An archaeological investigation in Shira region, Bauchi, northeast Nigeria

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Abstract

This doctoral research presents the results of a pioneering archaeological enquiry in the Shira region of Bauchi State, northeastern Nigeria. The prime aims of this work in what is a hitherto uninvestigated region are to sketch out an occupational sequence and to characterise past materiahl culture. Shira is renowned for being the earliest established settlement (12th to 19th century AD) in present-day northern Bauchi region and it lies on a primary trade route linking two important precolonial polities, the Bornu Empire and the Hausa city-states; as well as connecting with the Adamawa region.

The thesis uses archaeology as its prime source of data, but cross-references it with historical and ethnographic data, in order to investigate the evolution and chronological development of the Shira region in the second millennium AD. The artefacts and the spatial organization which characterise the past settlements are studied, and data collected through ethnographic enquiries on present social practices are examined with a view of offering comparative material for the archaeological data. This aspect of the enquiry was mainly concerned with tangible materials such as pottery or the practice of blacksmithing, but it also considered non-material aspects such as the present socio-political patterns and subsistence economy in particular.

An archaeological survey in the form of field walking was an important component of the investigation. A 16km^2 selected area close to Shira town was examined in order to assess settlement evidence and archaeological potential. The survey located and recorded 64 sites, 5 of which later became the subject of detailed investigation. The survey collections and the excavations carried out at these 5 abandoned sites underpin this thesis and provide a characterisation of past material culture. Six radiocarbon dates place the occupation of the settlements investigated within the second millennium AD. Pottery was the most abundant artefacts recovered from the archaeological survey and excavations around the Shira town. Rims and decorated sherds were analyzed in detail and non-diagnostic material, namely undecorated body sherds, quantified and discarded.

Ultimately, these new archaeological data indicate that there exist a great number of past sites around Shira town, of various natures and occurring across a series of hilltops and intervening plains. As such this thesis provides important new data on the past of this part of West Africa.

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Acknowledgment

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Dedication

This thesis is the manifestation of the dream my parent had for me as a child. I however would like to dedicate this work to the memory of my late husband Adamu Shehu (*Allah ya gafarta masa da rahama*), who tragically died in a car accident seven years ago. I acknowledge all your efforts and steadfastness to see that you gave your family the best in life. I will say that the memories gave me the strength and willpower to carry on with this research.

Chapter One : Research Background and Approaches

1.1 Introduction

This thesis presents the first archaeological investigation in Shira region of Bauchi State, northeastern Nigeria (Figure 1.1). This chapter discusses existing knowledge on the archaeology of the area and provides details of the aims and objectives of the research. The research is centred on the analysis and interpretation of the archaeological materials uncovered from survey and excavation, while documentary and ethnographic materials relating to the wider region are also considered; in particular, extensive ethnographic enquiries were conducted as part of the present research. That investigation is grounded in the idea that we can understand the past through material culture created and used in the past - in this particular case, through looking at the landscape, historical documents and material culture that 'were seen and experienced in past arena' (Mayfield 2009:6). The argument made here is of course not that the present can be projected unproblematically onto the past, but rather, that there exist both continuities and differences that are useful to explore.

Thus, the thesis aims to incorporate three major areas – archaeology, history and ethnographic sources – in order to provide holistic information about the abandoned sites located in Shira, and about the material culture and early populations that occupied the region. The specific aim is to investigate the evolution and chronological development of the Shira region from the Jihad period to its establishment (12th to 19th century AD).

In this chapter, an overview of the study area is first presented, followed by background on the nature of research in the wider area. The aims and objectives are then presented, as well as the methodological and theoretical framework that guided the research. The chapter concludes by providing an outline of the thesis.

1.2 Introduction to the study area

The author gained insight into the archaeological landscape of the study area through a 10-day field trip in January 2007 intended to identify, locate and document existing archaeological sites in the northern Bauchi region. The first 5 days were devoted to an abandoned site in Kurba village, where past evidence included remains of a large wooden log once used to wedge the gates, as well as the remains of a dyeing site and pits and abandoned missionary structures. In addition to visiting Kurba village, the research team, consisting of three people including the author, made two visits to Garande village for an ethnographic investigation into traditional pottery production. Here, we recorded the procedure for producing pottery in three households. Then, we moved to Shira (Figure 1.2) for the next 5 days, where we photographed and documented important archaeological sites and features. That work became part of an MA dissertation submitted to the post-graduate school of Ahmadu Bello University, Zaria, Nigeria (Giade, 2011). During the course of this field trip, two habitation sites, remnants of a defensive wall, two abandoned burial sites, two traditions of rock art sites and an abandoned industrial site were documented. Potsherds were also collected for analysis. In all the sites visited, the research team commenced the reconnaissance by visiting the traditional ruling house where a brief history of the area and a guide was provided. These reconnaissance surveys and interchanges in these communities provided insight and background for the dissertation.

In 2009 and 2011, the author made two additional field trips to Shira. The first visit was an attempt to gain further insight into the material culture and the environment for final preparation and corrections of the MA dissertation. In April 2011 the author conducted another reconnaissance survey to locate additional abandoned sites and features, the results of which formed part of the doctoral research proposal submitted to the Sainsbury Research Unit at the University of East Anglia.

Before going any further, it is important to explain the use of the term ‘Shira’ and its usage in the context of this thesis. Shira, as will be shown in the following chapters, has a narrated past mostly written by European travellers and colonial officers in the region. The name has taken on different import depending on the focus: the name has been associated with a settlement, an administrative area, as well as an extinct language. Currently, the name ‘Shira’ refers to a small village, which likely derived its name from

'Shiraka', the original founder of the settlement; it is also an administrative local government area of Bauchi State. The area has a size of 1,321 km^2 with a population of over 234,014 people in the 2006 national population census (Mamman, 2000, Abdulkarim, 1994, Omotesho et al., 2012). The Shira local government area is vast but sparsely populated and encompasses two districts; Shira and Disina. These two districts, which include many small and scattered villages, came into existence after the Fulani-led Jihad of 1804. It is bound to the east by Yobe State, a neighbouring state to Bornu State, to the west by Jigawa State, which lies enroute to Kano, and to the north by Azare Local Government in present Bauchi State.

