AN ARCHAEOLOGICAL SURVEY OF BADURUM HILLTOP SETTLEMENT, KAURU LOCAL GOVERNMENT AREA OF KADUNA STATE, NIGERIA

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APRIL, 2018

Declaration

I declare that this dissertation titled '**An Archaeological Survey of Badurum Hilltop Settlement, Kauru Local Government Area of Kaduna State, Nigeria**' was carried out by me in the Department of Archaeology, Faculty of Arts, Ahmadu Bello University, Zaria. All works that have cited in this dissertation have been properly acknowledged. No part of this dissertation has been presented elsewhere.

_____ _____

Joel IBRAHIM **Date**
P14ARAH8005

Certification

This dissertation entitled '**An Archaeological Survey of Badurum Hilltop Settlement, Kauru Local Government Area of Kaduna State, Nigeria**' meets the regulations governing the award of the degree of Master in Arts in Archaeology of the Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

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Dedication

This dissertation is dedicated to God Almighty without whom this work would never have come to a completion.

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Abstract

This dissertation is an archaeological study of the early settlement site of Badurum, which is said to have been inhabited by a group of Atsam people. This research is prompted by a number of research problems which include the inadequate attentionthat hasbeen given to the site, despitethe identification of the site as one of the majorcentres of the Atsam area by previous literatures. More so, no archaeological work has been conducted on the site, exceptcolonial and historical works that relate to the site. Such works relied solely on oral tradition and/or earlier literatures for data acquisition. These coupled with the indiscriminate destruction of the culturalmaterials on the site by both natural and human-induced factors, has led to a partial loss of the history of the people.This study was carried out with an aim of reconstructing the past life-ways of the early inhabitants of the site. The stated aim was achieved through the review of literatures that relate to the site of Badurum; an archaeological survey of the site; and a collection of oral tradition form the descendants of the site of study, who currently inhabit BadurumSama and BadurumKasa. In order to collect the necessary data for the study, historical archaeology' methods of research, which include written source, oral tradition and archaeological survey, were employed. The research revealed evidence of human occupation on the site of Badurum, alongside their spatial distributions. Thus the result of the survey was corroborated with those of the oral tradition and reviewed literatures, which led to a conclusion that the early inhabitants of the site of Badurum lived in an organized and socially stratified society in a natural environment that provided them with resources which they harnessed in order to ensure their survival.

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Abbreviations

CSA - Circular Stone Arrangement

RS - Rock Shelter

BM - Burial Mound

XPL - Cross Polarized Light

PPL - Plane Polarized Light

CHAPTER ONE

BACKGROUND OF THE STUDY

1.1 Introduction

Badurum, traditionally known as Gyi-gyes, is an early settlement site that is said to have been occupied by a part of the Atsam people, otherwise referred to as Chawai (in Hausa language). For the sake of this research the name Atsam, instead of Chawai, will be used. The historical settlement is located in Kauru Local Government Area of Kaduna State. It is bordered by Gyi-pankan (FadanChawai) to the north, Maizanko (Damakasuwa) and Gyi-rivu (Zambina) to the north-west, Gyi-tinbang (Izam) to the south, as well as Erigwe (Miango – in Basa Local Government Area of Plateau state) to the east. According to historical documents, the inhabitants of the area resided both the Atsam hills and plains.

Eleven clans are said to have inhabited the site of study, they are as follow: Gyi-shuya, Gyi-civut, Gyi-tah, Gyi-patah, Gyi-sipet, Gyi-kurung, Gyi-zanrah, Gyi-sarang, Gyin-gak, Runji and Gyi-rah-kpost (Ibrahim, pers. Comm., 2016). All the eleven clans are said to have migrated from different villages and later adopting the language and traditions of the Atsam. The site of study is said to be the point where all the eleven clans converged and later migratedto the present-day Gyi-sho-gyes and Gyi-gyes-girgin, which are popularly known as BadurumSama and BadurumKasa (in Hausa language) respectively. The Hausa names for the present-day settlements of the people reflect the terrains of the two settlements, thus BadurumSama is a hilly settlement, while BadurumKasa is a low land settlement. The clans are still considered to be a single unit, despite the fact that they decided to resettle on two separate terrains for reasons that

are not clear. Two factors are said to have been responsible for this migration, one of which is population explosion and the second being a peaceful environment the people enjoyed.

This research archaeologically studies the site of Badurum so as to have an archaeological perspective of the history of the early inhabitants of the site. This was made possible through the acquisition of data that are relevant to the study, as explained in the 'Methods of Research' of this dissertation. As a result, thedata that were acquired for this study cover areas that relate to environment, oral and documented historical background, as well as archaeological data. These data were analysed and evaluated to arrive at the 'Discussion' section of this dissertation.

1.2 Statement of Research Problem

Meek (1931) attempted documenting the way of life of the Atsam in general. He went on to mention the various settlement centres that constitute the Atsam but basing his discussion on two of the seven settlements. This is probably as a result of the assumption that all the settlement centres have adopted the same kind of tradition, and so a general study will cover all seven settlement centres. The fact that the people have distinct traditions of migration, which could be classified into three broad headings (discussed below), could create room for some form of differences between the people. This therefore calls for a selective study rather than a holistic one. As a result of the holistic study of the area, there is therefore inadequate record of the history of the site of Badurum.

As recounted by Nengel, et *al*. (2002), the early Badurum settlement is one of the earliest settlements of the Atsam area as well as one of the major centres of the Atsam, thus making it a very important settlement in the history of the people. However, no archaeological research has so far, to the best of the researcher's knowledge, been carried out on it. Despite acknowledging

the fact that the site of Badurum was a major center in Atsam area in the past, it has been given little or no attention. Nengel*et al*. (2002), for instance, attempted a general history of Atsam from the nineteenth century, discussing only the individual terrains of all the various centers that make up the Atsam, but not giving details of the settlement centers.

Also, the early historical researches depended more on oral tradition and written documents to discuss the history of the Atsam. The current research looks at the material remains to complement oral information about the Atsam people. It therefore studied the site and its artefacts to help in the reconstruction of the history of Badurum where all the clans converged before moving to their present-day locations in BadurumSama and BadurumKasa. This was however made possible through the corroboration of archaeological survey alongside other sources such as ethnographic survey, oral tradition(s) and information, as well as the study of available written records that are relevant to the site of study.

The evidence of an early occupation on the site of study are under serious threat of extinction due to natural factors such as rainfall, wind and water erosion, as well as human activities like farming, bush burning, hunting and animal grazing. The destruction of the cultural materials on the site becomes a problem, since without them there will eventually be nothing left in order to archaeologically study the history of the people. This problem coupled with the inadequate attention that has been given to the site of Badurum has militated against the history of the site, to an extent that there is presently is disconnect in the flow of the people's tradition from the older generation to the younger generation. This phenomenon is capable of leading to the total extinction of the evidence of history of the site of study.

The issues, as revealed above, prompted thisresearch which sought to address the research problems. This dissertation therefore attempted a documentation of the history of the

site of Badurum from an archaeological perspective, which could more or less become an impossible task to carry out in the future.

1.3 Aim and Objectives

The aim is to reconstruct the past life-ways of the early settlers of Badurum settlement through archaeological investigations. The research objectives included:

1. consultation of documents which are relevant to the study of Badurum historical settlement, so as to have background knowledge of the site of study;
2. carrying out of an archaeological survey on the site of study, so as to have a comprehensive inventory of the finds and features on the site, as well as to produce a site map which will help one to better appreciate the cultural landscape of the site of study;
3. collection of oralinformation from the present-day settlers of both BadurumSama and BadurumKasa, in order to have an insight into the oral history of the site of study; and
4. carryingout ethnographic surveyso as to draw analogy between the ethnographic present and the archaeological past of the people of Badurum.

1.4 Scope

This research is an archaeological survey of the site of Badurum which forms a part of the Atsam (Chawai) area, located in Kauru Local Government Area of Kaduna State. The spatial scope of the research is limited to the site of Badurum.

The time scope of the research covers a period in the history of the early inhabitants of the site of Badurum that is earlier than 1907, which is the date for the arrival of colonialists in the area, as stated by historical documents.

1.5 Justification of the Research

The site of Badurum early settlement has history behind it, judging by the available archaeological evidence such as rock shelters, house foundations, rock hollows, monolith and potsherds among other cultural materials. Much of the evidence of the history of the site is, however, gradually going into extinction, even among the descendants of its early settlers: it was observed, in the course of the research, that it is only a few of the aged men, some of whom are elders, and older women that have a fair knowledge of their history; younger women and teenagers, on the other hand, have a poor knowledge of their history. This is an indication that the tradition of the people is barely passed down the generation. This, coupled with inadequate particular attention given to the history of the people by authors, as well as the continuous deterioration of the cultural remains at the site of study, therefore, poses a great threat to the history of the people of both BadurumSama and BadurumKasa.

In order to prevent the disappearance of the history of Badurum, this research sought to document the history of Badurum in relation to the material evidence that are available at the site, in order to ensure a reconstruction of the history of the people using archaeological research methods as provided below.

1.6 Methods of Research

A number of methods were employed in the course of this research, so as to acquire relevant data as they relate to the history of the site of study. It should be noted that the choice of the methods of research in this investigation is predicated on the theoretical framework, which is 'historical archaeological theory' (discussed below). The methods of research that were used for the study were corroboratively employed in a bid to actualize the aim of this research, which is to

reconstruct the past life-ways of the early inhabitants of the site of Badurum. The methods of research include:

1.6.1 Written source

This has to do with the consultation and review of relevant documents that relate to the site of Badurum. Such documents include published and unpublished materials such as journals, projects, books, archival materials and maps. The various literatures that were consulted in the course of this research were sourced from places such as the Department of Archaeology Reference Library, Department of History Reference Library, Northern History Research Scheme, the Department of Archaeology Cartography Unit as well as Kashim Ibrahim Library. Literatures that were sourced for the sake of this research were reviewed in order to form a basis for this research.

1.6.2 Archaeological survey

Archaeological survey which involves field-working, "is a systematic search of the landscape for artifacts and sites" (Price, 2007).Archaeologists carryout surveys in order to search for objects that are of cultural significance that have been discarded either intentionally or unintentionally. Survey is of great importance to the archaeologist because of its capability of generating information that could be unparalleled by the results of excavation (Price, 2007).

An archaeological survey was carried out in the course of this research in order to reveal the spatial distribution of the cultural materials that are present on the site of study. This aided the production of a site map which shows the distribution andspatial relationship between the cultural materials that are present on the archaeological site.The field instruments that were employed in carrying out the survey include a 30-meter measuring tape, ranging pole,

photographic scale, magnetic compass, Global Positioning System (GPS), camera, polythene bag for packaging finds on the site and writing materials for documentation. A student archaeologist and three field guides were taken to the field in order to ensure a successful survey of the site of study.

1.6.3 Oral tradition

According to Vansina (1981:143), oral tradition is "a testimony transmitted orally from one generation to another". He also went ahead to say that "The African civilizations in the Sahara and south of the desert were to a great extent the civilizations of spoken word…" (Vansina, 1981:142).For this reason, oral tradition becomes an inevitable source of information to the African archaeologist. Furthermore, Bakinde (2006:61) stated that oral tradition "is the only source available most especially in a society without written records and where no previous archaeological research has been carried out". This makes oral tradition one of the initial methods in this research.

In the course of this research, oral tradition was collected from the descendants of the early settlers of the archaeological site of Badurum. Due to the problems associated with oral tradition as a source of data to the archaeologist, the data was carefully sieved so as to come up with credible information. It should, however, be noted that the data collected is not an end in itself but a means to an end. Just as Aliyu (2006:52) rightly stated that "…sources like oral tradition…can only serve as a basis for further research, just like hypotheses for the archaeologists to test in the field".

The oral tradition that was collected covered aspects of the people's history such as their origin, migration history, festivities, among others. It was also carried out based on personal oral interviews between the researcher and the interviewed, cutting across gender and age (from

teenagers to elders), from which the researcher interviewed a minimum of two individuals from each clan. The in-depth kind of interview was carried out, which was aided by a question guide as represented in the 'Appendix II' of this dissertation. Also, the interview was one-on-one which involved the researcher and a respondent one at a time.

1.6.4 Ethnographic survey

Ethnography as defined by Okpoko and Ezeadichie (2006) is the study of human societies which is concerned with the way of life of a present-day people, relating to their economy, political system, kinship relation, ideas, morals, technology and crafts.Mangut (2006) in the same vein defined ethnography as the descriptive study of a distinct present-day society which derives from the direct observation of human behavior which concerns their social, economic, linguistic and religious aspects. In view of these definitions, an ethnographic survey was conducted in the areas of pottery production and architecture. As a result, a study of pottery manufacturing process among the potters from FadanChawai,which is the only area identified to be practicing pottery making among the Atsam, was carried out. Also a study of the architecturalbuilding of the present-day BadurumSama and BadurumKasa was done.Thesewere done in order to aid the interpretation of the cultural materials that arepresent on the site of study, by simply comparing the two kinds of data, since the archaeological data are limited as a result of the problems of preservation.

The kind of analogy that was adopted for this research is the direct 'historical approach'. Thisapproach, as identified byAscher (1961, cf.Ibeanu, 2006) is based on an assumption that there is a direct connection between a living society and a particular one in the past, which must be tested with available data, that is a comparative and analytical study of both archaeological

and ethnographic data. In instances where continuity between the ethnographic present and the archaeological past is demonstrated, then the analogies made are more likely to be correct.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Literature Review

In the course of reviewing literatures for this study, it was observed that there is a gap in research, as there no previous archaeological work that is particular on the site of Badurum, except on other centresof the Atsam and a few historical documents, some of which discuss the Atsam in general.As a result this review focused on literatures that studied nearby sites, as well as those that discussed the Atsam area in general. One of these is 'An Archaeological Survey of FadanChawai', an undergraduate project carried out by Danladiin 2014 in the Department of Archaeology, Ahmadu Bello University, Zaria. The project which reported an archaeological survey of one of the centresof the Atsam area, 'FadanChawai',gave a historical background of the Atsam area, mentioning the major centres that make up the area, though the author left out Badurum in his list of the major centres that constitute the area. According to Danladi (2014), 'FadanChawai' was the capital of the Atsam-land, since the seat of leadership is resident there. By implication FadanChawai served as the center for commerce for the entire Atsam people.

Nengel, et *al*. (2002) stated that Badurum was a major center in Chawai-land among Zambina, Maizanko, FadanChawai, Pari, Kizakoro and Kidundun with their various villages. According to Nengel et *al*. (2002), Badurum constitute villages such as BadurumSama, BadurumKasa, Kumba and Unguwan Dare. The authors went on to state that many of the villages have different traditions of origin which are unclear. These traditions of origin can be divided into three.There is the Autochthonous tradition (which involves stories of the people

originating where they are found), long distance-migration tradition and the short distance-migration tradition.

The autochthonous (indigenous) tradition claims the ancestor of Atsam ethnic group to be "Tsam" from whom the name of the descendants was derived as "Atsam". It claims that Tsam emerged from a grove within the present-day settlement of the Atsam, through the power of a supernatural being known as *Bawai,* after which his early descendants first settled in two centers, that is, Zambina (Giruvu settlement) derived from Azamina (the surviving son of Tsam) and Maizanko (Gittudu) derived from Zanko (in Hausa) who migrated from Bauchi. This account however failed to account for the other major centers (Nengel et *al*., 2002).

The tradition of long distance migration tradition comes in two distinct forms.The first holds that the ancestors of the Atsam people, who were living with the Afizere and Irigwe, migrated from Bauchi area for reasons unknown and settled at Zambina where they built their first settlement initially called Kitikwa. The second migration history on the other hand claims that the ancestors of the Atsam who were living with the Afizere and Irigwe, migrated from Borno for unknown reasons to Gwarzo in present-day Kano, back to Borno before moving to Zaria and then to Kabong on the Jos Plateau. From there they descended to Zahaba in ZangonKataf area. This tradition also claims that the group that migrated was headed by four principal leaders: Tsam, Barazan, Angwai and Bajari, who later parted ways and founded different ethnicities. Thus, the Atsam descended from Tsam, the Kataf and Bajju descended from Barazan, the Irigwe descended from Angwai who founded Kwall and then the Afizere descended from Bogoro (Nengel, et *al*., 2002).

The tradition of short distance migration, on the other hand, emanates from groups of minor villages that form parts of the Atsam, of which some cannot remember the time they came

to where they are presently settling. Nengel, et *al*. (2002), recounts that some groups were assimilated into the Atsam through intermarriages, as evident in colonial accounts. This tradition deals with migrations from nearby regions into the Atsam area. Nengel, et *al*. (2002) is however not particular about the tradition of origin of any of the settlement centers of Atsam, probably because the work treated the whole of the area as a single unit

From the several traditions of the Atsam migration as compiled by Nengel, et *al*. (2002), it is clear to see that they are vague and lack detail, only emphasizing two major centers,Zambina and Maizanko, leaving out the other five,FadanChawai, Pari, Kizakoro, Kidundun and Badurum.The reason for emphasis could be as a result of the preference the people have given the two major centres over the others.

Another written information, titled 'A History of Badurum, 1900-1960' was carried out by Ali (2014) in the Department of History, Ahmadu Bello University, Zaria. The project talks about the way of life of the people of Badurum in the pre-colonial and post-colonialperiods. It revealed the changes that have taken place in the lives of the people at the inception of colonial rule in the region. These changes were reflected in the areas of their architecture, rulership, forced labour, taxation and western religion. During the colonial period, the whole of Atsam was administered under the Zaria province.

Meek's colonial account on the "Tribal Studies in Northern Nigeria" (1931), talks about the culture of the Atsam ethnic group in general, as well as the social and political setting of the people in general. Though this account is an ethnographic work, it only relied on first-hand observations for data acquisition to a certain degree (David, 1978): the author admitted that part of the information provided in the book was based on informants who are not of Atsam descent. The author stated that each of the six centers or territorial units (i.e.Zambina which is the senior

unit, Zankootherwise referred to as Mai-zanko,Badurum, Pari, Kizakoro and Kidundu) that make up Atsam was headed by a 'headman' called *Yekut* (*Magaji* in Hausa), who are all answerable to one paramount foreign chief, who is known as the *Res*, who in turn reports directly to the Emir of Zaria. The paramount chief is chosen by the local chiefs of Zambina and Zanko (Maizanko), while the *Yekuts*, who are given leopard skins to be constantly worn as an emblem of their office, are in turn chosen by elders of certain families in certain villages of the local group, or sometimes by the religious chief of the village.

The shortfall of Meek's account, however, is that it only captured the period marked by colonialism among the Atsam.This is a period that saw an intrusion of the Hausa dialect into that of the Atsam, as well as an imposition of a foreign administration on the people. The latter affected their mode of settling conflicts among themselves, since they had to appear before an *Alkali* (judge), among other changes that occurred in the culture and tradition of the people.

