the behaviours of the earliest forms of man. It is important for us to note that there are psychological and biological differences between anatomically modern man popularly referred to as Homo Sapiensapien and pre-human forms such as Australopithecus, Ardiphitecus ramidus or Homo Erectus. Consequently, it is inappropriate to make use of modern ethnographic studies to decipher facets of behaviours of these hominids. For example, the biological make up of Homo erectus differ (in terms of morphology-brain content and capacity, facial outlook, bone and general body structure) from that of modern man hence an insight to the behavior of the hominids cannot be the rule book for anatomically modern man.

Secondly, the archaeologist may face a herculean task in situations whereby the archaeological record has no ethnographic parallels. The fact that the archaeologist is dealing with modern man does not translate to mean that all archaeological cultures must have ethnographic parallels (Binford, 1967). The argument is that the present day indigenous societies- the source of analogies have all had contact with western society and are integrated in one form or the other into the process of 'globalization' (Politis, 2014) Henceforth, scholars maintained that the present day societies cannot serve as analytical inferences for past societies because most if not all of them are a product of postcolonial impact.

Several scholars had adopted ethno-archaeology as frameworks for their studies in different parts of the world. For example, Longacre carried out ethno-archaeological study of Kalinga pottery. Schiffer's re-use project in Tucson Arizona was ethno-archaeological in perspective, Richard Lee's also did a study among the Bushmen while Bob Williams's research among the Birhor was anchored on ethno-archaeology (Binford, 1967).

Haarland Randi, Haarland Gunnar and Data Dea (2000) conducted ethno-archaeological investigations among the iron smelters in the highlands of Southwest

Ethiopia in the village of UskaDencha. The study interestingly revealed that the ideas associated with smelting in the community are closely related to ideas about procreation. When the tuyeres are put into the furnace; it is seen as analogous to sexual intercourse leading to birth of children. The furnace is perceived as the womb of a woman, when they take out the iron bloom, they say the woman has given birth, and the slag is considered in some respects similar to after-birth (Haarland Randi, Haarland Gunnar & Data Dea, 2000).

Adria LaViolette (2000) explored the social and economic lives of three prominent groups of specialized producers: blacksmiths, potters and masons in her investigations of the famous Malian town of Jenne which is located at the southeastern end of the Inland Niger Delta, a flood plain transversed by seasonally flooded streams extending 500km along the Niger River, roughly between Jenne and Timbuktu (LaViolette, 2000).

M.R Kleindiest and Patty Jo Watson (Politis, 2014) worked among the Pueblo Indians in 1950s, Robert Asher (Politis, 2014) among the Seri Indian of Mexico, Peter White (Politis, 2014) in the Highlands of New Guinea, Richard Gould (Politis, 2014) among the Western Desert population of Western Australia, John Yellen (Politis, 2014) studied Kalahari Yung in 1977 while Nicholas David (Politis, 2014) carried out an extensive ethno-archaeological investigations with his Mandara project in Cameroon and Nigeria (Politis, 2014).

Among the noted examples in Nigeria include Folorunso's work amongst the Tivs of Benue valley, Okpoko's investigations of the Anambra valley and Ogundele's study of domestic space and spatial behavior among the Tiv and Ungwai of Central Nigeria. The comparative study examined Tiv and Ungwai settlement patterns and spatial behavior from the archaeological past with the ethnographic present (Ogundele, 2005).

These concepts are applicable to this study. First, the occurrence of outcrops of steatite in Esie and its environs may have informed the settling in the area by the culture that manufactured the soapstone figurines. Though it was probable that they had the skills to process steatite in its raw form to the finished products (soapstone carving), the presence of the main raw material (steatite) may have informed camping in Esie and its environs. This suggestion even reinforced by the fact that soapstone

carvings have not been found in such number anywhere else in West Africa.

Historical archaeology is important for the work as efforts were made to examine the various archaeological sites in the area with the aid of historical evidences such as oral traditions and historically dateable artefacts. Relevant information was gathered and this was integrated with the information from the archaeological data to interpret the materials recovered through excavation and reconnaissance.

CHAPTER THREE

Methods of Data Collection

The study utilised three core methods of data gathering. These are reconnaissance survey, interviews and excavation. The study combines archaeological and ethnographic designs. Historical investigations in Africa now lay emphasis on multiplicity of sources which compliments and corroborates the other (Schmidt, 2006, Gundu, 1998). Ethnography enables a description of shared beliefs of a group of people based on direct interaction with them. From such interfaces, local assumptions about the focus for this study are unearthed and important leads established to the historical contexts of the Esie archaeological site. Although very useful to the archaeological endeavour, ethnography is a secondary tool and not a substitute for the basic archaeological design that defines the real essence of the discipline. The study of the archaeology of Esie follows the standard procedure in archeological investigation. It proceeded from an exploratory digging to a full-scale excavation.

Six locations in Esie and environs were purposively sampled. These are the National Museum site inEsie, Igbo Ilowe, Igbo-Eji,Ijan, Okodo, and Oro. Igbo Ilowe a settlement located about 2km north of Esie appears to be a major production site for the soapstone figurines. What remain of Igbo-Ilowe are mainly farmlands with lots of palm trees and the abundance of lateritic hills surrounding the site. The site has undergone vigorous farming; this has affected the quantum of cultural materials on the site as farmers and hunters almost on a daily basis come across partly worked soapstone figurines and other cultural objects (Oyebamiji, 2008 Pers. Comm).Igbo-Ilowe was divided into four sectors, which are North, South, East and West. Igbo Eji

is about 1.5 km southwest of Esie. The community is reputed to be the first location of the current historic population of Esie. Ijan is about 4.5m southwest of Esie. It appears to be a source of steatite for the production of the figurines. There are outcrops of steatite at the centre of the village; houses have even been built on some of the outcrop. Okodo is located some 8km South of Esie. Oral tradition has it thatOkodo was one of the earliest settlement sites of the Esie people. The last of the study locations, Oro, was a major town located north of Esie.

3.1 Oral Tradition/Key informant interview

Oral interviews were conducted with people knowledgeable about Esie history, geography and the environmental resources. The interview process commenced with a visit in February 2008 to the paramount ruler of Esie, His Royal Highness, Oba Yakubu Babalola and his chiefs. They were adequately briefed on the nature and scope of the archaeological work to be carried out in Esie. Interviews with key informants practically run through the duration of this work (see the appendix for the full list of our informants). The fact that the researcher's supervisor, Prof. J.O. Aleru is an indigene of Igbomina land was helpful in gaining the much needed fieldwork access. His previous works on the history of Igbomina land was invaluable in terms of securing contacts with individual informants as well as in written texts. In fact, apart from his unpublished doctorate thesis, he has produced two texts which were useful guides for anyone interested in the history of the Igbomina people. The interviews were conducted mostly in Yoruba and these were recorded in a notebook and in an audio tape recorder. A key informant, Pa Isaiah Oyebamiji (alias akeweje) accompanied the research team on several occasions to sites and possible areas of archaeological interest. Other key informants include Mr Kayode Adewusi and Mr Johnson Ajayi(Ajike) who are staff of the Esie National Museum. They possessed vast knowledge of the local terrain.

3.2 Archaeological Reconnaissance

Two strategies were employed. In the first instance, samples perceived to be of diagnostic interest such as partly worked soapstone figurines were noted in their context, photographed and taken. The exercise involved movement around the sites (National Museum premises, Igbo Ilowe, Igbo Eji, Ijan and Oro). The second method

involves the systematic collections using the grid measured unit intervals of 4m. Collections were made in each 4m square. In contrast to north east and north western Yoruba- land, the north central particularly Esie has received a sporadic and poor archaeological coverage in spite of the presence of a huge number of soapstone figurines.

Whilst Clarke (1938), Daniel (1937), Milburn (1936), Akeredolu, Rashid, Osuaola (Stevens, 1978; Aremu, 2006) carried out rapid non- systematic surveys in Esie, Hambolu's (2010) more refined sampling strategy appear to be 'patchy' as the focus like that of the others earlier was on the artworks. Opadeji and Ameje's work in 2006 (Opadeji, 2008) was mainly to retrieve art objects (mostly figurines) following the construction of the Esie National Museum fence. In other words, the focus was also on the figurines.

Elsewhere attention has been focused on a small sample of sites with little or no associated systematic survey. Onabajo (1988) for example had specifically directed his attention at resolving the lack of enough empirical studies to put the history of the artworks in their proper place. In part, this lack of detail can be explained by the too-long embedded assumption that all that can be known about the archaeology of Esiecentred on the soapstone figurines. Consequently, the salient factors for this survey include: The

(a) Location and identification of a representative sample of archaeological sites.
(b) Incorporation of local knowledge of the historical (maybe pre-historical) landscape within the changing temporal and spatial pattern.

The following are the objectives: To

(i) Gather oral information which ultimately will enable the identification of archaeological sites in Esie and its Environs
(ii) Identify features particularly ecological resources that could have attracted the pre-historic? /historic population to settle in Esie.
(iii) Locate probable workshop sites for the production of the numerous soapstone figurines.
(iv) Identify possible sources of steatite which were used for the production of the stone figurines.
(v) Collect surface finds in a bid to determine the archaeological potentials of the

spot(s) where the finds were collected.

Systematicattempt wasmade to identify archaeological sites in Esie and its environs. The archaeological reconnaissance carried out in four field seasons (2008, 2009, 2010, 2012) yielded data concerning the range in form (size and internal arrangement) of sites as well as their spatial distribution in the region. Archaeological reconnaissance surveys were carried out in selected parts of Esie environs, namely, at Igbo Ilowe, Igbo Eji, adjacent areas to the Esie Museum, Oro and Ijan. The various sites were divided into sectors and were walked over systematically. In this way, no part of the various sites was either under or over represented in the survey. Another major advantage of this is that it was easier to plot the location of cultural remains since the research team's location was always known.

Ground visibility was found to be widely variable according to the different vegetation covers present, and the weather conditions experienced. Much of the field survey was undertaken during the dry season. This had the advantage of a reduced vegetation cover.

3.3 Excavation

Excavations were carried out in Igbo-Ilowe and the premises of the National Museum Esie. Igbo-Eji was deliberately left out because the lateritic nature of the soil would make it difficult for any meaningful archaeological excavations to be carried out. Okodo did not also bear much promise in terms of the potentials for excavation. Following an archaeological survey done on the site, it was observed that some rubbles which many current inhabitants of Esie actually referred to as remnants of ancient defensive walls were rubbles left by workers of the defunct National Electric Power Authority (NEPA) now Power Holding Company of Nigeria (PHCN) and now Transmission Company of Nigeria (T.C.N).

Having carried out archaeological reconnaissance survey of Igbo-Ilowe and having retrieved surface finds, the next step was to determine the locations where test pits would be sunk to obtain sub-surface finds that are in their primary context. In a bid to be more objective and also fundamentally because of the apparent lack of data from OpeOnabajo's work (Onabajo did the first 'scientific' excavation in Igbo-Ilowe/ Esie generally in 1988) it wasconsidered expedient that a test pit be sunk close to where he conducted his excavations in 1988.

Fig. 5: Aerial map of the excavated point at Igbo-Ilowe (Source 2015 Google satellite image)

By the first visit to Igbo-Ilowe/ Esie for the first time in 2006, the hitherto grove had been subjected to farming but not as vigorous as several other parts of Esie. Luckily, the farmer on whose land Onabajo and his team sunk their test pit was still alive and he vividly remembered the spot and even the dimensions of the archaeological pits dug in 1987/1988. Thus the first test pit sunk at Igbo-Ilowe (latitude 8°12′36N and longitude 4°54′ 19E) was very close to Onabajo's dig. This was to give room for a comparative picture of the materials present.

Mapping was done through the method of chain-survey by using a 50m surveyors tape, ranging poles and a quick set level. From the datum point, two ranging poles were aligned with the aid of the prismatic compass to determine the primary baseline, all other secondary lines were determined. Excavation was in ten centimeter arbitrary spit levels until culturally sterile soil was reached. The soil removed from each of the test pits was screened for artifacts using a ¼ inch mesh.

3.4 Methods of Data Analyses

Data obtained through methods of reconnaissance, key informant interviews and excavations were subjected to pottery analysis, cowry shell analysis, bead analysis, radio-carbon analysis, and palynological analysis.

CHAPTER FOUR

Archaeological Reconnaissance and Excavations

4.1 Archaeological Reconnaissance/Surface Collections

From the archaeological reconnaissance, surface collections were obtained from the premises of the National Museum, Igbo Ilowe, Igbo Eji, Ijan and Oro. Materials collected were mostly potsherd, partly worked soapstones and stones. Apart from the soapstones, many of such samples offered no qualitative value to the research although they provided a clear idea of the complete range of observable diagnostic materials present on each of the sites.

The figure below (Fig. 6) shows one of the partly- worked soapstone figurines found in situ. It is about 8kg (it was actually weighed at the Department of Archaeology and Anthropology, University of Ibadan). All the sides have markings with a mild hollow on its surface. By one of its side is a deep cut while other markings were noted on the other side. Just few metres away from the first partly-worked figurines recovered we found about four concentrations of lateritic materials, quartz and quartzites in form of heaps (Fig. 7)

Fig. 6: A partly worked soapstone figurine at Igbo-Ilowe, Esie

Fig .7: Concentrations of lateritic materials, Igbo-Ilowe Esie

These apparently were gathered by farmers in attempts to clear the land for farming. A hundred metres from the lateritic heaps we found the remains of a weight made from soapstone. The body is flat with a hole in its extreme (Fig. 8). It weighs 1.5kg. At about fifty meters from the gong was found partially-worked soapstone shaped like a hand axe. It has a hollow. The anterior was pointed while the posterior was broad. All its sides have markings. Also recovered were broken parts of a smoking pipe made from soapstone as well as a grinding stone with deep hollow. This was also made from soapstone. Farther to the north west of Igbo-Ilowe we found a possible soapstone quarry (Fig. 9). The quarry was found at the base of lateritic hills around the north western part of the site. The quarry which is about one metre in breadth covers almost three metres in length. It is about 40cm deep; possibly, it could have been a centre for harvesting soapstone for the purpose of making exotic materials as figurines and other domestic essentials as grinding stones.

The archaeological reconnaissance surveys carried out at Igbo Eji yielded little in terms of surface materials. Microliths are widespread on the surface. From observations, the microliths were actually in their secondary context owing to erosion. Herds of cattle were seen roaming around Igbo Eji for pasture. Grasses were sparse and only few drought resistant trees were observed at the site. The possibility of retrieving stone artefacts was remote as the soil appeared to be lateritic. However, if the soil is wet this can be excavated.

The soapstone at Ijan-Otun is embedded in laterite. A spot (*ojuorisa* - shrine) with widespread steatite outcrop was marked with GPS at $8^0$11′N, $4^0$55′E (fig.11). The only road in Ijan which leads to the palace of the traditional ruler of the town is

littered with soapstones embedded in laterite.At Okodo, in spite of a few scattered potsherds, not a single figurine (either partly- worked/complete) was recovered during the 3 hour survey of the site. However the market square was quite visible. The square was also confirmed by our octogenarian informant. No standing wall was noticed. The swampy parts of Okodo were intensely farmed. The most prominent plants cultivated were leafy vegetables and sugarcane.

Fig. 8: A gong from soapstone, Igbo-Ilowe, Esie

Fig.9: A soapstone quarry at Igbo-Ilowe, Esie

Fig.10:Oju orisha in Ijan

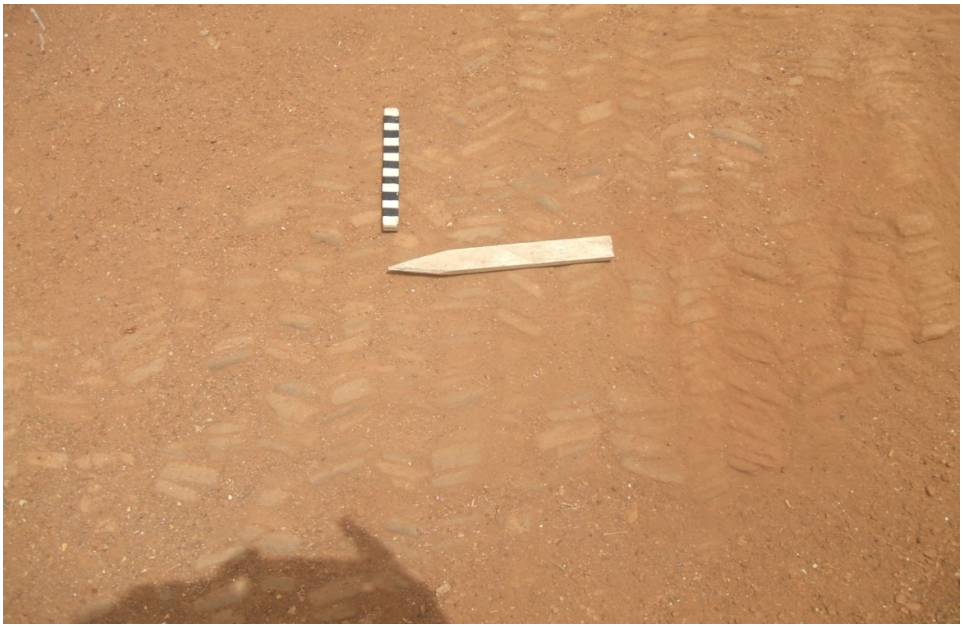

Fig. 11: Potsherd pavement in Oro market, Oro

At Oro (Fig. 11), a major town located north of the town of Esie was found potsherd pavements. Unfortunately, the pavements have practically given way as they were daily trampled upon by market men and women. Some of the stalls in the market were constructed on top of the pavements, a clear indication that the pavements have been greatly tampered with in the bid to put structures on them. One had expected that since the discovery of the pavement, the Oro market would either have been relocated or at worse closed by government(s) and its agency (ies) but till today, the pavements are fast disappearing due to daily interference by man and other agencies. Potsherd pavements have been reported from Ife, Itagunmodi, Ilare, Oyan, Ila Orangun, Iresi, Iragbiji, Owo, Osu, Ikirun, Oke-Ila, Ifaki, Iju, Old Oyo, OwuIsin and Ashi in Ibadan (Willet and Dempster, 1962; Aleru, 2006; Ogunfolakan, 2007; Adekola, 2008; Adekola, 2015).

The cultural materials discovered during the reconnaissance survey were not limited to potsherds, lithic objects and partially worked soapstone figurines. Other items discovered include lateritic hills at Igbo-Ilowe, smoking pipe, iron slag, quartz and quartzite

4.2. Excavations at Igbo-Ilowe Test Pit 1 and Test Pit 2

Extensive cultural materials were collected from Igbo Ilowe Test pit 1. From the 0 cm-40cm spit levels, the bulk of these are mostly potsherds with body sherds occurring in greater number. At 40cm-50cm level, (Fig.14) there was a sharp drop in the number of objects as 50 body sherds were retrieved while 9 animal bones were also collected. And from 80 cm-90cm spit level materials retrieved include snail shell, palm kernel and an iron object. The maximum depth reached was 90cm when soil became extremely compact and hard. The materials were carefully sieved, identified and bagged.

Test pit 2 was on an ash mound of 6mx4 m in terms of its length and breadth. The mound is also on a farmland. It is surrounded by cashew tree, banana, and pawpaw and cassava farmland. The 2 m x 2m square test pit was on 0^0N0^0E, 2^0N0^0E, 0^0N2^0E, 2^0N2^0E. As usual digging was by 10 cm spit level and this was maintained until the sterile was reached at 2.2m.

Fig. 12: Test Pit 1, Igbo Ilowe Esie at 40cm-50cm pit level

At 30cm-40 cm spit level, the soil colour of the pit changed to fine grain brownish soils, lots of materials were retrieved at this level, mostly potsherds, microliths, snail shells and lots of animal bones. Further change in soil colour was observed at 80cm-90cm level (Fig.13), when the soil turned brownish. Materials were reducing compared to the previous levels but interestingly charcoal was increasing. Earlier at 50cm-60cm, it was observed that there was lots of ash at the north eastern corner of the trench which practically covered the entire trench at the next level that is 60cm-70cm.

Fig. 13: Test Pit 2, Igbo Ilowe Esie at 40cm-50cm.

At 120cm-130cm, potsherds were getting smaller in size and quantity and ash concretions were also observed at the level while there were lots of charcoals at the western side of the trench at the 130cm-140cm level. The next level, 140cm-150cm witnessed an increase in material deposits, two bags of potsherds were collected though the western side of the trench was giving signs of becoming compact. This sign was confirmed at the next level (160cm-170cm) for the western side. The soil colour changed to brownish towards lateritic.

At 170cm-180cm, ash suddenly appeared again all over the trench while charcoal, bones and snail shell reduced drastically but potsherds were still appearing in the record. Materials recovered from the pit included microliths as flakes, points, chips and trapezium while two hand axe pre-forms were retrieved from the 30 cm-40 cm spit level.

Fig.14: Some of the members of the investigative team (inside the pit, Tunde

Babalola (now Dr), Messrs Johnson Ajayi, Kayode Adewusi and Ekunke) during excavation

4.3 Stratigraphy of Igbo-Ilowe Test pits 1 and 2

In terms of the stratigraphy of the two pits, five layers were discernible. For pit 1, Layer 1 is dark brown colour (7.5YR 3/2 munsellcolour chart). The layer is composed of a lot of rootlets and it has been disturbed by farming. The soil in Layer 2 is hard and compact with traces of ironstone (fig.15). It is dark brown (7.5YR 3/3). Layer 3 can be referred to as an ashy layer. Ash was very prominent round the pit. The soil was grayish brown (10YR 5/2). This is sprinkled with spots of charcoal. Lots of snail shells and charcoal were retrieved from the layer and also potsherd. For the fourth layer, the soil became compact, hard and lateritic. The colour was brown (7.5YR) 4/3 and the last layer has extremely compacted lateritic material. It is brown in colour (7.5YR 4/1).

In test pit 2, layer 1 has dark reddish brown soil, 3/4 5YR on munsellcolour chart. Layer 2 was fine grained, almost smooth in texture, the colour is dark reddish grey,4/2 5YR,the colour of layer 3 was dark grey 3/1 5YR while that of layer 4 was dark reddish brown 3/3 5YR (fig.16).The last layer was reddish brown 4/3 5YR in colour while the texture was coarse grained.

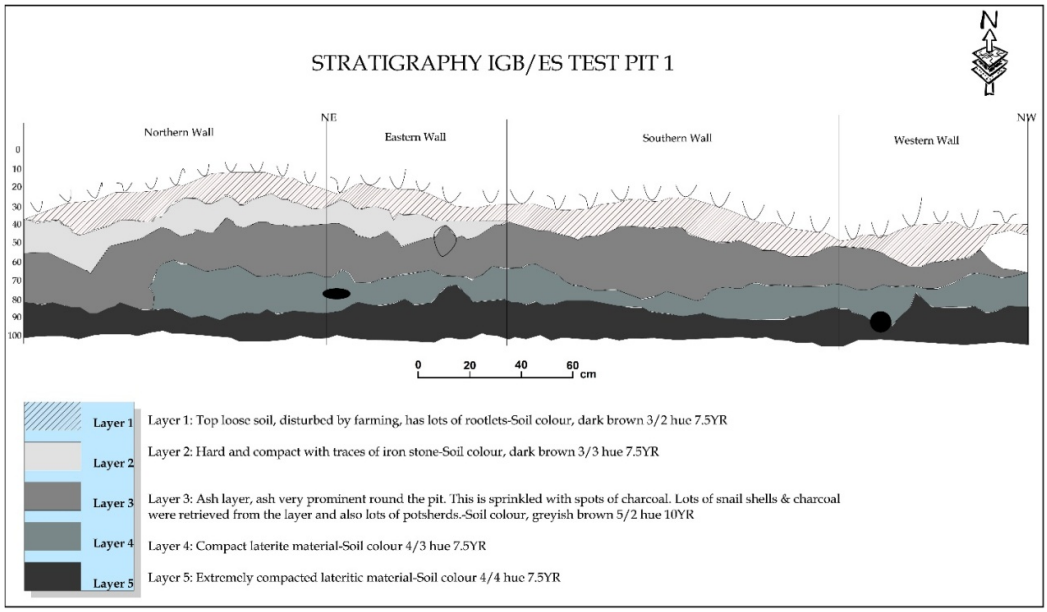

Fig.15: Stratigraphic profile of Test Pit 1

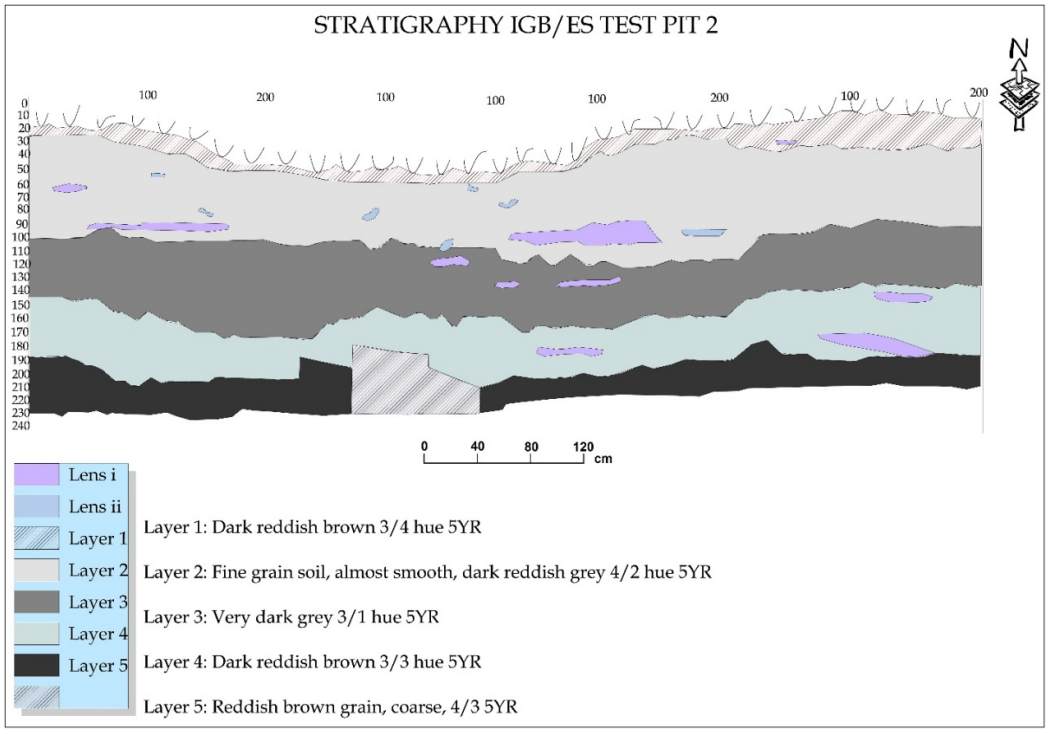

Fig. 16: Stratigraphic profile of Test Pit 2

4.4 Excavations at National Museum, Esie Test Pits 1, 2 and 3

Excavations were also carried out at the eastern side of premises of the National Museum Esie in collaboration with a team headed by Dr Lekan Akinade and other staff of the National Commission for Museum and Monuments. The spots excavated were the epicenter of the groove where the bulk of the figurines that were retrieved from Esie were recovered. Moreover as mentioned earlier, Opadeji and Ameje in 2006 had carried out salvage archaeological works in this area close to the fence of the museum following the fact that figurines were accidentally dug out during a mini-construction in the premises of the museum. Three pits were opened designated TP 1, 2 and 3. TP 1 and 2 were trenches of 3m by 3m while the third was 3 metres by 2 metres.