Figure 1.1: West Africa showing location of Shira in Nigeria.

The first mention of the word 'Shira' in the historical record was that by D'Anania (1573-1582:336) who alludes to the existence of a settlement 'Scira', which he placed beyond the Hausa kingdom of Zamfara (Thornton, 1998:xxvi). According to Hiskett (1984:73), this settlement is probably the small Hausa state of Shira, a buffer between Kano and Bornu. Further references to the site are also found in Barth (1857:227), who made mention of 'Shera', presumably the same settlement, which he described as 'a considerable place, fortified by nature, its position among the rocks, which surround it on

all sides, leaving only a narrow approach from the north-west and south, otherwise there is no wall'. In addition, he provided in his itinerary the names of significant settlements located in this area known as Shira. However, he never visited the site.

Our first-hand information about the region comes from Falconer (1911a) who stopped there on his way to Hausaland from Bornu. Fremantle (1911:301) suggested that by the 18th century the region of 'Shira', encompassed a much larger geographical area than it does today, covering an area of 3,000-4,000 m^2 with a northern border formed by Teshena and Auyo, on the east by the diverse Kanuri chiefdoms and Kerikerilands, on the south by the states of the Gongola Kwararafa, and on the west by a line running close to Gaya and Dutsi in Kano Emirate. Temple (1922:442) makes reference to 'Shira' as being 'a resident on the western marches and over the border in Jemaari and Katagum Emirates, with a further group of 770 in Bauchi Emirate'. This suggests that perhaps the term refers to a widespread group of people or to anyone who originally came from Shira. In short, these researchers recognized Shira as a settlement, which may or may not have been a village of much political importance in the past and incorporated a wide spread of people who originally came from the settlement or migrants from the area.

In addition to the above, linguists have also provided us with suggestions as to the use of the name. It is noted that the name 'Shira' is likely to have been derived from Shira or Shirenchi, an extinct language from the West Chadic-B languages formerly spoken to the east of Hausa Chadic, which no one has ever succeeded in tracing (Migeod, 1924:260, Schuh, 2001:395-401, Sutton, 2010).

Thus, throughout the present thesis, the term 'Shira' may be used to reference a range of places, and care has been taken to clarify which is meant. Specifically,

- At the centre of the present study is the Shira study region, the area where the survey and excavation were conducted.
- This study region is located close to modern Shira town; multiple archaeological sites lie near it, some of which – such as Gandu Shira, Jagindi and Jarkuka – were investigated during the present research.
- In addition, there is a contemporary administrative unit known as Shira local government, a political creation of the federal government of Nigeria. The area

incorporates several small towns and villages including the town of Shira itself. It is from some of these villages that the ethnographic data were collected.

- The name Shira also overlaps with the name of a historical polity known as Shira and which comprised two districts, Shira and Disina. This polity came into existence after the 1804 Jihad and is still politically recognised today.

1.3 Previous research in the region

Shira lies in an intermediate zone between the better-defined and relatively well-studied archaeological cultures of the Kanem-Borno region and those of *kasar* Hausa (the Hausa lands). The past of Shira has always intrigued researchers, perhaps because the area featured what Seidensticker et al. (1997:12) called a 'triple coincidence', that is to say the evidence of extinct languages, a distinctive oral tradition giving the impression of great antiquity to sites in the area, and finally anecdotal reports of a number of abandoned habitation and industrial sites, including rock paintings and rock gongs; these archaeological remains had, however, barely been studied prior to the present work.

Historically, our knowledge of the past of Shira derives largely from a study by Fremantle (1911), during which he recorded a comprehensive history of the area based on oral historical accounts. However, prior to and since this research, many regional historical and related studies have incorporated the fragmentary data on the history of the area (Barth, 1859, Falconer, 1911b, Fremantle, 1911, Meek, 1925, Hogben, 1967, Hogben and Kirk-Greene, 1966, Kirk-Greene, 1973, Low, 1972, Temple, 1922); linguistic evidence (Migeod, 1924, Schuh, 2001, Bross, 1997, Sutton, 2010, Ramage, 1929-33, Harris, 1927); past trade routes (Clapperton et al., 2005); geology (Anderson, 1994, Bennett, 1981) and rock art studies (Fagg, 1956, Giade, 2011, Samuila, 2014, Seidensticker, 1997). Such sources offer fragmentary information about Shira and clues about ancient population movement and events, but archaeological investigation was still lacking. The antiquity of settlement has always been shrouded with some uncertainty, with proposed dates ranging from AD 940 to the 12th century (see Chapter 2). The area is believed to have been independent until the 16th century when it became subject to Bornu and owed allegiance to the Mai of Bornu through the Galadima, who resided in Nguru. In the 19th century, the political landscape of the region changed yet again, when the Fulani conquered it during the Jihad (Fremantle, 1911, Low, 1972).

These studies have thus established that the Shira region has links to the Kanem-Borno Empire to which it has an ancestral connection and to the kasar Hausa to the west, to which it has strong socio-political affiliations (Fremantle, 1911, Low, 1972, Seidensticker, 1997, Bross and Baba, 1994, Baba, 1997, Schuh, 2001, Temple, 1922). It is generally held therefore that the past region of Shira was an important part of the 15th through to the 19th century political landscape of kasar Hausa. These studies raise important historical questions relating to the historical, cultural and linguistic inter-relatedness of the Shira region to other groups in the wider region. Be that as it may, what has emerged from the little history known about the settlement is that it was at one time brought under the control of the Bornu Empire and was ruled by *Habe* 'non-Fulani' rulers up to the 19th century, when the Fulani conquered the area and subsequently transformed it into an emirate with a system of succession based purely on inheritance (Smith, 1959, Smith, 1964, see Adamu, 1978 for comprehensive discussion of the word 'Habe'). It is thus established that, while the area was brought under the Sokoto caliphate in the 19th century, the region was inter-connected historically and politically with the Bornu/Borno kingdom.