The gap this research seeks to fill is chiefly predicated on the inadequate attention the site of Badurum has received from authors. Of the reviewed literatures, it could be observed that only Ali (2014) studied the history of Badurum in isolation, but since his work is simply a historical research solely depending on oral and written sources, he did not reconstruct the history of the people from the narrative of material evidence that are available at the early settlement. As a result of the gap in archaeological research on the site, this research has therefore covered aspects that relate the cultural materials on the site to the oral tradition and written history of the Badurum people.

2.2 Theoretical Framework

The theoretical framework that was adopted for this research is historical archaeology. The theoryhas been defined by several scholars in different ways. Beaudry and Little for

instance, defined historical archaeology as "the study of societies for whom there are written texts available" (Beaudry, 1988; Little, 1992 cf. Hicks and Beaudry, 2006). It is also used to refer to societies involved with, or affected by European expansion from the 15th century (Schuyler, 1978; Deetz, 1991, cf. Reid and Lane, 2004). These definitions of historical archaeology do not suit the African continent (specifically West Africa), this is because its application as used in Europe has chronological limitation, since European texts only appeared in North and Eastern Africa from the 16th century upwards, and was only restricted to the coastal areas of Africa (mostly North and East Africa) (Westler, 1998).Also, the theory has completely disqualified the use of oral tradition as a method of research, which is very important in the study of the past of African societies.

As a result of the geographical limitation of the concept, European archaeologists struggled to establish the concept of Historical archaeology, that it may gain general acceptance: their efforts paid off when they tried "…realigning research agendas away from the confirmation of the contents of documents to questions yielding 'insight into the unintended, the subconscious, and into the world views not apparent from written records'" (Stahl, 2001, cf. Robertshaw, 2004). This gave the theory a global perspective, thereby justifying its usage in Africa, and in this research. This led archaeologists to redefine the concept of 'Historical Archaeology' that favour the African continent. As a result, Orser considers historical archaeology as a set of methods that employ the use of written documents, oral histories and archaeology as sources of data for historical reconstruction (Orser, 1996, cf. Robertshaw, 2004). Hicks and Beaudry, in the same vein, opined that "historical archaeology works on the material remains of situations from which no written records survive as often as it does at sites for which rich documentary sources exist" (Hicks and Beaudry, 2006).

Despite the emphasis on written documents in terms of the application of historical archaeology to any archaeological research, it works on the material remains of past human activities from which there are no written records available as often as it does at sites for which rich documentary sources exist (Hicks and Beaudry, 2006). In the case of Badurum archaeological site, there are no much written documents, only a few colonial and historical documents abound. This does not, in any way limit the application of the concept to the site. This is based on the argument that oral tradition could substitute, and is equally important as written documents which African historical archaeologists adopted as a key research method in the study of African societies (Hicks and Beaudry, 2006).

Despite the fact that the concept has been defined by oral tradition, written materials and archaeological survey, it defies the narrow theoretical or methodological boundaries (Hicks and Beaudry, 2006).Therefore historical archaeology, if applied to any archaeological study is capable of coming up witha non-constricted interpretation. Its application on a pioneering work like this one is therefore capable of opening up more areas for further research, based on the ability of the study to touch as many areas of the history of the site as possible.

Historical archaeology, by virtue of its adoption for this research, made use of sources of historical reconstruction such as archaeological survey, alongside oral tradition(s), ethnographic survey as well as available written records on the site of Badurum in order to efficiently interpret the archaeological data visible on the site of study. All the data that were obtained in the course of this research were interpreted through the theoretical framework, since it pervades the methods of research that were adopted for this research.

CHAPTER THREE

GEOGRAPHICAL AND HISTORICAL BACKGROUND

3.1 Location

Badurum settlement site,which is a hilltop settlement is situated on one of the highest peaks in the Atsam area, lies on latitude 09^{o} 54' 04.3" N and longitude 008^{o} 35' 28.8" E in Kauru Local Government Area of Kaduna State (figs. 1, 2 and 3), with an elevation of 985.9m above sea level. It is bordered by Gyi-pankan (FadanChawai) to the north, Maizanko (Damakasuwa) and Gyi-rivu (Zambina) to the north-west, Gyi-tinbang (Izam) to the south, as well as Irigwe (Miango – in Basa Local Government Area of Plateau state) to the east (Ali, 2014).



Figure 1: Map of Kaduna State in Nigeria
Source: Adapted from the Administrative Map of Nigeria, 2017

The site is accessed through Damakasuwa, off Kaduna-Jos road, where lies a footpath passing throughFadanChawai to the site, on a south-eastwards direction. The major means of transportation to the site are either bicycle, motorcycle or could be traveled by foot.Damakasuwa is located 9,161.7m north-west of the site; BadurumSama is located 2,490.9m south-west of the site; while BadurumKasa is located 1,769.1m south-east of the site.

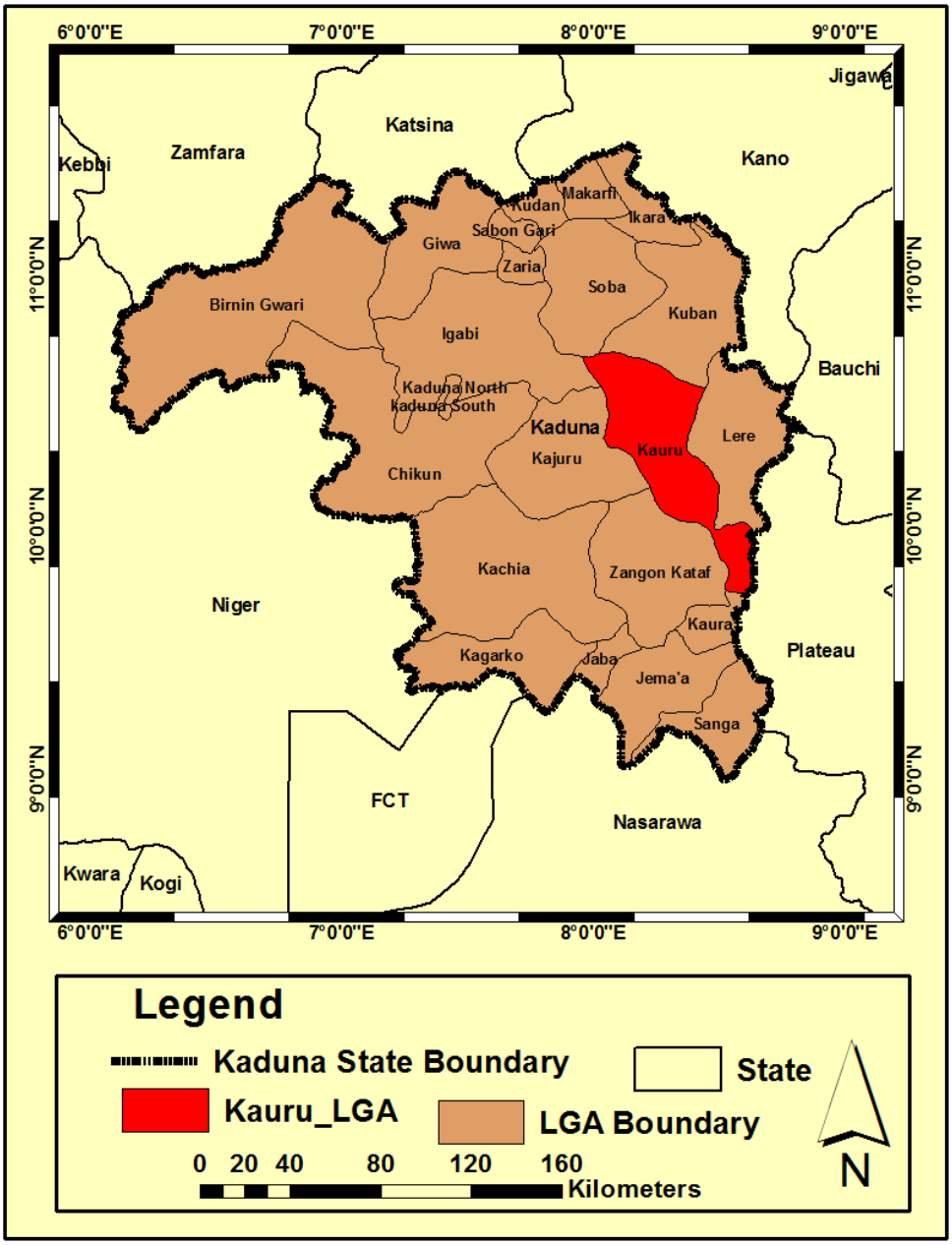


Figure 2: Map of Kauru Local Government Area in Kaduna State
Source:Adapted from the Administrative Map of Kaduna State, 2017

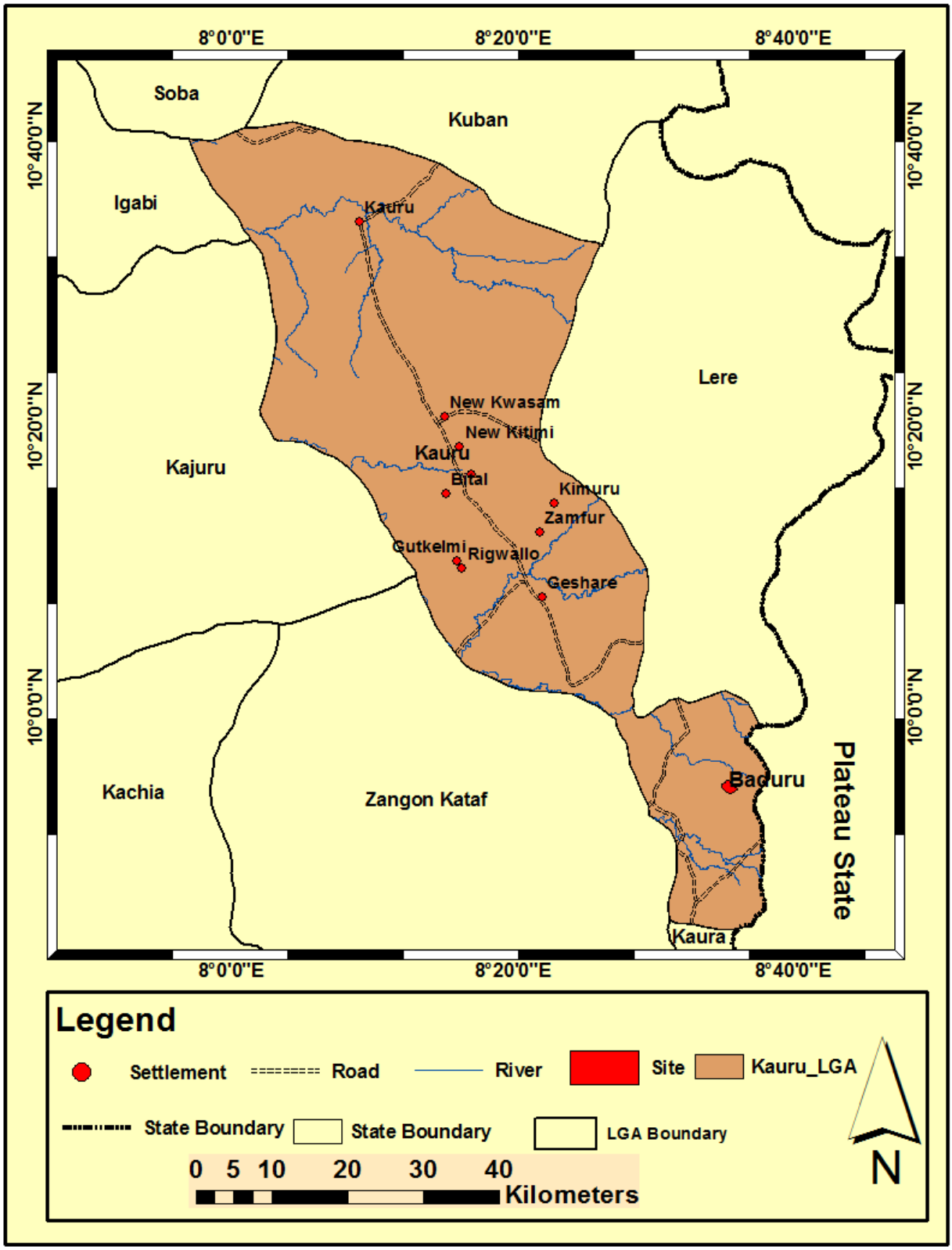


Figure 3: Map of Badurum Site in Kauru Local Government Area of Kaduna State
Source:Adapted from the Administrative Map of Kauru Local Government Area, 2017

3.2 Climate

The climate of any area or region is characterized by certain chief elements which include temperature, wind and rainfall (pressure, humidity and cloud cover are also important), which vary from place to place and also at different times of the year. The variations in the climate of regions are caused by the earth's apparent movement, which causes the sun to shine on different parts of the earth (either over the Tropic of Cancer, Tropic of Capricorn or the Equator). Also, local factors such as relief, distribution of land and sea currents add to climatic variations that are felt in different areas (Iloeje, 1981).

The site of Badurum falls within the tropical climatic region which is characterized by two distinct alternating seasons, that is the dry season and the rainy/wet season, each almost lasting six months on a yearly basis. The former begins towards the end of October and ends in the month of March, while the latter intercepts from the month of April and ends in the month of September or early October, with July and August marking the peaks of rainfall (Kaffoi, 2012 cf. Afuwai, 2015). The mean annual rainfall of the area is between 1000mm and 1500mm (Iloeje, 1981). The driest month is the month of December which has a 0mm precipitation, while the peak of precipitation in the area on the average is about 347mm. The area experiences a single maxima rainfall of the orographic kind which is as a result of the presence of hills in the area (Tubayini, 2000).

The average annual temperature of the area is 24.4^{o}C, of which the warmest month is the month of April which has an average temperature of 27.6^{o}C when the sun is directly over the tropic of cancer (Iloeje, 1981), while at 22.5^{o}C on average, August is the coldest month of the year as a result of the presence of clouds and rainfall in the month. Also the months of December and January are cold periods in the area, when the sun is partly over the Southern Hemisphere

and shines at a low angle, also when harmattan winds blow in from the north which cause the temperature to drop considerably (Iloeje, 1981).

The area is characterized by a relative humidity that is over 80% in the morning and recedes to between 50% and 70% in the afternoon during the rainy season (Iloeje, 1981). However, the percentage of water in the atmosphere of the area is more during the wet season as compared with that of the dry season.

The climatic condition found in the area around Badurum historical settlement site provides a background setting for human activities in the area, such as agricultural practices, hunting of animals as well as building a settlement. This is because climate is a chief factor of man's environment which affects the vegetation and geology of the area, which are key to the survival of the early settlers of the site of study.

3.3 Geology and Soil

A study of the geology of an area is important in the sense that it helps in the "…understanding of the present landscape and its past configurations…" as well as influencing "…our concepts about the environmental context of human activities in the past…" (Greene, 2003:141). The rock type that is predominant in the area of study is the basement complex rock which is old, hard and chiefly made of granite. It is as a result of the presence of this rock-type the area is uplifted to high altitudes to form a highland region, simply because they are much more difficult to wear down (Iloeje, 1981). This however accounts for one of the factors that bring about high amount of rainfall (relief or orographic rainfall, discussed below) in the area.

The nature of the geology of Badurum historical settlement is no doubt one of the factors that led to the choice of habitation of the site by the people who settled there: as earlier stated,

written documents as well as oral tradition have supported this claim, stating that the people inhabited the site for security reasons. Rock shelters on the site could have provided some form of shelter for the people in the past. This is probably due to the undulating and rugged nature of the terrain as a result of the presence of rock outcrops that vary in sizes (plate I). Also it is evident that the granitic rocks in the area have been harnessed by the early inhabitants of Badurumand modified to meet some of their daily needs.

The soil of any area is chiefly influenced by the various climatic factors that act on it, as well as the relief of the area. It should however be noted that soils with differing colours, textures and other characteristics are formed and modified both by natural and human activities (Greene, 2003). Soil is a product of the geology that is found in a particular area, which directly supports life.

The area is characterized by a tropical soil with patches of red earth. There is also the presence of rich organic matter in the soil which is possibly as a result of the dense vegetation cover of the area (discussed below). The soils are coarse-textured owing to the fact that they are products of the underlying basement complex and sedimentary rocks which eventually result into the formation of sandy soil in some areas (Kaffoi, 2012 cf. Afuwai, 2015).

3.4 Drainage

Kauru Local Government Areagenrally has streams and rivers flowing through it. Riversin the areaflow down from hills collectively referred to as ‘Kudaru’ (Tubayini, 2000). The main streams have relatively steep gradients near the hills, but much gentler gradients at the southern part, where they flow to join River Kaduna which flows through the south-eastern parts of the Local Government Area. Apart from the numerous streams that flow through the area, the majorrivers include: KoginKauru, Nikargu River, RafinGuza, RafinSanyi, RafinKankude,

KoginKubene, KoginGeshere, RafinKapuna, Kuwazaza, Kudunwa, among others (Tubayini, 2000).

The site of Badurumwas also identified to have four streams that flow through it at different location on the site. Oral tradition was unable to identify the stream by name, as a result the streams were identified as streams I to IV. The first stream is located at the north-western part of the site, while streamsII, III (plate I) and IV are located at the south-eastern part of the site.All four streams are represented on the thematic map of the site of Badurum in figure 3, and their geographical coordinates were taken as displayed in appendix III.



Plate I: Stream

3.5 Vegetation

The vegetation of an area is largely influenced by the climatic change of the region (long term or short term) that has direct effect on humans: plants which form the major diet of humans are very sensitive to temperature and moisture (Greene, 2003). The climatic factors, geology and soil of the area have greatly determined the type of vegetation of the area. The vegetation type of

the area is typical of tropical savannah woodland which comprises small-scattered shrubs and bushes as well as short grasses.

The area supports a vegetation type that is characteristic of plants such as *Parkiabiglobosa* locust bean; *Butyrospernumparadoxum*Shea butter; *Adansoniadigitata* baobab tree; *Mangniferaindica* mango and *Tamarindusindica* tamarind among others (Kaffoi, 2012 cf. Afuwai, 2015). Human activities in the area have greatly affected the vegetation of the area, as a result of a phenomenal population growth that was witnessed in the area. For instance, oral tradition claimed that the site used to be thickly forested so that sun rays could not freely penetrate the settlement, hence also contributing to the security of the people; oral tradition also recalled an earlier period when the area was characterized by a dense undergrowth of thick forest with tall trees which was crippled by human interactions in the area. Colonial records recount that at its early stage (colonial era), the plains were characterized, largely, by open grassland to the north and more heavily wooded bush to the south, which have provided refuge to nearly all the villages around there, anytime enemies engaged them (Ali, 2014). This is however no longer the case of Badurum, as lumbering, bush clearing and burning activities for farming purposes have reduced the vegetation of the site, thereby leaving it exposed (plate II).

The grasses in the area are abundant, tall and luxuriant especially during the rainy season (Emielu, 1996, c.f. Tubayini, 2000).