4.4.1 Test Pit 1, 2 and 3 of National Museum Site

The sterile was reached at 60cm. However as a result of the protrusions of cultural materials from the walls of the test pit, several extensions had to be made particularly to the north, south and east by 50cm by 2m, 2m by 2m and 1m by 3m respectively. The 0 cm-20cm levels of the extended areas contained deposit that was dark brown, hard, compact, sandy and difficult to dig.

Materials from the extended areas include fragments of soapstone sculptures, a partly broken soapstone head with fairly elaborate hairdo (See Fig. 19, 20, 21), a small polished stone axe, an iron object (precisely a small rod), terracotta fragments, soapstone human heads and a soapstone pedestal with two feet on it.

Test pit 2 was sunk adjacent to Test pit 1. We got to sterile at 40 cm though the soil became very hard and lateritic at 35cm. Materials recovered from the pit include potsherds, soapstone fragments, baked clay materials and a terracotta human head which was observed at a depth of 25cm.

Unlike test pits 1and 2, test pit three yielded little cultural materials. Small quantities of potsherds and some fragments of soapstones were retrieved. The sterile was reached at 60cm when the soil became reddish brown, compact, gritty and hard. At the earlier spit levels, 1cm-50cm, it was observed that the soil was dark brown, compact, hard and tended to be difficult to dig.

Fig. 17: Digging the extension of Test Pit 1 of the National Museum Esie

Fig.18: Clusters of soapstone protruding from the wall of Test Pit 1 of the National Museum Esie

Fig. 19: A partly broken soapstone head recovered from Test pit 1 of the National Museum Esie

Excavations were also carried out at the eastern side of premises of the National Museum Esie in collaboration with a team headed by Dr Lekan Akinade and other staff of the National Commission for Museum and Monuments. The spots excavated were the epicenter of the groove where the bulk of the figurines that were retrieved from Esie were recovered. Moreover as mentioned earlier, Opadeji and Ameje in 2006 had carried out salvage archaeological works in this area close to the fence of the museum following the fact that figurines were accidentally dug out during a mini-construction in the premises of the museum.

Three pits were opened designated TP 1, 2 and 3. TP 1 and 2 were trenches of 3m by 3m while the third was 3 metres by 2 metres. The excavations of these test pits which could have enriched our understanding of the mystery of the Esie soapstone figurines were however not properly managed. For instance, there was an undue emphasis towards the retrieval of soap stone figurine objects.

Secondly, objects were not carefully handled to reveal their three dimensional patterning particularly in their primary context. There was a palpable excitement to take photographs with partly broken figurines even during the process of the retrieval from the trench.

CHAPTER FIVE

Analyses of Finds and Results

5.1 Pottery Analysis

A comprehensive approach involving a combination of geometric, typological and functional analyses was adopted for this work. This is with a view to obtaining more detailed information which might help to throw light on variations in pottery and other aspects of the cultural life of the people of Esie. Unlike the traditional analysis done in the past (that is, a focus on technological and typological analyses- pottery formation, decoration, firing, types of raw materials) the comprehensive approach provides a template to derive as much information as possible about potsherds and their makers (Aleru, 2006). The preliminary classification of the various potsherds enabled us to delimit to about five main categories and these are (i) the undecorated rims (ii) the decorated rims (iii) the undecorated body sherds (iv) the decorated body sherds (iv) others.

The various sherds were weighed and counted and were subsequently cross-checked with the field notes to ensure correctness. The rim sherds were measured for diameter and thickness. Attributes as decorative motifs and techniques were some of the quantitative data utilized to separate the various decorated rims which were the first to be worked upon. The known decorative types found include twisted string roulette, maize cob, zig- zag lines and composite or multiple designs. Rims with several decorations (or composites) were classified according to design combinations. Such were seen as multiplication of simple examples or division of complex classes.

In order to standardise the classification, composite decoration is considered a separate mode depending on the variation in design motifs or decoration elements represented. However there was a major problem encountered in the categorization, this had to do with the fragmentation of sherds and the lack of whole vessels which made classification into composite groups difficult.

5.1.1 Pottery in Yorubaland

As described by Soper, (1983) and Aleru, (2006) the various decorative techniques in Yorubaland are about five and these are:

(i) Smoothing: This entails a process in which certain tools (maybe a leaf, smooth stone, leather or cloth) are used to consolidate the external and internal surfaces.

Aleru (2006) identified 3 sub classes under this category (a) is undecorated plain body sherds, most of the analysed body sherds from Esie fall into this category (b) is the burnished type. Burnishing involves the use of water worn pebbles or other smooth stones. The stones are used to smoothen the rough external surfaces. Burnishing gives the pot a shiny smooth surface. (c) In slipping, the hot vessel is doused with a vanish. In most areas in north central Yoruba land, Esie inclusive, the most common vanish is prepared from locust bean pods and this makes the pottery shine black and also enhances pebble burnished areas.

(ii) Rouletting: Rouletting could be by the use of twisted string, grass, de-seeded cobs of maize or carved pieces of wood. They are basically achieved by rolling the objects across the surface of the vessel. Roulettes produced a variety of impression depending on the type of the objects used. String roulettes produce regularly recurring raised areas while the twisted cord produce regularly recurring elliptically depressed areas separated by depressed lines. The popular roulettes in Yoruba land are mainly twisted string or grass-this may be single or double twisted, maize cob-which is by rolling a de-seeded maize cob on the wet clay. Maize cob roulette has the archaeological advantage of being a chronological indicator since maize was introduced recently from the new world in the 16^{th} century (fig. 20)

(iii) Grooves and ridges are made on pots with a small stick that are hallowed to have two projections. The projections are usually not very long so as not to project deep cuts to the surface of the pots. In order to achieve grooving, the hallowed or single pointed stick is dragged on its surface to form different kinds of motifs depending on the design the potter intended.

(iv)Stamping and punctates are done by impressing at short intervals with sharp pointed or comb-like objects on the surface of a pot when it is leather hard.

(v)Applied –the common motifs here are bossing and cordon.

Fig. 20: The researcher (Kola Adekola) during one of the pottery classification sessions inside the Esie museum

5.1.2 Rim Sherds

Rim sherds were analysed to obtain information about the different vessel types that were discovered in Esie archaeological assemblage. The criterion used for this was rim morphology that is the shape or form of the rim. On the basis of this, the rimsherds were classified as in turned, out-turned, thin, thick or flat topped. Basically, three broad classes of jar vessels were identified and these we are referred to as types I, (Ikoko) II, (Ape) and III (Amu). In type I vessel jar, the group of pots has thick, prominent rims. They are common in Yoruba land, Esie inclusive and are often popularly referred to as'Ikoko'. They are mostly used for storage purposes. It could be storage of water, foodstuffs such as grains particularly maize and yam flour. At times they are used in the local traditional industries such as local brewery. These types were common in the assemblage.

Type II has vessels that have moderately thick everted and grooved rims; some of the vessel types also have thin rims. They are commonly referred to as 'ape' in Yoruba land and are used for cooking and boiling. Types III have prominent thin everted rims with constricted neck. They are used for the storage of water and grains. They are popularly referred to as 'amu'. As the case with the pots, there are about three categories of bowls. The type I bowls have everted rims with grooved tops, some others in this category have thin rims. These are shallow bowls which are referred to as 'agbada' in Yorubaland. They are in most parts of Yoruba land used for frying bean cake, leftover food and plantain. The type II bowls have everted rims with carination at the shoulder. They are used for cooking soup or stew. They are referred to as 'Isaasun'. Isaasun has a variant which possess more prominent everted rims with constricted necks. These are used for making bean soup known as 'gbegiri' among the Yoruba. The type III consists mainly of the ritual bowls known as awo-ifa. Unlike the type I and II bowls, they are not so common (see table 1).

5.1.3 Body Sherds

Table 1: Pottery decoration of Body Sherds, Test Pit 1 (Igbo-Ilowe)

Decoration Type	Surface	0-40	40-50	50-60	60-70	70-80	80-90	Total	Percentage (%)
Plain	9	30	5	10	0	20	-	74	15.26
Eroded	20	73	-	16	16	6	-	131	27.01
Maize cob	19	31	10	4	-	3	-	67	13.81
Maize ear	31	47	11	7	12	11	-	119	24.54
Groove	2	6	5	2	9	2	-	26	5.36
Burnished	1	3	8	-	5	6	-	23	4.74
Incision	-	7	-	-	8	-	-	15	3.09
Carved roulette	-	-	-	-	-	4	-	4	0.82
Wavy line incision	-	-	-	-	-	2	-	2	0.41
Double string roulette	-	1	1	-	-	8	-	10	2.06
Punctuate	-	-	-	1	2	-	-	3	0.62
Total	73	198	50	40	62	62	-	485	97.73

For TP 1, the sherds retrieved were mostly body sherds. This could be a result of the fact that the soil has been disturbed greatly by farming. A total of 465 body sherds were retrieved. Of this number, 73 representing 15.0% of the total sherds were from the surface. The major decorative types represented are mainly maize hair, groove, burnished, incision, carved roulette, wavy line incision, double string roulette and punctate. The plain body sherds were 74 or 15.260%, eroded 131or 27.0.%, maize cob 67 or 13.8%, maize ear 119 or 24.5%, groove 26 or 5.3%, burnished 23 or 4.7%, incision 8 or 1.6%, carved roulette 4 or 0.8%, wavy line incision 2 or 0.4%, double string roulette 10 or 0.6% and punctate 3 or 0.8% respectively.

Table 2: Pottery decoration of Rims Test Pit 2 (Igbo Ilowe)

Decoration Type	0-10cm	10-20cm	20-30cm	30-40cm	40-50cm	50-60cm	60-70cm	70-80cm	80-90cm	90-100cm	100-110cm	110-120cm	120-130cm	130-140cm	140-150cm	150-160cm	160-170cm	170-180cm	180-190cm	190-200cm	200-210cm	Total	%
Groove	6	1	-	1	11	3	-	2	2	-	-	-	1	-	1	-	-	-	-	-	-	28	5.63
Plain	8	4	5	10	23	5	8	27	9	7	16	7	1	6	6	7	4	3	1	1		158	31.8
Incision	-	1	-	3	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	1.61
Wavy line Incision	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0.80
Zigzag incision	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	0.20
Single Twisted Cord	2	1	8	2	5	2	-	-	1	3	-	-	-	-	-	3	1	-	-	3	-	31	6.24
Double Twisted Cord	1	-	-	1	-	-	-	-	-	-	-	-	1	-	1	-	1	-	-	-	-	5	1.01
Eroded	1	7	1	1	7	-	-	-	1	-	-	-	2	2	-	-	-	2	-	-	-	24	4.83
Burnished	10	11	30	9	13	13	4	23	8	13	7	9	12	6	6	12	7	12	4	5	5	219	44.06
Punctuate	-	-	-	2	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	4	0.80
Circus Stylus + Punctuate + Incision	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.20
Leaf Impression	-	-	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.60
Maize cob	-	-	-	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	3	0.60
Carved Roulette	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.20
Wavy + Single Twisted + Groove	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.20
Circus Stylus	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	1	-	1	4	0.80
Zigzag Incision	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	0.20
Applied Relief	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	0.20
Total	28	26	45	33	65	24	14	55	24	24	24	16	17	15	14	22	13	17	6	9	6	497	100.00

From Table 2, it can be observed that of 497 decorated rim sherds were represented in TP 2. 158 or 31% of them were plain while 219 or 44% were burnished (Fig. 23 shows the statistical representations of the values in form of a bar, chart).

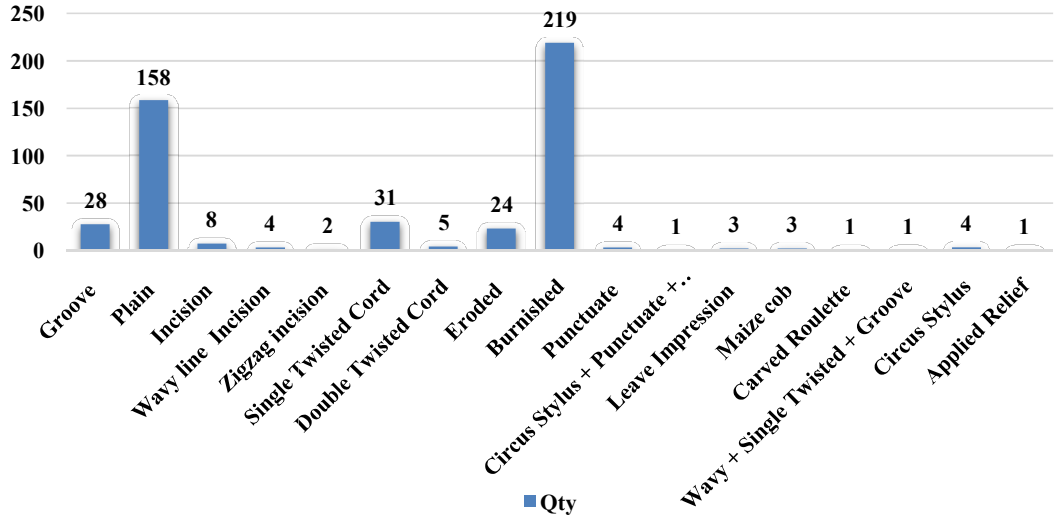

Fig. 21: Bar chart representation of Pottery Decoration Rims TP 2

Table 3: Pottery Decoration of BodysherdTest Pit 2 (Igbo-Ilowe)

Decoration	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	200-210	Total	Percentage (%)
Plain	48	69	61	91	75	37	28	109	71	40	51	43	47	63	63	59	66	14	17	29	14	1,095	29.00
Single String	15	12	39	35	27	16	7	43	28	27	21	8	22	20	10	7	12	8	5	3	2	367	9.72
Double String	-	17	21	26	17	4	6	17	4	-	6	3	2	2	3	2	1	3	-	-	1	135	3.58
Groove	6	10	-	-	11	7	4	17	7	8	28	8	15	6	10	9	2	10	2	2	5	167	4.42
Burnished	5	28	22	19	30	31	6	56	43	21	11	5	8	8	18	11	6	5	3	8	3	347	9.19
Incision (line)	24	17	-	-	1	-	-	7	20	4	-	7	-	7	6	8	-	5	-	-	8	114	3.02
Wavy Incision	1	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.08
Groove + Incision	-	1	2	1	3	-	-	3	2	2	-	-	-	-	-	2	1	2	1	1	-	21	0.56
Multiple Horizontal Incision	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.03
Single String + Incision	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.05
Wavy Incision + Double String	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.03
Groove + Wavy Incision	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	4	0.11
Punctuate	4	-	5	-	-	-	-	-	-	-	-	3	2	-	2	-	-	-	-	-	-	16	0.42
Groove + Punctate	2	-	18	-	-	-	-	4	-	1	-	-	-	-	1	-	-	-	-	-	-	26	0.69
Excision	9	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	0.82
Carved Roulette	1	2	-	-	-	-	-	2	2	-	4	-	-	-	-	-	-	-	-	-	-	11	0.29
Single String + Groove	1	-	3	2	-	-	-	-	-	2	4	2	3	-	-	-	1	4	-	-	4	26	0.69
Groove + Double Twisted Coved		1	-	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	0.21
Maize Cob	-	-	36	-	44	1	-	23	7	1	1	8	-	-	-	-	4	5	5	7	2	144	3.81
Badly Done Maize Cab	-	-	-	23	-	27	23	84	14	23	15	11	14	15	9	28	9	5	8	2	3	313	8.29
Eroded	27	35	44	53	73	100	45	140	55	26	42	41	27	34	28	37	22	12	11	20	18	890	23.57

Decoration	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	200-210	Total	Percentage (%)
Groove + Punctate + Multiple Horizontal	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.03
Punctate + Groove + Single String	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2	0.05
Maize Cab + Groove	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.08
Perforated	-	-	-	-	-	4	-	3	2	5	2	-	1	-	-	-	-	-	-	3	-	20	0.53
Groove + Leaf Impression	-	-	-	-	-	2	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	4	0.11
Groove + Punctate + Incision	-	-	-	-	3	-	2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	6	0.16
Carved + Groove	-	-	-	-	5	-	2	2	-	-	-	-	-	-	-	2	-	-	-	-	-	11	0.29
Carved + Leaf Impression	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2	0.05
Groove + Carved + Punctate	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	0.03
Punctuate + Leaf Impression	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.03
Groove + Maize Cob	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	0.03
Double Twisted + Perforated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	0.03
Carved + Punctate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	0.03
Total	143	218	253	255	294	230	125	510	260	160	185	139	142	156	150	171	124	74	52	75	60	3776	100.00

The various decorative motifs represented in the body sherds of TP 2 include plain, single string roulette, groove, burnished, incisions (line, wavy, multiple horizontal) excision, carved, maize cob and maize hair. Of the total decorated body sherds (3767), 890 or 23.6% of them were eroded; the plains were prevalent 1,045 or 27.7% while single strings constitute 367 or 9.74 %.(Fig. 22, 23, 24)

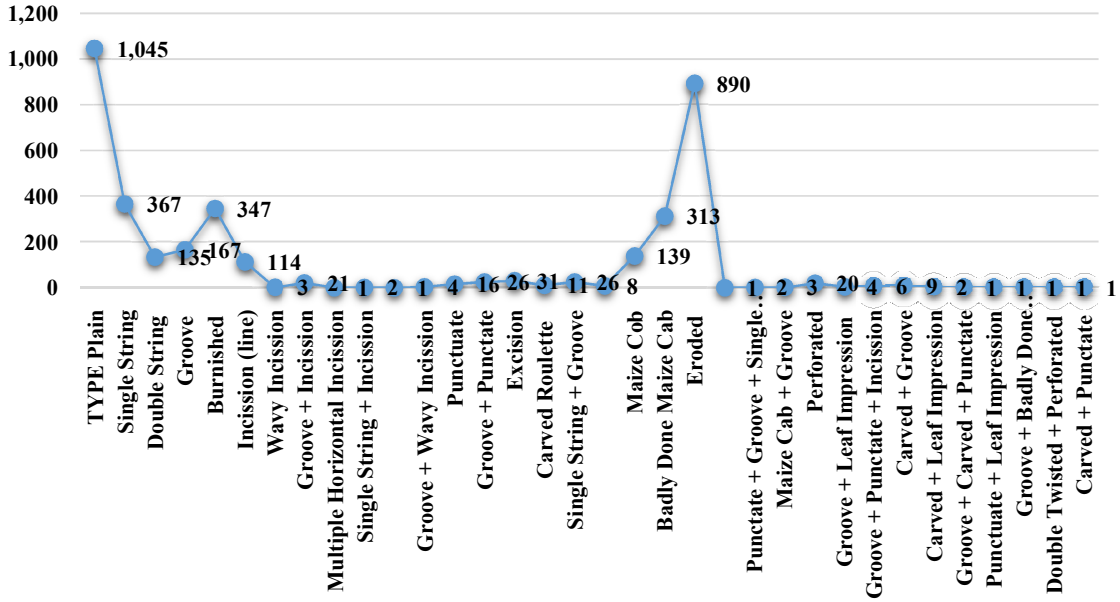

Fig. 22: Line graph representation of Pottery decoration body TP 2

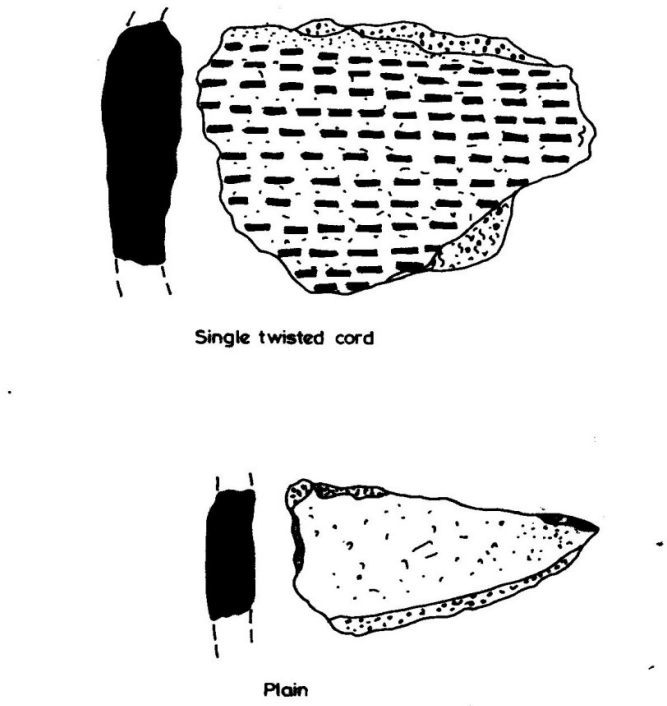

Fig. 23: Samples of some of the decorative motifs

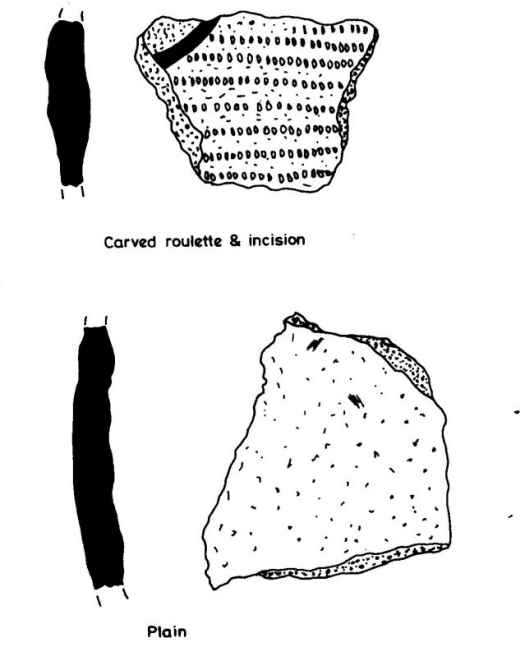

Fig. 24: Some of the decorative motifs at Esie

Table 4: Pottery Decoration of Body Test Pit1 of the Premises of the National Museum, Esie

Decoration	10-20cm	30-40cm	40-50cm	50-60cm	TOTAL	%
Composite Motif	-	2	1	-	3	0
Worn-out	8	171	363	47	583	64.8
Base	-	10	3	-	13	1.4
Applied Decoration	-	-	2	-	2	0
Plain	5	111	65	6	187	20.8
Shoulder	-	-	-	12	12	1.3
Linear Incision	-	1	-	-	1	0
Single twisted cord	-	19	19	16	54	6.0
Double twisted cord	1	8	7	3	16	1.7
Punctuate	-	-	1	-	1	0
Groove and punctuate	-	-	1	-	1	0
String roulette	-	-	-	-	-	-
Wavy incision	-	1	-	-	1	0
Carved roulette	1	7	-	-	8	1
Total	15	340	460	84	899	

From test pit 1, the decorative motifs identified include single twisted cord, punctuate, groove and punctate, carved roulette, string roulette, and wavy incision. The undiagonise/worn out constitute 64.8%, plain 20.8%, single twisted cord 6.0% and double twisted cord 1.7%. One hundred and fifty seven (157) plain body sherds were retrieved from the extension of the Eastern section of TP 1. Also recovered were 152 worn –out sherds (See Table 5).