In fact, it appears that the area has a long history as a boundary separating the Hausa kingdoms from the Kanem-Borno Empire, with which it shared an ancestral connection (Figure 1.4). It lies in that geopolitical unit referred to by Barth (1857) as 'The Border States', an often-contested neighbourhood that incorporated several ancient kingdoms, of which little, beyond their supposed antiquity, was known to modern historians (Low, 1972). The area, as will be discovered in Chapter 2, was also one of the most contested principalities during the 19th century Fulani uprising; Low (1972) has researched and documented the ancient kingdoms that shaped the three Fulani Empires in the wider region. The cultural history of these kingdoms, unlike their Hausa and Kanuri neighbours to the west and east respectively, remained unexamined, creating a significant gap in our knowledge.

Other than these various enquiries on Shira, a few archaeological studies exist from the wider region of Hausaland that can be utilized to set the framework for understanding the archaeology of the region. This includes literature on sites such as Turunku, Pantaki, and Kufena hills in the Zaria region; Dala hill in Kano; and Kufan Kanawa, near Zinder in the Niger Republic (Obayemi, 1967, Sieber, 1992, Sutton, 1977, Bala, 1977, Bala, 1978,

Effah-Gyamfi, 1981b, and Haour, 2003a). (See Figure 1.2 and Figure 1.3 for location of some of these sites). Such studies do not only provide a comparative framework for interpreting the material from Shira, but also develop our understanding of human occupation and the regional context. It should be noted however that other than the research by Effah-Gyamfi (1981b) and Haour (2003a), whose works aimed to understand the development of settlements through detailed pottery analysis, the other publications cited are primarily limited to historical information and site recording, and largely lack a wider theoretical framework. Despite these limitations, they nonetheless provide a valuable record of the nature and extent of archaeological remains throughout the broader region and provide data for comparison with sites across Shira.

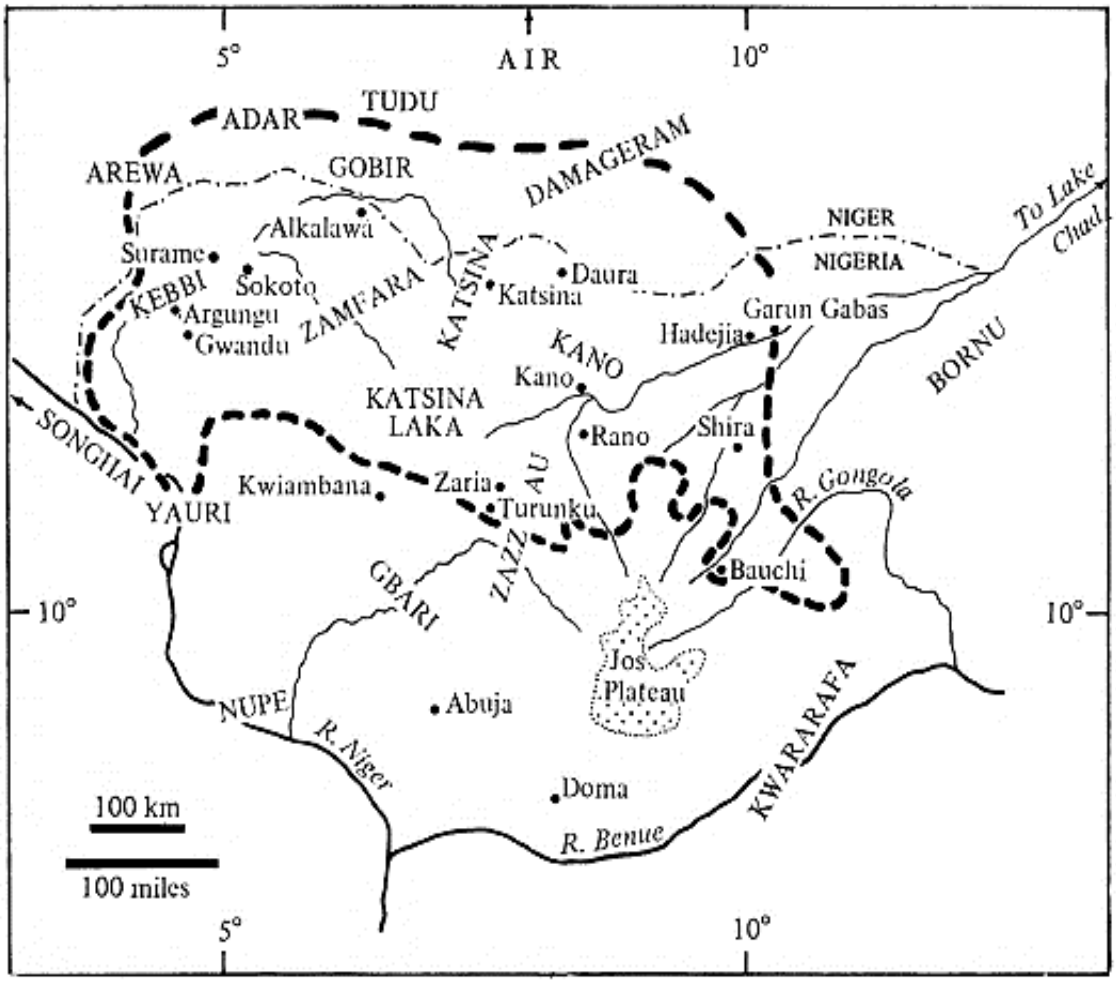


Figure 1.2: Shira and places mentioned in the text (adapted from Sutton, 1979:183).