Plate II: A Section of the Vegetation of the site of Badurum

3.6 Economic Activities

The major economic activity of the Atsam in general is farming: crops are not only grown for subsistence purpose, but also for commercial purpose. The crops meant for commerce and sometimes surpluses were transported to *FadanChawai* which has been the commercial centre of the Atsam area (as revealed in the literature review), where a market is situated for business activities between various Atsam groups as well as between the Atsam and their neighbours. This practice is still done at present. Their farmlands are sometimes located far from their settlements in a bid to cultivate a large expanse of land in order to ensure larger yields; their farmlands are also, sometimes situated close to their settlements. This could probably be a result of the dispersednature of their settlement, so that each household has a piece of land for planting of crops. Crops that are grown away from the settlement (cash crops) are however, mostly meant for commercial purpose, whereas those grown close to their settlements (sometimes perishable crops) are mostly meant to be consumed by the family and not to be sold.

The people grow crops such as: *Colocasiaesculentum* cocoa yam (*fuwan*); *Zea mays* maize (*darbazak*); *Sorghum bicolor* guinea corn (*dar*); *Pennisetumglaucum*millet; *Dioscorea spp.* Yam; *Digitaria*exilishungry rice; finger millet (*parat, tamba* in Hausa) and *Oryza sativa* rice.

3.7 Settlement Pattern

The pattern of settlement of the present-day inhabitants of both BadurumSama and BadurumKasa is a dispersed type of settlement.The homes of the people are isolated from each other, linked by footpaths, with farmlands located close to the homes, as earlier stated. Land ownership is to a large extent managed based on clanship. As a result each clan has its land with no clear boundaries, which it distributes among its members.Lands could also be owned based on inheritance.

The people presently build their homes using rectangular clay bricks in a rectangular manner, the rooms are roofed with zinc roofing sheets while the granaries which are mostly located at the middle of their compounds are thatched with grass (plate III). The kitchen which is not always attached to the main building is sometimes thatched or roofed with zinc roofing sheets. The kitchen and granary are either made in a circular or rectangular manner. The granaries which are made of mud and thatched with grass are suspended from the ground with oval-shaped granites (relatively of the same size) which are planted into the soil.



Plate III: A Typical Circular Granary of the Present-Day Inhabitantsof Badurum

3.8 Historical Background

As earlier stated, the Atsam in general have several traditions of origin, that is, the long distance migration tradition which claims that the people of Atsam migrated from somewhere in Bauchi state to finally settle in their present-day settlement; the short distance migration tradition, which claims that the people of Atsam migrated from nearby locations to live together in their present-day location; as well as the autochthonous tradition, which claims that the progenitor of the Atsam evolved through some supernatural means where the people presently occupy.

The traditions of origin of the inhabitants of Badurum historical site seem to align both with the short and long distance traditions of origin, which could best be described as an amalgam of different people coming from different villages to settle on the site for several reasons. This resulted into a total of eleven clans, as earlier stated, that came into the area from separate villages: Gyin-gak, Gyi-patah and Gyi-civuot are said to have migrated from

somewhere in the present-day Bauchi state; Gyi-sarang originated from Afizere (Jarawa) in the present-day Plateau state; Gyi-zanrah originated from Irigwe (Miango) in the present-day Plateau; Gyi-sikpet originated from Kaceceri (Fulani from Pari); Gyi-kurung were Hausa from somewhere in Borno state; Runji were Rumada who originated from Pari; Gyi-tah and Gyi-rah-kpost originated from Kagoro; and Gyi-shuya originated from Rukuba (Ali, 2014; Musa, pers. comm., 2016). Though the Runji clan was at some point almost wiped out due to an unknown disease outbreak, and so at present there is only one survivor from the clan who had to relocate to Pari, where his clan originated from (Musa, pers. comm., 2016). It should be noted that the various clans were sometimes individuals (from whom the clans sprung up) that migrated from their various villages to populate the site of study. Also, despite their different places of origin, they also speak the Atsam language and observe all traditions of the Atsam.

According to oral accounts, the early inhabitants of the site of study, before arriving at the site, had settled at a hill known as Kud-gyes, which they also refer to as 'Dutsenjira' (in Hausa) (Wayit, pers. comm., 2016). All eleven clans are said to have met at Kud-gyes hill at different times (though oral tradition is not clear who first arrived the hill), where they got the name Badurum, after the Atsam area came under colonialism by the British in 1907.Thename came about when the British attempted an indirect rule over the Atsam people, who are said to not have resisted as a result of the devastation the British army brought upon their neighbours who resisted. As a result, the British administration as at that time ruled Kud-gyes through a man called Durum, thus the people came to be known as Badurum. As a result of the need for more space and defensive structures against Hausa slave raiders, the people located Gyi-gyes which still maintained the name Badurum till date.

The arrival of colonialism at the area has affected the people's way of life in areas relating to their mode of architecture, religious belief, and politics, among others (Ali, 2014). Though at the unset, the people of Badurum refused to adhere to the British terms until in the 1930s when the British occupation in the area became well established (Nengel, *et al.*, 2002). In the area of religion, the British brought in Christianity when missionaries were allowed into the Atsam area, after which Islam later arrived. As a result three kinds of religion are practiced in the present-day BadurumSama and BadurumKasa: Some engage in Christianity, some in Islam while some still maintain the traditional religion, though Christianity and Islam are more pronounced.

Since Badurum was under the emirate system, as a way of indirect rule, colonialism brought about certain political offices, which include *Dakachi* (village head), *Mai angguwa* (ward head), *Sarkinfada* (palace chief), *Waziri* (head of officials), *Madaki* (army commander), *Sarkinsamari* (youth leader), *Mama* (leader of girls), and *Magatakarda*(Secretary), in that ranking order (Ali, 2014). These officials were responsible for executing the agenda of the colonialists and were paid salaries by the British administration in pounds, based on office: *Mai anguwa* received the highest pay. All other officials as at that time reported to the *Mai anguwa*, while the *Mai anguwa* was answerable to the Emir of Zaria, since the whole of Atsam area was under Zaria province as at then. It should be noted that these political offices are still in place to this day.

Prior to the coming and establishment of the British rule over the Atsam area, the people had their traditional system of government, which recognized two major offices: *Yekut*and *Res*. The *Yekut* was saddled with the spiritual responsibilities of the people; such responsibilities included productivity both in the area of agriculture and child birth, as well as protection from dangers by offering sacrifices in order to prevent human and natural disasters such as wars,

thunder, famine, flood among others (Nengel, *et al.*, 2002). It should be noted that the office of the *Yekut* was represented in all the settlement centres of Atsam: by implication there are seven *Yekuts* in the area. The role of the *Res* on the other hand was purely political, in the sense that he was in charge of external relations: he settled disputes that arose from members of his polity, and between them and their neighbours (Nengel, *et al.*, 2002). Unlike the *Yekut*, the *Res*was only one in the entire Atsam area, and he never took a decision on his own without the *Yekuts* and elders of the settlement centres. The office of the *Yekut* was based on election by elders or clan-heads of individual settlement centres, while the *Res* was elected by the *Yekuts* of Zambina and Maizanko, but they were later installed through inheritance by certain families (particularly for the office of *Yekut*) and clans – Kiagwari and Kuka clans of Maizanko and Zambina respectively (in the case of *Res*). As an emblem of office *Yekuts*wear leopard skins, while the *Res* wears woven cloths that were acquired from Hausa traders (Nengel, *et al.*, 2002). These offices are still functional till this day, operating side by side the recently introduced British political offices.

CHAPTER FOUR

ARCHAEOLOGICAL SURVEY

An archaeological survey was conducted on the historical site of Badurum by traversing its landscape to identify and document the various traces of human activities. This was carried out by the researcher in the month of May 2016, when the rainy season has not started. The time for survey becomes important because it is a known fact that the rainy seasoncauses the environment to become green, since grasses and shrubs will spring up. This phenomenon is capable of negatively affecting any archaeological survey. It is for this cause that the above stated period of survey was chosenin order to ensure clear visibility when identifying the cultural materials that are available on the site. In the course of the ground survey, finds were collected for further studies while features were photographed and their geographical coordinates taken.An archaeological map that reveals the spatial distribution of finds and features (fig. 4) was also produced.

4.1 Site Description

The site of Badurumgenerally has an undulating terrain, except itsnorth-western partwhich has a gentle slope. As a result, the site has varying elevations which are significant in the geomorphology of the site, as represented in appendix III. The site is characterized by rock outcrops, ponds, grasses and trees as well as patches of exposed flat granite floors, where the soil thickness is thin. There is also the presence of a giant rock outcrop, around which are evidence of settlement on the site. There is, however, the evidence of farming activities, lumbering and bush burning on the site, which have negatively affected the cultural materials on the site.

4.2 Aim and Objectives of Survey

The archaeological survey of the site was carried out with an aim of graphically representing the cultural materials on the site in order to aid appreciation of the site. This aim was achieved through objectives which include:

1. To identify and photograph cultural materials;
2. To systematically collect finds;
3. To take measurements and record bearings of features using a 30m measuring tape and a magnetic compass; and
4. To establish the positions of cultural materials on the site using a Garmin 78'GPS device;

The survey was conducted bymoving through the site in a north-south manner, at intervals of 2m from east to west while identifying and taking record ofthe cultural materials on the site. Samplesof potsherd were hand-picked at intervals of six paces in the process of moving through the site.

4.3 Finds and Features

A number of cultural materials were identified on the site of study in the course of the survey.The recorded GPS readings of the cultural materials are provided in Appendix III of this research, which aided the production of a thematic map of the site of study as represented in figure 3. The various finds and features that were identified on the site of study in the course of the survey include:

Potsherds

These are broken pieces of clay pots or ceramic materials, which were found in a significant quantity, scattered all over the site, ranging in different sizesof breakage and thickness. Samples of potsherds were collected byhand-picking and bagging them, at intervals of ten paces while traversing the site as earlier discussed. As a result a total of 159 potsherds were obtained from the site, which served as data for further study.

Lower Grinding Stone

Four lower grinding stones were identified in the course of the survey, which were found to be made of granitic rock, distributed at different locations on the site with different degrees of wear pattern.Lower grinding stone I was found at thewestern part of thesite,having a shallow wear pattern.Lower grinding stone II was found at the northern part of the site and is fragmented.Lower grinding stone III is located at the south-eastern part of the site, having a wear pattern that is shallow, but more significant than lower grinding stone I. Lower grinding stone IV is located at the south-eastern part of the site having a rather narrow, oval wear pattern (plate IV). All four lower grinding stones were measured and their lengths range between 35cm – 55cm, breadths ranging between 32cm – 50cm as well as heights ranging between 15cm – 18cm.



Plate IV: Lower Grinding Stone III

Monolith

One monolith was identified to be located atthe eastern part of the site, 13m south-east of lower grinding stone II. The monolith which is made of granite was found to be supported on a rocky floor by some rock boulders also made of granite (plate V). The feature was measured to have a height of 1.1m and an approximate width of 35cm.



Plate V: Monolith

Rock Hollow

A large number of rock hollows were found at five different locations on the site with varying depths and diameters. The firstlocation of rock hollows issituated at the north-western part of the site, 10m south-west of lower grinding stone I. The cluster of rockhollows number up to twenty-one with varying depthsranging between 24cm and 47cm and diameters ranging between 15cm to 32cm, all situated on flat-top rock outcrop elevated to a height of 1.6m above the ground. The rock outcrop is characterized by a rift that cut across it into two halves.

A second location of rock hollows is an individual rock hollow, located at the western part of the site 3m south-west of lower grinding stone I and 13m south-east of the first cluster of rock hollows. It has a depth of 32cm and a diameter of 21cm. Another location where a cluster of eighteen rock hollows was found is the rocky floor where a monolith was found. It is located at the western part of the site, 12m east of lower grinding stone I and 13m south-east of lower grinding stone II. The cluster contains rock hollows with very shallow depressions and diameters ranging between 5cm and 8cm.

At the fourth location where another cluster of thirteen rock hollows is situated, are rock hollows with significant depthsranging between 46cm – 50cm and diameters ranging between 35cm – 50cm. This cluster is located at the southern part of the site, 4m south-west of lower grinding stone III and 7m south-west of lower grinding stone IV. The fifth location containsa rock hollow with diameters ranging between 36cm– 48cm and depths ranging between 46cm – 52cm, andis located at the south-eastern part of the site, 1m south-east of lower grinding stone III and 1.4m west. While the sixth location is also an individual rock hollow with a diameter of 38cm and a depth of 50cm, located at the south-eastern part of the site, 1.7m south-east of thefifth location of rock hollows and 1.8m south of lower grinding stone IV(plate VI).



Plate VI: Rock Hollow

Circular Stone Arrangement (CSA)

Nine circular stone arrangements were identified in the course of surveying of the site, whichwere encoded CSA ‘A’ to CSA ‘I’. The feature,CSA ‘A’ was identified to be located at the northern part of the site, 13m north-west of lower grinding stone II and 13msouth-west of the first cluster of rock hollows. The feature CSA ‘B’ is located at the northern part of the site, 9.7m

south-east of CSA ‘A’. Circular stone arrangement ‘C’ is located 4m south of CSA ‘B’ at the north-western part of the site. Circular Stone Arrangement ‘D’ is located 2.5m north of lower grinding stone I, at the north-western part of the site. Circular Stone Arrangement ‘E’ is located 10msouth of lower grinding stone I, at the south-western part of the site. Circular Stone Arrangement ‘F’ is located 6.5m north-east of lower grinding stone IV and 6.5m north-west of the third stream, at the south-eastern part of the site (plate VII). Circular Stone Arrangement ‘G’ is located 3.8m north-east of CSA ‘F’, at the south-eastern part of the site. Circular Stone Arrangement ‘H’ is located 2.6m east of CSA ‘F’ and 6.3m north-west of stream IV, at the south-eastern part of the site.All circular stone arrangements were measured to range between 2.2mm and 3m in diameter.



Plate VII: Relic of House Foundation

It is noteworthy to mention that two of the nine circular stone arrangements have special features in association. Circular Stone Arrangement ‘B’ was identified with a partially buried pot at its fringe, while CSA ‘E’ was identified with broken clay pots within it. The pots are mostly

characterized by relatively small necks and rims, with applied decoration on them, studs were identified to have been welded to the outer surface of the pots (plate VIII).



Plate VIII: Broken clay Pots within Circular Stone Arrangement 'E'

Stone Ball

A cluster of sevenstone balls was found 2m south-west of lower grinding stone I and 3.8m, at the western part of the site. The stone balls which are made of granite rocks were polished into various shapes and sizes, making them have smooth surfaces (plate IX).



Plate IX: Stone Balls

Rock Shelter (RS)

Six rock shelters were discovered in the course of the survey, which were labeled RS 'A' to 'F'. The archaeological survey revealed RS 'A' to be located at the north-western part of the site, 8.3m south-west of the first stream. Rock Shelter 'B' is located at the middle of the site, 7m south-west of lower grinding stone 'A'. Rock Shelter 'C' is located at the southern part of the site, 4m north-west of the third cluster of rock hollowsand 7.8m south-west of lower grinding stone 'C'. Rock Shelter 'D' is located at the southern part of the site, 3m north-east of RS 'C' and 4m south-west of lower grinding stone 'C'. Rock Shelter 'E' is located south-east of the site, 9.2m north-east of RS 'D', while RS 'F' is located at the south-eastern part of the site, 4.8m north-west of RS 'E'.

All six rock shelters have heights ranging between 2.2m and 2.7m, with the largest of them having an average capacity that measures 2.7m in length and 1.9m in width (plate X).



Plate X: Rock Shelter

Dilapidated Clay Structure

A dilapidated clay feature was found located at the southern part of the site, on an elevated part of the rock outcrop (earlier discussed) facing the southern part of the site.The feature is 2.9m north-west of RS ‘C’ and 4.8m west of RD ‘D’. It is characterized by an unfired clay structure that was built to serve as a form of covering for a rock shelter on the rock outcrop, some of which has collapsed (plate XI).

The feature was measured to have a height of 0.9m. 0.5m from the ground is a circular hole of 7cm in diameterand is bounded by notches. At the top of the structure is also a range of notches.



Plate XI:Dilapidated Clay Structure

Ritual Mound

A feature said to be a ritual mound was in the course of the survey found on the south-eastern part of the site, 6.5mnorth-east of RS ‘E’ and 4.6m south-west of RS ‘D’. The mound is made of rock boulders that were gathered together into a heap, in a circular manner with a diameter of 2.1m and a height of 1.9m (Plate XII).



Plate XII: Ritual Mound

Burial Mound (BM)

A total number of eightburialmounds were found on the site, which were encoded BM 'A' to BM 'H'. Burial Mound 'A' (plate XIII) is locatedat the north-western part of the site, 5.5m west of stream 'A'. Burial Mound 'B' is located at the north-western part of the site, 4.7m south-east of BM 'A' and 4.2m north-east of RS 'A'. Burial Mound 'C' is located at the north-western part of the site, 6.1m north-east of BM 'B' and 4.4m north-east of BM 'A'. Burial Mound 'D' is located at the northern part of the site, 4.5m north-west of CSA 'A'. Burial Mound 'E' is located at thenorthern part of the site, 2.2m north-west of CSA 'A' and 3.4m east of BM 'D'. Burial Mound 'F' is located at the south-eastern part of the site, 4.1m south-west of RS 'F' and 4.1m north-west of lower grinding stone 'D'. Burial Mound 'G' is located at the south-eastern part of the site, 2.7msouth-west of BM 'F' and 2.3m north-west of RS 'E'. Burial Mound 'H' is located at the south-eastern part of the site, 3.6m north-east of RS 'F' and 7.2m north-east of BM 'G'.



Plate XIII: Burial Mound

The mounds which were measured to range between 1.8m and 2m in diameter were built to heights ranging between 20cm and 30cm. Also, the features, unlike the ritual mound which was stacked with stones, were observed to be mounds of sand bounded by rock boulders in circular manners.

Quarry

Threequarries were discovered in the course of the research and were designate quarry ‘A’, ‘B’ and ‘C’. Quarry ‘A’ is located at the north-western part of the site, 3.4m south-west of BM ‘A’ and 6m north-west of BM ‘B’. Quarry ‘B’ is located at the southern part of the site, 1.6m south-west of RS ‘D’ and 1.6m north-east of RS ‘C’, while quarry ‘C’ is located at the south-western part of the site, 2.2m north-west of RS ‘E’ and 4.6m south-west of RS ‘F’.

The larger quarry (quarry A) was measured to a depth of 4m, a north-south length of 5.8m and an east-west length of 6.2m (plate XIV).



Plate XIV: Quarry A

The smaller quarry (quarry B) on the other hand has a depth of 1.3m, a north-south length of 4.2m and an east-west length of 2.8m, while quarry C was measured to a depth 2.2m, a north-south length of 4.9m and an east-west length of 3.9m.

A Pot

Among the features that were identified on the site of study is a pot that is partially buried, which is located at the northern part of the site, 2.6m west of CSA 'D' and 4m north-west of CSA 'C'. The pot, whose rim is damaged, has a wall thickness of 1.5cm and was found to be in-filled by sand (plateXV)



Plate XV: A Pot

Relic of Granary Foundation

A relic of granary foundation was identified at the northern part of the site, 2.8m north of CSA 'D' and 4.3m north-east of the partially buried pot. The feature is made of granite rock boulders of different sizes, fairly rectangular or oval in shape which are partially sunk into the ground (plate XVI). The relic measures 1.4m in diameter.