Table 5: Pottery Decoration of body TP 1National Museum Eastern Extension Layers

	LAYER3	LAYER 4	TOTAL	%
Composite motif	-	5	5	7
Worn-out	11	141	152	37
Base	-	3	3	4
Applied decoration	-	2	2	2
Plain	18	139	157	38
Linear incision	-	-	-	-
Single twisted cord	3	29	32	8
Double twisted cord	4	14	18	4
Punctuate	-	1	1	1
Groove and punctuate	-	-	-	
Strip roulette	-	-	-	
Wavy incision	-	-	-	
Carved roulette	-	-	-	
TOTAL	36	334	370	

Table 6: Pottery Decoration of Body TP 2 National Museum

Decoration	10-20cm	20-30cm	30-40cm	TOTAL	%
Composite Motif	3	-	-	3	0
Worn out	-	-	335	335	52.3
Base	-	-	1	1	0
Applied decoration	-	-	-	-	-
Plain sherd	24	3	136	163	25.4
Shoulder	3	-	3	6	1
Linear Incision	-	-	-	-	-
Single twisted cord	8	-	70	78	12.1
Double twisted cord	7	-	34	41	6.4
Punctuate	2	-	5	7	1.0
Groove and punctuate	1	-	2	3	0
String roulette	-	-	-	-	-
Wavy incision	-	1	2	3	0
Carved roulette	-	-	-	-	
TOTAL	48	4	588	640	

5.2 Test Pit 1 and 2 (Igbo-Ilowe)

The artefactual materials from Esie sites include soap stones, other lithic objects, potsherds, palm kernels, animal bones, snail shells, iron objects, seeds, cowrie shell, crab fragments, fish bone, baked clay and beads.

In test pit 1 of Igbo-Ilowe, the total number of artefacts recovered from the excavations amount to 665. Of this number, potsherd accounted for 485 or more than 70% of the total finds. Organic matters (snail shells, palm kernels, bones) totalled 170 or 25.9% with complete snail shells been 144 or 21.9.6% plus several snail shell fragments, palm kernels 6 or 0.9%, bones 30 or 4.5% (see Table 7).

Table.7: Inventory of Finds Test Pit 1 (Igbo-Ilowe)

Decoration Type	Surface	0-40cm	40-50cm	50-60cm	60-70cm	70-80cm	80-90cm	Total	Percentage (%)
Organic Materials									
Palm Kernel	-	3	3	-	-	-	-	6	3.53
Bones	-	3	9	5	3	-	-	20	11.76
Snail Shell	-	20+ fragments	41 + fragments	10 + fragments	56 + fragment	17 + fragment	-	144 + fragment	84.71
Charcoal	*	*	*	*	*	*	*	*	
Total								170	100.00
Inorganic Materials									
Hearth	-	*	-	-	-	*	-	*	
Stone	-	-	-	-	-	3	-	3	60.00
Iron objects	-	-	-	-	-	1	-	1	20.00
Cowrie shell	-	-	-	-	1	-	-	1	20.00
Total	-	-	-	-			-	5	100.00
Pottery Finds									
Body	73	198	50	40	62	62	-	485	100
Total	**73**	**224**	**103**	**55**	**121**	**83**		**655**	

From the table, it is clear that the greatest number of materials was recovered from 0 cm-40cm spit level. Two hundred and twenty four (224) materials were collected from the level; this represents 34.1% of the total finds. This is made up of 198 potsherds or 30.2%, 3 palm kernels or 0.4%, 3 bones or 0.4% and 20 complete snail shells or 3.05%. The 60 cm-70cm spit level was next in terms of yield with a total of 121 or 18.4% cultural materials out of which 62 or 9.4% are potsherds, 56 or 8.5% snail shells and fragments, 3 or 0.38% bones. Lithic objects started appearing in the record from the 80 cm-90cm spit level. Three (3) or 0.38% stone objects were recovered while one (1) or 0.1% iron object also appeared for the very first time (Fig. 27are graphical representation of the values in forms of a pie chart).

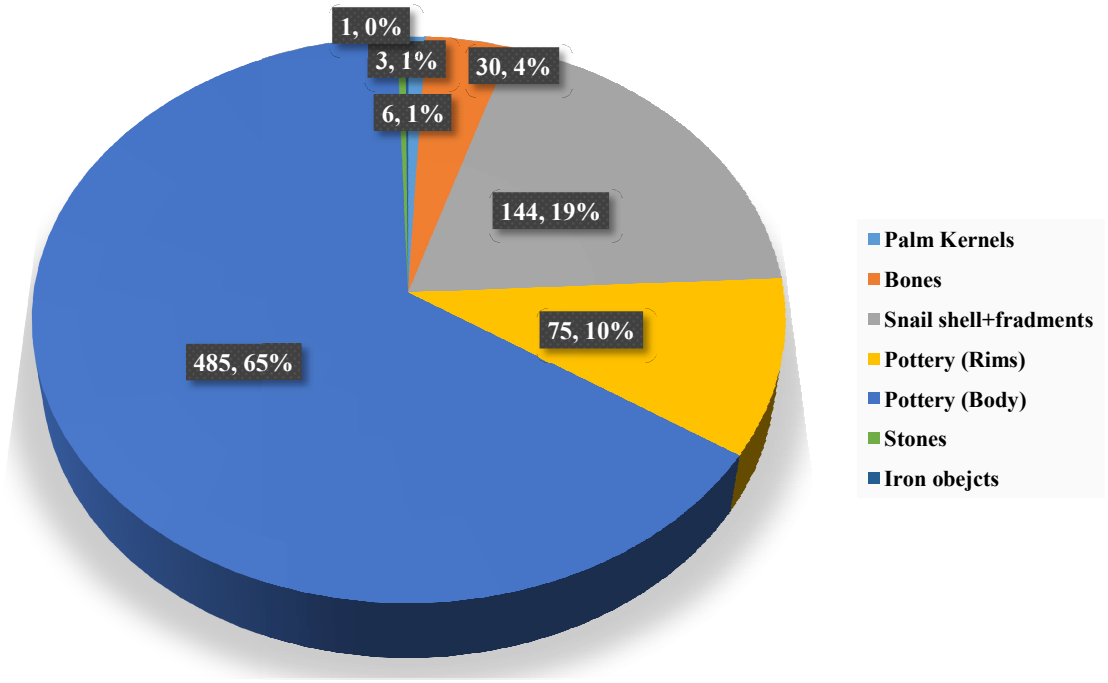

Fig. 25: Pie chart representation for the inventory of finds for TP1

Unlike IGB/ILTest pit 1, IGB/IL TP 2 provided us with more materials and even they were highly diversified (See Table 8)

Table 8: Inventory of Finds Test Pit 2 (Igbo-Ilowe)

Finds	0-10cm	10-20cm	20-30cm	30-40cm	40-50cm	50-60cm	60-70cm	70-80cm	80-90cm	90-100cm	100-110cm	110-120cm	120-130cm	130-140cm	140-150cm	150-160cm	160-170cm	170-180cm	180-190cm	190-200cm	200-210cm	Total	Percentage
ORGANIC																							
Palm Kernel	61	47	-	54	57	8	11	-	28	56	5	8	16	24	28	-	25	54	8	4	2	496	27.13
Snail Shell	47	47	45	15	45	17	67	63	13	12	13	24	10	6	8	3	6	16	6	19	7	489	26.75
Seeds	3	1	1	5	-	-	-	-	1	17	18	1	-	-	-	-	-	-	-	-	-	47	2.57
Bones	24	30	43	67	-	34	27	12	23	40	32	23	12	17	16	12	18	13	-	1	1	445	24.34
Charcoal	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	***	
Cowrie Shell	1	-	-	1	1	-	-	1		-	-	-	-	-	-	-	-	-	-	-	-	4	0.16
Crab Fragments	-	-	-	-	-	6	-	1	-	1	-	-	-	2	-	-	-	-	-	-	-	10	0.55
Teeth	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2	0.11
Fish Bone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	0.05
Lobster Shell		8	22	14	12	6	26	39	35	17	10	4	10	18	17	34	31	21	6	3	2	335	18.33
																						1,828	100.00
POTTERY																							
Rims	28	26	45	33	65	24	14	55	25	24	24	16	17	15	14	22	13	17	6	9	6	497	11.63
Body	143	218	253	255	294	230	125	510	260	160	185	139	142	156	150	171	124	74	52	75	60	3776	88.36
																						4273	100.00
INORGANIC																							
Metals	-	-	-	-	1	2	1	-	-	-	-	-	-	-	-	-	3	-	-	-	-	7	63.63
Hearth	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
Smoking Pipe	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	9.09
Beads	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	3	27.27
																						11	100.00
Stone Tools	-	-	-	20	106	109	77	48	69	28	46	25	100	92	57	89	53	34	27	45	30	1055	100.00

Materials retrieved from both the surface and the layers of the soil from IGB/IL TP 2 totaled 6,376. Of the number 1,828 or 28.6% are organic matters which are mainly palm kernels 496 or 7.7%, snail shells 489 or 7.6%, seeds 47 or 0.7%, animal bones 445 or 6.9%, cowries shells 3 or 0.04%, crab fragments 10 or 0.1%, animal teeth fragment 2 or 0.03%, fish bone 1 or 0.01% and lobster shells 335 or 5.2%. Charcoals are fully represented in the assemblage.

The inorganic materials are potsherds which constitute the bulk of the record. Potsherds alone account for 4,209 or 66% while other inorganic materials include metals 3 or 0.04%, smoking pipe 1 or 0.01%, beads 3 or 0.04% and stone tools 338 or 5.3%. The 100 cm-110cm spit level provided the highest concentration of cultural materials with a total of 671 or 10.5%, this is followed by the 60-70cm level with its materials being over 400 specifically 497 or 7.7% while a total of 391 or 6.1% cultural materials were excavated from the 110 cm-120cm spit level (Fig. 28 shows the statistical values in form of a bar chart)

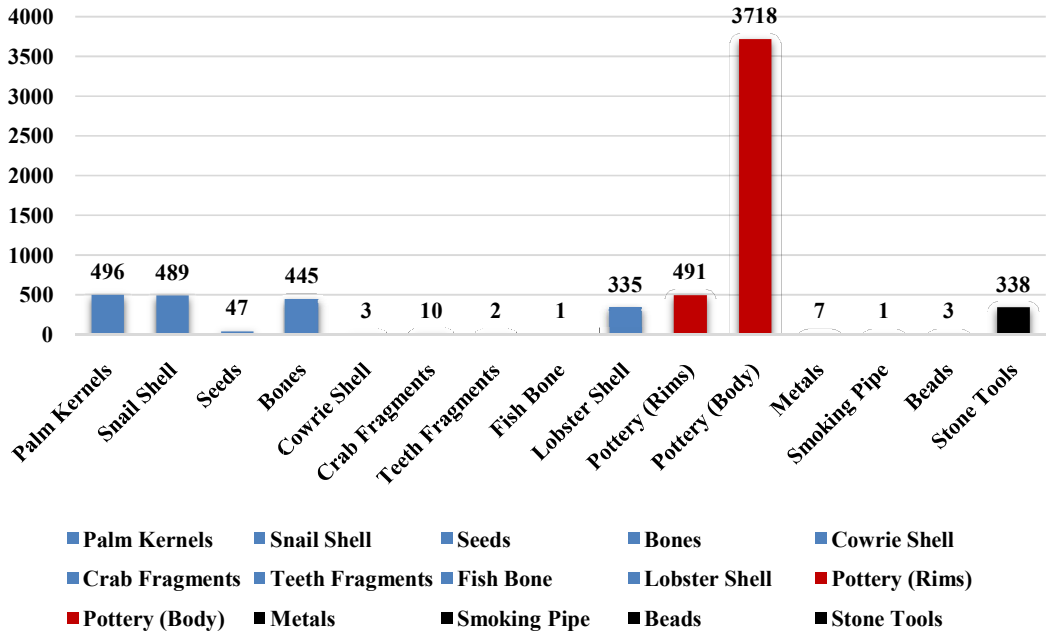

Fig. 26: Bar chart showing inventory of finds Test Pit 2

5.3 Lithic Analysis

Lithics materials recovered include soapstones, hand axe performs, flakes, points, borer, dimple stone, rolled pebble, chips, and fried pebbles.A total of 16 flakes-11.5%, 3 points-0.2%, 2 hand axe performs -0.1%, 220 chips-20.8%, 2 leaf shaped points-0.1%, 1 blade-0.09%, 1 trapezium -0.09% and 1 core blade-0.09% were in the assemblage. Others found include 3 single platform core-0.2%, 25 fired stones-2.3%, 6 rolled pebbles-0.5%, 1 borer-0.09%, 3 dimple stone-0.2%, 1backed blade-0.09% and 10 fried pebbles 0.9% The rest are 3 soapstone-0.2%, 1 awl-0.09%, 1 trapezoid-0.09%, 1 broken grinding stone-0.09%,4 pebbles-0.3%, 2 stone attempts that were unclear -0.1%, 1 undiagnostic -0.09% and 734 wastes -69.5%. A total of 16 flakes were recovered. The flakes were made from prepared cores. They could be very sharp. Often flakes were made through a process known as knapping, which involves the production of tools using lithic reduction. On the flakes, the striking platforms and bulbs of percussion are usually obvious. Flakes that are not retouched are usually seen as simple blanks or waste; sometimes they are used as tools.

Two hand axe preforms were retrieved. They were bifacial just like handaxes. They both have what looks like pointed ends and round bases. Hand axes are tools attached to the pre-historic period. It is the longest tool in human history as it spans over two million years in its use. One backed blade was in the assemblage. A backed blade is a blade that is intentionally dulled on a margin so that it can be hand-held safely. The piece tends toward rectangle in form with one of the edges blunt as a result of backing. A blade in itself is a detached piece with parallel or sub-parallel lateral margins. It is usually at least twice as long as it is wide.

Five points were retrieved. Of the five, two are leaf shaped points. They were recovered from the 40 cm-50cm spit level. The other points were from levels 30 cm-40cm (2) and 60 cm-70cm (1). Points have singular pointed end and two other edges, either blunted by backing or trimming or not worked at all.

The cores are mass of rocks that show signs of detached piece removal. Often cores are regarded as objective pieces that functions primarily as sources of detached pieces. They are generally residual lithic pieces that show scars where flakes and bladelets have been removed in a definitely designed pattern. We have a borer at 60cm-70cm level while an awl was retrieved at 200 cm-210cm spit level. Borers and awls are useful tools for creating holes. Seven hundred and thirty four wastes were recovered (see Table 9 and Fig. 29, 30).

Table 9: Lithic Classification

Type	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	200-210	Total	Percentage (%)
Flake	-	-	-	-	1	3	-	-	4	1	-	-	1	-	-	-	-	2	1	3		16	1.52
Points	-	-	-	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.28
Hand Axe Preform	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.19
Chips	-	-	-	-	17	13	12	15	19	18	3	-	12	-	-	14	11	11	13	33	29	220	20.85
Leaf Shaped Points	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.19
Blade	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.09
Trapezium	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.09
Core Flake	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.09
Single Platform Core	-	-	-	-	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3	0.28
Fired Stones	-	-	-	-	-	-	-	16	-	-	9	-	-	-	-	-	-	-	-	-	-	25	2.37
Rolled Pebble	-	-	-	-	-	1	-	1	-	1	-	-	3	-	-	-	-	-	-	-	-	6	0.57
Borer	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.09
Dimple Stone	-	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	3	0.28
Backed Blade	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	0.09
Fired Pebbles	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	10	0.95
Soapstone	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-	-	-	-	-	3	0.28
Awl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	0.09
Trapezoid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	0.09
Broken Grinding Stone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	0.09
Pebble	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3		4	0.38
Stones Attempts Double other Mat.	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.19
Undiagonistic	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.09
Wastes	-	-	-	16	82	88	63	14	45	6	24	24	75	90	55	73	40	20	13	6	-	734	69.57
Total	0	0	0	20	106	109	77	48	69	28	46	25	100	92	57	89	53	34	27	45	30	1055	100.00

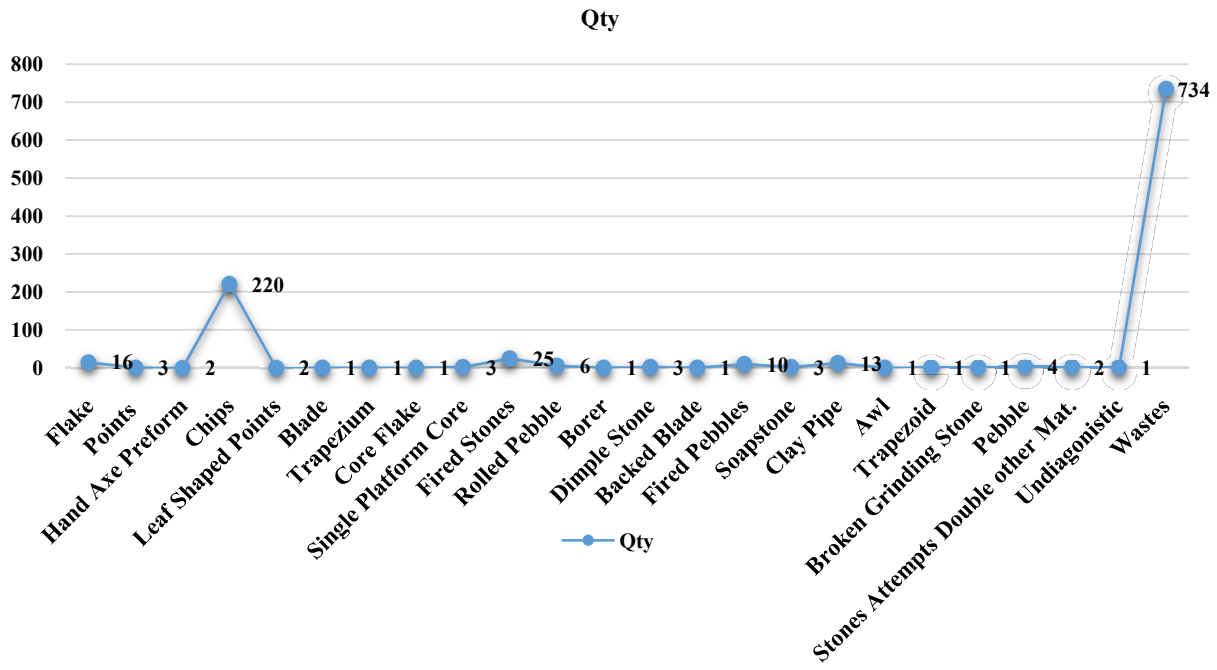

Fig. 27: Line graph representation of lithic classification

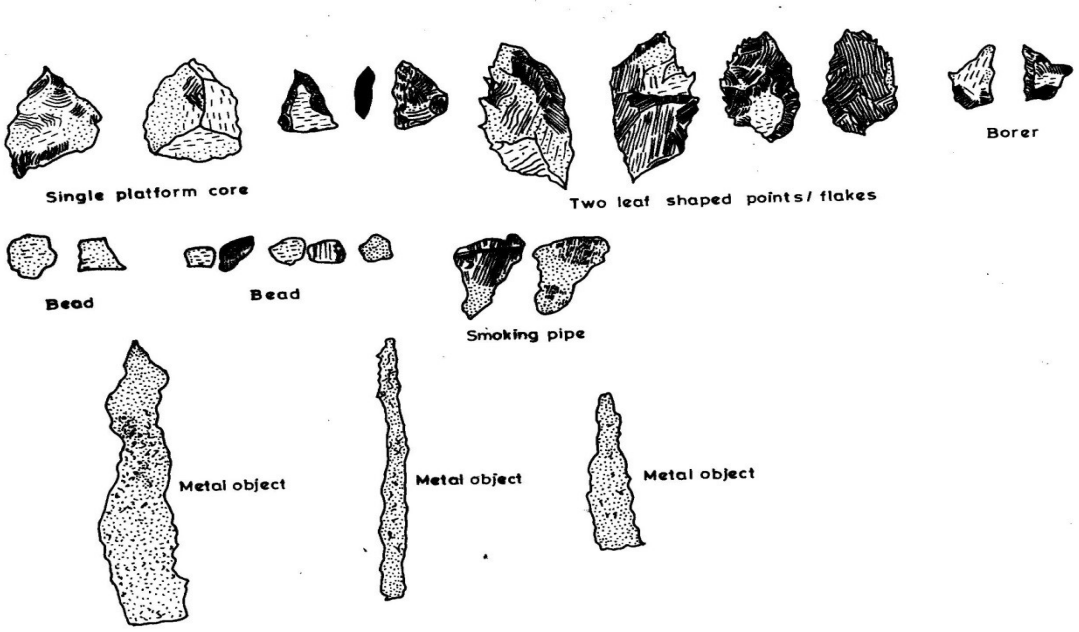

Fig. 28: Some of the cultural objects identified in Esie

It is, however, doubtful if these are tools. This is premised on the character and nature of quartz. Most of the materials are quartz. Quartz break very easily along their cleavage, therefore they could be naturally worked to appear like tools.

5.4. Cowrie Shells

Six cowries shells were recovered from the excavation of Test Pits 1and 2 of Igbo-Ilowe. The shells were of the type *Cypraeamoneta*popularly known as *'*owoeyo' in Yorubaland. Only one shell was retrieved from Test Pit 1 and it was from 60cm-70cm spit level. The rest were from Test Pit 2 from levels 0cm-10cm, 30cm-40cm, 40cm-50cm and 80cm-90cm respectively. They were angular in outline with lengths of 14mm, 16mm, 17mm, 18mm and 19mm.The cowries shells were analysed at the Sainsbury Research Units for the Arts of Africa, Oceania and the Americas, University of Anglia, England. This analysis was facilitated by Prof J.O. Aleru who was contacted by Prof Anne Haour for cowries from Nigeria. The analysis was carried out by Prof Anne Haour and Dr Annalisa Christie of the unit. The report of the analysis is presented below:

Six cowries specimens, representing five individuals, recovered from five contexts at Esie, were examined. The Esie specimens were examined alongside cowries shell assemblages from 27 other sites across West Africa dating to various periods from the 8th - 19th c. AD. A total of 113 cowries shells were examined from all the sites listed. The comments in this report should therefore be understood within the framework of this wider comparative study, which has enabled analysis of the shells spatially and chronologically.

Species

All of the specimens from Esie were identified as *Cypraeamoneta*, exhibiting the characteristic fine stubby teeth and dorsal tubercles of the species.

Condition

The specimens are in generally good condition with no flaking or bleaching. All the shells were base fragments (Table 10). Three of these were intact (with both the labial and collumellar sides present and joined) (RM2 Levels: 0 cm-10 cm, and 70 cm-80 cm

and RM 1 Level 60 cm-70 cm). The remaining fragments comprised 2 intact labial fragments (RM2 Levels: 30 cm-40 cm and 40 cm-50 cm) and 1 intact collumellarfragment missing the body whorl (RM2 Level: 40 cm-50 cm).

The labial and collumellar fragments from RM2 Level 40 cm-50 cm are from the same individual. There is evidence of a recent (post excavation) break on the anterior and posterior ends of the shell which has resulted in the fragmentation of an otherwise intact base.

Table 10: Shell identification and condition of Esie cowries

CONTEXT	SPECIES	CONDITION	MODIFICATION
RM2 0-10	*Cypraeamoneta*	Intact Base	Dorsum removed
RM2 30-40	*Cypraeamoneta*	Labial fragment	Dorsum removed (polished), burnt
RM2 40-50	*Cypraeamoneta*	Labial fragment	Dorsum removed (polished)
	Cypraeamoneta	Collumellar fragment	Dorsum removed (polished)
RM1 60-70	*Cypraeamoneta*	Intact Base	Dorsum removed (polished)
RM2 80-90	*Cypraeamoneta*	Intact Base	Partial dorsum perforation

SIZE

The length and width of the intact base fragments (RM2 Levels: 0 cm-10 cm, and 80 cm-90 cm and RM1 Level 60 cm-70 cm) were measured using digital callipers. It was not possible to record the size of the remaining specimens as they were too fragmented. Height was not measured for any of the shells because they had been modified.

The three measured specimens were compared to the size of *Cypraeamoneta* specimens in the wider assemblage. These shells are of average size in line with those from other West African assemblages (fig.29). Within the Esie assemblage, while the shells from the lower levels of the site are both of a similar size, the specimen from the upper level is bigger. Further data concerning the length of occupation at the site would be necessary to comment on the potential significance of this observation, but any comment would in any case be hampered by the small size of the sample.