Looking beyond those immediate areas, further archaeological data exist which can be utilized to contextualize the findings from Shira. Important sites include Zilum, Birnin Gazargamo, Gajiganna, and Dikwa, which have been excavated in the Lake Chad Basin (Hambolu, 1996, Gronenborn and Magnavita, 2000, Wendt, 2007, Connah, 1981). These date from various periods. Connah (1981), for example, identified six types of

archaeological site in this northeastern part of Nigeria: settlement mounds, mounds with occupation materials, flat-settlement sites, quarry sites, burial sites and Neolithic/stone age sites. He noted the use of animal bones as the raw material for tools and weapons such as bone harpoons, stone grinder/pounders for the grinding of plant foods, and the production of clay figurines. Another relevant archaeological study is that of the Kariya-wuro rock shelter, which aimed to ascertain through multidisciplinary methodologies - archaeology and ethno-botanical survey - the use of vegetation and the subsistence economy of the Kariya people and that of Kirfi in the southern Bauchi region (Sule Sani, 2013a, Allsworth-Jones, 1991).

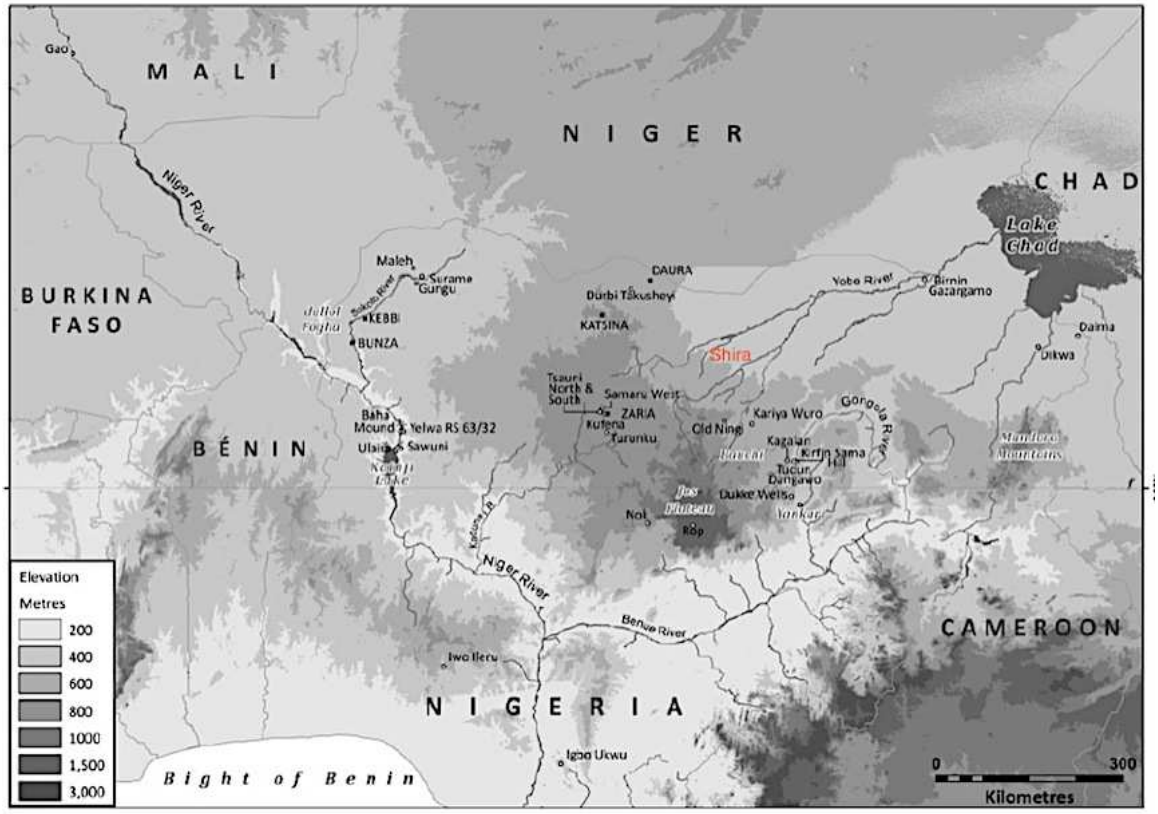


Figure 1.3: Sites mentioned in the text (adapted from Sule Sani and Haour, 2014:441).

1.4 Research rationale

This is an archaeological research project foremost, and the first ever to examine the material culture of the people that occupied the Shira region during the 2nd millennium AD. The project was devised in response to a range of issues, one of which was the dearth of any documents on the archaeological history of the region despite the known existence of clusters of abandoned sites, of which little beyond their antiquity was known. The present investigation is centred on the analysis and interpretation of surface

collections and excavated cultural material, complemented by a consideration of historical and ethnographic data. At its core, it involved archaeological survey and excavation, as well as ethnographic enquiries in present-day settlements. From these data sets, the research intends to draw a number of inferences regarding past human behaviour in the region, the nature of the material culture and how certain aspects of social and economic organisation may have developed. The proposal is to offer explanations on the origins and subsequent development of the material culture remains of this region. This is particularly important as northern Nigeria as it is today is diverse in size, population, linguistic and material culture content; but then again many of the societies share many technological, economic, architectural and organisational patterns (Haour and Rossi, 2010, Sutton, 2010, Haour, 2003a, Haour, 2000).