Plate XVI: Relic of Granary Foundation

Over-turned clay pot

An over-turned pot was identified at the north-western part of the site, 1.7m north-east of RS ‘A’ and3m north of BM ‘B’. As at the time of research, the over-turned was partially broken exposing packed sand in it (plate XVII).



Plate XVII: Over-turned clay pot

4.4 Summary of Finds and Features

Tables 1and 2 below display a breakdown of the cultural materials that were identified on the site of study which were revealed as a result of the archaeological survey that was carried out. Also, figure 3 below is the map of the site of study, indicating the spatial distribution of the cultural materials that were identified on the site. In a bid to establish the extent of the site, the north-south extent was measured to be 1.5km (1500m), east-west extent was measured to be 1.9km (1900m) and an area of 2.11km^2 (2,110m^2).

Table 1: Summary of Finds and Features

S/N	Finds	Quantity
1	Lower grinding stone	4
2	Over-turned clay pot	1
3	Partially buried pot	1
4	stone ball	7
5	Potsherds	159

Table 2: Summary of Features

S/N	Features	Quantity
1	Circular stone arrangement	8
2	Rock hollow	55
3	Burial mound	8
4	Rock shelter	6
5	Ritual mound	1
6	Dilapidated clay structure	1
7	Quarry	3
8	Monolith	1
9	Relic of granary	1

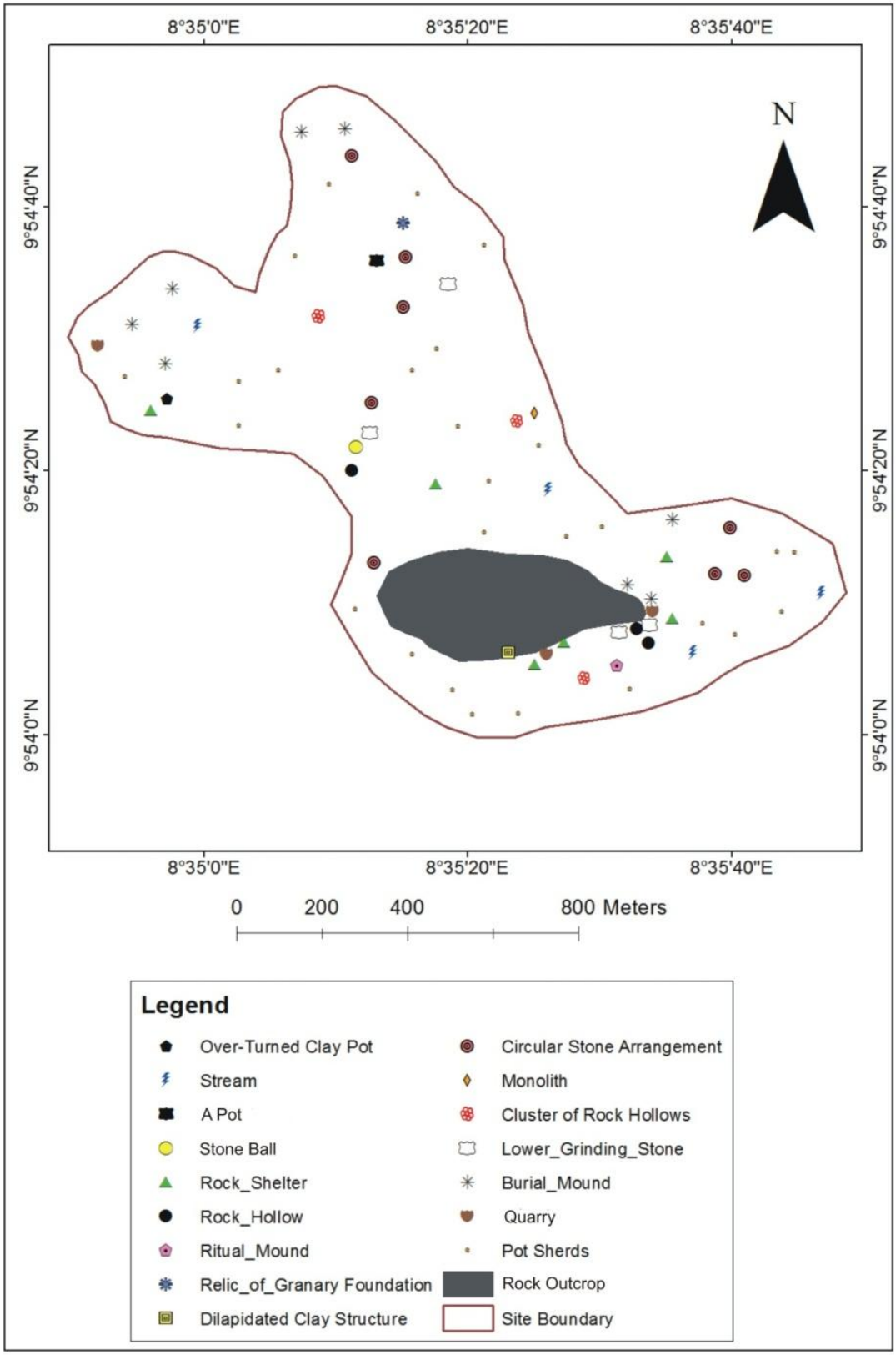


Figure 3: Thematic Map of the Site ofBadurum, 2017

CHAPTER FIVE

CLASSIFICATION AND ANALYSES OF FINDS AND FEATURES

This chapter discussesthe analyses and classification of the finds and features from the study of Badurum hilltop settlement. Classification in archaeology serves two distinct purposes: firstly, it concerns the structuring of a researcher's observations into a limited set of groupings that could be said to share the same attributes in a defined way, which allows for the comparison, contrast and explanation of results; secondly, it concerns the provision of terminological convention, usually a set of classes which allows for simplified communication (Lyman, *et al.*, 1997 cf. Clarkson and O'connor, 2006). Classification is also considered to provide a topic forstudy, methodological device as well as an explanatory principle (Ellen and Reason, 1979 cf. Adams and Adams, 2008).

Analysis on the other hand, is an attempt to incorporate some description – which could either be quantitative or qualitative – of the size, shape, level of reduction or ware pattern, raw material as well as technology and typology for each artifact in an assemblage (Clarkson and O'Connor, 2006). To this end, classification and analysis entails revealing certain details about the raw data that were obtained from the site.

Sharer and Ashmore(2003)considersclassification and analysis of archaeological data to be methods through which an archaeologist systematically arranges, organizes and gives meaning to the data he/she obtained from the site. This aspect of the research is pertinent in the sense that identifying cultural materials that are visible on site is not enough, as information that will be helpful in actualizing the aim of the research can only be met if the collected data are classified and analyzed. The uses to which artifacts were subjected reflect a constant or

continuous struggle for survival of people through ancient times, hence the need for classification and analysis so as to understand aspects of the past of the early settlers of the site of Badurum.

5.1 Pottery Classification and Analysis

Pottery which is considered as a transitional heat-treated material lying between clay and glass implies containers for the preparation, consumption and storage of food and liquid, or for the storage of other non-consumable objects or materials (Ellis, 2006).

Pottery is one of the most durable cultural items in the archaeological record and is mostly found in a fragmentary state as a result of the activities of environmental factors and human activities. The high variability in fragmentation patterns are however based on the shape, density, size, as well as use-discard-depositional history of the vessel (Ellis, 2006). Despite this limitation, as ubiquitous products that are prone to stylistic change in response to new fashions and customer preference, they act as diagnostic materials or sensitive temporal markers that have the potential to provide insights into issues that relate to cultural change, identities of groups and individuals, social and economic status of a people, emergence of changing practices that relate to consumption of food and drink, patterns of trade and of local and regional variations in trade, as well as technological change and industrialization (Barker and Majewski, 2006).

The need for a system of sanitary containerization came about as a result of certain inevitable issues that relate to: how to consume food beyond the time and place of hunting or gathering; how to manage to drink away from the actual source of water and make sure that fluids are available when needed; how to survive in the absence of food or water for varying durations of time (Ellis, 2006). As a result, containerization has always been a major part of human existence which is why potsherds in archaeological sites speak volumes on issues as

stated in the previous paragraph. It should be noted that the behavioural component of pottery production and usage is the aim of the pottery studies/analysis (Ellis, 2006).

As earlier stated, pottery materials are ubiquitous, as they make up the predominant cultural material in most archaeological sites. The same is the case of the site of Badurum: potsherds are predominant on the site, which were collected from the site in a systematic manner (walking to and fro in a north-south manner at intervals of 2m) for the sake of quantitative and laboratory analysis. As a result a total number of one hundred and fifty-nine (159) potsherds were collected to be classified under the following headings:

1. Vessel parts
2. Paste characteristics
3. Surface finish
4. Vessel forms, and
5. Decorative motif

5.1.1 Vessel parts

All pottery vessels possess certain components that make them up. As a result of the nature of pottery vessels in most archaeological records, only fragments are obtained from the site. The components that make up a whole pottery vessel may include: rim; neck; body; base; handle; and sometimes cover or lid. In the case of the site of study, the fragmented components of pottery vessels that were recovered include:

Rim: is the top of a pottery vessel, which serves as an opening for the vessel through which substances could be containerized. Rims are sometimes made to enhance carriage of the vessel.

The rim-sherd of a pottery vessel is of great importance to the archaeologist, as it is chiefly used in reconstructing the whole, as will be seen below.

Neck: is the part of a pottery vessel that connects the rim with the body of the vessel, which usually gives the rim a degree of curvature – inverted, straight or everted – as desired by the potter. A neck-sherd is identified by the absence of the lip (tip end) of a rim-sherd, probably due to either usage or the poor preservative condition of the environment which erodes or breaks the lip.

Body: is the component of a pottery vessel that does the job of containing or holding together any substance that is poured into the vessel. This might explain why it is also the part of a pot that has the largest surface area. Markings are sometimes made on the surface of the body by the potter to aid carriage.

Handle: is an attachment to a pot principally meant for carriage, which is welded to the body, rim or neck (or a combination of either two) of a vessel.

In the course of the quantitative treatment of the 159 pottery samples,it was observed that eleven potsherds belong to five separate vessels,therebyreducing the number of potsherds that were classified and analysed to 148. As a result, 11 rim-sherds, 28 neck-sherds, 107 body-sherds and 2 handles were identified from the mass of pottery samples.

5.1.2 Paste characteristics

Paste simply refers to the lump of clay that has been prepared to be used in making an earthen ware. Paste characteristics therefore have to do with the constituents of the lump of clay, which were introduced into the clay either naturally or artificially – either intentionally or unintentionally by the potter – to give it certain behaviours or appearance. As part of depositional

processes, clays possess natural inclusions (not to be confused with temper, defined below), which draw from the formation history of the clay deposit. Some of these inclusions (which may include fragments of minerals and rocks, and microfossils) can affect the thermal behavior of clay, but could help in identifying the sources of clay (Ellis, 2006). In order to deliberately avoid excessive shrinkage and allow for an even distribution of heat on the vessel, thus, avoiding slumping during pottery manufacture, potters add 'temper' to the paste, which is usually a pulverized material that is non-plastic and non-hygroscopic (moisture absorbent). Temper may be made of sand, shell, rock, recycled ceramics, bone, gravel, volcanic glass or vegetal material (grass) (Ellis, 2006). The mineral composition of a paste (either naturally or artificially induced), could be determined through laboratory analysis such as thin section petrography and chemical analysis (which could determine its appearance), while visual inspection is limited to determining the physical attributes of the clay material.

Both visual inspection and laboratory techniques were used in determining the characteristics of the paste. It should be noted that the former criterion for studying the paste characteristics of potsherds has certain flaws. As stated by Ellis (2006), pure, white clays are not common, as a result most clays are stained with iron oxides from the parent rock, and/or picked up during transport, and eventually determining the range of colours in fired clay. Firing is also a contributing factor in determining the colour of pottery vessels: as at the time of research, while interviewing a potter in FadanChawai, it was observed that the potter's paste was grey in colour, but after firing the pots appeared to be reddish or rusty brown. Also, in cases where the fuel and pottery vessels are in contact during firing, the vessels might be stained by soot as a result of the smoke from the fuel (Tite, 1999). According to Ellis (2006), such phenomenon could occur if the

potter(s) is unable to control the firing temperature as well as the atmosphere (either reducing or oxidizing atmosphere) in the case of an open air firing.

The usage under which a vessel was subjected by its user is also capable of determining the colour of the vessel. A good example is a cooking pot which is eventually stained by soot, to give it a black colouration. In a bid to enhance the aesthetic value of pottery vessels so as to boost buyers' patronage, a potter may choose to apply certain colourants either on aspects of the pot or on the entire surface of the pot (both in and out of the vessel), as desired by the potter. An example of this was found among some potters of Ushongo Local Government Area of Benue State, during an annual field school programme of the Department of Archaeology, Ahmadu Bello University, Zaria, 2011. The potters make use of a leaf called '*kpine*' in Tiv dialect, to paint the desired portions of their pots black. As a result of these flaws, colour characteristic of potsherds cannot be wholly relied upon, though the potsherds appear to have varying colours.

However, a visual inspection of the cross-section of three expendable potsherds was done in order to understand the potter(s) attitude towards pottery manufacture, as well as the physical properties of the paste. In order to achieve this, the samples were taken to the Thin Section Laboratory, Department of Geology, Ahmadu Bello University, Zaria. Each sample was sliced into two halves using an electric cutter, in order to reveal the cross-sectional view of each sample (plates XVIII, XIX and XX). From the cross-section view of the samples, it could be observed that the paste is generally fine-grained, with some degree of coarseness and there are pore spaces within the walls of the potsherds. It could also be observed that there is the presence of a core or darker reduced interior, sandwiched between lighter or oxidized exterior and interior surfaces of the profiles of all three samples. According to Ellis (2006), such a phenomenon is indicative of the degree and duration of firing.



Plate XVIII: Sample I



Plate XIX: Sample II



Plate XX: Sample III

5.1.2.1 Thin-section analysis

Thin-section analysis was employed in order to reveal the mineral constituents of the potsherds that were recovered from the site of study. This was done on the three expendable potsherds, as shown above, still at the Thin-Section Laboratory of the Department of Geology, Ahmadu Bello University, Zaria. Below are the procedures that were followed in preparing the samples for analysis.

Preparation of Samples

1. The samples were cut into dimensions that can be mounted on slides
2. A face of each sample was lapped (i.e. grinding to smoothness)
3. Glass slides were prepared in order to remove their glossy effect, thereby making their surface feel rough. This is to prevent the samples from slipping off the slides when glued.
4. The lapped faces of the samples were mounted and glued on the slides using Aradite type A+B, on an oven set at 95^{o}C.
5. Each sample was trimmed in order to reduce its vertical thickness on the slide.

6. Final lapping was done on each sample to a thickness of 30μm, while monitoring them through a polarized light microscope.
7. A cover slip was mounted on each slide and glued with Aradite type A+B on an oven set at $90^{o}C - 95^{o}C$.

Result

Below are the findings of the thin-section analysis, as the samples were viewed under Plane Polarized Light (PPL) and Cross Polarized Light (XPL).

1. Generally, the samples are fine-grained with quartz and feldspar grains (<0.5mm), cemented by clay in its matrix.
2. The feldspar grain is an alkali feldspar: it is a microline type of feldspar characterized by a cross-hatch lining pattern as viewed under XPL.
3. The quartz and microline have low relief in PPL. That is, the clay appears to be higher than the feldspar (microline) and quartz when viewed from the profile of the slides.
4. Quartz appears to be colourless (i.e. white), but microline appears to be cloudy (i.e. grayish) both in PPL and XPL.
5. Quartz grains display wavy extinction in XPL (i.e. when slide is moved on the horizontal platform, under the lens of a microscope, it disappears and reappears in an alternating manner). This is an indication that the quartz grains have experienced deformation (chiefly) due to pressure, and/or temperature (depending on its depth).
6. The quartz and microline appear to be angular in shape, thus making them to interlace.
7. The quartz and feldspar grains are coarse to porphyritic in places.

Images of the result of the thin-section analysis are as represented in plates XXI – XXVI, with a summary of their estimated mineral constituents on table 3.