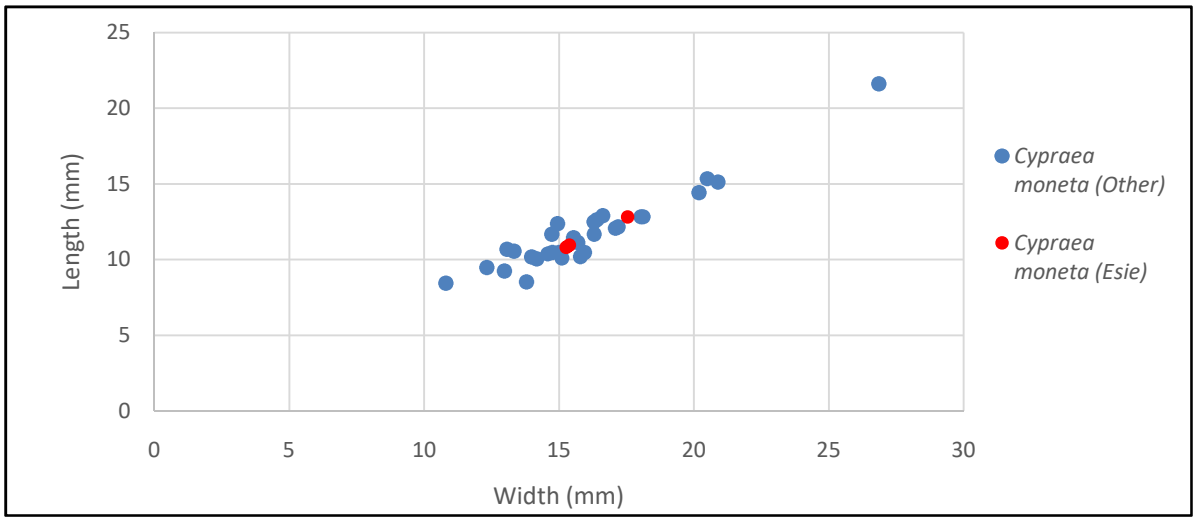

Fig.29: Comparative size of Esie cowrie Shells

Modification

All the shells examined from Esie evidence anthropogenic modification. Two modification practices were noted in this evaluation:

Total/ partial removal of the dorsum

Partial dorsum removal was observed in only one of the six specimens recorded (RM2 Level 80 cm-90 cm). While it is possible that this might have been a result of

natural taphonomic processes, the labial edge of the dorsal hole is notably more polished, suggesting this was the result of anthropogenic modification. The remaining part of the dorsum around the hole appears to have been smoothed (Fig. 30, 31).

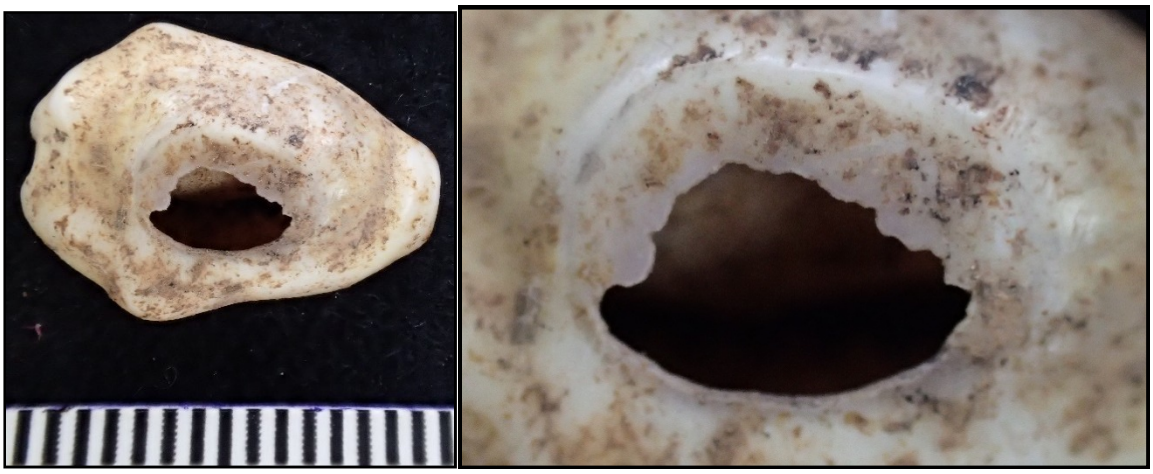

Fig.30:Partial dorsum perforation of cowrie shell from RM2 80-90

The dorsum had been completely removed in the remaining five shells. Microscopic assessment of the edges of dorsal holes on the specimens from RM2 Levels: 30 cm – 40cm, 40 cm –50 cm x 2 specimens and 60 cm-70 cm indicate polishing (Fig.30, 31).

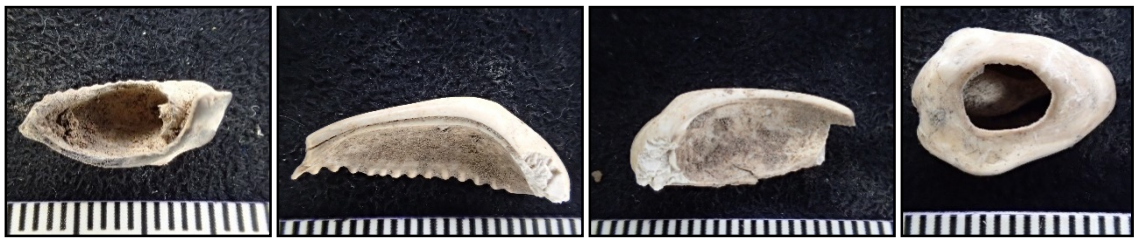

Fig. 31: Dorsum removal with polishing a) RM2 30 cm – 40 cm; b) RM2 40 cm – 50 cm labial fragment from same shell; c) RM2 40 cm – 50 cmcollumellar fragment from same shell; d) RM2 60 cm – 70cm.

The shell from RM2 Level 0 cm -10 cm is slightly polished, but not enough to remove the scalloped edges from around the hole (Fig.34). While it is possible that this specimen might have been modified by natural taphonomy, it is also possible that the represents an earlier stage in the modification process – where the shell has been perforated but not yet smoothed.

Fig.32: Cowrie shell specimen from RM2 0-10

Burning

Burning was noted on one specimen from RM 2 Level 30 cm-40 cm (fig. 32). This was indicated by the blackened grey colouration of the shell. Though burning is anthropogenic, it is unlikely that the shell itself was deliberately burnt.

Discussion

For the question of historical cowry usage in the Yoruba world, the key text is Ogundiran (2002) who explores why and how cowries were stripped of their external meanings and reconstituted within the frameworks of the Yoruba cultural traditions. Other authors have focused on the association of cowries with Yoruba divinities (Jeffreys 1948; Bascom 1993).

Generally speaking, it is said that one disadvantage of cowrie shells was the enormous amount of time required in order to count them; stringing would have been a useful time-saving device, and it is perhaps unsurprising that the Esie shells recovered were pierced. Eluyemi (1977) states that for the Yoruba, shells perforated by 'chipping or grinding' were called *owoeyo* and were strung on threads to make convenient units of currency; while unperforated ones were called *owoeyo* and were used in ritual contexts. This difference would be an interesting one to further explore through oral tradition interviews.

The fact that the Esie cowries are of the moneta species casts a new light on the default assumption, summarised by York (1972), that moneta were brought overland

before the fifteenth century overland from North Africa, originally from the Maldives, with annulus coming into use after sea links were established with the East African coast, and becoming predominant by the middle of the nineteenth century. The situation in the wider Yoruba world does seem more complicated, as has been discussed by a number of authors. In the Yoruba world, we only have indirect evidence of cowries before the Atlantic trade: it occurs in the form of cowry-shaped reliefs on ceramic figurines from Ile and from Ilare district, which are 12-15th century contexts (Ogundiran, 2002).

Ogundiran (2002) suggests that cowries – especially moneta – were present in small numbers, but little known and used, though employed in contexts linked to ritual activities, until the Atlantic trade changed this pattern of distribution by the end of the sixteenth century. The first major import of moneta cowries into West Africa via the Atlantic is thought to have arrived in Benin from the Indian Ocean via Lisbon in 1515 (Ogundiran 2002, Hogendorn and Johnson 2006). From then on, the monetisation of cowries spread westwards following the sequence of African-European trading ports on the coast, so that by the end of sixteenth century, these cowries had been adopted in Allada and were spreading to the Yoruba hinterlands. The impetus for the pan-regional adoption of cowry currency came from the imperial expansion of Old Ọyọ and Dahomey, the expansion of the local economy, and the high tide of cowries imports via coastal ports (Ogundiran, 2002).

Johnson (1970) has charted the process whereby European traders brought the larger annulus cowries to West Africa. This was at a later date. She suggests that a shipment of Zanzibari cowries arrived in Ouidah in AD 1845 as an experiment; these annulus cowries proved acceptable to the local palm oil traders, and thus started to be accepted; some were carried north, but in diminishing proportions as they moved inland. She suggests that by the 1890s, most of the cowries used in Togo and in Yoruba country were of the annulus species. Some areas refused them – one trader on the Gold Coast west of the Volta recalled a shipment being thrown into the sea, and in Igbo country east of the Niger, apart from the town of Onitsha itself, these larger cowries never penetrated (Johnson, 1970).

Eluyemi (1977) has suggested that the cowries from his excavations at

Isoya(14km south of Ife, thus, roughly 100km south/southeast of Esie) can serve as chronological markers. The overall picture from Site 1 at Isoya is of an increase in the number of cowrie shells over time and a change in the proportion of moneta and annulus, interpreted as evidence of the import of large numbers of annulus by Europeans, and their penetration inland. Eluyemi suggests a late nineteenth century date for the Isoya sites – partly on the nature of the cowries recovered, but also on the other artefacts recovered – gunflints and nineteenth century English smoking pipes in particular.

5.5 Beads

Three beads recovered from the excavations of Test pit 2 were submitted for analysis at the Laboratory of Field Museum, Chicago. The analyses were done by Abidemi Babalola and Laure Dussubieux. The results are presented below:

Report of Classification and Chemical Analysis of Some Vitrified Materials from Esie

This report present the results of the classification and chemical compositional analysis carried out on three vitrified materials recovered from excavated units 180cm-190cm and 200cm – 210cm at Esie in Northern Yorubaland, Southwest Nigeria. The samples were given to Dr. AbidemiBabalola by KolawoleAdekola who was the principal investigator of the Esie archaeological project. These materials were assumed to be glass beads, thus classification and compositional analyses were required for better understanding of the material. The classification was aimed at detailing all the visible variables in the materials to determine whether or not they are glass beads, and if they are to identify their technique of production. The compositional analysis on the other hand was targeted at examining and characterizing the chemical signature of the vitrified materials to help establish whether or not they are glass, and if they are glass to determine the source of the raw material. While the classificationentirely rely on close visual examination of the samples, the compositional analysis was carried out by Scanning Electron Microscopic (SEM) with Energy Dispersive Spectrometry (EDS) and Laser Ablation Inductively Coupled Plasma Mass Spectrometer (LA-ICP-MS) techniques. The next section describes the samples for the analysis including the provenience and classification based on the visual examination. The sample description is followed by a

discussion on the analytic methods, which is followed by the results of the analysis. The discussion section focuses on addressing the above-mentioned issues relating to the nature of the samples. The report is ended with a short conclusion that summarizes the results of the analysis and articulates the implication of the analysis on the present state of knowledge of pryotechnology in ancient Yorubaland.

Description of the samples

Examination of the submitted samples shows that those from units 180cm-190cm level belong to a single material. The sample must have been broken into two pieces during the excavations. The materials are opaque, dark brown, and tubular in shape. The length varies from 15mm to 18mm (Fig.35).Multiple striations parallel to the length are notices on the surface of all the samples. Lack of perforation in the artifacts and the coarsely brittle nature of the matrix raised a suspicion that the materials are not glass let alone glass beads, as initially suggested. Chemical analyses were then carried out on the sample to determine whether or not they are glass.

Fig. 33: Analyzed beadsample from Esie

Chemical analyses

Scanning Electron Microscopic (SEM) with Energy Dispersive Spectrometry (EDS)Small fragments from the sampleswere cut and mounted in epoxy resin, and properly polished. The sample was then examined in a JEOL JSM6610LV scanning electron microscope (SEM) and their chemical composition analyzed by Energy Dispersive Spectrometry (EDS). Few areas and spots were selected for compositional analysis. Only the major and minor elements were analyzed because of the inability of

the equipment to accurately analysis trace element. However, and as discussed below, Laser Ablation technique was able to help fill the gap. Analytical totals were in the order of 95 to 105 wt%. Deviations from 100 wt% reflect beam intensity variation and porosity of the sample. For easy comparison the data are reported as oxides by stoichiometry and normalized to 100 wt%. The sample was also studied for microstructural analysis. Unfortunately, no significant microstructure was observed to suggest a fully vitrified material.

The analyses were carried out at the Field Museum of Natural History in Chicago, USA, with Thermo ICAP Q Inductively Coupled Plasma - Mass Spectrometer (ICP-MS) connected to a New Wave UP213 laser for direct introduction of solid samples.

For better sensitivity, helium is used as a gas carrier in the laser. The choice of the parameters of the laser ablation not only will have an effect on the sensitivity of the method and the reproducibility of the measurements but also on the damage to the sample. To be able to determine elements with concentrations in the range of ppm and below while leaving a trace on the surface of the sample invisible to the naked eye, we use the single point analysis mode with a laser beam diameter of 80 μm, operating at 70 % of the laser energy (0.2 mJ) and at a pulse frequency of 15 Hz. A pre-ablation time of 20 s is set in order, first, to eliminate the transient part of the signal and, second, to be sure that a possible surface contamination or corrosion does not affect the results of the analysis. For each glass sample, the average of four measurements corrected from the blank is considered for the calculation of concentrations.

To improve reproducibility of measurements, the use of an internal standard is required to correct possible instrumental drifts or changes in the ablation efficiency. The element chosen as internal standard has to be present in relatively high concentration so its measurement is as accurate as possible. In order to obtain absolute concentrations for the analyzed elements, the concentration of the internal standard has to be known. The isotope Si29 was used for internal standardization. Concentrations for major elements, including silica, are calculated assuming that the sum of their concentrations in weight percent in glass is equal to 100 % (Gratuze, 1999).

Fully quantitative analyses are possible by using external standards. To prevent matrix effects, the composition of standards has to be as close as possible to that of the

samples. Two different series of standards are used to measure major, minor and trace elements. The first series of external standards are standard reference materials (SRM) manufactured by NIST: SRM 610 and SRM 612. Both of these standards are soda-lime-silica glass doped with trace elements in the range of 500 ppm (SRM 610) and 50 ppm (SRM 612). Certified values are available for a very limited number of elements. Concentrations from Pearce *et al.* (1997) will be used for the other elements. The second series of standards were manufactured by Corning. Glass B and D are glasses that match compositions of ancient glass (Brill, 1999).

Results

Fifty-six and nine elements were detected by LA-ICP-MS and SEM-EDS analytic techniques respectively (Table 11 and 12). Examination of the compositions shows that the results from both techniques are similar, especially when comparing the major and minor elements (Table 2) since SEM-EDS could not detect most, if not all, of the trace elements.

The samples are characterized by Sio_2 (~41 wt %), Al_2O_3 (~37 wt %), and FeO_3 (~10 wt %). While the Sio_2 content is significantly lower than what is expected for a silica-based glass, the concentrations of Al_2O_3 and FeO_3 are extremely higher than what is known for glass from most part of the globe. The content of MgO is high ranging between 4 and 5 wt% with corresponding significantly low content of CaO and K_2O ranging from 0.02 to 0.05 and 0.25 to 0.10 wt% respectively. However, the Na2 content appears to be moderate (~2 wt %).

Table 11: The composition of the sample analysed by LA-ICP-MS

Major and minor elements (wt%)	**SiO_2**	**Na_2O**	**MgO**	**Al_2O_3**	**P_2O_3**	**Cl**	**K_2O**	**CaO**	**MnO**	**Fe_2O_3**
	41.18	2.55	5.39	39.80	0.01	0.02	0.05	0.25	0.06	10.58
Trace elements (ppm)	Li	Be	B	Sc	Ti	V	Cr	Ni	Co	Cu
	26.94	6.96	23871.08	14.45	3885.45	241.35	122.07	49.40	52.49	28.37

Zn	As	Rb	Sr	Zr	Nb	Ag	In	Sn	Sb
764.41	0.24	0.31	259.30	0.13	0.21	0.10	0.13	17.20	0.91
Cs	**Ba**	**La**	**Ce**	**Pr**	**Ta**	**Au**	**Y**	**Pb**	**Bi**
0.03	2.06	1.92	1.77	0.26	0.21	0.01	0.08	15.41	0.07
U	**W**	**Mo**	**Nd**	**Sm**	**Eu**	**Gd**	**Tb**	**Dy**	**Ho**
0.08	0.13	0.06	0.38	0.07	0.09	0.03	0.02	0.04	0.02
Er	**Tm**	**Yb**	**Lu**	**Hf**	**Th**				
0.02	0.02	0.02	0.01	0.01	0.05				

Table 12: Comparing average concentration by LA-ICP-MS and SEM-EDS

	LA-ICP-MS	SEM-EDS
SiO_2	41.18	41.45
Na_2O	2.55	2.09
MgO	5.39	4.36
Al_2O_3	39.80	39.20
K_2O	0.05	0.02
CaO	0.25	0.10
MnO	0.06	0.13
Fe_2O_3	10.58	12.41

Discussion

Since the main objective of the analysis is to chemically characterize the 'assumed' glass artifacts, the discussion here will focus on two issues. First is to examine the result of the compositions to determine if the objects are glass or not. In this regards, the composition will be compared to the known glass compositional groups from around the globe. The second issue that will be discussed is to ascertain the type of mineral the materials must have come from, and their cultural use. This second line of discussion is hinged on the premise that the analyzed are not glass objects.

Are the samples glass?

The obvious answer is that the analyzed samples are not glass. The average concentrations of the major and minor elements that characterized ancient glass are inconsistent in the samples. For example, most ancient glasses in African as well as most part of the world are of soda-lime-silica. Glass of this kind is formed with soda rich alkali used a flux in the recipe. The soda content varies from 10 wt% to 18 wt% whether it is plant ash or mineral natron glass (e.g. Wedepohl*et. Al,* 2011). The compositional levels of magnesium and potassium are also important signatures of early glass. Magnesium content less than 1.5 wt% is known for mineral natron glass while anything above that up to ~5 wt% signifies plant or wood ash glass. These elements vary significantly in the Esie samples analyzed here. Also, as mentioned above, the silica concentration in the analyzed samples is too low to suggest glass material. Similarly, the potash and lime contents are far below that of any known group of ancient glass.

The content level of iron and alumina oxide is also important to examine if the samples are glass or not. The high iron content is unusual for glass. There is no known glass with such high iron content as seen in the analyzed samples, not even the Roman period's HIMT glass (High Iron Manganese Titanium) (Freestone 2005). Iron finds its way into ancient glass through two means: first as impurity naturally occur in the silica source, and second as a coloring agent deliberately added by the glassmakers (Henderson 2013). Even in both cases the iron oxide concentration appears as minor or trace element, which is not expected to be as high as we have it in the samples analyzed. The extremely high content of iron oxide in the samples therefore raises the question of *how* the element got into the materials and *what* made it so high. These questions would be touched on in the section below.

Considering the exceptionally high concentration of alumina oxide in the Esie samples, one can conclude that they are not glass objects. Alumina content in the main three known compositional groups of ancient glass rarely exceeds 4 wt% (Henderson, 2013). While there are elevated level of alumina oxide in the Chinese lead-barium glass and the Indian soda-alumina glass with concentration averaging 10 and 15 wt% (GanFuxi

2009; Dussubieux*et al* 2008), the alumina content of the Esie materials still outweigh these by about four times. Another glass compositional group one can compare the alumina oxide level in the Esie samples with is the recently identified indigenous Yoruba high lime high alumina (HLHA) glass (Lankton*et al* 2006; Freestore 2006; Babalola 2015; Babalola et al In press; Ogundiran and Ige 2015). The works of Lankton James, Ige Akin, and ThiloRehren (2006) and AbidemiBabalola (2015) on Ile-Ife glass and glass beads, and the work of Akin Ogundiran and Akin Ige (2015) on the glass beads from early Osogbo have established the alumina oxide content of the HLHA glass varies mostly between 12 and 18 wt%. The nonconformity of the concentration of most of the diagnostic elements in the Esie materials strong suggests that the samples represent some form of mineral, tourmaline to be precise. This could probably mean the beads were manufactured locally by the population that settled in Esie.

5.6 Smoking Pipes

One smoking pipe was recovered from our excavation at 110 cm-120cm spit level of Test Pit 2.Like cowries and beads, smoking pipes can also be used to establish tight chronologies and address the issues of social and economic change. The use of pipes predates the introduction of tobacco in the 16th century to West Africa. Pipes might have been used for smoking the leaves of plants such as *Daturametel* before tobacco. Tobacco smoking itself diffused to West Africa through various centres. Such include Timbuktu, the Senegambia or Sierra Leone coast, Accra and Bamba, a post between Timbuktu and Gao founded by the Moroccos in 1592-93(McIntosh, et-al, 2003).

Regardless of the precise routes of diffusion, tobacco smoking was almost universally adopted through much of Western Sudan. There are indicators that tobacco diffused and grew in popularity in West Africa mainly during the 17th century. By the 18th century, tobacco was common along the Middle Niger. Mungo Park (1797) commented in 1795 on its cultivation near the river, notably around Segu and the widespread practice of smoking.

5.7 Environmental Context of Esie Material Culture: Granulometric Analysis

Granulometric analysis was carried out in the geo-archaeology laboratory of the Department of Archaeology and Anthropology, University of Ibadan. This was done with the assistance of, Mr. YemiOlarinde, the Departmental geoarchaeology laboratory assistant.Ten samples recovered from the excavations of Test Pits 1 and 2 of Igbo-Ilowe were used for the analysis.

Forty grams of the pre-heated sample was placed in a pre-weighed 800mls beaker. 250millimiter hydrogen peroxide was added to the sample in the 800mls beaker. Effervescence occurred; this indicated the presence of organic matter. The hydrogen peroxide was solely for the purpose of removing the organic material in the soil sample. In a bid to allow for the complete removal of the organic matter, the reaction was allowed to run for four consecutive days.After the fourth day, the sample was diluted with distilled water, agitated and sieved in less than 63 micron mesh into another set of 800mls beakers. This allowed the separation of the silt (filtrate) from the coarse –grained sediments. The wet coarsed grained sediments were then placed in an evaporating dish and sun- dried until constant weights were achieved while the sediments that passed through the less than 63 micron mesh sieve, the filtrate, were then subjected to a settling technique. The objective of the settling technique was to determine the percentage of silt and clay in the samples. Plenty of distilled water was added to the filtrate and allowed to settle for a week, although it was observed on hourly basis from day to day. The settling of the sediment was disturbed by bubbles produced by hydrogen peroxide and few drops of 10% hydrochloric acid (Hcl) were added to neutralize the reacting hydrogen peroxide. When it was observed that the sediment had settled, and the solution remain clear, the water was decanted carefully.

The clay and silt retained in the beaker was then sun dried after which it was weighed and the % weight of clay and silt in the original sample were determined. The coarse grained sediment obtained earlier was then subjected to dry sieving technique by sieving the dried coarse grain sediment through a set of British standard sieves of various mesh sizes ranging from 2,800 micron to less than 63 micron arranged at interval. This was done by pouring the dry sample at the top of the sieves and then shaking the sieves vigorously. After sieving the retained materials on each sieve was collected and weighed.

With granulometric analysis, the size range of the particles (sand, silt and clay) in each of the soil samples was determined.In sample No 01, sand takes a dominant portion, constituting 69.7% while gravel, silt and clay were 19% and 10% respectively. The loss or gain is about 1%. The same trend occurs in sample numbers 02, 03, 04, 05, 06, 07and 08 with sand having 66% in sample 2, 789% in sample 3, 72% in sample 4, 63% in sample 5, 56% in sample 6, 52% in sample 7 and 58% in sample 8. The results of the analysis are presented in statistical details in form of bar chart line graph and pie chart illustrations in Figures 34-41 below.