That various disciplines may have, on occasion, conflicting research paradigms, is known, but it is nonetheless acknowledged that an understanding of the West African past will be much enhanced when associated disciplines such as history, archaeology and ethnography are brought together (de Luna et al., 2012). As Austin (2007:2) pointed out, the study of Africa's economic past has always been a multidisciplinary activity involving historians, economists, archaeologists, political scientists and geographers. Moreover, such approaches have been successfully applied in other West African studies (Blench and MacDonald, 2006, Ogundiran and Falola, 2007, Ogundiran, 2002a, Stahl, 2001, Mayor et al., 2005, Mayor, 2011) and in many other parts of the world (Deagan and Koch, 1983, Deagan, 1981, Arnold, 1993, Arnold, 1996). Mention may particularly be made of the work of Mayor (2011), who combined the use of archaeological, historical (oral and written) and ethnographic sources to present the development of human occupation in what is now Dogon country in Mali. The addition of historical data provides a plausible time scale for the emergence of a society, or at least aids the reconstruction of a series of scenarios for the movement and interaction of peoples within the study area. Similarly, the research by Blench and MacDonald (2006) attempts to reconstruct the origin and diffusion of domestic animals based on comparative and historical, linguistic, genetic and archaeological data. These new trends in multidisciplinary research provide insightful observations on the wide range of theoretical and methodological approaches which can be used to understand past settlement.

At the point at which this doctoral research began, our knowledge of past human activities in Shira was limited to just a few historical, linguistic and geological studies. This published data have shown that the people who have occupied this region have been far from static (Barth, 1857, Falconer, 1911a, Fremantle, 1911, Migeod, 1924, Low, 1972, Seidensticker et al., 1997, Schuh, 2001, Giade, 2011, Nachtigal, 1971, Temple, 1922, Denham et al., 1828). One discernible element is how many of these population groups, among whom the people of Shira were no exception, were very active, each playing a dynamic part in the events that unfolded in the wider region. Moroever, as was noted above, Shira has been described as being located at the border of Bornu/Borno and Hausaland (Barth, 1857, Falconer, 1911a, Stenning, 1959:28, D'Anania, 1573-1582, Johnson, 1967). In some historical sources Shira is described as being positioned on the route connecting Kanem-Borno with the Hausa city-states (Figure 1.4). If we consider this settlement to be an interaction/contact zone, then the archaeological remains can help us understand how these past intricacies might have shaped this border/buffer zone landscape.

1.5 Aims and questions

There is a general perception in historical records that Shira was a region which had been occupied for a long time period, yet no research investigating the past of this region had been attempted. It was also alleged that Shira town sat on a major trade route linking Hausaland to the Bornu and Adamawa regions; yet, again, the settlement was dismissed as inconsequential, with ‘neither industries nor commerce, and the market, is of no importance’ (Barth, 1857:625). This disparaging remark lies in stark contrast with the apparent importance of the region suggested by the fact that it attracted the interest of scholars and European travellers since a first mention by Italian traveller D’Anania in the 16th century. The past Shira town was also mentioned in the Kano and Bornu chronicles, and the area was one of the most contested during the Fulani Jihad of 1804.

Yet, despite this several questions remained unanswered – amongst which, for example, is the extent to which interactions might manifest themselves materially in archaeological records. One of the main interests of this research lies in the fact that Shira is located at a geographic meeting point of two dominant political and cultural entities: the Kanem-Borno Empire and the Hausa kingdoms. To this end, Shira appears to be both

archaeologically and historically appealing as a case study, and a good opportunity to throw new light on a yet unexplored aspect of the history and development of the people of this wider region. It presents an opportunity to add significantly to the existing body of the archaeology of *kasar* Hausa and of Kanem-Borno. In particular, it can help shed light on the role played by the region in the past political landscape of the *kasar* Hausa – a question that seems fundamental, given the evidence for the spread of the Hausa cultural phenomenon across the northern Nigerian landscape nowadays. More than this, however, it can add to the wider debates on the nature and development of frontier areas, contributing to wider understandings of borders and boundaries, be they demographic, economic, ethnic or political. Its position in the buffer or interactive zone lying between Kanem-Borno and the Hausa kingdoms makes Shira an ideal site for investigating geopolitical, social, and cultural dynamics at a border zone.