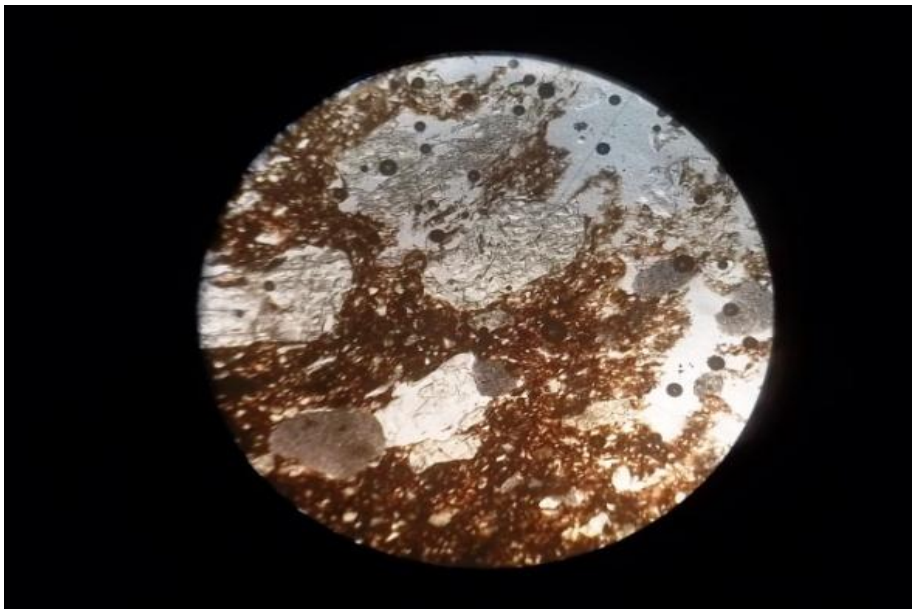


Plate XXI: Sample I in PPL

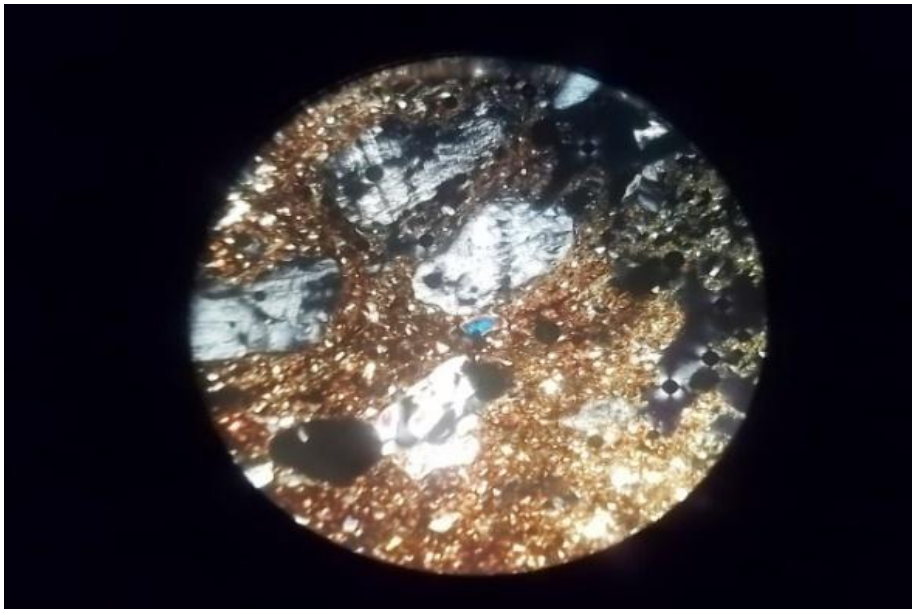


Plate XXII: Sample I in XPL

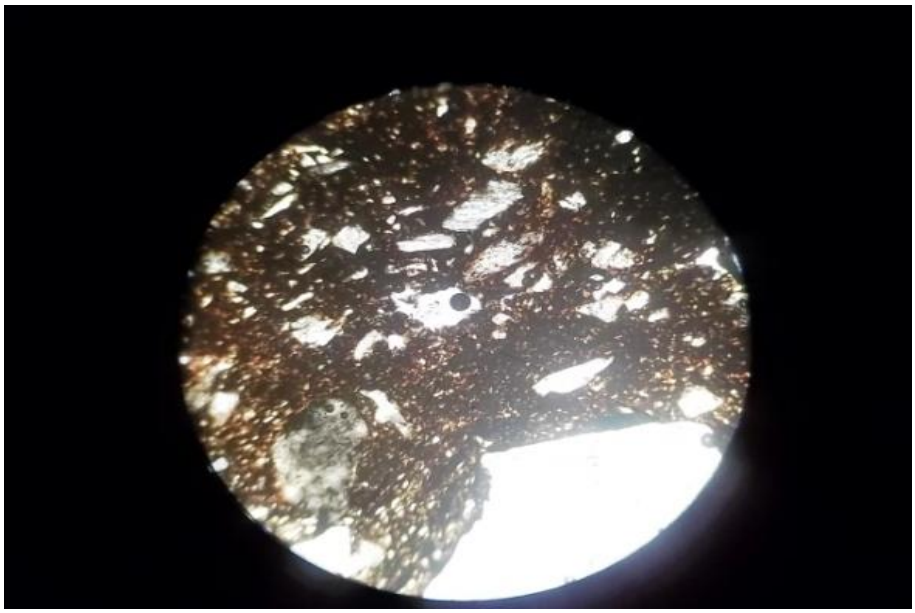


Plate XXIII: Sample II in PPL

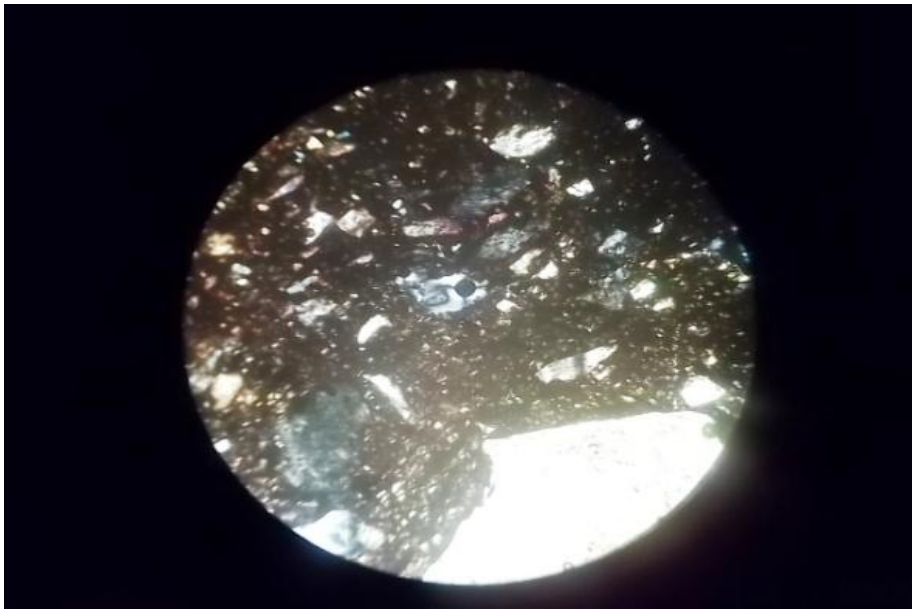


Plate XXIV: Sample II in XPPL

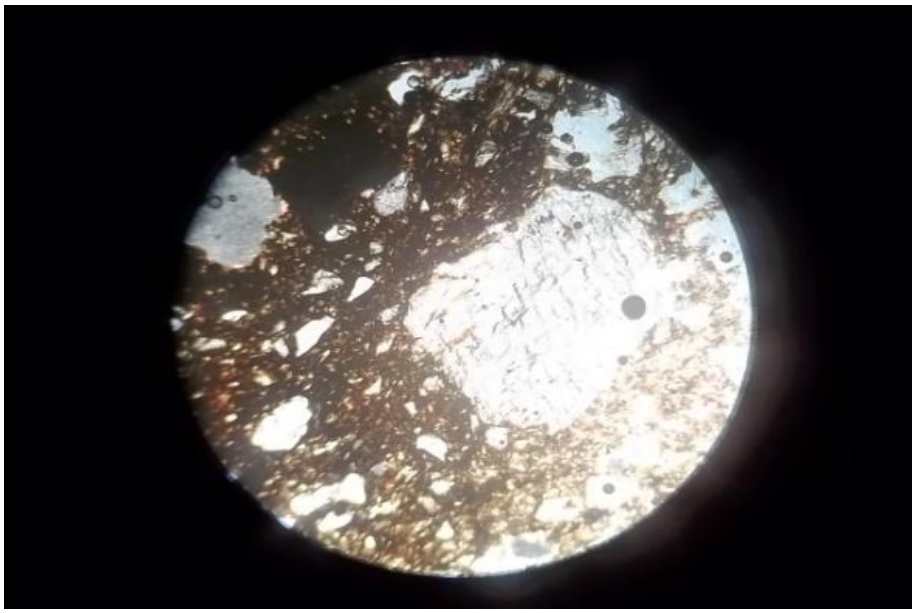


Plate XXV: Sample III in PPL

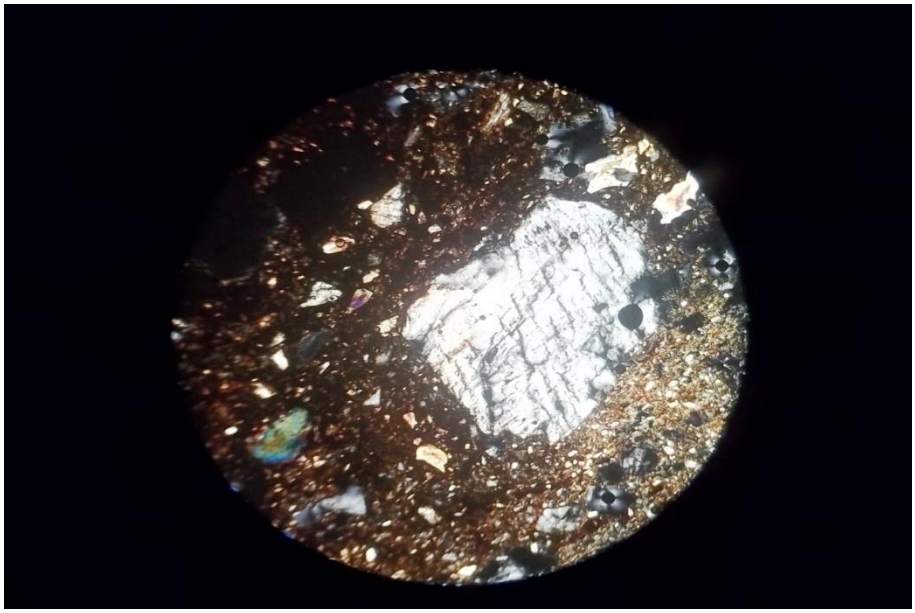


Plate XXVI: Sample III in XPL

N.B.: Plates XXI - XXVI are all presented in a field view of 4mm and a microscope magnification of x40.

Brown colour on slides represents clay.

Black colour represents void spaces that were created as a result of glass material that was formed in the course of firing, which was worn out in the process of preparing samples.

Blue colour on plates XXII, XXIV and XXVI represent quartz whose thickness is >30µm, as a result polarized light cannot properly pass through it when viewed under XPL.

White colour on all slides represents quartz, while grey colour represents feldspar (microline).

Table 3: Estimated Mole by Volume of Paste Constituents

Sample 1		Sample 2		Sample 3	
Constituent	**Percentage (%)**	**Constituent**	**Percentage (%)**	**Constituent**	**Percentage (%)**
Quartz	65	Quartz	70	Quartz	75
Feldspar (microline)	15	Feldspar (microline)	15	Feldspar (microline)	10
Clay ground mass	20	Clay ground mass	15	Clay ground mass	15

5.1.3 Surface finish

Surface finish refers to a stage in pottery manufacture, which involves the treatment done on the surface of a pottery vessel by a potter, after production. The potter gets to chose either to apply the surface treatment before firing, which takes advantage of the plasticity and absorptive properties of the clay in its leather-hard stage, or after firing the vessel which could be more complicated since the clay has lost its unique properties: firing is capable of irreversibly changing the fundamental chemistry and crystallinity of a clay (Ellis, 2006).

Surface treatment has served both the purposes of decoration as well as to reduce the porosity of the vessels to liquid substances.It may include the application of plastic decoration (impressed or incised patterns, applied decoration), burnishing, application of a slip and/or mineral pigments, and post-firing treatment by sooting or with an organic coating.While post firing surface treatment includes application of colourants and glazes before re-firing, pre-firing surface treatment involves decorative techniques such as incising, excising, perforating, impressing and application of slip (suspension of clay in water), among others (Tite, 1999; Ellis, 2006).

The end product of every pottery manufacture is such that the surface is smooth with a shinny effect: after applying slip to the surface of a leather-hard vessel, the surface is rubbed

with objects such as a piece of leather, polished stone or bone (this is referred to as burnishing which has the effect of aligning the clay platelets in the slip, which increases durability and also enhances reflectivity of the surface) (Ellis, 2006). Some pottery vessels however, eventually lose their burnish effect depending on the conditions surrounding their usage and preservation in the archaeological record. As a result their surface becomes rough; this phenomenon is referred to as 'unburnished', otherwise referred to as 'burnished' in this project.

The analysis of surface finish of the 148 potsherds was determined through visual inspection and feel.As a result, the classification on surface finish revealed 11 potsherds are unburnished with no decoration which constitute 7.4% of the potsherds, 94 potsherdsare burnished which constitute 63.5% of the potsherds and 43 potsherdsare burnished alongside other forms of decoration, which constitute 29.1% of the 148 potsherds (table 4).

Table 4: Summary of Surface Finish

S/N	Surface Finish	Quantity	Percentage (%)
1	Burnished decorated	43	29.1
2	Burnished undecorated	94	63.5
3	Unburnished undecorated	11	7.4
	Total	**148**	**100**

5.1.4 Vessel form

Classification on the basis of vessel form involves studying the profile of a rim, which involves its degree of curvature as well as its orientation (either inverted, straight or everted). Analysis of vessel form is vital in the sense that it helps the archaeologist in determining the kind of vessel through its sherd, thus aiding in the reconstruction of the whole (that is the vessel type, size and in some cases its possible function in the past). It is in this same vein that Rice (1987) opined that vessel form analysis helps the archaeologist understand the descriptive and predictive

framework for establishing what particular class of prehistoric vessels looked like and how they might have been used. Potters usually manufacture pots or bowls to serve different purposes of containerization. A pot is identified when the rim diameter is less than its projected height, while a bowl is identified when its rim diameter is more than its projected height (Bakinde, pers. comm., 2015).

To identify the kind of vessel one might be dealing with, it is usual practice to place a rim-sherd beneath a flat horizontal platform in order to get its original stance, as it were when it was a whole. Also, the rim is placed over a 'rim profile chart' in order to know its diameter while it was still functional. As a result the orientation of the rim, angle of curvature as well as lip type were considered while carrying out this classification.

From the eleven rim-sherds that were recovered from the site of study, three were identified to be bowls (table 5) while eight were identified to be pots (table 6), and each class was reclassified under the heading, 'form' as seen below.

Bowls

Form 1

This form was identified to be an everted rim with a tapered lip. One potsherd was identified to belong to this category (fig. 4), which makes up 33.33% of the bowl forms. It has a rim diameter of 16cm and a wall thickness of 1.1cm.

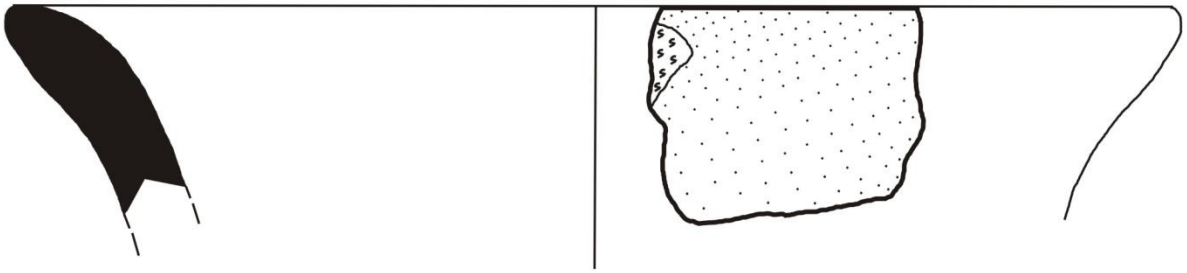
Form 2

One potsherd was found to belong to this category (fig. 5), which makes up 33.33% of the bowl forms. It has a rim diameter of 16cm and a wall thickness of 1.4cm. This form was identified to be a straight rim with a flat lip.

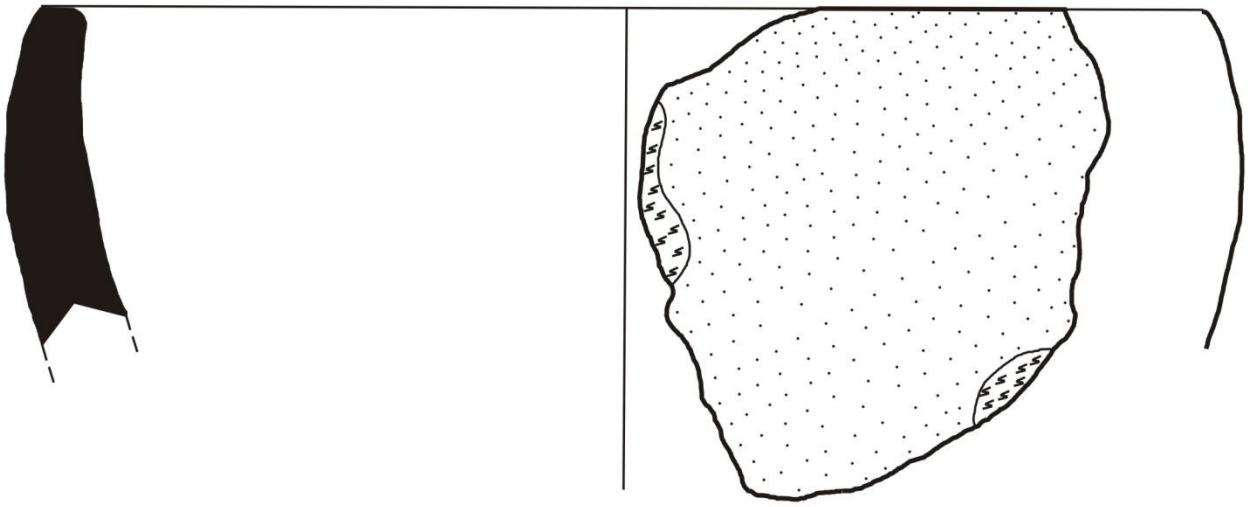
Form 3

One potsherd was also found to fall under this category, which constitutes 33.33% of the bowl forms. It is identified to be a straight rim with a round lip (fig. 6). It was measured to have a rim diameter of 20cm and a wall thickness of 0.8cm.

BOWL FORMS FROM BADURUM HILLTOP SETTLEMENT SITE



Form 1
Fig. 4



Form 2
Fig. 5

BOWL FORM FROM BADURUM HILLTOP SETTLEMENT SITE

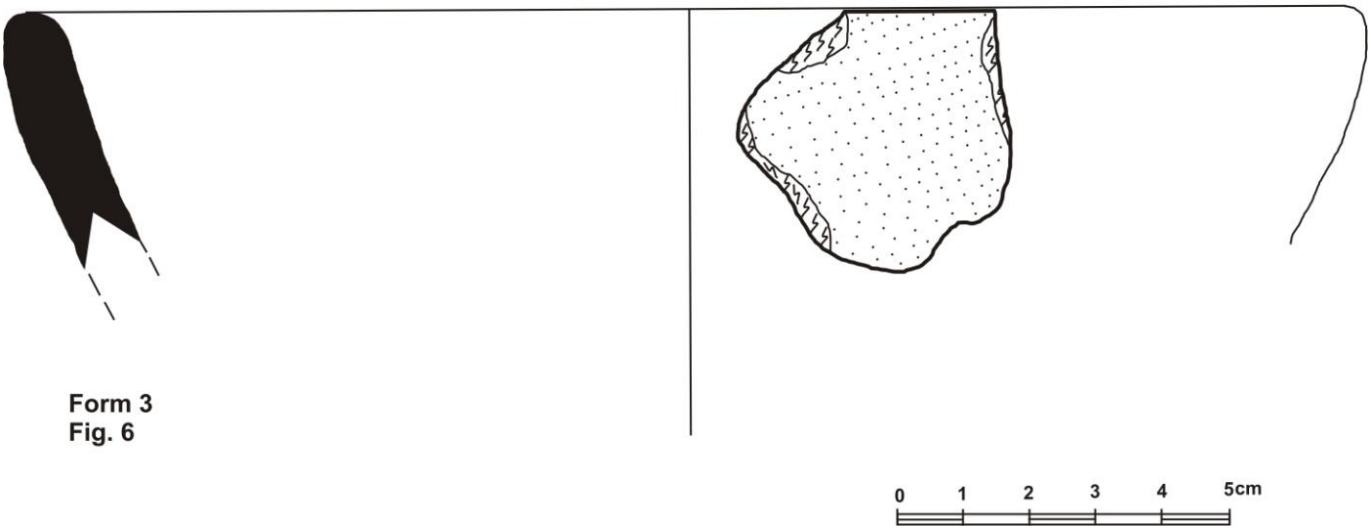


Table 5: Summary of Bowl Forms

Bowl Form	Quantity	Rim Diameter (cm)	Rim Thickness (cm)	Percentage (%)
Form 1	1	16	1.1	33.33
Form 2	1	16	1.4	33.33
Form 3	1	20	0.8	33.33
Total	**3**			**100**

Pots

Form 1

This form of pots constitutes two potsherds which were grouped under this class, this form makes up 25% of the pot forms. The potsherds that were identified under this form are slightly everted with round lip (fig. 7). They have rim diameters ranging between 14cm-17cm and wall thicknesses ranging between 0.5cm-0.8cm.