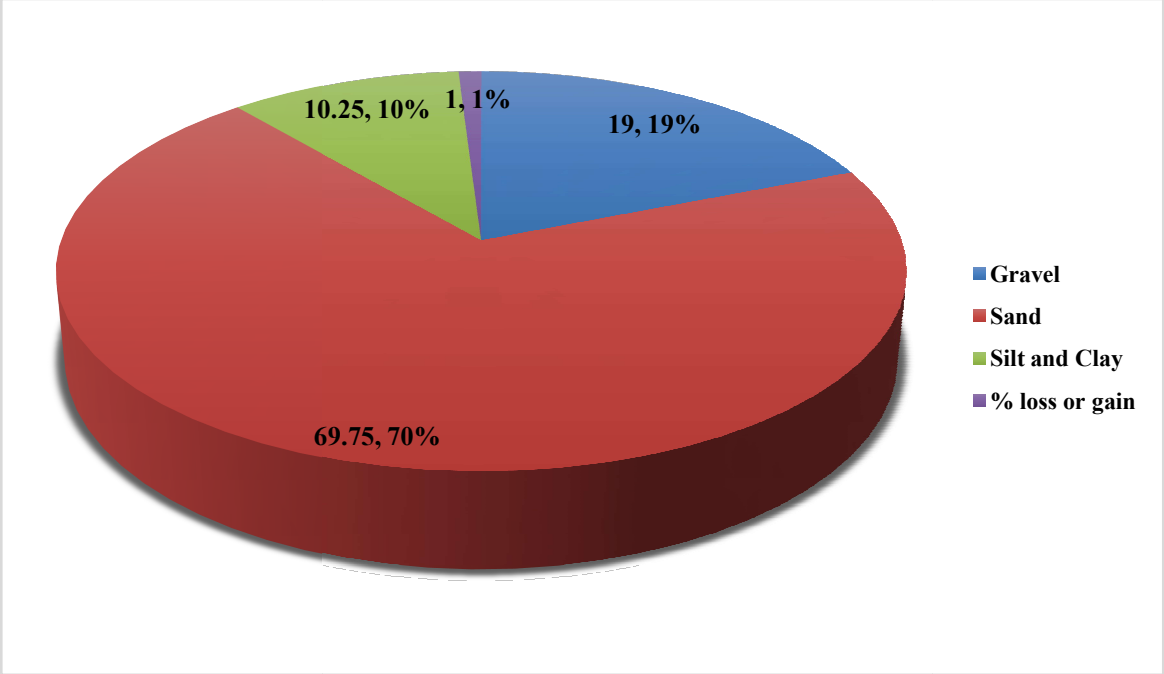

Fig. 34: Pie chart representation of the results from sample 01 of Test pit 2

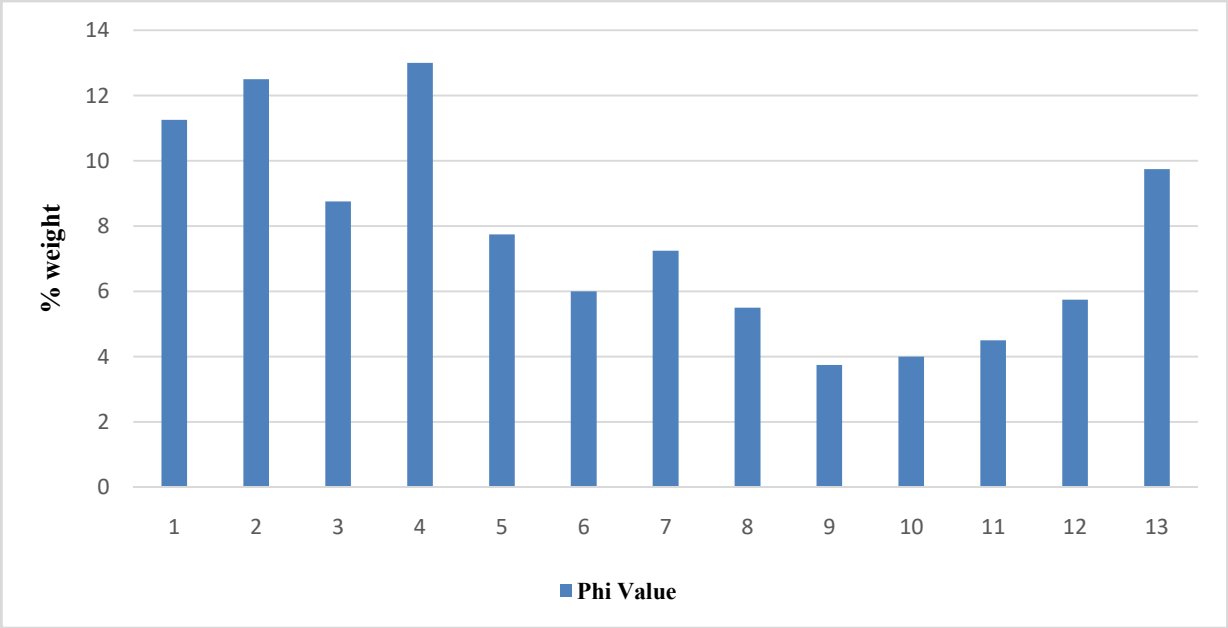

Fig. 35: Shows the bar chart representation of the results from sample 02 of Test pit 2

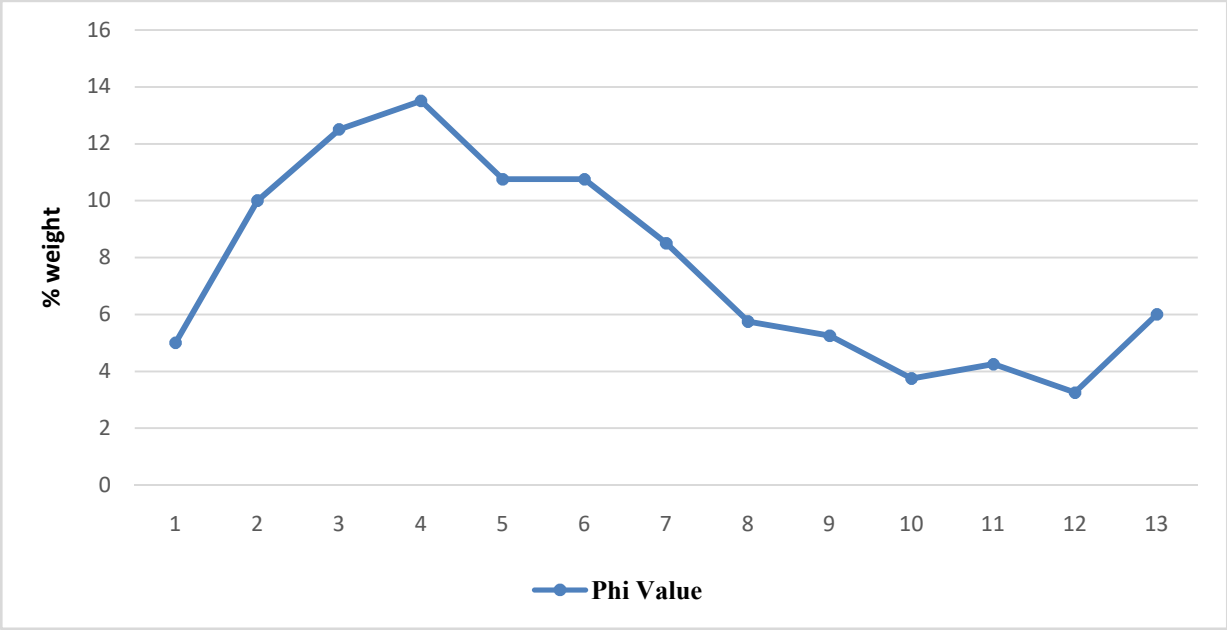

Fig. 36: Shows the line graph representation of the results from sample 03 of Test pit 2

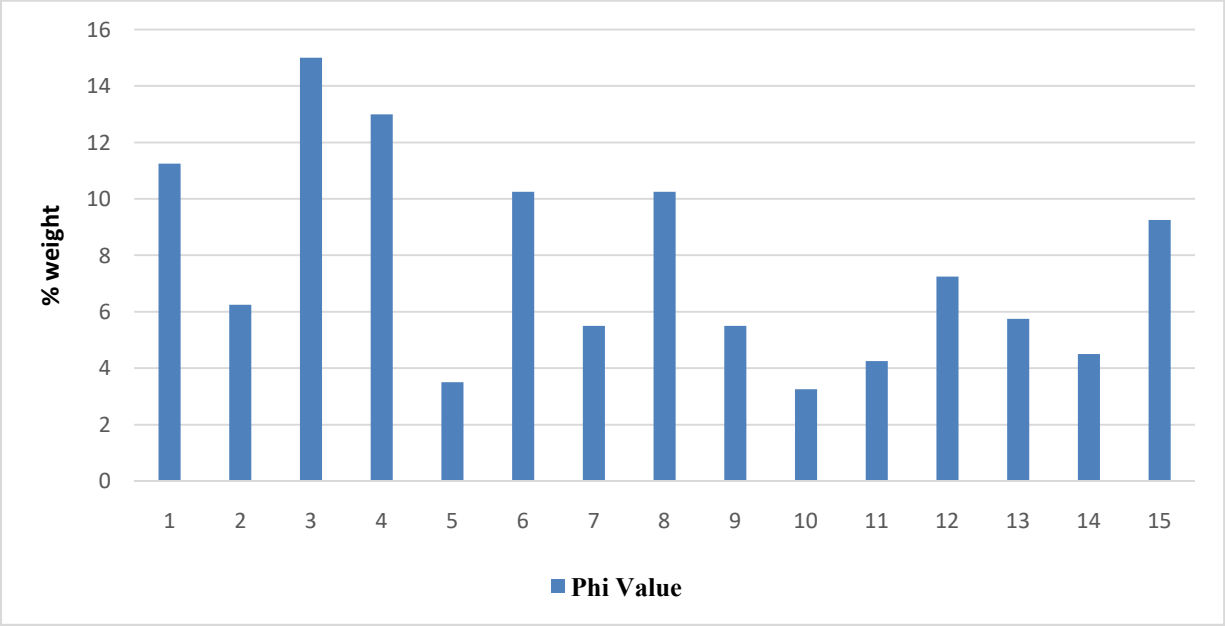

Fig. 37: shows the bar chart representation of results from sample 04 of Test pit 2

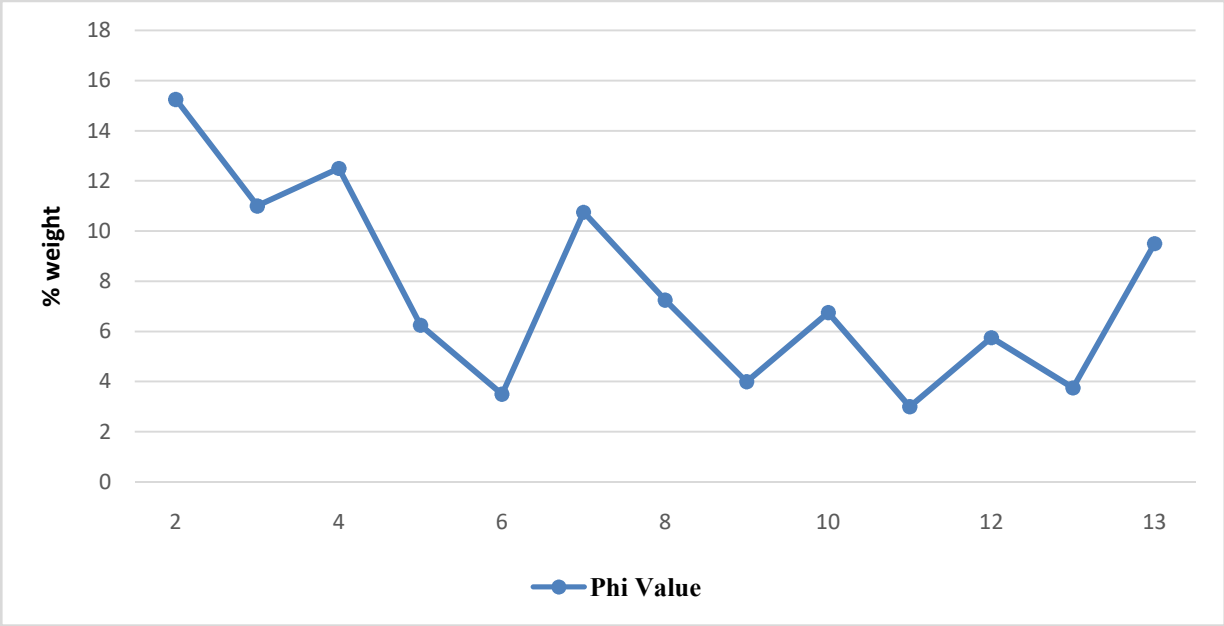

Fig. 38: shows the line graph representation of results from sample 05 of Test pit 2

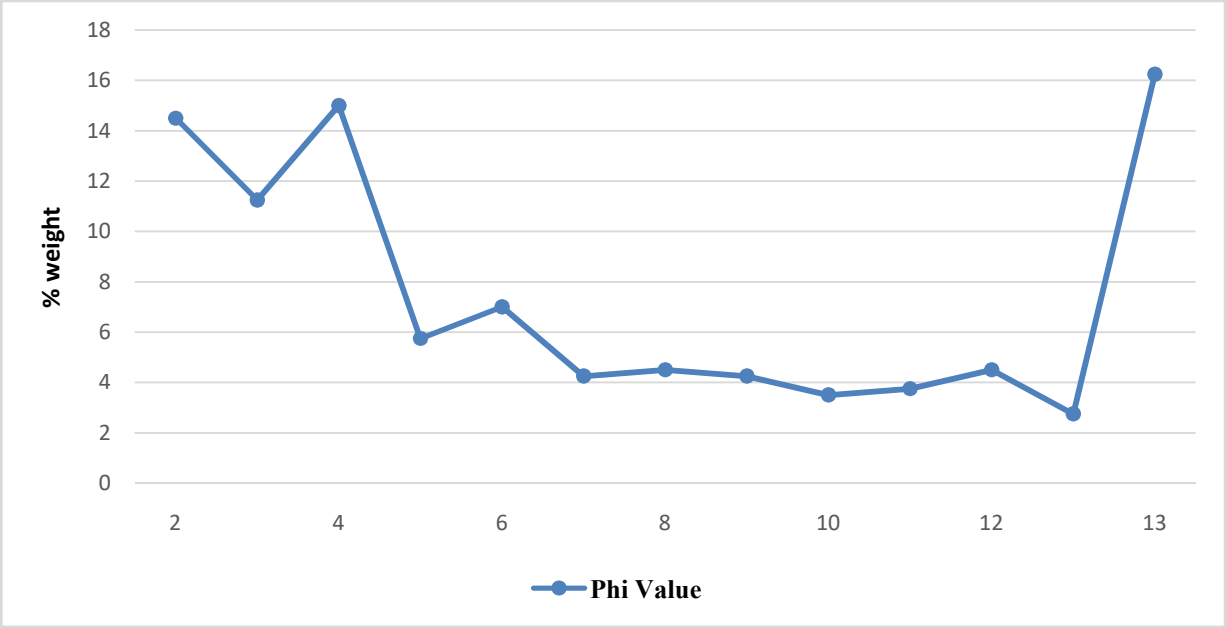

Fig. 39: Shows the line graph representation of results from sample 06 of Test pit 2

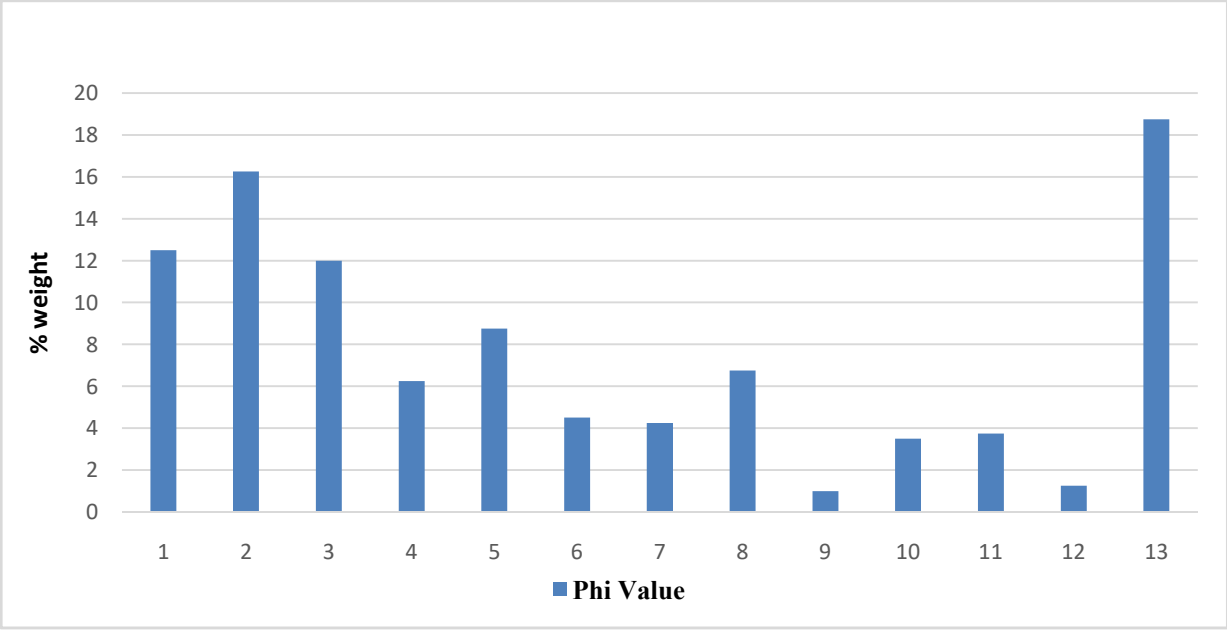

Fig. 40: Shows the bar chart representation of results from sample 07 of Test Pit 2

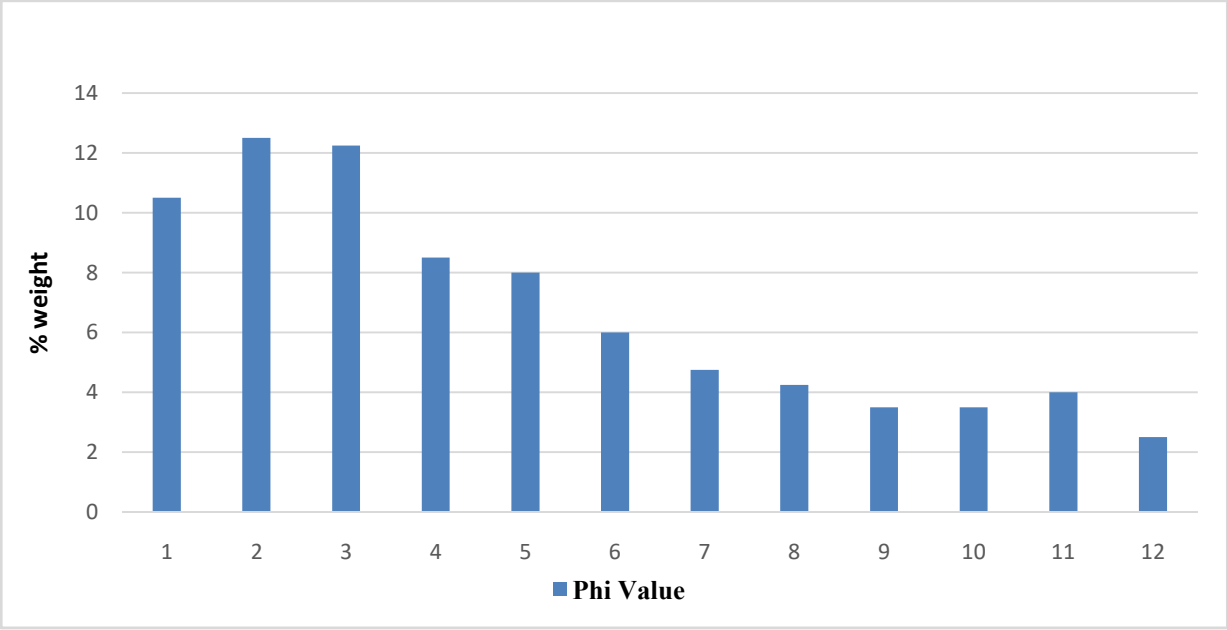

Fig. 41: Shows the bar chart representation of results from sample 08 of Test pit 2

5.8 Pollen Analysis

Six Samples were submitted for pollen analysis which was done by Mr (now Dr)EmuoborOrijemie at the Palynology laboratory of the Department of Archaeology and Anthropology, University of Ibadan. The samples were recovered from the excavation of Test Pit 2 of Igbo-Ilowe which yielded more cultural materials than the other sites investigated.Presented below are the details of the report produced for the writer on March 1st 2009 by EmuoborOrijemie.

The application of palynology to archaeological sites has long been recognized to be of great potential in environmental archaeology (Bryant and Halloway, 1996). Palynology has been used, with profound success in several parts of the world (Europe, the USA, South America, East and Southern Africa). Its use centered basically, among other things, on deciphering past human interrelationships with the environment, and vegetation history of an area. In Nigeria, its application in archaeology began with the analyses of samples excavated from the famous Iwo-Eleru rock shelter site in Ondo state by Mrs M.A Sowunmi in 1967. Since then, there have been several other attempts such as KariyaWuro, Bauchi State, (Sowunmi and Awosina, 1991) and Old Oyo, Oyo State, (Okutiyang, 2003).

The aims of this analysis are three fold. The first is to determine if there are pollens in the sediments. Second, if there are pollens there is the need to reconstruct the vegetation of the area, and third is to make an attempt to decipher the plants used by the past peoples and for what purposes.

The samples for pollen analysis are soils obtained from a test pit excavation from Esie in Kwara State, North Central Yorubaland. The site is named Igbo Ilowe Test pits 1&2 (IGB/ES TP1&2). Six samples were processed for pollen analysis. They were collected from levels 66cm and 88cm of Test Pit 1 and 220cm, 190cm, 170cm, and 120cm of Test Pit 2.A gram of each sample was subjected to standard pollen analysis procedures (Faegri and Iversen, 1989). After acetolysis, each sample was mounted on slides. Microscope study of the slides was done with an Olympus Ch 30 microscope with an attached camera; identification and counting were done under X40 objective. Pollen

and spores were generally very few and fairly well preserved though identification was possible. Counting also included charcoal particles analysis.

Results

All palynomorphs encountered during counting were recorded. Identification of palynomorphs wasdone by comparing with reference slides collection at the Palynology Laboratory, Department of Archaeology and Anthropology, University of Ibadan. This reference collection contains about 3600 pollen slides of extant species. Photomicrographs in albums at the laboratory as well as those in relevant literature were also used.From this study, 13 forms were recognized. Of this number, eight are pollen grains, four are spores (one fungal spore) while one was unidentified (see Table 13).

Table 13: Summarized results of pollen analysis

NO	Species	66cm	88cm	120cm	170cm	190cm	220cm
1	*Malpighiaceae*		1		2		4
2	*Cyperacae*		1				
3	*Poaceae*	1	1				3
4	*Alchorneasp*	1			1		
5	*Elaiesguineensis*	4		2	1		6
6	*Phyllanthussp*	1					
7	*Casuarinaequisetifolia*	1					
8	*Acabthaceae*						1
9	*Monolete spore*				1		
10	*Thelypterisgongylodes type*				1		

11	*Hypoxylonites elongates*			11	95		
12	Trilete spore				1		
13	Unidentified						1
14	Charcoal particles	1884	200	258	826	1480	499
15	TOTAL	8	2	3	6	3	14

Discussion

The pollen grains recovered are very few. The highest and lowest numbers of palynomorphs recovered per level are 14 and 2. They were from levels 220cm and 120cm respectively. Palynologically speaking, this cannot provide valid scientific conclusions on human impacts on the environment as well as the palaeo-environmental conditions of the area. As a rule, a minimum count of 200 grains per sample/level is needed to produce a pollen diagram of significant value (Sowunmi, 2003). In this context, anything other than this is usually treated with considerable caution.

The reason very few pollen were recovered may be due to the nature of the soils. The sediment samples were mainly sand and reddish brown in colour. Pollen grains do not preserve well in sandy soils because they are usually highly oxidized.*Hypoxylonites elongates* is the only fungal spore recovered, and is found in wet environments. Thus its presence may be an indication of such environments. However, its ooccurence is not consistent; it only occur in levels 120cm and 170cm. *Elaeisguineensis*(Oil Palm) is the only tree whose pollen appears fairly consistent. It occurs in all levels except 88cm. but this does not give much information because the total count is very scanty.

Palaeobotany

So far very little information about the palaeobotany of the site can be deduced. Evidently, the people utilized *E. guineensis* (Oil Palm) as can be seen from Table 1. From all indication, Oil palm is noted to be employed in a variety of ways ranging from food, soap, broom, oil wine, and fuel to medicine (Sowunmi, 1999).Furthermore, the presence of alchornea sp. Along with *E. Guineensis*at the time levels 66cm and 170cm were deposited seems to indicate some form of forest clearance. Both plants are pioneer elements of secondary or regenerating forest. Unfortunately, no pollen of weeds associated with human activities and forest clearance was recovered.The presence of *Casuarinaequisetifolia* is an indication that the site had been occupied by humans in the past. *C. equisetifoliaia*is a tree native of Australia is usually planted and used as ornamentals. What is left unknown is who planted the tree(s). It would be interesting to ascertain this, since the pollen was also recovered. As a result we cannot categorically say if the people practiced farming, though absence of evidence is not necessarily evidence of absence.

Anthracological analysis

The counts of the charcoal particles fluctuate from 66cm to 220cm, and appear promising. It is of note that there was a significant increase in charcoal counts from 200 in level 88cm to 1884 in level 66 cm, this increase and consistency of the charcoal indicate increased burning by humans. We may indirectly infer that at this time, more trees were cut down and used as fuel, though it may not be possible at this time to ascertain what plant species were used.For palynological studies, charcoal analysis cannot be independent of pollen analysis, it usually complements the latter. Therefore in the absence of a sufficient and significant pollen analysis, anthracological analysis becomes limited.

Conclusion

The recovered samples did not yield enough palynomorphs. Only 12 forms were encountered with a maximum pollen sum of 14. However, some information can be deduced, though scanty. First, oil palm was utilized, and forest clearance was done. This may have been practiced presumably for agricultural purposes. The result of the charcoal analysis shows that there were burning activities at the site. No pollen of food crops was recovered. The recovery of *Casuarinaequisetifolia*is additional evidence that humans had occupied the site in the past *C. equisetifolia,* native to Australia, is usually planted as an ornamental; it may be interesting to find out how it reached the site.