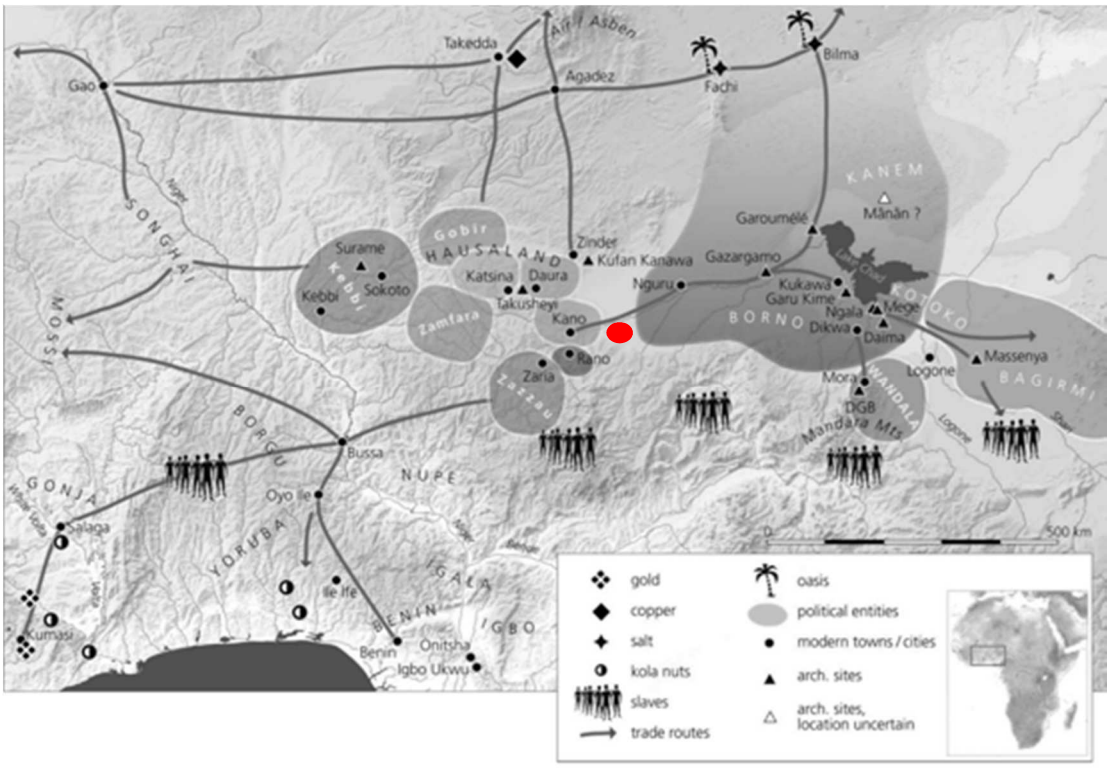


Figure 1.4: Location of Shira in *kasar* Hausa and the Kanem Bornu empires: dot indicates the position of Shira (adapted from Gronenborn et al., 2012:285).

Keeping in mind our limited knowledge of the past of Shira region, the questions considered in this thesis include:

- Can similarities in current cultural practices which the Shira society shares closely with the larger Hausa society be discerned through material culture?

- Do the material remains from the sites investigated in the Shira town reflect local cultural responses to similar challenges? For example could influences from the Bornu Empire or Hausaland be discerned in the archaeological record?
- How old are the abandoned sites in the Shira town, and does the age tally with the oral historical record, which claims it is of great antiquity?
- What factors affected the location, spacing, and subsequent use and abandonment of sites in the Shira region? Among the many variables responsible for the choice of settlement location, which are those that most inform the settlement structure and the nature of the cultural landscape?

At its most fundamental, this research into a scarcely known territory combines existing historical information and archaeological data to establish a cultural sequence and provide chronological data. Research objectives were designed around three principal lines of evidence: material culture, ethnography, oral and documentary evidence. The specific objectives included:

- To carry out a systematic survey to identify the spatial distribution of artefacts that will reveal settlement usage and patterns in this region.
- To generate a database of archaeological occurrences within the survey region, georeferenced using a handheld GPS (Global Positioning System).
- To conduct archaeological excavation by sampling different sites in order to establish a chronological sequence for the region.
- To obtain from stratified contexts, materials suitable for chronometric dating and cultural materials (largely ceramics) for analysis.
- To establish a set of comparative material through historical and ethnographic assessment that will suggest a broader understanding of the archaeological data from the region of study.

1.6 Theoretical framework

Having discussed the fundamental nature of the research project, this section positions it within a theoretical framework. As has been explained, a basic aim of this research is to understand the past through the material culture created and used by the people who once inhabited this region. This is done through the combined use of archaeological data,

which in this case includes the past cultural landscape (the finds and features in the abandoned sites); historical documents (and oral historical accounts); and ethno-archaeological data.

The research draws on Igor Kopytoff's 1987 notion of the 'Internal African Frontier' and migration theory to help frame the investigation of the patterns and processes in site development that were identified across the Shira landscape. The Internal African Frontier model seeks to explain the processes by which historical events and new polities and societies take shape and how, eventually, these societies developed into political units (Kopytoff, 1987:11). Human movement is considered to be steered by two underlying forces, known as 'push' and 'pull' factors; repulsion causing people to move away from their original homeland and attraction pulling them towards favourable landscapes. Herbst (1990:183) categorized this act as 'primacy of exit' where people's reaction to unfavorable political and social conditions was commonly to change, or migrate, to establish new societies and set up their own social order along a tract of land that surrounds the established societies. These types of 'protest' migration create tracts of interstitial networks of thousands of small frontiers in the midst of what was, effectively an institutional vacuum. Kopytoff (1987:10) and Stahl (2001) note that migration was an inherent part of most African societies and many societies were shaped by migrating people, forging new types of socio-political systems, kinship and religions around the continent. In essence, migration theory explains the causes, processes and consequences of migration and places population mobility centre stage in the reconstruction of African past.

In Kopytoff's (1987) thesis, several 'pull' factors may intervene in the making of an African frontier. Some of these include movement into favourable frontiers where migrants are often kin with a common cultural background, and what is described as the first comers versus the late-comers. It is said that 'push' factors such as expulsion from the society, oppression from authority, dissatisfaction with the ruling authority, political or dynastic struggle, and military defeat usually makes the aggrieved split off from the existing society and start to occupy 'open spaces' or, interstice spaces (Kopytoff, 1987:8). Since the publication of Kopytoff's book, *The African Frontier: The Reproduction of Traditional African Societies*, there have been a small number of case studies, establishing how the concept of the internal frontier model can be utilized. A common

trajectory in the different studies is the similarity in settlement origins and development which repeatedly brought to the fore the influence of raiding, feuding and warfare for abandonment and population movement to frontier or peripheral regions (MacEachern, 2002, MacEachern, 2001, Ogundiran, 2002c, Ogundiran, 2002a, Patton Jr, 1987, Patton Jr, 1981, Robertshaw, 1994). Ibriszimow et al. (2006) suggest that past inhabitants tend to seek sites that offer security and food. This can be seen in the choice of sites on high and flat-topped hills which offer secure heights - like the Mandara mountains - or depressions and wide valleys or forested regions - like the Gongola river - where game (for hunting), grasses (grazing), abundant water supply (for drinking, fishing), could all offer both refuge and defence. This state of uncertainty according to (Baba, 1997) has led to the migration from the danger zone into the 'peaceful' landscape. This type of environment makes it easy for people to move in and out safely and unseen when faced with serious dangers. Given this assumption that there was constants movement of people, it is expected that these changes would have left physical traces in the archaeological record, such evidence of new imported materials such as pottery, beads or possibly glass substance which may not have been available in the earlier archaeological record. Accordingly, the archaeological investigation will seek to provide such a spatial or temporal datasets for testing these possible scenarios.