Form 2

Two potsherds fell under this category of pot forms, which constitutes 25% of the pot forms. This pot form was identified to be everted with tapered lip (fig. 8). The potsherds that

belong to this pot form have diameters ranging between 15cm-18cm and wall thicknesses ranging between 0.6cm-0.7cm.

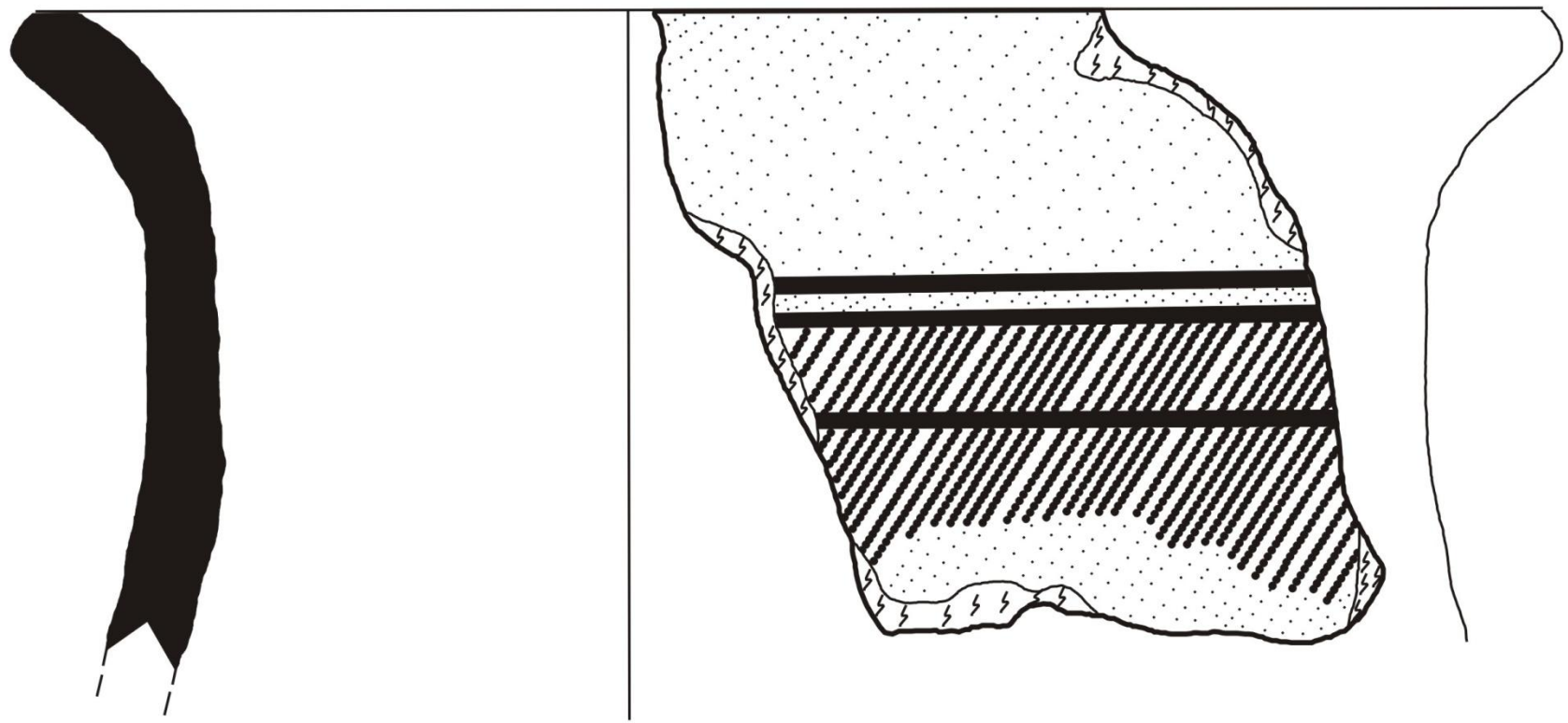
Form 3

Two potsherds were also identified to belong to this category of pot forms, which constitutes 25% of pot forms. This pot form was identified to be strictly everted rim with round lip: it has a higher angle of curvature compared to form 1 (fig. 9). The potsherds under this category have rim diameters ranging between 18cm-36cm and wall thicknesses ranging between 1.3cm-1.9cm.

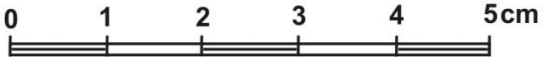
Form 4

There are two potsherds that were classified under this category, constituting 25% of the pot forms. This pot form was identified to have an everted rim with round lip: its angle of curvature is midway between those of form 1 and form 3 (fig. 10). The potsherds that constitute this pot form have rim diameters ranging between 30cm-36cm and wall thicknesses ranging between 1.0cm-1.7cm.

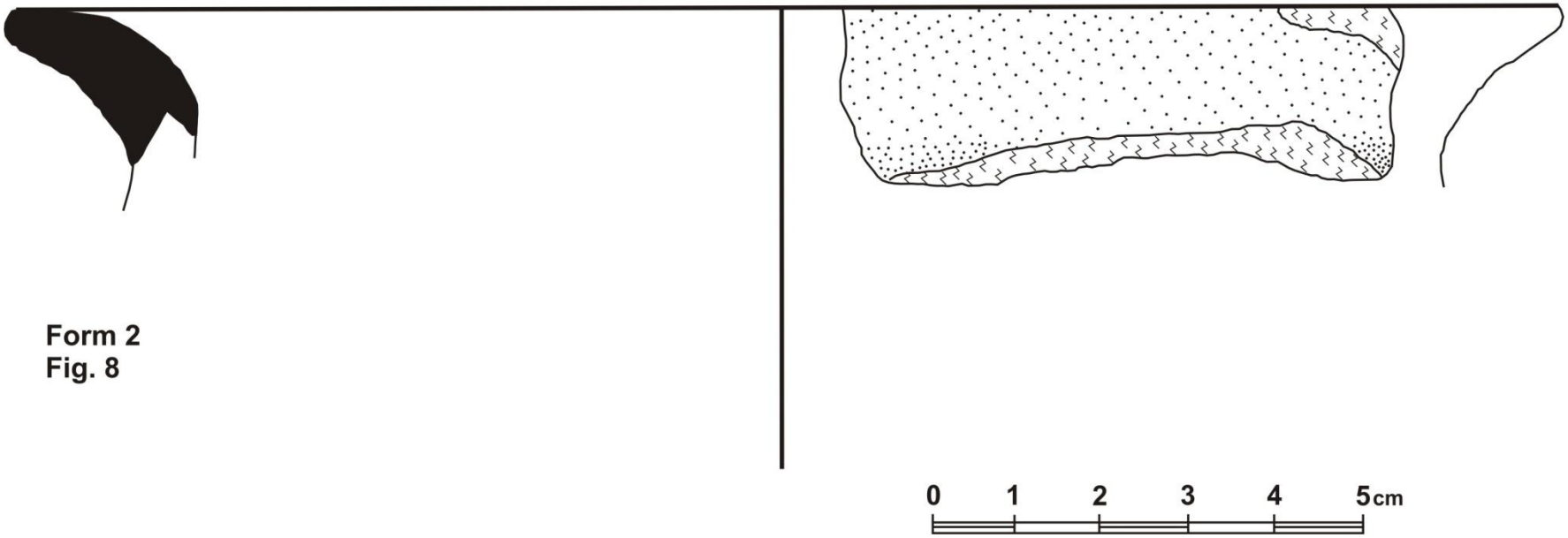
POT FORM FROM BADURUM HILLTOP SETTLEMENT SITE



Form 1
Fig. 7

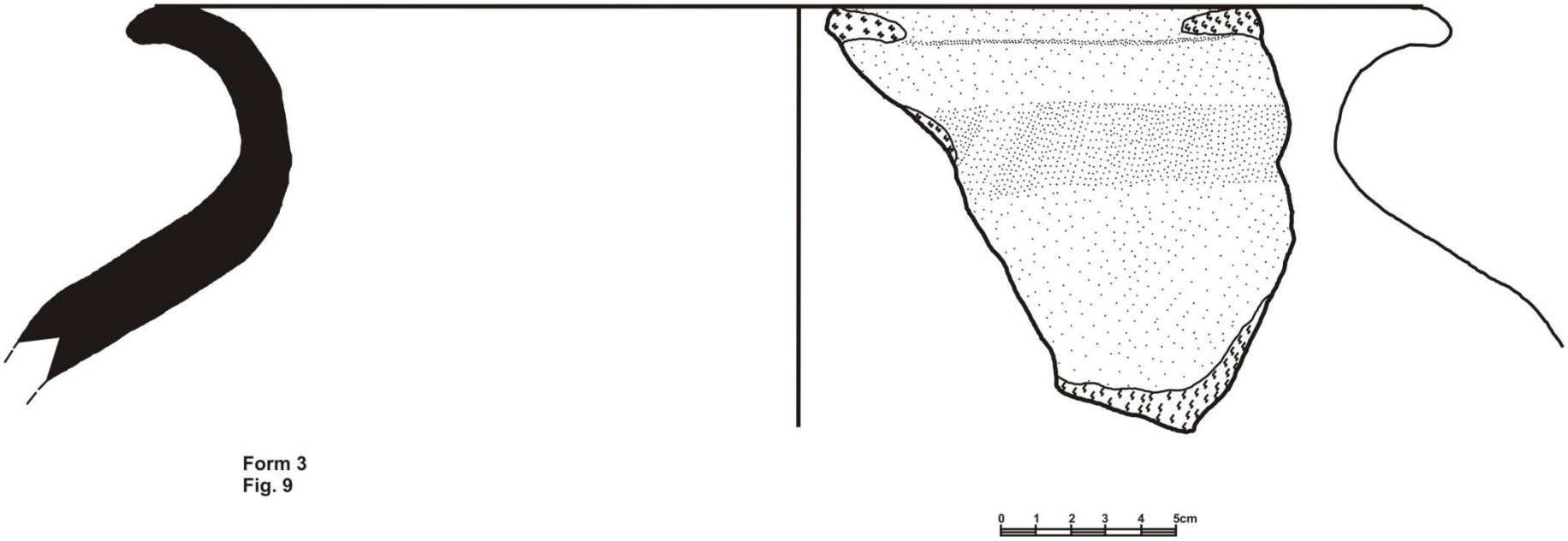


POT FORM FROM BADURUM HILLTOP SITE



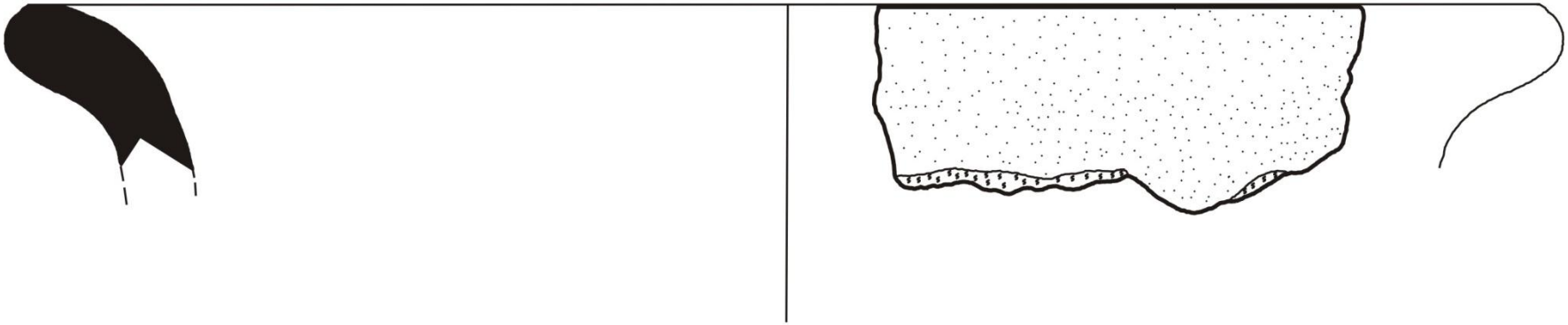
Form 2
Fig. 8

POT FORM FROM BADURUM HILLTOP SETTLEMENT SITE



Form 3
Fig. 9

POT FORM FROM BADURUM HILLTOP SETTLEMENT SITE



Form 4
Fig. 10



Table 6: Summary of Pot Forms

Pot Form	Quantity	Rim Diameter (cm)	Rim Thickness (cm)	Percentage (%)
Form 1	2	14-17	0.5-0.8	25
Form 2	2	15-18	0.6-0.7	25
Form 3	2	18-36	1.3-1.9	25
Form 4	2	30-36	1.0-1.7	25
Total	**8**			**100**

5.1.5 Decorative motif

Decorative motif can simply be seen as the application of design(s) on the surface of pottery vessels by a potter, when the vessel is at its leather-hard stage. Potters make use of implements or tools which they source from their environment, so as to make desired markings on the surface of their pots.Such implements may include corn-cub, twisted string, carved wood, sharp ended sticks, mat, corn-husk, among others. They may also employ parts of their body, such as finger(s) and sometimes finger-nails, to achieve certain decorations like finger impression, pinching, among others.

Decorations are usually done on pottery vessels for the purposes of aestheticsin order to suit customers' preference so as to boost patronage, and functionalityso as to enhance carriage in cases of movement, especially for vessels meant for fetching water and other liquids. Depending on the potters' choice, a pot could be seen to either carry a single pattern of decoration or multiple patterns of decoration.

Of the one hundred and fourty-eight potsherds, it was observed that some had single patterns of decoration, while some others carried composite or multiple patterns of decoration, which add up to fourty-three decorated potsherds. As a result these were classified under the headings, 'single decorative motif' and 'multiple decorative motifs', of which 33 potsherds were

identified to have single decorative motif which constitute 76.7% of the potsherds, while 10 potsherds were identified to have multiple decorative motifs which constitute 23.3% of the 43decorated potsherds. Both single decorated and multiple decorated potsherds were further classified, thus identifying the various patterns of decorations on the surfaces of the potsherds. It should be noted that this classification was performed on the basis of the possible kind of tool that was employed as well the mode of executionthrough visual inspection.

Single Decoration

As earlier stated, single decorated potsherds are those with only one kind of decoration. Of all the fourty-three decorated potsherds, eight separate patterns of single decoration were identified in the course of classification, as summarized in table 7 below. Details of these decorative motifs are as follow:

Motif I: Groove

This is a long or continuous furrow cut or depression carried out by a tool with a blunt tip, which gives a 'U' shape when viewed through the profile of a potsherd, and could be achieved either in an oblique, wavy, vertical or horizontal manner (plate XXVII). Fifteen potsherds carrying this form of decoration were identified.



Plate XXVII: Horizontal Grooves

Motif II: Notching

A notch is usually a 'U' or 'V' shape indentation or depression, depending on the tip of the instrument that is carved into the surface of a leather-hard pottery vessel. Unlike groove or incision, the instrument that is used to creating notches is not dragged over the surface of the vessel. Notching as represented on plate XXVIII below is a neck-sherd bearing the motif which was executed on a ridge. Six potsherds were identified to carry this form of decorative motif.



Plate XXVIII: Notching

Motif III: Cuneiform stamps

This motif is produced by pressing a rigid material (e.g. wooden rod), which has been carved at one end to give it a wedge-like shape, against a leather-hard pottery vessel so that the vessel will carry triangular stamps. Only one potsherd (body) was identified to have this form of decorative motif (Plate XXIX).



Plate XXIX: Cuneiform stamps

Motif IV: Roulette

Four separate kinds of roulette were identified in the course of classification, which were either made of rigid or flexible tools of decoration. These four categories of roulette were further classified under the heading, Type 'A', 'B', 'C', and 'D', as seen below.

Type A: Braided strip roulette

This form of roulette as identified by Haouret *al.* (2010) is 'braided strip roulette on a continuous core'. According to the authors, this form of roulette is made using at least five (5) strands of flexible straw (e.g. *graminae* stems or reeds), which are folded over themselves to give them a flat structure. The first part of the strands, which is the thinnest part of the straw, forms the core, around which the lower part of the strands (i.e. the thickest and most solid) is braided. Each strand is folded in turn over its neighbor in a polygonal manner which grows in a spiral as a result of the odd number of strands. One strand of the core is then used to knot all the strands (Haueret *al.*, 2010). The instrument, when rolled over the surface of a leather-hard pottery vessel

produces a pattern, such that there are gaps between the parallel rows of beads (plate XXX). Only one potsherd was identified to belong to this form of roulette.



Plate XXX: Braided strip roulette (on a continuous core)

Type B: Carved casuarinas fruit roulette

The fruit known as casuarinas*Casuarinaequisetifolia* is the tool used for this kind of roulette. The fruit is normally carved lengthwise with a knife so that its roulette impressions on a leather-hard ware are shaped like diamonds (Haouret *al.*, 2010). The body-sherd represented on plate XXXI below bears an impression of this form of decorative motif. Two potsherds were found to belong to this category of roulette.



Plate XXXI: Carved Casuarinas Fruit Roulette

Type C: Carved wood roulette

Carved wood roulette as a decorative motif can be achieved by creating geometric patterns on the surface of a cylindrical piece of wood (sometimes bone) with a knife (Haouret *al*., 2010). When the instrument is rolled over the leather-hard surface of a ware, it bears an impression of the carved motif: in the case of plate XXXII below, the body-sherd bearing the motif is an impression of geometric circles with clear edges. Four potsherds are identified with this motif.



Plate XXXII: Carved wood roulette

Type D: Double twisted cord roulette

This form of decorative motif could be achieved by rolling fibres, which are twisted twice and knotting the end to produce a cord or twisted fibre (Haouret *al*., 2010). When the instrument is rolled over the leather-hard surface of a ware, it produces parallel rows of roulettes with no gap between them (plate XXXIII). A total of three potsherds were identified to fall under this category of decorative motifs.



Plate XXXIII: Double twisted cord roulette

Table 7: Summary of Single Decorative Motifs

S/N	Motif	Quantity	Percentage (%)
1	Groove	16	48.5
2	Notching	6	18.2
3	Cuneiform stamps	1	3.0
4	Braided strip roulette	1	3.0
5	Carved casuarinas fruit roulette	2	6.1
6	Carved wood roulette	4	12.1
7	Double twisted cord roulette	3	9.1
	Total	**33**	**100**

Multiple Decorations

Multiple decorated potsherds are those potsherds that were observed to carry more than one decorative motif on them. A total of ten potsherds were identified to fall under this category (table 8).