As far as this work is concerned, the first aim was achieved, as fossil pollen was recovered. A detailed reconstruction of the vegetation was not possible because the total number of recovered pollen (pollen sum) was very few. Thus the second aim was not fully realized. On the third aim, only two plants were found to have been used by the people. These are *Elaiesguineensis*(Oil Palm) and *Casuarinaequisetifolia* which presumably served economic and ornamental purposes respectively.

5.9 Organic Residue Analysis

Organic Residue Analysis is one of the newest analytical approaches in chemistry with the enormous potential of aiding the interpretation of the archaeological record. The method helps in a better understanding of the archaeological record. It is hinged on the use of chemical methods (such as chromatography) to detect the use domestic utensils

were put to by the group under investigation. The objective is to identify the nature and origin of organic remains in domestic utensils particularly those used for cooking. In other words, organic residue analysis can give information on economic activities and subsistence practices connected with the use of pottery as domestic vessels.

It is premised on the principle that residues embedded in the clay matrix of pottery fragments can provide direct evidence of the uses of early pottery vessels as well as answer diverse questions concerning the procurement and the utilization of resources by the culture under consideration (Greg, 2009) This method is becoming increasingly effective in identifying economic activities and subsistence practices associated with different cultural and technological traditions. It is based on the identification of diverse range of proteins, fats, oils, starches, alcohols, resins and pigments that may survive in archaeological pottery. The use of micro-wave assisted liquid chromatography protocol (organic residue analysis) has been found to give more yields in the recovery of organic compounds from pottery than the conventional solvent extraction and alkaline hydrolysis. The belief is that we can isolate the molecular 'biomarkers' of organic compounds adhering to the surfaces or embedded in the fabrics of archaeological pottery. The primary analytical techniques used in identifying these lipids are gas chromatography (GC), gas chromatography-mass spectrometry (GC-MS) and gas chromatography-combustion-isotope ratio mass spectrometry GC-C-RMS).

Twenty potsherd samples which which were used for cooking and other domestic household related activities were submitted for organic residue analysis in partnership with Prof. O.Sonibare of Chemistry Department, University of Ibadan.Sonibare a professor of organic and environmental geochemistry then had a student (nowDr.AbiodunBusuyiOgbesejana) who was working in this area of chemistry for his Ph.D research. The Chemistry professor approached Prof. J.O. Aleru for pottery samples for him to carry organic residue analysis which his student intended to incorporate in his Ph.D thesis. Twenty pottery samples with residues from Esie were submitted and these were analysed in Germany. The results of this multi-disciplinary collaboration are still being expected while Ojegbesana successfully defended his Ph.D thesis in 2019 in another area of Chemistry with the title 'Dibenzofurans and Benzo (B) Naphtafurans in Source Rocks and Crude oils from Tertiary Niger Delta Basin, Nigeria'.

CHAPTER SIX

Discussion, Conclusion and Recommendation

6.1 Discussion

Perhaps Esie was a ‘state’ on its own at least in popular views a ‘mini state’. Esie though located in the northern frontier Yoruba land may not have been a conservative space that relied on innovations from the metropolis-Oyo and Ife in this context. Rather Esie may have probably been a dynamic formative settlement in an internal Yoruba frontier whose material life was not a mere copy of the metropolis. One main theme running through Oyo and Ife synthesis appears to be the mis-leading uni-dimensional belief that the centres-Oyo and Ife metropolis more or less determined the salient features of Esie and the other mini-states in north central Yoruba land and indeed the entire breadth of Yoruba land.

We must understand that the process of Yoruba civilization did not follow a linear model. It is becoming increasingly clear that different ‘’states’’ in different ‘’areas’’ within the Yoruba territory grew and shrank, combined and separated, and these different trajectories weaved together to tell the full story of the Yoruba. Esie’s characteristic of early state could not be underestimated due to the shrines, craft production and a well-developed system to generate the amount of labour required to produce such sophisticated objects. The massive labour needed to construct required centralised power to obtain the amount of people needed.

The huge numbers of figurine so far retrieved in Esie may have also ruled out the possibility of the art tradition being either from Ife, Old Oyo or that of the Nupe. It is highly likely that the society that produced the stone figurines was a very advanced, accomplished, stable and potentially peaceful. Such elaborate works of art are less likely to be produced in an unstable socio-political system.

There are several possibilities as regards the identity of the group in question. It could be that the unity of the group resulted from common descent, common blood and a

common formative historical experience. In the various versions of Esie mythology (by the extant society), the narrative is that all of the "visitors" or the "indigenes" turned into stones thus ruling out the possibility of locating the descendants of the "extinct" culture.

As indeed confirmed by oral tradition, it is quite apparent that the current human populations of Esie do not have much to do with the stone figurines. Perhaps our best chances of having an understanding of the figurines lie in the intensive investigation of Igbo Ilowe, Ijan and Igbo Eki. These sites produced some of the materials identified in the course of this investigation. From all lines evidence, especially the quantity of partly-worked and unworked pieces, it would also appear that Igbo Ilowe was a major centre for the production of stone figurines similar to those found in the vicinity of Esie. The laterite hill in the vicinity provides clues as to the possibility of steatite mining in the area.

The Soapstones as evidenced in Ijan are embedded within laterite. Hollows left by the extraction or mining of soapstone are manifest in the laterite hill. That hill could have provided a ready supply of raw material for individuals creating steatite figurines (AleruandAdekola, 2008).A mineralogical investigation of Esie soapstone objects through geologic thin sectioning revealed that the soapstone objects from Esie and the steatite embedded in laterite in Ijan have similar/identical geologic composition (Fig. 42-46).

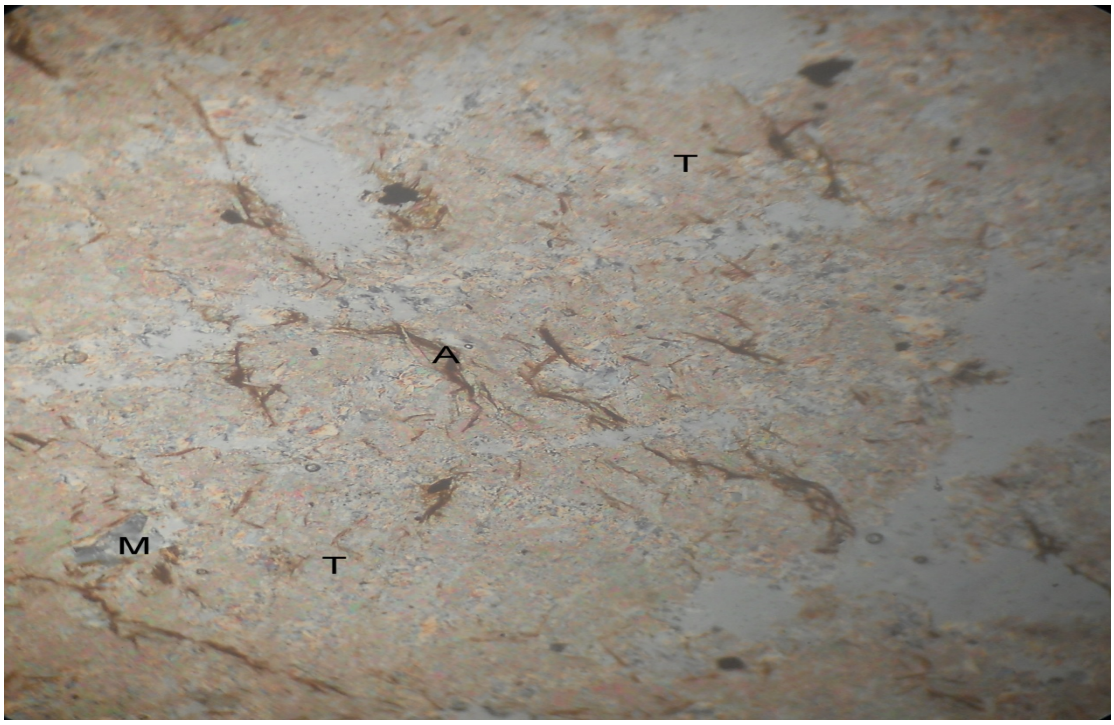

Fig.42: Photomicrograph of Soapstone sample 1from Esie

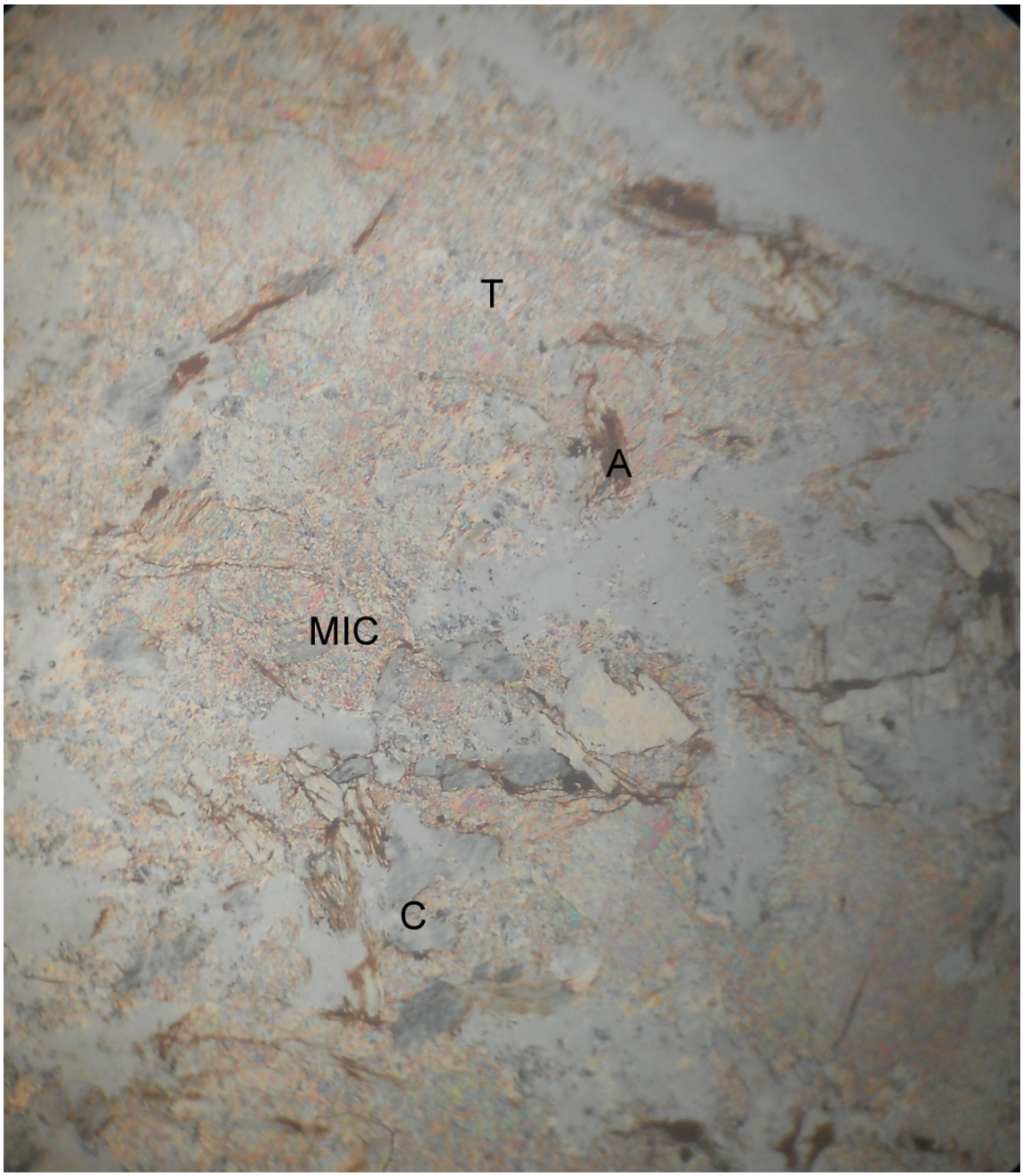

Fig. 43: Photomicrograph of soapstone sample 2 from Esie

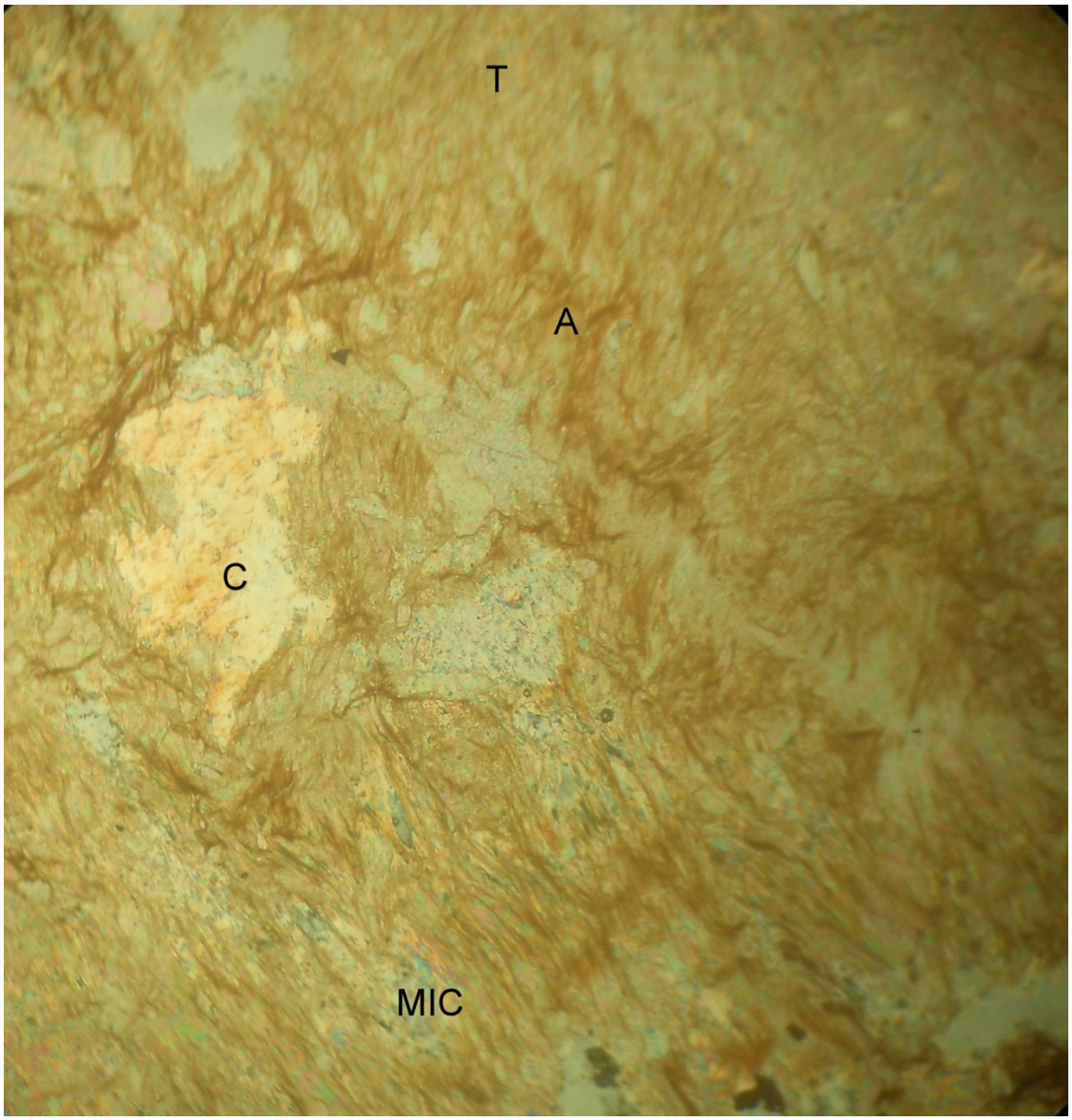

Fig. 44: Photomicrograph of soapstone sample 3 from Esie

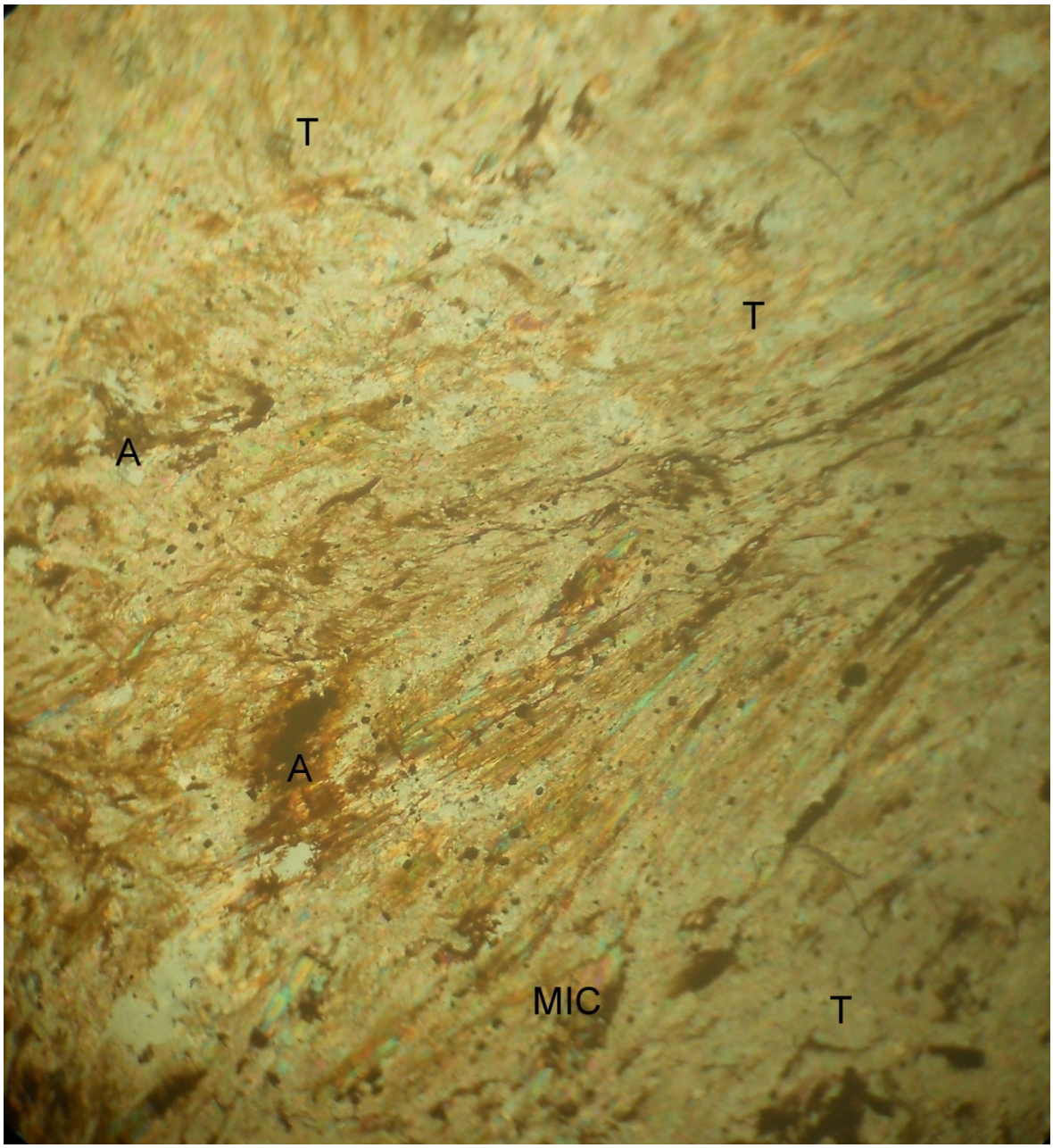

Fig. 45: Photomicrograph of soapstone sample 4 from Esie

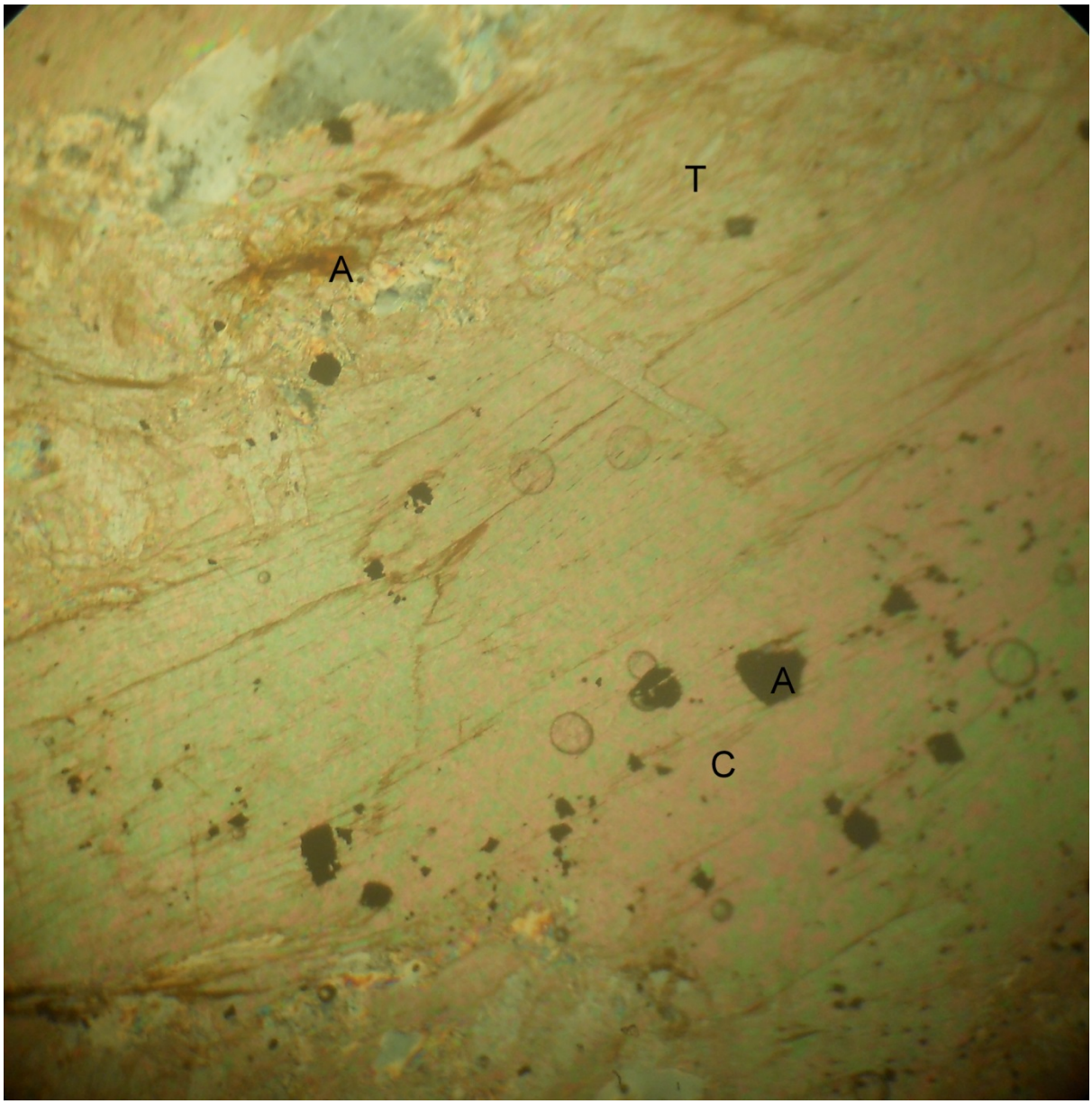

Fig.46: Photomicrograph of Soapstone sample X from Ijan

Table 14: Average modal analysis of Samples 1,2,3,4 & X

SAMPLE NO	TALC	CHLORITE	AMPHIBOLE	MICA
SAMPLE 1	77	10	5	8
SAMPLE 2	79	7	6	8
SAMPLE 3	74	12	8	6
SAMPLE 4	78	10	6	6
SAMPLE X	65	25	8	2

From the Table and the Figures, it is highly probable that Ijan was the main source of steatite for the Esie soapstone objects. Samples 1 and 2 were from soapstone objects from the Premises of the National Museum, Samples 3 and 4 were from partly worked figurines from Igbo-Ilowe while sample X was cut from the steatite embedded in laterite at Ijan. It is apparent that all the stones have similar characteristics and chemical composition with talc being the major component.

Ijan is likely to be one of the prominent centres for sourcing for steatite which being a metamorphic rock could easily transform into other rock types due to its nature. There appear to be an oversight on the part of Ige and Swanson (2007) on the possible sources of raw materials for what they called the enigmaticEsie soapstone figurines. They sampled areas that were around 160km south east of Esie citing Agbonda which is about 30km, Odogbe about 65km northwest, Asegbo about 125km south west and Obalurin, 160km southwest of Esie as areas likely to have produced steatite for the production of the carved figurines (Ige and Sampson, 2007). Their sampling procedures appeared to be tailored towards examining one of the popular Yoruba metro poles (Ife) as the source of

steatite for the production of Esie soapstone figurines. In all probability, the presence of an extensive outcrop of steatite in Ijan suggests that the community may have been the major source of this resource for carved figurine production. It is also instructive to note that the largest collections of stone carvings from Ife were from Sekunde, about 40km south west of Ife where Eluyemi (1977) excavated about twenty one soapstones. Charcoal samples from the excavation have been dated to the 18th century (Eluyemi, 1977).