In contemplating these different interrelated issues, an attempt is made here to find the extent to which all these issues are reflected in the archaeology and material culture of Shira. It is expected that the material cultures should point to the experiences and interaction of these different groups, which ultimately will lead to a development of a different identity.

1.7 Structure of the thesis

The thesis is structured into eight chapters. A full list of artefacts and samples recovered during the fieldwork conducted in Shira is also provided in the appendices.

Chapter Two: The Shira region: Geography and Historical Background

This chapter is divided into two sections. The first part deals with the geography of the Shira area, followed by a survey of oral and historical documents concerning the past of

this region. It concentrates on assessing the contemporary environment to understand the perspectives and behaviour of the present inhabitants towards it. This is considered important when interpreting material culture, as the environment is vital to daily human activities and as it continuously changes and humans adapt to these changes. This ecological diversity is of interest to our understanding of the nature of inventions, changes, and complexity in the cultural and demographic history of the settlement

The second part of this chapter explores the historical origin as well as the migration history of the various population groups that ventured into Shira. A chronological framework is outlined to allow for a review of the population groups and the significance of the roles they played in the development of the region. The chapter discusses in detail the migration history of the Shirawa (the people of Shira), who met other autochthonous groups already settled in the area and the subsequent historical transformation that culminated with the arrival of Fulani. This information was drawn from written documents, oral interviews, archives and library research. A review of the published works and the colonial records in the Nigerian National Archives in Kaduna (NAK) indicates a close similarity with the oral historical accounts collected in Shira (Giade, 2011). The interviews conducted among present inhabitants mainly concentrated on the migration history of the first inhabitants of the region. There is a need to document oral historical accounts as traditional leaders, elders and so on, pass away without transmitting traditional knowledge to the next generation, and most of the younger generation no longer see the importance of these traditions. Moreover, as already pointed out, in contrast to the Hausa regions to the south and Bornu to the east, whose history have been well documented, most of the aspects of Shira histories were yet to be researched and documented.

Chapter Three: Ethnographic Investigation

The chapter outlines several numbers of principal local crafts and industries flourishing in Shira at the time of this research. These data, along with the archaeological remains from the abandoned sites, are considered in terms of their comparative potential. The chapter examines ethnographic materials analogous to those found in the archaeological records. The chapter deals specifically with the production of certain crafts and their exchange within the society through ethnography and participant observation. It was observed that

goods produced are sold within a market economy. Other daily activities, such as agriculture, carving and architecture were also researched and documented. This showcases valuable information as to how the society utilizes its environment. The data generated by this research provides background information regarding the formal organisation of crafts and economies, but most importantly, it provides the research with modern analogies that can be used in interpreting cultural remains (Lavachery, 2010). The chapter also considers the character of a typical society in this region, starting with the household, which is considered to be the basic unit of social and economic development. The role a family unit plays is explored in an attempt to reach an understanding of the various ways in which technological traditions are preserved and passed on.

Chapter Four: Archaeological Survey and Mapping of Shira Sites

This chapter is a report of the surveys carried out by the present author, the first systematic surveys ever carried out in Shira. The chapter begins with the constraints of the surveys as well as methodological approaches and the sampling strategies. Also included are survey sites selected for intensive investigation which eventually led to the excavation of some of them. The survey covered 16km^2 on foot during twelve weeks. This area encompasses plains, hills, slopes and abandoned sites. Each site was documented, features photographed, and surface artefacts collected. Artefacts collected consist mainly of metal and clay objects that have a diameter of 25mm and above, while cultural features such as modified bedrock, grinding hollows, house foundations, defensive walls and dyeing sites were photographed and their locations captured with a hand-held GPS.

Chapter Five: The Excavations

This chapter provides a detailed description of the areas selected for excavation, the methods used, the depositional sequences and a summary of the archaeological materials recovered. The excavation was the first of its kind in the entire northern Bauchi region and one of its main goals was to establish a chronological sequence. The methodology employed in the excavation as well as samples of material finds recovered is discussed. The chapter deals individually with the five abandoned sites investigated in detail. These

are two plains sites, Jagindi and Gandu Shira; two hilltop sites, Jarkuka and Rumfar Tukwane; and a rock shelter, Rumfar Bango. In total, nine trenches, of which five were of 2m x 2m units and four, all in Rumfar Bango, were 1m x 1m test pits, were excavated. Each unit was excavated to sterile.

Chapter Six: Classification and Typology of Potsherds

This chapter is concerned with the classification and analysis of the pottery sherds recovered during the archaeological survey and excavation in Shira. The sample represents the first collection of any size from the area and thus offers crucial information on past material culture. The classification and analysis of the pottery were based primarily on vessel attributes such as fabric, decoration and forms.

The chapter begins with a presentation of the artefactual classification used in the field, defining each vessel part. The preliminary classification and description of the material remains were executed in Shira and at Ahmadu Bello University, Zaria. Following this, all undecorated body sherds were left in Nigeria while other artefacts, with the exception of large lithic objects, were brought to the United Kingdom for further analysis. The analysis also adopted a database format developed by Dr. Anne Haour for the analysis of ceramics from the Niger River Valley at the border between Bénin and Niger. Generally, the chapter follows the standard ceramic analysis references from the work of (Effah-Gyamfi, 1981a, Haour, 2003a, McIntosh, 1995, Mayor, 2011, Haour et al., 2010).

Chapter Seven: Analysis of Small and Other Finds

This chapter presents a descriptive analysis of finds other than pottery sherds from Shira. This includes objects made of metal, stone, and other materials, as well as faunal and animal remains. Each class of find is treated separately and their relationship to one another is then jointly explained in the next chapter.

Chapter Eight: Summary and Conclusions

This chapter summarizes the key findings in relation to the questions asked at the outset of the thesis. The conclusions are drawn based on the theoretical insights as well as the

results of the fieldwork. The chapter also reflects on the findings and makes final recommendations for future research.