Motif I: Groove with cuneiform stamps

One potsherd was identified to belong to this category of motifs. The potsherd (identified as a neck) bears at its middle a single groove and a row of four cuneiform stamps below it (plate XXXIV).



Plate XXXIV: Groove with cuneiform stamps

Motif II: Roulette with Grooves

Two separate categories of this motif were identified in the course of classification and analysis. These categories are further classified under the headings, 'Type A','Type B' and 'Type C', on the basis of the tools that were used in executing the roulettes which gave rise to different motifs of roulette.

Type A: Twisted cord roulette with grooves

Only one potsherd was also identified to belong to this category of motifs. The rim-sherd bears, at its middle, two lines of horizontal groove followed by a diagonally executed twisted

cord roulette to the bottom of the sherd, which is overlapped by a horizontal groove (plate XXXV).



Plate XXXV: Twisted Cord Roulette with Horizontal Grooves

Type B: Folded strip roulette with groove

The upper part of the body-sherd depicted on plate XXXVI bears impressions of a horizontal groove followed by horizontally executed folded strip roulette. According to Haouret *al.*, (2010) the tool used for executing folded strip roulette could be made using either two flat strips or a single strip which is folded over itself, and each strand alternately twisted and folded over the other. Also different forms of folded strip roulettes could be executed depending on the size of the strips and the intensity of tightness the manufacturer applies on each fold. Only one potsherd was identified under this category of multiple decorations, which constitute 10% of the multiple decorated potsherds.



Plate XXXVI: Folded Strip Roulette with Groove

Type C: Braided Strip Roulette Bounded by Grooves

The body-sherd depicted on plate XXXVII bears impressions of diagonally executed braided strip roulette, which is bounded, at both its top and bottom, by a horizontal groove. Two potsherds were identified to belong to this category of multiple decorations, which constitute 20% all multiple decorative motifs.



Plate XXXVII: Braided Strip Roulette Bounded byGrooves

Motif III: Twisted Cord Roulette, Cuneiform Stamps with Grooves

Four potsherds were classified under this category of motifs, which constitute 40% of the multiple decorated potsherds (table 8). The body of the representative sample (identified as a neck) bears impressions of diagonally executed twisted cord roulette which is bounded by two horizontal grooves – one at the top and the second at the bottom – and overlapped by a horizontal row of cuneiform stamps at its top (plate XXXVIII).



Plate XXXVIII: Twisted Cord Roulette, Cuneiform Stamps Bounded by Grooves

Motif IV: Notching with Multiple Grooves

Only one potsherd was identified to belong to this category of multiple decorations, which constitute 10% of the multiple decorated motifs. The middle of the neck-sherd bears impressions (from top to bottom) of five short horizontal grooves, followed by three horizontal grooves, sixteen double notches running left-right, then followed by three horizontal grooves and lastly, seven short horizontal grooves (plate XXXIX).



Plate XXXIX: Notching with Multiple Grooves

Table 8: Summary of Multiple Decorations

S/N	Motif	Quantity	Percentage (%)
1	Groove and cuneiform stamps with grooves	1	10
2	Fine twisted cord roulette with grooves	1	10
3	Twisted cord roulette, cuneiform stamps with grooves	4	40
4	Notching with grooves	1	10
5	Folded strip roulette with groove	1	10
6	Braided strip roulette (on a continuous core) with grooves	2	20
	Total	**10**	**100**

5.2 Classification and Analysis of Lithic Materials

Clarkson and O'Connor (2006) defined a stone artifact, also known as lithic material, as any piece of rock that has either been intentionally or unintentionally transformed as a result of human effort. Scholars have always described lithic artefacts in the context of hunter-gatherer, pastoralist, early agricultural, or other non-industrialised societies.

The study of stone artifacts is of immense significance to the archaeologist for two major reasons: despite the fact that they are ubiquitous materials, they are usually the most durable which often represent numerous remains of past human activities; stone artifacts for most of human history, have played a very important role in their day-to-day survival in shaping the physical world to their needs; also, they reflect aspects of a people's life in aspects of communicating social, political and ideological relationships or differences, as well as serve as indicators of gender (Clarkson and O'Connor, 2006).It should be noted that stone working in general is a reductive technology involving two distinct techniques: percussion and abrasion. This explains the reason why their chemistry does not change, as opposed to pottery manufacture (Ellis, 2006).

The classification of lithic artifacts is done both on the basis of texture (grain size) or mineral composition. The classification of the lithic materials that were identified on the site of study was carried out based on visual identification, as no laboratory analysis was done. A number of stone artifacts were identified in the course of surveying the site of study, of which they were observed to be of separate shapes and sizes. They were studied on the bases of colour, which revealed the mineral contents as well as texture (grain size). Below are the lithic materials that were identified in the course of surveying the site of study:

Stone Ball

A number of seven stone balls were identified on the site of study, and were observed to be polished spherical stone materials, giving them a smooth surface, but distinct shapes and sizes (plate VIII above). The stone balls are fine grained when compared with those of the rocks that are exposed on the surface of the site.It should be noted that the grain size of a lithic artifact could be affected by human activities such as abrasion (Mainta, pers. comm., 2017). This could

account for the small grain size that was identified on the stone balls. The stone balls are identified to be products of intrusive igneous rock due to the visibility of the grains. Although as a result of the polishing effect on the stone balls, the distinctiveness of the colours of the minerals that constitute them are not so obvious, but from the colour of the grains of the stone balls, it was observed that they contain mica as indicated by shiny black colour (biotite).

Lower grinding stone

Two of the lower grinding stones that were identified on the site were observed to be coarse grained, and they have identical colour constituents as the surrounding rock outcrops. Though, the depressed grinding surfaces of the lower grinding stones have smaller grain sizes, compared to other areas of the artefacts. The third lower grinding stone on the other hand has a finer grain-size with a smooth surface compared to the first two. This could also be the result of abrasion as earlier discussed. The lower grinding stones are of intrusive igneous rock origin as a result of the visibility of the grains of minerals. From the identified colours on the lower grinding stones, they constitute feldspar due to the dull pink colour (orthoclase), quartz due to the white colour (milky quartz) and mica due to shiny the dark colour(biotite) on the artefacts.

Monolith

The monolith that was identified in the course of surveying the site of study was observed to have coarse grains, which is indicative of an intrusive igneous rock origin, with a rough texture: it has not undergone polishing. The carved structure possesses similar grain size as some of the exposed rocks on the surface of the site.Judging by the grain-size of the feature, which is coarse in nature, it is also of intrusive igneous rock origin.From the colours of minerals contained in the rock, there is the presence of milky quartz due to the white colour, mica (biotite)

due to the black colour and orthoclase feldspar due to the presence of the dull pink colour on the feature.

CHAPTER SIX

INTERPRETATION ANDDISCUSSION OF FINDINGS

6.1 Interpretation

The interpretation of the finds and features that were recovered from the site of Badurum was made possible through the classification and analysis of the cultural materials obtained from the site, in corroboration with the consultation of literatures that pertain to the site of study, as well as the collection of oral tradition which was conducted from the present-day inhabitants of BadurumSama and BadurumKasa.

The relevance of interpretation in any archaeological reconstruction cannot be over-emphasized; this is because material remains which are products of past human cultures are not an end in themselves, but a means to an end. So therefore, reporting them alone is not enough for any archaeological reconstruction to be successful. As stated by Sharer and Ashmore (1979:454), "Interpretation is the meaning the archaeologist infers from analyzed and synthesized data. In its descriptive aspect, interpretation attempts to answer questions such as what happened in the past, when it happened, and where it happened."

Judging from the cultural materials that were identified from the site of study, the early inhabitants of Badurumsettlement lived a sedentary life: this is evident from the presence of circular stone arrangementsas well as granary foundation on the site. Oral tradition confirms this claim, stating that the inhabitants of the site used rock boulders to serve as foundation for their building. The early inhabitants of the site used rock boulders, clay/mud and grass as materials for building their homes which were only made in a circular manner (Halilu, pers. comm., 2016).Though modernity has affected the present-day people's style of building as they no

longer adhere to circular forms of building homes,they mostly build their structures in square-like or rectangular manner. The use of rock boulders is however still used as foundation for granary in the present-dayBadurumSama and BadurumKasa, as represented on plate III of thiswork.

Among the circular stone arrangements that were identified in the course of surveying the site of study, CSA 'B' and CSA 'E' are said tohave beenshrines in the past. The broken pots that were identified within CSA 'E'used to be sacred and were only used for ritual purpose and women were not allowed around the shrine(Halilu, pers. comm., 2016). CSA 'B' on the other hand, is said to be the *Yekut's*(chief priest's) court. The partially buried pot that is located at the edge of CSA 'B', whose water never dried up, is said to have served ritual purpose, and thatbees used to come out of it anytime a ritual has beensuccessfully executed bythe *Yekut* (Ibrahim, pers. comm., 2016).This points to the people'straditional believe system, which is supported byNengel*et al.* (2002) in their account on the history of the people Atsam by stating that the inhabitants of the siteworshippedspirits.

The presence of lower grinding stones, rock hollows, granary foundation and stone ballspoint to an agricultural society.These cultural materials are evidence of food processing and storage. According to oral tradition, the early inhabitants of the site cultivated guinea-corn, corn among other grains, some of which they processed for consumption, while surpluseswere stored in the granaries to be processed and consumed during non-planting periods.

The lower grinding stones, to a certain degree, also serve as markers of gender.This is supported by oral tradition which claims that such materials were used by women to process food items. However, lower grinding stone I which was found in association with CSA 'E' could probably have been used by men, since oral and literaryaccounts state that women were not

allowed anywhere around the shrine in the past.Also, the varying wear patterns that were identified on the lower grinding stones suggest that they were not only used for processing grains. Lower grinding stone III as represented on plate IV has a wear pattern that is too narrow for grinding corn. It could therefore be that the early inhabitants of the site also processed herbs aside grains.

The varying degrees of depression that were seen on the grinding surfaces of the lower grinding stones, as well as rock hollows, point to the varying frequencies of grinding or pounding activities by the early inhabitants of the site. Out of the lower grinding stones that were identified on the site of study, lower grinding stone I has the shallowest depression, thereby depicting a few number of processing activities on it compared to the other ones. The same could also be said in the case of the rock hollows since some are more significant as a result of more frequent andvigorous friction, as compared with those located on the same floor as the monolith. According to oral tradition, deep rock hollows came about as a result of processing grains such as guinea corn and millet by simply pounding them with tree branches (Pandiripers. comm., 2016).This is to say that the rock hollows served the function of mortars for processing farm produce.

Aside agricultural activities, lowergrinding stones were alsoused inexecutingspiritualactivities. Lower grinding stone Ican be considered a sacred object since it was found in association with CSA ‘E’. The reason for its shallow wear depression point to the possibility that it was only when ritual activities were ongoing and grinding or pounding was required that it was made use of. The smooth surface and black colouration that was observed on the lower grinding stone point to preferential treatment for sacred objects by the people.Based on colour, lower grinding stone I could have been sourced from a parent rock different from that of

the others. Going by the smoothness and grain-size of the same lower grinding stone, the artifact must havebeen subjected to polishing, as discussed in the classification and analysis of lithicartefactsin chapter five of this work.

In the same vein, rock hollowswere to some extent connected with politics aside agricultural purpose. The first location of cluster of rock hollowsthat number up to 21, which is a rock outcrop, is said to have been ameeting placewhere the clan-heads and *Yekut*met once every year.They met in order to foster unity among the early inhabitants of the site.Whenever reconciliations were not made at the meeting place towards the end of every year, it was believed that the following year will be full of conflicts among the clans (Ibrahim, pers. comm., 2016).Although how the cluster of rock hollows came aboutis not clear.

The presence of shrines as represented by CSA 'B' and CSA 'E' on the site, is an indication of some form of worship or ritual activities that were performed by the early inhabitants of the site. According to oral information, the *Yekut* of the site was charged with the responsibility of executing ritual rites. Women, children as well as strangers, or anyone who was not initiated into manhood, were not allowedaround the shrine because the ancestors' worship of the people was considered to be top secret, thus women and children were not allowed to offer sacrifices on their own. As recounted by Nengelet *al.* (2002) whenever the need arose for them to offer sacrifices, they were required to meet the *Yekut*and elders who did it on their behalf. Religion, therefore, could be said to have also contributed to stratifying the early inhabitants of the site.

The presence of a monolith on the site also reflects the people's spiritual practices, and it also serves as an emblem of unity among the early inhabitants, an indication ofsocial stratification, manhood as well as leadership. As recounted by oral tradition, whenever a hunter

killed a leopard, men from all ten clans will gather around the monolith to perform some rituals, after which a feast known as *pyebi* will be held, which will require the game to be shared among the participants (clan-heads) (Ali, 2014).Women were not allowed to partake in the feast, neither were they allowed anywhere around the monolith. During such feasts, spices were milled at the rocky floor where the monolith is erected; this act resulted to the cluster of shallow rock hollows that were found on the rocky floor (Halilu, pers. comm., 2016).

Since the early inhabitants of the site of study, as stated by oral history, considered it a taboo for women and children to step foot at designated portions of the settlement,(i.e.) the monolith area and the shrine areas,the feature identified by the oral informants as a ritual mound could have been a necessity, so that all age grades andgenders, especially females, could get to receive spiritual protection and healing among other spiritual services (Ibrahim, pers. Comm.., 2016). Oral information has it that the ritual mound used to serve the purpose of healing the people of their ailments, and also for spiritually cleansing the settlement (Yunusa, pers. comm., 2016).

The overturned medium-sized clay pot that was identified at the site was found to be located at the foot of the hill on the site, probably to prevent any form of damage that could be done to it, since no building will be erected there. The act of burying the placenta of a new-born at a particular location by the early inhabitants of the site could be as a form of binding or attaching the child to the earth, and to his/her community.

The early inhabitants of Badurum had an organized society in the past, judging by the presence of a dilapidated clay structure which oral tradition claimsto have been used for securitypurpose. Though the feature could only overlook the southern part of the settlement, it reflects the presence of an active leadership system in the past that is security conscious; it takes

an active leadership system to put security structures in place as well as who to be assigned in handling security matters of the settlement.

The presence of an active leadership systemcould have also affected the sourcing of raw materials on the site.Clay as raw material for building was harnessed at strategic points, at the foot of the rock outcrop (where buildingscannot be erected). This gave rise to the quarries that were identified on the site. The strategic locations of the quarries also point to a form of land management system among the people, in order to ensure that there is enough land for the people to erect their structures without interruption. Although boundary markers were not identified as at the time of research, every clan is said to have had its piece of land to share among its members and there was no trespassing into another clan's portion of land, so as to avoid conflict over land matters (Wayit, pers. comm., 2016). The sizes and depths of the quarries is an indication that quite a large a number of people used to settle on the site.Though, human activities, as earlier stated, have destroyed much of the evidence of human occupation on the site, thereby leaving no proof of this claim, the quarries reflect the level of exploitation of land resources by the early inhabitants of the site.

The presence of burial mounds on the site suggests the people's ability to properly dispose their dead. The burial mounds, as earlier seen (plate XIV), are marked by mounds of sand which are bordered by a circular arrangement of stones made of rock. Oral history has shown that the people gave preferential treatment to the burial of their leaders.Each clan has a particular burial mound it uses in burying its clan-heads, while in the case of commoners, it is not so, even though the pits are dug in the same manner. In both instances, the people dig a short distance into the ground in a circular manner, like a vertical shaft, after which a horizontal

chamber is created, attached to the bottom of the shaft, so that it looks like an inverted 'T' (fig. 11). Measurements in the course of digging the burial pit are based on estimations.

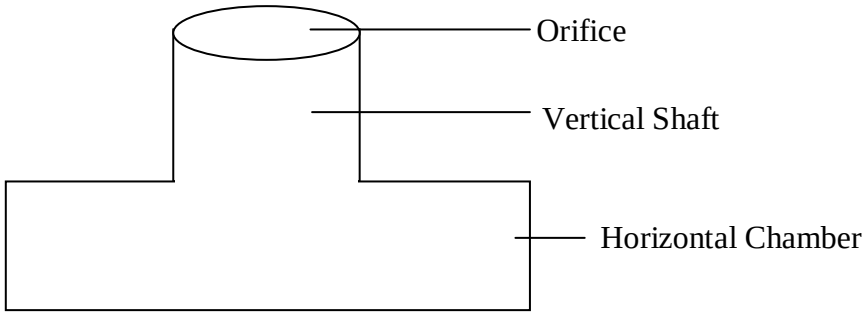


Figure 11: An Illustration of a Burial Pit

According to oral information, after the death of a clan head, the stone slab used as covering for the burial pit is removed, as well as the sand and un-decomposed remains of the earlier buried clan-heads, before laying the corpse of the dead clan head. After laying the corpse, the remains of previous clan heads are put back into the pit and covered with sand and lid. According to Garba (pers. comm., 2016), from where the dead is prepared for burial, men and women sing songs and dance, alongside musicians, spraying guinea corn on their path to the burial mound of the respective clan before burying the dead.The burial mounds could therefore be said to be markers of social stratification among the early inhabitants of the site.Despite the migration of the people to the two separate settlements, they still hold the site of Badurum (Gyi-gyes) with great importance, because they consider the hill to be the abode of the *Spirits* they worship. For this cause, the burials of *Yekuts* (village heads who are saddled with the responsibility of performing rituals) and clan-heads (*Dakatai*) are carried out on the site of study till this day.

The inception of both Christianity and Islam have however affected the traditional burial rites of the present-day inhabitants of both BadurumSama and BadurumKasa, in the sense that a Christian or Muslim clan-head will be buried in a manner as provided by the respective religion, unless he wills to be burial in the traditional manner (Ibrahim, pers. comm., 2016).

A series of decorations were identified on the surfaces of the classified and analysed potsherds, this points to the people's taste for aesthetics. A close examination of the decorative motives on the potsherds shows that some of the decorations did not only serve aesthetic purpose, but functional purpose, as some were executed on the body of the vessels, probably to reduce friction in the case of carriage. The variation in the type and mode of executing the decorations that were observed on the classified potsherds points to technical diversity of the potter(s) in the area of pottery manufacture.

A visual examination of the profile of the potsherds shows that the grain size of the potsherds is mostly coarse; this could be an indication ofcrude techniques in processing of the paste.Also, it could be as a result of the deliberate application of inclusion by the potter(s). From the various decorative motifs that have been identified, it is clear that the potter(s) must have employed a range of tools (some of which are naturally occurring, while some were modified) in achieving their designs, thus, this reflects their technical diversity in pottery decoration. The classification and analysis of the potsherds that were recovered from the site of study, revealed that the early inhabitants of the site made use of a series of pottery vessels that range in different shapes, sizes, thicknesses and types, which were employed for several purposes. Judging by the presence of soot on some of the potsherds, it could be inferred that the people made use of such vessels for cooking, while those that were identified to have no soot could probably have been

used either for storage, transportingitems, either consumables or non-consumables, from place to placeor serving purposes.