It is a known fact that man reacts to the web of life as a cultural animal rather than as a biological species. Each acquisition of a new technique or a new use of an old technique, regardless of the source of its origin, alters man's relations with the organisms (steatite rocks in this instance) about him and changes his position in the biotic community (Hawley, 1950 in Steward, 2014). Consequently, it may be mis-leading to expect that cultural progress will manifest only in terms of increasing populations, internal specialisations, kingdom-like state control and other ''exotic features'' as espoused by Childe (1950),Kroeber (1948)and so on(Adekola, 2009).

The urban centre/mini state that existed in Esie and its environs as well as in many parts of Yoruba land negates some of the strong held views of early scholars in West Africa on this topic. Dickson (1947) viewed urban centre as a compact settlement engaged in non-agricultural occupations. Loius Wirth (1938) posited that a city is a relatively dense and permanent settlement of socially heterogeneous individuals. Service (1960) regarded states as a highly stratified and internally diversified socio-political organizations characterized by a central government which is largely divorced from the bonds of kinship; residential patterns are also based mainly on occupational specialization and not necessarily on blood or affinal relationship(Adekola, 2009)

In order to understand the 'earlier culture' that settled in Esie, archaeology and geology appear to be the disciplines that can provide the clues in the absence of any form of writing/historical documents and oral traditions covering the period of this earlier occupation.The choice of Esie by the ancient group may have largely been influenced by the availability of soapstone deposits. All the versions of oral traditions in Esie pointed to the migratory nature of the ancient group. With the skills to carve images from stones, the group may perhaps have been looking for large deposits of steatite for a settlement.

Human settlements and group units within these are partly adapted to the nature of the physical environment, partly to the nature of cultural heritage and partly to the people's specific historical experience at that point in time.

The ancient culture under consideration in Esie and its environs was largely based on agriculture; it was an elitist one to have appreciated works of arts in such large quantity. The rich soil nutrients coupled with the favourable climatic condition could have been attractions for agriculture and farming related practices. A surplus of food has the capacity to have produced an increase in population which in turn led to an increase in leisure. Consequently, soapstone carvings could have been one of the occupations practiced to "exhibit" or "showcase" the beauty of some if not all aspects of everyday activities.

Cowries

The few cowries assemblage discovered during the archaeological investigation in Esie makes it difficult to know if Esie was an active part of the cowry monetary-flow network in 17th and 18th centuries West Africa that connected the Bight of Benin, the Yoruba hinterlands and the Central Sudan. Five samples of *Cypraemoneta* were recovered from the archaeological excavations from Test pits 1 and 2 of Igbo-Ilowe and all the shells analyzed showed evidence of anthropogenic modification.

Although Yoruba knowledge of the cowry possibly dated to the period before the 15th century, it was in the context of the advent of the Atlantic commercial encounters (especially from the mid-16th century onwards) that the cowry began to gain ground as an integral part of everyday life of the Yoruba, especially in its adoption as money. By the early 17th century, the domestic economy on the coast and immediate hinterlands of the Bight of Benin was highly monetized.

Cowries are important in Yoruba culture as they were used for diverse purposes. They were used as a medium of exchange, in divination, in rituals, as symbolic messages as well as for decoration and materials for grave goods. Cowries did not assume any cultural or economic importance in the Yoruba region until the 16th century when the importation of cowries into the Bight of Benin began via the Atlantic trade.

From historical sources, we understand that the first major import of cowrie shells

into the Bight of Benin arrived in the Benin Kingdom from the Indian Ocean via Lisbon in 1515 (Hogendorn and Johnson 1986 in Ogundiran 2014) and it is from this Kingdom that we have the first documentary evidence of the monetization of cowries in the Bight of Benin. From there, cowrie occurrence spread westward, following the path of the expansion of African/European trading ports of the coast.

The cowries-slave exchange that characterized the 18th century in the Bight of Benin and the Yoruba hinterlands ensured that the region was fully integrated into the Atlantic slave trade. As a result cowries travelled inland serving as the currency that oiled the engine of the increased commercialization of local and regional economies. Following its introduction, the cowry shells fulfilled to the local people, practically all the requirements of money. It served as a medium of exchange, a standard of value, and a store of value. Cowries enlarged the pre-existing regional exchange materials and also changed the orientations of intergroup relations..

As the currency zone expanded, cowries accrued rich social meanings that are well preserved in oral traditions, myths, folklore, divination, literary texts and panegyrics of the ancestors and deities in Yoruba land (Ogundiran, 2014). According to Ogundiran (2014) there was perhaps no other category of objects in the Yoruba material world of the 17th century through the early 19th centuries that was as evocative of thoughts, philosophies and symbols about personhood and self-realisation as cowries (Ogundiran, 2014). Other than its use as medium of exchange, cowries are important objects of divination. Many gods and goddess were worshipped in Yorubaland. Some of the notable ones are Sango, Obatala, Ogun, Yemoja, Esu, Oya, Osun, Orunmila, Popo, Sanponna, Egungun and Oro. The gods and goddesses are seen as intermediaries between the people and God (Olodumare).

Since God could not be approached directly because of his supremacy, there was the need to consult the gods and goddesses through divination by the use of cowries to know their (gods and goddesses) minds. For instance in most parts of Yorubaland, there was a group of diviners known as sixteen elders ‘agbagbaeerindinlogun’. They used sixteen shells in divination which they put in a white container. When occasion demands for it to consult the gods and goddesses on some ones behalf, they would pick one of the

shells and ask the fellow to narrate his problems to it. This is popularly referred to as ‘didaaniyan’, that is an attempt to discern the minds of the gods. The diviner would subsequently collect the shell from the individual with money; he would pick two of the shells and recite some Ifa verses/incantations. The diviners would subsequently drop the shells. The manner in which the shellsaredroped is crucial as it may determine the fortune/mis-fortune of the one seeking the spiritual help. If the shells were closed, it connotes that the project the project to be embarked upon by the one seeking the help may be negative. He would be ordered to retrace his step or forget about it out rightly. If one of the shells is open and the other is closed, it signifies that such a project might be okay but not very successful while the opening of the two shells translates to a total success of the project to be embarked upon (Oloye Odosi 2008, Pers.Comm; Oyebamiji, 2008 Pers.Comm; 2009 Pers.Comm; Ogundiran, 2002, 2014; Odunmbaku 2012).

Cowries were also used to send symbolic messages, to prepare medicinal herbs and also in rituals particularly for one’s fortune. The Yoruba accorded so much respect to a deity known as ‘Ori’.’Ori’ was worshipped by men and women as the god of fate and protector of one’s future and destiny. The belief is that one experienced good or ill luck according to the decree of this deity. The deity was represented by 41 cowries strung together in form of a crown. Adults, both men and women used cowries to make altars for their ‘Ori’, the spiritual inner head and protector of ones fortune of destiny. The shrine consists of two parts,‘ibori’(shrine of the head) and ‘ileori’ (house of the shrine). The‘ibori’ is conical in shape with a projection on the top. It is made of everything essential to a person’s life including various ingredients (food items) associated with one’s ancestors, gods and the taboos one must abide by. All of these are tightly sealed in a leather wrapped with a cloth, and covered with cowries. The‘Ibori’ is then placed in a container, the ‘ile-ori’(house of the head) also made of cowries, which are set on a frame of fibers and fabric, and activated by the agency of powerful medicine. ‘Ile –ori’is the power that conceals the inner/spiritual head, keeps ‘Ibori’from the public gaze, protects its privacy, and prevents it’s from damage by evil eyes (Ogundiran, 2002, 2014;Odunmbaku, 2012).

‘Ori was the most universal and next to Ifa (the deity of divination and knowledge), the most potable of all the Yoruba deities. The point in time when ‘ori’

became so important a deity is difficult to clearly fathom from the oral traditions but it is significant that in Yoruba culture 'ori' is identified as a late bloomer in the patheon of the divinations. A genderless force, 'ori' originally had junior status in the comity of the deities, and was involved in a protracted struggle for recognition as the pre-eminent member of the patheon. 'Ori' eventually triumphed, becoming the controller of the destiny of the other deities. The presence of the cowries provided invaluable information as regards the dating of the site. It suggests that Esie at least dates as far back as the 15th century if not earlier. According to York (1972 in Odunmbaku, 2012) the presence of *Cypraeamoneta* alone in any archaeological contexts in West Africa would mean a 1500-1800 period while the presence of Cypraeaannulus would suggest a 19th century date.

Beads

Beads found were mostly monochromatic and small in size. They have short cylindrical and discoid forms.They have deep blue colours. Beads were used as grave goods, prestige goods and traded across much of Africa and beyond.According to Francis (1988) in Magnavita(2003) the main production technique applied was drawing a tube out of a glass batch, cutting it into segments which had commonly been re-heated to smooth off the edges.Just like cowries, beads are also temporal markers in West African archaeology. For instance, it is a known fact that glass beads found their way to West Africa prior to the 15th century, via the trans-Saharan trade with North Africa (DeCorse, 1989).

There are, however, great difficulties in using beads as chronological markers. First, only very few of them are recovered in the archaeological record. This is the case in Esie where only three beads were retrieved during the excavation; this practically makes it extremely difficult to use them for chronological purposes. The occurrence of one or two beads cannot be used to build chronology for an entire site; beads are best used in combination with other techniques(Decorse, 1989).

From the analyses carried out on the Esie beads, it is known that the beads have exceptionally high concentration of alumina oxide; hence they are not glass objects (Babalola, 2017). The beads from Esie were made of semi-precious mineral known as tourmaline. The ancient culture in Esie and its environs probably manufactured their own

beads. Their beads were unlike the glass beads of Ife and were also made from tourmaline. Mastering the technology of bead making might not have been strange to the ancient culture because of the possession of the highly specialised skills of stone carving technology.

The social importance of beads in West Africa also complicates their dating as often they are still in use even long after their manufacture. For instance, many of the 19th century beads are still being used in ritual contexts in Ile-Ife (Babalola, 2012), in Ghana (DeCorse, 1989) and various parts of West Africa.

Smoking Pipes

One smoking pipe was recovered from the excavation of Test Pit 2 of Igbo Ilowe at 110 cm-120cm spit level.

Like cowries and beads, smoking pipes can also be used to establish tight chronologies and address the issues of social and economic change. The use of pipes predates the introduction of tobacco in the 16th century to West Africa. Pipes might have been used for smoking the leaves of plants such as *Daturametel* before tobacco. Tobacco smoking itself diffused to West Africa through various centres. Such include Timbuktu, the Senegambia or Sierra Leone coast, Accra and Bamba, a post between Timbuktu and Gao founded by the Moroccos in 1592-93(McIntosh, *et al.,* 2003:172).

Environment

Some of the key elements of man–environment relationship are clearly manifested in Esie, these include (i) man's intimate and thorough knowledge of his environment: and (ii) his ability to utilize the natural resources provided by his environment. These resources include those that are within his immediate vicinity and the ones that are remote (Sowunmi, 1998). The ancient culture exhibited an understanding of their environment with the exploitation of a wide range of plant and animal resources in the area. The plant resources exploited include Obeche locally known as 'arere', *E*lephant grass 'esun', *Copaiba basalm* –m'iya', Black plum 'oori', Leaf flower 'ashasha', Splinter bean 'gbengbe' and Counter leaf 'apa'.Others are locust bean 'iru',Coastal golden leaf 'ide odan',Sheabutter'emiemi',African star apple 'agbalumo',Barwood 'apepe',Oat grass

‘aboro’,Snake plant ‘ojakoriko’,Bowstring hemp ‘ojaikoko’ and Border tree ‘awoowu’. The rest are a wide variety of yams *dioscoreaspp*, cassava *Manihotutilissama,* beans, melon, cocoyam, maize, guinea corn, sorghum, cotton and ground nuts. These plant resources were used for diverse purposes-as part of the diet, for fuel, as wood for domestic uses and as herbs in the treatment and cure of some ailments.

The animal resources were as diverse as the plants; they include Giant rat ‘okete’,Rufous-bellied rat ‘oloose’, Greater cane rat ‘oya’, Tree squirrel ‘okere’ Patas monkey ‘ijimere’, Nile rat ‘emo’,Pigmy mouse ‘eliri’,Maxwell’s duiker ‘etu’,Shrew‘asin’, Roan antelope ‘agbagudu’,Savanna gerbil ‘afe’,Spotted nose monkey, and grass cutter. Snakes include Black cobra, Rainbow boa, Spitting cobra, Royal python, African python ‘ere’, Gabon viper ‘paramole’ and Nile monitor ‘awonriwon’. Birds were mainly Red eye dove ‘adaba’,Double-spurred francolin ‘aparo’, Black kite ‘asa’,spottedeagle owl ‘owiwi’, and African grey parrot ‘ayekooto’. Land snails were exploited as food as evident from the abundant remains of snail shells recovered (Omopeola, 2008, Pers.Comm; Pa Isaiah Oyebamiji 2008, 2013 Pers.Comm).

The location of sites also appears to indicate a subsistence system oriented toward farming and hunting. In short, subsistence strategies were based on food production as well as hunting.The settlers depend on plant and animal food. Crops such as cassava, yam, cocoyam, maize could have formed their staple food and they could have been supplemented with vegetables of various types.Bones of animals recovered from excavation suggest animals were hunted as food in the past and indicate the nature of the environment and its animal resources.

The fact that animals were widely hunted is indicated by the presence of lithic artefacts such as awl, points and the large number of animal bones. Even now Esie is regarded as a major source of salted meat obtained from wild games popularly referred to as bush meat ‘eranigbe’, a delicacy of millions of Nigerians.Results from pollen and granulometric analysis also suggest that environment was far wetter than what it is presently. The effervescence produced by the addition of hydrogen peroxide during the granulometric analysis indicates high accumulation of organic matter and this can be explained against the background of the dense vegetation. The granulometric analysis

also shows the dominance of sand over gravel, silt and clay. In other words, the samples are predominantly sandy which indicates high run off brought about by exposed surface erosion. It is an indication of the enormity of man's impact on the environment. The vegetation cover is more prone to destruction due to human impact. A direct fall out of massive vegetation alteration is the removal of the habitats of many species of small animals. Such may have included rodents, lizards and birds.

This is also in agreement with the results of the pollen analysis which showed that Esie's environment was far wetter before than now. There are indications that more trees were cut down and used as fuel by man.Till date, there are pockets of refugia forests in some parts of the town. There is the presence of ornamental plant *Casuarina,equisetifolia* the specie is native to Australia, it may be interesting to find out how it reached the site of Esie, this may have been practiced presumably for agricultural purposes. The plant is an exceleent fuel known for its charcoal yield.

The presence of *Elaeisguinensis* in the pollen assemblage strongly suggests human impact on the environment. Man in his bid to clear weeds and bushes might have engaged in the clearing of the area in preparation for agricultural practices. A major consequence of both actions (use of wood for fuel and opening up of the land for agricultural purposes) is deforestation which has several attendant problems (erosion, faunal extinction, plant species extinction, heat and so on) for humans and even animals and plants respectively. The analyses of the samples (pollen and granulometric) clearly showed that at around mid 14^{th} century, the areas around Igbo-Ilowe and Esie generally was dominated by forest species, the climate then was relatively humid. The forest would appear to be subsequently replaced by economic trees such as oil palm which suggests human activities such as felling of trees and farming.

Land snails are some of the most common and dense archaeological residues found at sites across Africa, but interpretation on a case by case basis is typically limited to whether their presence is owed to taphonomic natural causes (such as self introduction through burrowing) vs human agency such as subsistence (Miller, J. et-al, 2018). Walz (2017) argues that the non-treatment of land snail debris appear to overlook other possibilities that may inform broader interpretations of site formation, economic and

social behavior and localized environment. The implication of this general inattentiveness to snail shell as a form of material culture is that it could limit the interpretation of the archaeological assemblage.

Snails live in a diverse acquatic and terrestrial environments. Three major tropical snail families within the achatinoid clade are prevalent throughout sub-Saharan Africa; they include carnivorous hunter snail family, the awl snail family and the giant land snail family (Miller, 2018) Achatinadae are resilient and can live in a number of environments and conditions. They are nocturnal, herbivorous creatures who can forage up to 500 different types of plant species, making them extremely adaptable to a varied forest and savanna environments. These snails prefer warm and moist conditions and are drawn to water sources, although they live on land. During less favourable conditions, Achatinadae enter a state of dormancy which can last from four weeks to a year, although longer durations increase risk of mortality. During aestivation, snails enter a light state of dormancy with reduced activity and a lowered metabolic rate. This is achieved by the secretion of epiphragm (a calcareous mucus plug) that blocks the aperture and allows the animal to attach a substrate or in some cases, other snails during these adverse conditions. This physiological state can be rapidly reverses when conditions become hospitable.

It has been observed that snails enter the archaeological record in several ways. One is through their own behavior in life including burrowing into deposits for the purposes of aestivation. Snails are a known bioturbation agent, burrowing down between 5 and1m depending on species and local conditions. The presence of snail shells in the archaeological record can also reflect predation from animals or humans. Sites with high densities of snail shells like Esie reflect human harvesting activities. More importantly, the normative behavior of snails also contributes to the formation of high density assemblages upon which most subsistence arguments based. Snails tend to congregate in favorable patches for example around crops or water sources. The relative abundance of snail species can be used to reconstruct the local environment conditions specifically the availability of fresh water sources. The large number of snail shells (both completes and fragments) in the Esie archaeological assemblage suggest the presence of fresh water sources. Till today, snails are important sources of protein in Esie and its enviorns, in

fact, in almost all parts of Yorubaland.

The figurines themselves may have been made to serve as a form of remembrance of the way the population organized itself in the past. Having the skill to mould, trimmed, bored and carved soapstones, this was probably re-enacted because of the availability of steatite in large quantities in close-by areas as Ijan, Igbo Eki and other areas around Esie yet to be identified by researches in the area. The large scale production of the soapstone could suggest that perhaps there was a market for it, perhaps people were coming from different parts of Yorubaland as well as Nupe territory to either buy or do exchange by barter. There is also the probability that they were made in such quantity with the intention of the maker (s) been that they would be taken to the market to sell but sudden attacks led to their abandonment since it would be difficult to carry them over long distances. Carving soapstones could also have been a form of documenting the various aspects of the people's ways of life, the way clay tablets (cuneiform) were used by ancient civilizations of the watershed of Rivers Euphrates and Tigris. Another possibility that we considered during this work is that perhaps the artworks were commissioned by an individual (an elite) who probably intend to flaunt his wealth through representation of the diverse activities of the community. The elite could possibly have been a king, a chief or a high profile leader who through his wealth was able to commission an artist or a group of artists to fashion the figurines for his pleasure. The significance therein is that the artists were used to document experiences/histories. Documenting historical experiences through works of art was widespread in many parts of Yorubaland around the 14th and 15th centuries, for instance, Ife was known for its bronze working technology while wood carving was common in Oyo Ile at the peak of the empire's hegemonic rule in the 17th century.

The artwork itself-soapstone figurines manifest some form of power relation which shows anthropological evidence of hierarchy. Different roles were depicted by the carvings-some were tapping wine, some were holding cutlasses, some were dressed in royal regalia with paraphernalia of offices. All these are testimonies of projections of power by the ancient community. In other words the role differentiation may perhaps be an indication of status differentiation among the early occupants of the town (Lawuyi,

2013; 2017 Pers.Comm).As noted by Chief Omopeola (2008) it may not be strange that the skilled men might have perished (in war situations) before they reached the next safe abode which could have been another community, village or hamlet. This may have ultimately been responsible for the dearth/absence of carved figurines in other communities/towns.

Perhaps with LiDAR and other ground penetrating devices as well as photographic drones, it might be possible to have a better picture of cultural materials buried beneath the surface.The figurines are perhaps the only available evidence depicting the skills of the group that once lived in the community. The figurines could have been possibly made as a form of social memory to identify the society they were used to which was hierarchal in nature. The images reflects hierarchy in which diverse activities-farming, hunting, war, body adornment and so on were represented.

Esie might have developed from an aggregate of lineages, one of which was the first to settle or arrive in the area. The leader of the founding lineage (the first settler) took leadership position of the transient settlement, while leaders of the other late-coming lineages were ranked in seniority to the founder of the settlement or the arrival of their lineages.The culture perhaps flourished from the middle 14th century to around late 18th century when forces outside north central Yoruba land accelerated the disintegration of the Old Oyo Empire.

Chronology

All the sites provided large quantities of charcoal from the excavations. Charcoal is an important material for radiometric dating. Two charcoal samples were dated to give us an idea of the absolute age of Esie and its environs. A sample (laboratory number 299369) was taken from the lowest depth of Test Pit 2 of Igbo-Ilowe while the other sample (laboratory number 314876) was taken from the excavations of Test Pit 1 at the premises of the National Museum Esie. The details of the results provided for us by Beta Analytics Laboratory, Miami Florida, United States of America are discussed below.

Laboratory Number: **299369** Conventional Date: **510+_50 B.P**

There are ninety five percent probabilities that this date falls between 1320 A.D and 1450 A.D. There is however the statistical chance that this carbonated object was formed

around 1420 A.D. We can, therefore, assert that the layer from which this charcoal sample was obtained date to the early 15th Century.

Laboratory Number: **314876** Conventional Date: **650+_50 B.P**

There is the probability that this date falls between 1280 and 1390 A.D There is the statistical chance that this carbonated object was formed sometimes around 1300-1380. We can therefore confidently affirm that the deposits or layer from which the sample was obtained date to the 14^{th} Century. The implication is that both dates strongly indicate mid-14^{th} Century and early 15^{th}Century. The dates are actually consistent with our stratigraphy. The details of the results provided by Beta Analytics are attached.

Lithic

Three soapstone fragments were recovered in Test Pit 2 of the excavations at Igbo-Ilowe. The figure increased geometrically in the excavation carried out inside the premises of the National Museum Esie. Recovered from the three test pits excavated were lots of fragments of soapstone sculptures, a partly broken soapstone head with elaborate hairdo and face markings and a soapstone pedestal with two feet.

Soapstone itself is essentially impure talc. Theoretically, talc is a hydrous metasilicate of magnesium with a definite chemical composition expressed by the formula H_2Mg_3 $(SiO_3)4$. The silica or magnesia content may vary as much as 3 or 4% with little change in the appearance of the mineral. Iron oxide is the principal impurity of talc. Talc commonly called steatite or soapstones have a soapy feel and can be carved with a knife or a sharp object.

Soapstone in reality is a metamorphic rock, composed of about 50-80% of talc (hydrous metalsilicate of magnesium) intimately mixed varying proportions of chlorite, amphibole, pyroxene and mica as well as pyrite, quartz, calcite or dolomite.Soapstone takes on heat slowly but once hot it tends to hold its absorbed heat considerably longer than other natural stones. It is fire proof but upon heating to a temperature of about 1800^0F, it changes colour and becomes quite hard. The specific heat and the dielectric strength of soapstone are unusually high (Frink et al, 2012).

The lithic materials recovered from our excavations strongly suggest that stone

tools were used in the manufacture of the carved figurines. Soapstones as we understand from its chemical composition can easily be tongued, trimmed or bored with ordinarily wood working tools, knifes or sharp objects. Stone tools were probably more effective tools in carving the figurines. In addition to this, there was the presence of borers in the lithic assemblage borers could have been used largely in carving.

Fig. 47: A close view of one of the partly worked soapstone from Esie, markings are all over even in the hollow

Fig.48: Amother soapstone from Esie, chopping marks more visible

An expert in stone technology at INRAP in Toulouse, France, Bertrand Poissonnier, however, believed the markings on the Esie soapstone could not have been made by the use of stones. Poissonnier (2015) while analyzing some of the markings stated that they were chopping marks made by blades.According to him, the markings on the unfinished figurines would have been concave (they are convex) if they had been made by stones. He also said they would have been less regular with bigger grooves if made by stones. Consequently in his views, the shape and size of the Esie soapstone markings fit an Iron Age technology (Fig.49, 50)

The earlier attempts at carrying out archaeological investigations in Esie and its environs were not thorough. Prior to this investigation, the most comprehensive work had been that of OpeOnabajo who between 1981 and 1982 led a team of archaeologists to work in Esie.Onabajo (1988) failed to give details of his excavation, the methods used, the stratigraphy was lacking neither did we have an idea of the depth of the excavation. It was apparent that little or no reconnaissance survey was carried out before the excavation. If that had been done exactly three decades before our work, the chances of retrieving carved soap stones, partly worked figurines and other cultural materials could have been higher. As of the time of our investigation, almost all the areas of Igbo-Ilowe and Igbo Eji have been subjected to intensive farming. This is in contrast to the situation about thirty years earlier as enunciated by Onabajo in his six page report of the excavations conducted between 1981 and 1982.