From the result of the thin-section analysis of the three expendable potsherds, the ‘wavy extinction’ of quartz grains that was observed, which is an indication of the effect of pressure, points to the fact that the paste that was used for pottery making was not collected from the ground surface, but rather was dug up. If the early inhabitants of Badurum were responsible for the manufacture of their earthen vessels in the past, and that they did not purchase them from neighbours, as claimed by some oral informants, then it probably could be that the raw clay was dug up from the same quarries they acquired their raw material for building.

The angular nature of feldspar (microline) and quartz, as revealed by the thin section analysis of the potsherd samples, which causes them to interlace with each other, reduces the chances of breakage of the pottery vessels. Also, the cross-hatch nature of quartz as revealed in XPL, would have been a source of weakness for the paste as it could serve as a source of breakage or crack for the vessel, but its low percentage in mineral constituent as seen on table 5did not alter the suitability of the paste for pottery production. This is an indication of the mastery of heart of pottery making by the maker(s) of the Badurum vessels.

The profiles of samples of potsherds that were obtained from the site of study, as revealed by their cross-section view in plates XVIII, XIX and XX, which showed the presence of dark cores is an indication that the potter(s) fired their vessels at varying degrees of temperature. The varying intensities of the dark cores on theprofile samples, of which sample III on plate XXhas more pronounced dark core, is indicative of the fact that the vessels were fired at different durations and degrees of temperature.The dark cores indicate the presence of organic content which were not completely burnt as at the time the vessels were subjected to heat during the

firing stage. This is typical of an open-air firing, which denies a potter the privilege of having maximum control over the firing temperature during firing process. In line with this statement, oral tradition claims that the early inhabitants of the site of study practiced an open air system of firing pottery vessels.The vessels were arranged on the ground surface and chaff obtained from processing guinea-corn, which served as fuel, was used in covering the vessels, which was kindled with fire and left until the fire died out (Dauda, pers. com., 2016). This practice is still what is obtainable among the present-day potters of FadanChawai. Also, the varying colours of the potsherds are indicative of an open air firing technique.

The bodies of water have made it possible for the people to carry out their domestic activities. The availability of ponds at the site of study could have been one of the initial criteria that made it habitable, since sources of water are one of the most important factors in settlement location. According to oral information, some of the clans were entitled to their own water source; this could be to avoid conflicts that might arise from sharing the natural resources on the site. Another initial factor that could have served as one of the components that made the people choose to settle at the site is the presence of rock shelters. Oral tradition claims that the rock shelters provided shelter for the people during rainy as well as sunny days. Another initial factor that could have served as an attraction to the site is the vegetation of the site. According to oral and historical accounts,the site used to be thickly forested, which provided a thick covering for the inhabitants of the site for security reasons. These factors that caused the people to choose to settle at the site are a reflection of the kind of climate and soil in the area, as earlier discussed in chapter three, even though human activities on the site have negatively affected the environment. It is also evident, from the ongoing, that the early inhabitants of the site tapped the natural resources the site provided in order to ensure their survival.For instance, with the availability of

clay for building, stones which they used as building foundations, ponds and reeds which the people to harvest and use for roofing purposes, it was possible for them to build their homes.

The site map which revealed the spatial relationship of the cultural materials on the site of study reflects how organized the people were in terms of land management as well as distribution of resources among themselves.

CHAPTER SEVEN

SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 Summary

This research was carried out in the historical site of Badurum, with a purpose of reconstructing the past life ways of the early inhabitants of the site, through an archaeological survey of the site, in corroboration with oral sources, ethnographic source as well as literary sources. This aim was achieved through a set of objectives, which included: an identification of cultural materials, which led to the production of an archaeological map of the site in order to appreciate the site of Badurumcultural landscape, and collection of cultural materials for classification and laboratory analysis in order to aid interpretation; the collection of oral tradition and information; the collection of ethnographic data;and a consultation of written documents, so as to have a background knowledge of the site of study.

The objectives of the research were in-turn achieved through a number of methods of research that were employed in the course of the study. The first is the consultation of written texts which helped in providing background knowledge of the site: it revealed previous historical works that were done within and around the site as well as information on its physical environment. Through this method of research, it was derived that theearly inhabitants of the site of Badurum were a conglomerate of people who settled together to form a part of the Atsam, thereby adopted their traditionsand established an organized community with a functional leadership system that was answerable to the Atsam larger unit.It was also deduced that a number of changes have taken place among the early inhabitants of the site; in the areas of religion, building, politics, among others. Changes are also evident in the physical environment

of the site due to human and natural factors: the site used to be thickly forested, which provided the people with shelterespecially from slave raiders.This method of research has therefore aided the recollection of the early history of the site which is in line with the aim as well as the first objectives of the research.

The second method of research that was employed is archaeological survey. The archaeological survey that was carried out on the site of study revealed the extent of the cultural landscape of the site of study with the cultural materials that constitute the site, such as rock hollows, potsherds, monolith, lower grinding stones, rock shelters, stone balls, relics of house foundation and granary foundation, among others. The cultural materials that were obtained from the site ofstudy were classified and analysed which aided the deduction of further information about the early inhabitants of the site and their environment. It was therefore deduced that the early inhabitants of the site engaged themselves in activitiessuch as building, food and herb processing, storage, among others,through an interaction with the environment (i.e. the site), which provided them with necessities, thus making it suitable for settlement.

The third method of research is the collection of oral tradition and information from the present-day inhabitants of BadurumSama and BadurumKasa, as well as those from nearby settlements within the Atsam area. The oral tradition and information that were collected made it possible to have an insight into the cultural materials that were identified at the site in the course of survey. This method of research has also revealed some form of relationships between the extinct and extant communities through some form of continuities that were observed between the past and present-day settlements. Oral tradition and information also formed a basis for the historical background of the site of study which went in line with the aim and the second objective of the study.

The fourth method of research is ethnographic survey which was carried out in the areas of pottery making and architecture. The ethnographic data that were collected for the research made it possible to deduce somedirect relationships that exist between the ethnographic present and the archaeological past of the people of Badurum. In the area of pottery making, the corroboration of thepotsherds from the site of study with the present-day vessels fromFadanChawai revealed similaritiesin terms of decorative motif and firing techniquebetween the past and the present. Also, in the area of architecture, a similarity was identified in the mode of building granaries: they are usually built in a circular and are suspended from the ground by a circular arrangement of rock boulders that serve as foundation. This method of research has aided the interpretation of some of the archaeological data that were obtained from the site of study. this method of research is in line with the aim and the fourth objective of this research.

Finally, an interpretation of the cultural materials that were identified on the site of study was carried out. This was done in light of the theoretical framework of the research, which is historical archaeology. The interpretation incorporated the results of classification and analysis, as well as oral account(s) and literatures so as to ensure a credible interpretation.

7.2 Conclusion

This research through a corroboration of sources of data acquisition, such as archaeological survey, ethnographic survey, oral tradition and literature review, has aided in the reconstruction of the past ways of life of the inhabitants of the site of Badurum. The research has revealed that the site of study has once been inhabited in the past, as indicated by the presence of relics of house foundation, rock hollows among others, and the early inhabitants of the site interacted with their immediate environment in a quest for survival.They took advantage of the geological formations in the form of rock shelters and rugged terrain in order to give them an

edge over external attacks. The rock shelters had also served as shelter for the people.By implication, the settlement was influenced by both economic and security factors. It also served as site for religious activities, meanwhile the plains were suitable for agricultural practices.

The research has shown that the early inhabitants of the site exploited their natural environment in order to satisfy their religious, social and political needs. They achieved these by harnessing materials from rocks, soil and vegetation, among other natural resources that are present within the environment to build homes, storage facilities, religious and security facilities, as well as to process food items.

The research has also revealed that the site is not completely abandoned: though it no longer serves as a settlement in the present, but traditional practices such as the burials of *Yekuts* and clan-heads still take place at the site. This is due to the traditional belief which some of the people still hold on to till date, that the hill is the abode of the spirits of their elders who oversee their affairs. Also for this cause, sacred grounds and features still remain untouched, while others have been destroyed as a result of farming activities.

The research has reflected aspects of planning, land use, ecology, settlement and subsistence patterns of the people. For instance, the archaeological survey revealed that the people dug out soil for harnessing building materials at strategic locations (foot of the hill), probably in a way to manage space for settlement structures. This is also a pointer to the people's mastery of their environment.

The site of Badurum reflects an organized society with a functional socio-religious and socio-political leadership which is portrayed by some level of gender roles in virtually all facets of their livelihood. For instance, as earlier stated, ritual activities were a matter of extreme secrecy and so women and children since they are not initiated into manhood, were not allowed

anywhere near the shrine, neither were they allowed to go close to the monolith. This is because the people believed that they could easily give out vital information to their neighbours or potential enemies. They were not also allowed to hold any political office, but their role was restricted to household activities and some farming activities such as weeding and harvesting crops.

7.3 Recommendations

Though this research has been able to reconstruct some of the past ways of life of the early inhabitants of the site of Badurum, a lot about the history of the people is still left unknown. This is chiefly because the research is a preliminary work, which only dealt with surface collection of artifacts on the site of study. With this, establishing a chronology for the occupation of the site becomes a problem, since no excavation or dating was done. This therefore calls for a more intensive research to be carried out on the site.

From the research, it could also be seen that the maker(s) of the pottery materials that were recovered from the site of study still remain vague, this is because oral tradition is divided on the subject: some informants claim that the craft was practiced by the early inhabitants of the site, while others claim that the vessels were purchased from the nearby FadanChawai. There is therefore the need to carryout provenance study on pottery making, which will be capable of revealing who is responsible for the Badurum vessels.

This research is therefore significant in the sense that it has attempted an archaeological study of the site of Badurum (Gyi-gyes), revealing its cultural significance, in order to have an understanding on the past life-ways of the early inhabitants of the site. This research, being a pioneer work, is therefore meant to serve as foundation for further studies to be carried out in the area.

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APPENDIX I: LIST OF ORAL INFORMANTS

S/N	Name	Sex	Age	Occupation	Type of Information	Place of Interview	Date of Interview
1	Salisu A. Garba	M	54	Civil Servant	Oral tradition	Damakasuwa	12th May, 2016
2	MohammaduYunusa	M	35	Farming	Oral tradition	BadurumSama	12th May, 2016
3	IshayaWayit	M	49	Farming	Oral tradition	BadurumSama	12th May, 2016
4	Halilu Musa	M	38	Farming	Oral tradition	Badurumsama	12th May, 2016
5	Harira Musa	F	70	Potter	Pottery	FadanChawai	14th May, 2016
6	SalamatuAdamu	F	80	Potter	Pottery	FadanChawai	14th May, 2016
7	HauwaAbubakar	F	40	Farming	Oral information	FadanChawai	14th May, 2016
8	KabiruMuhammed	M	37	Farming	Oral information	FadanChawai	17th May, 2016
9	AhmaduDanladi	M	28	Farming	Oral information	FadanChawai	17th May, 2016
10	Gayya Dana John	M	66	Farming and Teaching	Oral information	Damakasuwa	12th May, 2016
11	YakubuDauda	M	37	Farming and Dakachi	Oral tradition	Badurumkasa	12th May, 2016
12	Dodo Jakada	M	80	JakadanBadurum	Oral tradition	Badurumkasa	14th May, 2016
13	Jacob Daniel	M	36	Farming	Oral tradition	Badurumkasa	20th May, 2016
14	YerimaPandiri	M	100	Farming	Oral tradition	Badurumkasa	20th May, 2016
15	AsabeYerima	F	80	Farming	Oral tradition	Badurumkasa	20th May, 2016
16	Benjamin Yakubu	M	28	Teaching	Oral tradition	Damakasuwa	12th May, 2016
17	Musa D. Ibrahim	M	52	*Yekut* (Farming)	Oral tradition	Badurumkasa	19th May, 2016
18	ShehuDauda	M	29	Sawing	Oral tradition	Badurumkasa	19th May, 2016
19	NasiruBako	M	21	Transportation	Oral information	Badurumkasa	14th May, 2016
20	NuhuAbdullahi	M	19	Student	Oral information	Badurumkasa	17th May, 2016

APPENDIX II: LIST OF ANALYSTS

S/N	Name	Sex	Occupation	Type of Information	Place of Interview
1	Dr. C.S. Bakinde	M	Lecturer	Pottery Analysis	A.B.U Archaeology Dept.
2	AmudaAbduljafar	M	Lab. Technician	Thin Section Analysis	A.B.U Geology Dept.
3	IshakuIsaac Mainta	M	Student	Lithic Analysis	A.B.U Geology Dept.

APPENDIX III: QUESTION GUIDE

Tradition of Origin

What is your name?

How old are you?

What is your occupation?

Are you an indigene of this Village?

What is the meaning ofBadurum?

What brought about the nameBadurum?

Where did your people come from?

Who founded this settlement?

Where do your people come from?

What made the founder leave the former place?

Why did they leave on the hill?

Did the people later come down from the hill to live on the plain?

Why did they come down to live in the Plain?

Can you still locate the place they settled in the plain?

What evidence can tell of this past in the plane?

What is the hill used for today by the villagers?

Craft and Industries

What was the nature of the occupation of first settlers?

Were the people involved in any kind of craft, if yes, what type(s)?

How did they acquire the knowledge of the craft(s)?

Do you still practice the craft(s) now?

What is the significance of this craft(s) to your people?

Did the people use iron implements?

Did they mine, smelt or smith iron?

What type of tools did they produce?

Where is their workshop located?

Who were their customers?

Did they trade on a large scale

Did the people use stone tools?

What type of occupation were they engaged in when they came here?

Do you have professional potters?

If yes, where is their workshop located?
How do they gain the knowledge of pottery production?
Where do you get your clay?
How do you manufacture your pots?
How many types of pots do you normally manufacture?
Where do you carry out the firing of the finished vessel?
After the pots have been manufactured, what do you usually do with them?
Did you trade your pots?
Who were your customers?
Did you trade on a large scale?

Customs and Tradition

What type of festival(s) do the people practice?
What is the significance of the festival?
How do you bury your dead?
Are there rituals associated with burials?
Are there festivals or celebrations associated specifically with burials?
Is there any central location for burying the dead?
What are the taboos associated with burying the dead?
How do you celebrate marriages?
When is a man or girl eligible for marriage?
What are the marriage rites?
Has there been any change from what it used to be in the olden days?
What type of relationship exists between this Village and neighboring ones?
Did your people fight war in the past?
Were you conquered any point in time?
What is the dominant religious practice here?
Are any of the traditions of the people still in practice?
What do you know about the chronicle of ruler in this village?
How were leaders chosen?
Do still have traditional worshipers in this village?
What is the nature of their relationship with other religions?
Do you think your culture is losing its value?
If yes, what is the course?
Do you tell younger people in this village about their history?

How do you think your history/culture can be retained?

Architecture

What informs the type of houses built by your people?

Are there special buildings for particular purposes like blacksmithing, pottery making, sleeping huts, rituals and sacrifices?

Did the buildings depict hierarchy or class in the community?

Where do you get the raw materials for the building?

How do you roof your houses?

Do you have professional traditional architects?

What type of training do they have to undergo before they could practice?

APPENDIX IV: LIST OF FINDS AND FEATURES (FIGURE 3)

S/N	Feature	Lat.	Long.	Elevation
1	Stream	09° 54' 10.7"	08° 35' 46.8"	978.0m
2	Circular stone arrangement	09° 54' 12.1"	08°35' 41.0"	985.2m
3	Circular stone arrangement	09° 54' 11.8"	08°35' 40.6"	977.1m
4	Circular stone arrangement	09° 54' 15.7"	08°35' 39.9"	983.7m
5	Rock hollow	09° 54' 20.0"	08°35' 11.2"	964.0m
6	Burial mound	09° 54' 16.3"	08°35' 35.5"	968.8m
7	Rock shelter	09° 54' 13.5"	08°35' 35.1"	963.2m
8	Burial mound	09° 54' 11.4"	08°35' 32.1"	964.3m
9	Burial mound	09° 54' 10.3"	08°35' 33.9"	971.7m
10	Rock shelter	09° 54' 08.6"	08°35' 34.6"	967.8m
11	Quarry	09° 54' 08.8"	08°35' 34.0"	965.7m
12	Stream	09° 54' 06.2"	08°35' 37.1"	949.4m
13	Lower grinding stone	09° 54' 08.3"	08°35' 33.8"	965.6m
14	Rock hollow	09° 54' 07.9"	08°35' 33.2"	963.2m
15	Rock hollow	09°54' 08.0"	08°35' 32.8"	964.3m
16	Lower grinding stone	09°54' 07.8"	08°35' 31.5"	960.5m
17	Ritual mound	09°54' 07.1"	08°35' 30.8"	957.1m
18	Rock shelter	09°54' 07.0"	08°35' 27.3"	936.7m
19	Cluster of rock hollows	09°54' 04.3"	08°35' 28.8"	985.9m
20	Dilapidated mud structure	09°54' 06.2"	08°35' 24.5"	983.3m
21	Rock shelter	09°54' 06.0"	08°35' 25.5"	975.0m
22	Quarry	09°54' 06.1"	08°35' 26.0"	968.3m
23	Rock shelter	09°54' 19.3"	08°35' 17.6"	984.2m
24	Circular stone arrangement	09°54' 13.0"	08°35' 13.0"	988.4m
25	Circular stone arrangement	09°54' 22.9"	08°35' 12.6"	990.7m
26	Lower grinding stone	09°54' 22.9"	08°35' 12.6"	989.4m
27	Stone balls	09°54' 21.8"	08°35' 11.5"	989.4m
28	Stream	09°54' 18.6"	08°35' 26.1"	944.3m
29	Monolith	09°54' 24.4"	08°35' 25.1"	935.2m
30	Burial mound	09°54' 45.9"	08°35' 10.7"	895.7m
31	Burial mound	09°54' 45.7"	08°35' 10.5"	894.0m
32	Circular stone arrangement	09°54' 45.7"	08°35' 10.6"	898.4m
33	Lower grinding stone	09°54' 35.9"	08°35' 15.5"	913.0m
34	Partially buried pot	09°54' 35.9"	08°35' 15.1"	908.7m
35	Relic of granary	09°54' 36.1"	08°35' 15.3"	910.7m
36	Circular stone arrangement	09°54' 36.2"	08°35' 15.3"	909.3m
37	Circular stone arrangement	09°54' 35.9"	08°35' 15.9"	909.1m
38	Relic of house foundation	09°54' 35.0"	08°35' 15.2"	904.4m
39	Cluster of rock hollows	09°54' 32.8"	08°35' 08.5"	908.0m
40	Burial mound	09°54' 33.8"	08°34' 57.6"	871.5m

41	Burial mound	09°54’ 29.3”	08°34’ 55.7”	885.5m
42	Burial mound	09°54’ 29.1”	08°34’ 55.3”	880.1m
43	Quarry	09°54’ 27.9”	08°34’ 54.4”	875.3m
44	Stream	09°54’ 31.0”	08°34’ 59.5”	870.6m
45	Over-turned clay pot	09°54’ 25.5”	08°34’ 57.2”	876.8m
46	Rock shelter	09°54’ 24.6”	08°34’ 56.0”	876.8m