Also, oral testimonies did provide information about abundant stone figurines in the area. Some were taken by individuals and others by antiquity vendors. Not only in Igbo Ilowe but in all surrounding areas where incidences of the soapstone figurines have been observed. A lot of these figurines ended up in private museums abroad, some even end up in ‘unexpected’ places. For instance, in 2008 during the construction activities at the Senior Staff Club, University of Ibadan, some Esie stone figurines were discovered beneath one of the trees that were felled. The figurine is still in the possession of the Senior Staff Club till date.

The fact that more figurines were recorded in the excavation of the premises of the museum also rendered Onabajo’s proposition that the area is not likely to yield major

finds redundant. Perhaps if the excavation had been done thirty years ago, more partly worked figurines could have been retrieved but that was not to be as the researcher assumed quite early that the museum and its surroundings might proved to be 'sterile'.

More disturbing was the fact that the archaeological assemblage retrieved from the excavation have neither been seen nor studied by other Nigerian archaeologists since the excavation was conducted. The beauty of Onabajo's work, however, was the fact that six dates were provided. The interpretation of the dates were weak, a glaring attempt at attributing the Esie sculpture to the popular classical period of Ife which some scholars perceived to be the peak of Yoruba civilization. No critical attempt was made to even evaluate the environmental conditions of Esie and its environs (both in the past and in the present), there appeared to be palpable eagerness to allow the objects 'conform' to the prevailing paradigm as of the time of his writing. The proposition by Onabajo that the metallic objects he discovered during his work might have been used in making the figurine is yet to be fully substantiated. Steatite being a soft stone could equally be worked by softer materials.In most of the claims by Onabajo, the arguments were not justified by citing comparative data that establish at least the plausibility of the reason and claim.

As noted by Smith (2015), comparative data are normally invoked in two areas of archaeological epistemology; discussions of analogy and explicit comparative research (Smith, 2015:19). It is essential that arguments/claims must be strong and be based on empirical data rather than speculations.In spite of this work, many problems remain to be investigated in Esie, infact much of the north central Yoruba land is unexplored archaeologically, though pockets of works have been done (Aribidesi, 1995, 1997;Aleru 1998;Hambolu, Adekola 2008). These are yet to adequately capture events in Yorubaland as from the mid 14th century. The earlier periods remain speculative in the light of lack of rigorous archaeological and ethno-historical investigations. The extent to which the culture that produced the Esie figurines penetrated north central Yorubaland is unknown. Attempts to link or attribute the soapstone production to Ife or Oyo appears to be weak or rather feeble as indices such as the environment and the fact that such stones were not found in such a quantity in any part of Yorubaland signal the fact that a ''complex'' society existed in Esie at least from the mid 14th century if not earlier. The two dates for

the charcoal samples collected from our investigation strongly indicate mid- 14th century and early 15thcentury.

The presence of potsherd pavements in Oro market is also important. The size of the pavement has apparently been reduced as the pavements are daily trampled upon by market men and women as well as those who want to transact business in the busy Oro market.Potsherd pavements have been reported from Ife, Itagunmodi, Ilare, Oyan, IlaOrangun, Iresi, Iragbiji, Owo, Osu, Ikirun, Oke-Ila, Old Oyo and Ibadan (Ogunfolakan, 2007; Adekola, 2008).

A hiatus exists in our knowledge of the material culture of the entire breadth of Yorubaland. This is partly because archaeologists, historians, anthropologists tend to focus on major towns and sites in Yoruba historiography. This has led to sporadic works in many of such towns and sites (Ife, Old Oyo, Ijaiye). It is even rather unfortunate that till date most of these works were not coordinated/ integrated. For example a comprehensive view of the developments and spread of Ife is yet to be investigated archaeologically although oral history tends to stick to the hegemonic historiography of Ife being the origin (some scholars refer to it as the cradle of the Yoruba race). Much of the archaeologically work carried out in Ife were products of the accidental discovery of art works (Garlake, Willet,) This ugly trend however appears to be changing as some recent works werestimulated by well thought out research designs. Such include the glass bead economy in Igbo-Olokun by Abidemi Babalola(2015) and the on-going examination of earthworks and defensive ditches by a team of archaeologists from University of Ibadan (Professors David Aremu, Jonathan Aleru and Kola Adekola), ObafemiAwolowo University, Ife (Professor AdisaOgunfolakan) and College of William and Mary(Dr Gerard Chouin), Virginia, United States respectively.

Art History Trajectories

Art history has also provided evidence on the origin of the Esie soapstone figurines.Various lines of evidence have been canvassed by art historians. This includes the views of such scholars as Milburn (1936), Clarke (1934), Daniel (1937), Bernard Fagg(1959) and Cornelius Adepegba (1982) who all canvassed for the Ife origin for the soapstone figurines. Milburn (1936) in his assessment also attributed the origin of the

figurines to Ile-Ife. His opinion was based on the terracotta and stone carvings from Ife in the work of Leo Frobenious, titled'' the voice of Africa and wood carvings from Yoruba land. Though Milburn (1936) argued that the Esie images are not as fine as Ife arts which had been made popular by Leo Frobenious expeditions in Yoruba land, they are sufficiently good to have been done by the descendants of the Ife artists (Milburn, 1936, Clarke, 1938,Pogoson, 2001; Adepegba, 1982).

Fagg (1959) used the forms, particularly the style of a particular head which he identified as naturalistic with great affinities to some Ife stone sculptures. Fagg (1959) pointed out the similarities between the Esie stone head and theIdena and Ore figures of Ife. These similarities are obvious in the treatment of certain peculiar features such as the eye borders and ears. He substantiates these resemblances by noting an equally similar Ife figure which Bertho (1952) and Mauny (1952) have illustrated in 1952. The stone figurines called 'Alafere' or 'Moremi' is according to Fagg representative of a degenerate form of stone sculpture that was being carried out of Ife up to eraly this century. He therefore placed such degenerate forms of stone sculptures which included the Esie ones between the classical period of Ife art and modern times (Pogoson, 2001).

Adepegba's (1982) intervention was on the face markings of the images and the relationship with the face markings of ancient Ife sculptures. Based on the historiography of the dispersal of people from Ife towards northern Yorubaland, Adepegba (1982) concluded that the Esie stone images were made or carried there by early immigrants from the direction of Ife, if not Ife itself. This like others before him was essentially on the basis of the primacy of Ife in Yoruba history.

The evidences provided through archaeological investigations tend to negate this view. The abundant outcrop of steatite in Ijan, Igbo-Ilowe and other surrounding areas of Esie points to the fact that the stone carvings were products of autochthonous communities in Esie who not only had the skills to make carvings from stone but also had the technology to source for the raw materials.

Stevens (1978) whose anthropological work in Esie remains a benchmark, however assigned an Old Oyo origin to the images. In Steven's (1978) perception, the images could only have been from Old Oyo or some area under its immediate influence

even one of the neighbouring towns occupied by refugees from Old Oyo. Stevens assertion is substantiated by certain cultural similarities which he thought were exclusive to Old Oyo on the carvings. These factors as well as the indication of the presence of soapstone in Upper Ogun in the geological map of Nigeria, appear to have led him to this conclusion. Stevens (1978) strongly believed that the Ife area could not have been a major source of steatite for the production of the figurines. According to him, the southerly part of Esie is known not to have traces of large quarry which could have produced the stones from which the images were carved. This has largely been debunked with our archaeological reconnaissance survey at Igbo-Ilowe and Igbo Eji and excavations at Igbo-Ilowe.

Pogoson (2001, 2012), another art historian, however, differed with the earlier views. Pogoson (2012) who centred his views on stylistics on the other hand argued for a local origin for the images. According to him, the Ife works, seemingly portraits did not seem to have been made for religious purposes and the Esie works, also not typically the same appear to have been made for and by a larger community. Considering the huge numbers of Esie soap stones, they appear to have been made to serve specific or emergency purposes. Although few figures appear like portraits of individuals, most of the objects are depicted with weapons particularly cutlasses, bows and arrows with quivers. Ordinarily, the weapons displayed by the objects are traditionally associated with the northern parts of Nigeria but the fact that the region in which they were found was a centre of conflict between the Nupe and the Yoruba was consistent with the historiography of northern Yorubaland. This uniqueness in themes made Pogoson (2012) to doubt the outside origin normally associated with the figurines. Coupled with that is the enormous weight of the figurines which would rather made it difficult for a group to carry them over a long distance.

Moreover, some characteristics features tend to bind almost all the artworks from south western Nigeria. These include (a) the manner in which the eyes are depicted. Often the eye is represented as pronounced convexed eyeballs surrounded by distinctly rendered lids, (b) the symmetrical disposition and frontality which is common to most Yoruba art. These stylistic and cultural connections between Esie and other Yoruba arts

suggest that all of the art of the south western Nigeria must have derived from a common source (Pogoson, 1990; 1998; 2001; 2012).

6.2 Conclusion

From the materials retrieved were lithic objects of various types-soapstones, flakes, hand axe pre-forms (from excavations and reconnaissance) points, blades, single platform and double platform cores, awl, borers indicating pre-historic occupation of Esie. Also included among the finds are ground stone axes (made of soapstone). The functions of these are yet to be fully ascertained. Being made of soapstone rules out the possibility of it been a major indicator for early food producing activities.It might have been used to perform a more recent function as a ritual symbol as is common among Sango (god of thunder) worshippers. Furtherarchaeologicalreconnaissance surveys of Igbo-Ilowe as well as Igbo-eji are desirable as these might shed light on theStone Age archaeology of Esie and that of Nigeria and West Africa in general. The presence of beads in the excavations suggest bead making in the area. This is supported by the presence of tuyére that might have been used for bead polishing. Conclusively, it is envisaged that with support both locally and internationally, a further probe of Esie will increase the existing knowledge about urbanization in West Africa. There are clear indices that Esie at the peak of its 'civilization' was a centre of artistic appreciation. A thorough interdisciplinary investigation would go a long way in trying to unravel some of other mysteries surrounding the Esie soapstone figurines.

6.3 Recommendations

Esie appears to have had a society which archaeologically had low visibility. There is the need for us to improve our methodology if we are to overcome the problem of visibility (Connah, 2008) Emphasis should be made on aerial photography (the use of drones will be particularly useful in Esie) and satellite coverage to locate sites. Many of the already established sites in Esie also require detailed archaeological investigations.

If we avail ourselves of the diverse analyses possible these days (organic residue, pollen, U-Pb analysis, use wear analysis, instrumental neutron analysis, x-ray diffraction for mineral composition and source area determination and mass spectrometry for source

area determination and provenance) all of these might tend to shed information to give us a better understanding of the urban processes in Esie better.

Such archaeological works so be so thorough with a systematic surface collection through physical and electronic means. The use of LiDAR will be invaluable in Esie to reveal the sub-surface deposit round the town. With LiDAR it will be possible to understand where to dig but also have a prior knowledge of the materials under the belly of the earth. This should be followed by a large scale excavation of the town and its environs acomprehensive information on the urban/rural/ frontier processes. Added to this are the use of relevant ethno-archaeological investigations backed up with the extensive use of ethno-historical documentation.

The use of power driven 50 millimetre core drill could also be useful. This has been effectively used by Paul Sinclair in Great Zimbabwe and Chantal Radimilahy at Mahilaka in Madagascar. Drilling cores over a carefully planned grid can rapidly cover a huge area and provide certain basic information such as deposit depth, deposit character, phosphate content and even charcoal for radiocarbon dating. Drilling can be integrated with a resistivity survey and a metal detector search. The last effort must be open area excavation on large scale. Sure this will require heavy financial resources to provide machinery, labour transport, subsistence, analyses, dating and other lab works and eventually publication (Connah, 2008).

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Appendix I: List of Informants

Informants Name	Age	Occupation	Place of Interview	Date
Oba Yakubu Babalola, Egunjobi 11	Over 70 years	Paramount Ruler	Esie	March 9, 2008 Dec 11, 2008,June 15,2009
Late Pa Isaiah Oyebamiji	Over 90 years	Community Leader	Esie	April 15, 2008, Dec8-20,2008,June 12, 2009, March 14, 2013
ChiefTimothy OlabanjiOmopemola (OloyeOdosi)	Over 70 years	Esie High Chief	Esie	March 8-25, 2008; Dec 15, 2008, March 17, 2013
Alhaji BusariBojuwoye	Over 70 years	Esie Chief Imam	Esie	March 22, 2008
MrLoladeOyeyipo	Over 50 years	Esie Monuments Festival Committee Secretary	Esie	January 10, 2008, March 10, 2008, December 15, 2008, March 15, 2015
Mr Kayode Adewusi	55 years	Staff of NCMM Esie: Senior Museum Photographer	Esie	March 8-25 2008
Mr Johnson Ajayi	54 years	Staff of NCMM Esie: Chief Museum Education Officer	Esie	March 8-25, 2008, Dec 6-20, 2008, March 19, 2013, March

Informants Name	Age	Occupation	Place of Interview	Date
				14, 2015
Dr Michael Oyinloye	49 years	Lecturer, Dept of Fine and Applied Arts, Olabisi Onabanjo University, Ago Iwoye	Esie; Ibadan	Jan 17, 2009; Feb 11, 2014; Dec 16, 2014
Prof Peter Schmidt	75 years	Professor of African Archaeology	Center of African Studies, University of Florida, Gainesville, Florida	Feb 1-5, 25, 2015
Dr Gerard Chouin	47	Associate Professor of African Archaeology	Ibadan; Esie; Ile-Ife; IlaraEpe	Dec 2011; June 16-July 4, 2015; May 14-June 11,2016.
MrBetrandPoissonnier	55	Senior Archaeologist INRAP Toluouse, France	Ile-Ife, Epe; Toulouse	June 16-July 4, 2015; May 14-June 11, 2016
Dr Segun Opadeji	55	Senior Lecturer in Archaeology	Esie; Ibadan	Dec 15,2008; June 14, 2012; July 1-October 15, 2013.
Dr Musa Hambolu	Over 60	Retired Director of Research, NCMM, Nigeria	Esie; Dakar	Dec 2008; Nov 4, 2010

Informants Name	Age	Occupation	Place of Interview	Date
Prof O.B Lawuyi	65	Professor of Anthropology	Ibadan	2012; 2013; June 16, 2014; February 8, 2017.

Appendix II: Radio carbon dating Report 1

Beta Analytic Inc.
4985 SW 74 Court
Miami, Florida 33155 USA
Tel: 305 667 5167
Fax: 305 663 0964
Beta@radiocarbon.com
www.radiocarbon.com

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February 7, 2012

Dr. Akin Ogundiran
University of North Carolina
Africana Studies Department
9201 University City Boulevard
Charlotte, NC 28223
USA

RE: Radiocarbon Dating Result For Sample KINSE08-PIT1-34CM

Dear Dr. Ogundiran:

Enclosed is the radiocarbon dating result for one sample recently sent to us. It provided plenty of carbon for an accurate measurement and the analysis proceeded normally. As usual, the method of analysis is listed on the report sheet and calibration data is provided where applicable.

As always, no students or intern researchers who would necessarily be distracted with other obligations and priorities were used in the analysis. It was analyzed with the combined attention of our entire professional staff.

If you have specific questions about the analyses, please contact us. We are always available to answer your questions.

Our invoice has been sent separately. Thank you for your prior efforts in arranging payment. As always, if you have any questions or would like to discuss the results, don't hesitate to contact me.

Sincerely,

Darden Hood

Digital signature on file

BETA ANALYTIC INC.
DR. M.A. TAMERS and MR. D.G. HOOD
4985 S.W. 74 COURT
MIAMI, FLORIDA, USA 33155
PH: 305-667-5167 FAX:305-663-0964
beta@radiocarbon.com

REPORT OF RADIOCARBON DATING ANALYSES

Dr. Akin Ogundiran

Report Date: 2/7/2012

University of North Carolina

Material Received: 1/19/2012

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 314876	630 +/- 30 BP	-23.8 o/oo	650 +/- 30 BP

SAMPLE : KINSE08-PIT1-34CM
ANALYSIS : RadiometricPLUS-Standard delivery
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid
2 SIGMA CALIBRATION : Cal AD 1280 to 1320 (Cal BP 670 to 630) AND Cal AD 1340 to 1390 (Cal BP 610 to 560)

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-23.8:lab. mult=1)

Laboratory number: **Beta-314876**

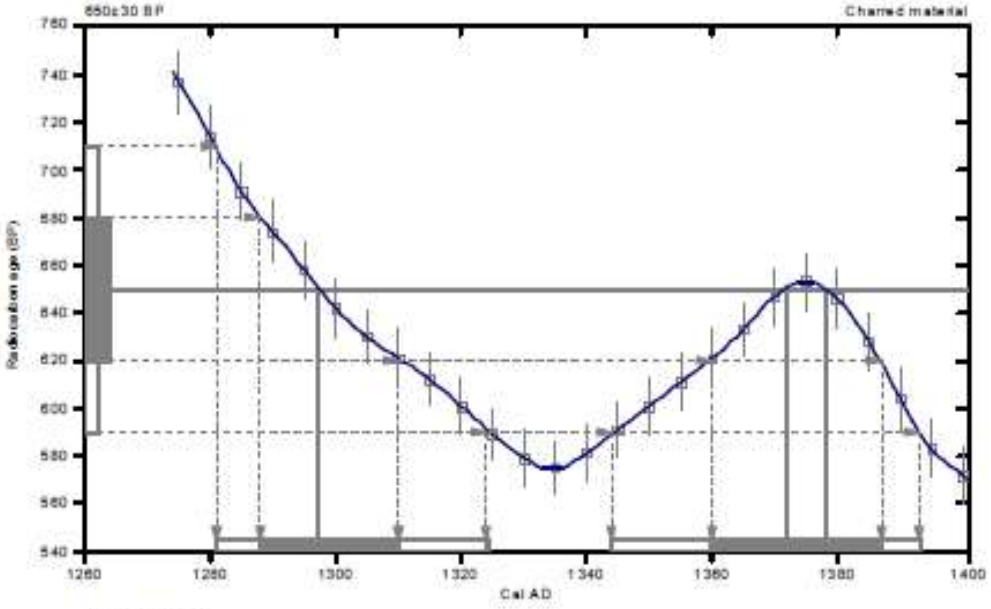
Conventional radiocarbon age: **650±30 BP**

2 Sigma calibrated results: **Cal AD 1280 to 1320 (Cal BP 670 to 630) and**
(95% probability) **Cal AD 1340 to 1390 (Cal BP 610 to 560)**

Intercept data

Intercepts of radiocarbon age with calibration curve: Cal AD 1300 (Cal BP 650) and
Cal AD 1370 (Cal BP 580) and
Cal AD 1380 (Cal BP 570)

1 Sigma calibrated results: Cal AD 1290 to 1310 (Cal BP 660 to 640) and
(68% probability) Cal AD 1360 to 1390 (Cal BP 590 to 560)



References:

Database used

INTCAL09

References to INTCAL09 database

Heaton,et.al.,2009, Radiocarbon 51(4):1151-1164, Reimer,et.al, 2009, Radiocarbon 51(4):1111-1150, Stuiver,et.a (1993, Radiocarbon 35(1):137-189, Oeschger,et.al.,1975,Tellus 27:168-192

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates
Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

Beta Analytic Radiocarbon Dating Laboratory

4985 S.W. 74th Court, Miami, Florida 33155 • Tel: (305)667-5167 • Fax: (305)663-0964 • E-Mail: beta@radiocarbon.com

Appendix III: Radio carbon dating Report 2

Beta Analytic Inc.
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Miami, Florida 33155 USA
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Beta@radiocarbon.com
www.radiocarbon.com

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June 16, 2011

Dr. Aribidesi Usman
Arizona State University
African & African American Studies
c/o Maryann Bilingsley
COWDEN room 224
Tempe, AZ 85287-3802

RE: Radiocarbon Dating Result For Sample IIE MOUND 2 level 200-220cm

Dear Dr. Usman:

Enclosed is the radiocarbon dating result for one sample recently sent to us. It provided plenty of carbon for an accurate measurement and the analysis proceeded normally. As usual, the method of analysis is listed on the report sheet and calibration data is provided where applicable.

As always, no students or intern researchers who would necessarily be distracted with other obligations and priorities were used in the analysis. It was analyzed with the combined attention of our entire professional staff.

If you have specific questions about the analyses, please contact us. We are always available to answer your questions.

Thank you for prepaying the analysis. A receipt is enclosed with the mailed report copy. As always, if you have any questions or would like to discuss the results, don't hesitate to contact me.

Sincerely,

Darden Hood

Digital signature on file

BETA ANALYTIC INC.
DR. M.A. TAMERS and MR. D.G. HOOD
4985 S.W. 74 COURT
MIAMI, FLORIDA, USA 33155
PH: 305-667-5167 FAX:305-663-0964
beta@radiocarbon.com

REPORT OF RADIOCARBON DATING ANALYSES

Dr. Aribidesi Usman

Report Date: 6/16/2011

Arizona State University

Material Received: 5/20/2011

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 299369	520 +/- 50 BP	-25.7 o/oo	510 +/- 50 BP

SAMPLE : IIE MOUND 2 level 200-220cm
ANALYSIS : Radiometric-Standard delivery
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid
2 SIGMA CALIBRATION : Cal AD 1320 to 1350 (Cal BP 630 to 600) AND Cal AD 1390 to 1450 (Cal BP 560 to 500)

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.7:lab. mult=1)

Laboratory number: **Beta-299369**

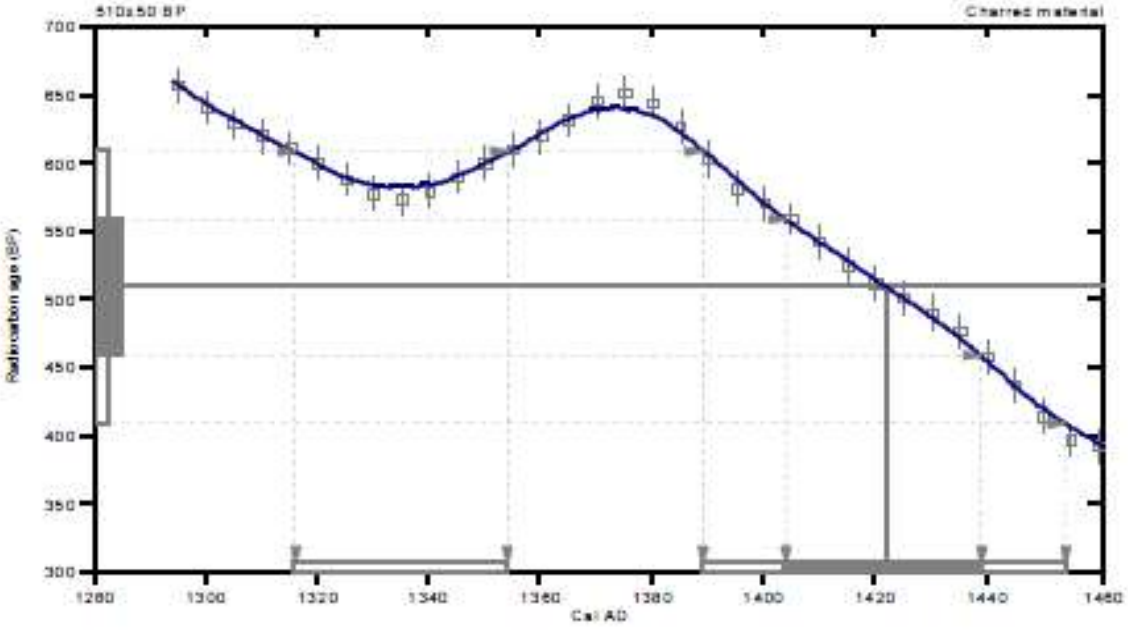
Conventional radiocarbon age: **510±50 BP**

2 Sigma calibrated results: **Cal AD 1320 to 1350 (Cal BP 630 to 600) and**
(95% probability) **Cal AD 1390 to 1450 (Cal BP 560 to 500)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1420 (Cal BP 530)

1 Sigma calibrated result: Cal AD 1400 to 1440 (Cal BP 550 to 510)
(68% probability)



References:

Database used

INTCAL04

Calibration Database

INTCAL04 Radiocarbon Age Calibration

IntCal04: Calibration Issue of Radiocarbon (Volume 46, nr 3, 2004).

Mathematics

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2), p317-322

Beta Analytic Radiocarbon Dating Laboratory

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REPORT OF RADIOCARBON DATING ANALYSES

Dr. Akin Ogundiran

Report Date: 2/7/2012

University of North Carolina

Material Received: 1/19/2012

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 314876	630 +/- 30 BP	-23.8 o/oo	650 +/- 30 BP

SAMPLE : KINSE08-PIT1-34CM
ANALYSIS : RadiometricPLUS-Standard delivery
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid
2 SIGMA CALIBRATION : Cal AD 1280 to 1320 (Cal BP 670 to 630) AND Cal AD 1340 to 1390 (Cal BP 610 to 560)

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REPORT OF RADIOCARBON DATING ANALYSES

Dr. Aribidesi Usman

Report Date: 6/16/2011

Arizona State University

Material Received: 5/20/2011

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 299369	520 +/- 50 BP	-25.7 o/oo	510 +/- 50 BP

SAMPLE : IIE MOUND 2 level 200-220cm
ANALYSIS : Radiometric-Standard delivery
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid
2 SIGMA CALIBRATION : Cal AD 1320 to 1350 (Cal BP 630 to 600) AND Cal AD 1390 to 1450 (Cal BP 560 to 500)