1.8 Conclusion

This introductory chapter has briefly acquainted us with the history of the region under study, as well as its relationship to the neighbouring Hausa and Kanem-Borno kingdoms. The chapter defined the research aims and objectives and provided a background to the purpose of the investigation. While the historical and linguistic cultures of the Shira region are well known, archaeological data have gone largely undocumented and this research sets out to redress this. One significant thing is that Shira has served as a frontier or border region lying at the edge of the Kanem-Borno and Hausa polities. Much has been written about the history and culture of these regions, but very little is known about the intermediate regions and the societies that occupied this space at the margins.This thesis is an attempt to redress this situation, taking as a theoretical framework Kopytoff's model of the internal African frontier.

Chapter Two : The Shira Region: Geography and Historical Background

2.1 Introduction

This chapter presents and discusses the environmental and historical framework that determined, if not conditioned, the development of the society under study. In terms of its past and topography, the region has stood apart from other neighbouring settlements. Though not located on high plains, the region, which comprises an area of 1,321 km^2, is interspersed with broken granite hills, with some reaching a height of between 350m to 621m (Falconer, 1911b, Bowden and Kinnaird, 1984, Rahaman et al., 1984, Anderson, 1994). The hills not only serve as a basis for understanding the histories of this region, but also help to contextualise its nature and peopling. The hills are also prominently associated to the histories of the region, particularly with wars with the autochthonous group in the 19^{th} century. The past remains of these populations can still be found on the tops of many of the Shira hills, as will be seen in Chapter 4.

The present chapter is divided into two parts. The first will examine the socio-economic impact of the local environment on the people's livelihoods by looking at the general geography of the wider region. The section will discuss the environment within the context of the wider geographical setting of northern Nigeria and West Africa in general. Although there is a paucity of data on Shira specifically, there are data available from the broader northeastern region of Nigeria within which Shira sits, so it is possible to discuss some of the fundamental features of the environment prevailing in Shira. The chapter will therefore try to look at the relationship between the society and its environment.

The word 'environment' is difficult to define and it has been conceived in many ways in archaeological interpretations, often taking on different meanings, depending on the objective of the research, deliberations often focusing on human action to a primary

factor in the understanding of society and social change (Davies, 2013:3-4). In this chapter, the environment is perceived as the physical features, climate, ecology and other related characteristics that have influenced and shaped the economic, social and political activities in the region of study through continuous change over the years. It is well-acknowledged that any environment inhabited by humans, from the landscape to the smallest items of material culture, provides a basis for better understanding of how the inhabitants discern their environment and how they use it to shape the prevailing cultural perceptions in their society. It is implied that the interaction between humans and the environment leads to many cultural developments (Altman and Chemers, 1984, Davis and Soeftestad, 1995, Andah, 2002, Butzer, 2008, Kipuri, 2009, Davies, 2013).

The second part of the chapter will outline the historical evidence that has a bearing on the region under study. The section will reflect on the different kinds of literature and oral historical sources available to us. Other relevant data concerning the nature of the current enquiry, the development of the society and its interactions with other polities within the wider geographical landscape will also be examined. Mainly, the section is an overview of presumed population movements in the period AD 1200 - 1900 and the socio-political complexity that led to the development of the Shira society, using a combination of oral historical data and written documents. An attempt has been made to take into account all relevant published data on the settlement.

2.2 General environmental background

2.2.1 Climate

The wider northeastern region of Nigeria is considered to have a semi-tropical climate with temperatures ranging from as low as 6 to 14° Celsius (at night/day) during the Harmattan season, to as high as 45° Celsius between March and April during the hot dry season (Udo, 1970). The climate is essentially hot, with the rainy season varying in length from five months to barely three months in a year. Accordingly, there are two recognised seasons in the region, the wet and the dry seasons, the latter termed as Harmattan (Udo, 1970, Oriola and Hammed, 2012, Olusina and Odumade, 2012). The rain typically begins lightly with showers in April, though in recent years the rains have been starting noticeably late in May and ending in September (Ward et al., 1999:119, Kowal and Knabe, 1972, Nnoli, 2004), occasionally lasting up to October (Sanni et al., 2012,

Odjugo, 2006, Oguntunde et al., 2011, Adefolalu, 1986). Generally, the mean annual rainfall for the wider northeast region is the same and does decrease with distance from the coastal areas of the southern Nigeria to the semi-arid lands of northern parts. For Shira area, the annual rainfall pattern as broadly documented in (Figure 2.1) is within 762-1016mm.

Generally, this unpredictability in rainfall is a cause for concern for the farming communities in Hausaland as it affects crop production, on which the majority of the inhabitants depend for their sustenance. In the event that the rains fall late in the year, the crops do not have time to ripen and the harvest is inadequate and scarce. Similarly, excessive or heavy rainfall also affects crop production as it can lead to crops being waterlogged, as happened during the flood of 2012 which affected 30 of the 36 states in Nigeria, when over two million people were displaced and many farmlands were washed away between July and November (Thisday Newspaper, August 2, 2015:7). In either of these situations, the inhabitants are called out by a town crier for communal prayers and processions. The prayer for rain (*istisqā*) is a common feature of Hausa communities. The prayers in Shira are usually followed by a procession, with men, old women and children, chanting supplications as they move through the settlement, to implore God to intervene in the situation. Some local customs associated with the above activity include examining the communal cemetery for any opened graves. Opened graves are considered to be one of the causes of climate inconsistencies. Most often at the start of the rainy season, cemeteries are repaired, grass is cut and graves restored. Other local customs, which are no longer practiced, include breaking and removing of bird's nests and forbidding potters from the firing of vessels until the rainy season has steadied (Aliyu Said Gamawa pers. comm. June 2013).

Apart from the two conventional climatic divisions, the inhabitants of Shira, as in other areas of *kasar* Hausa, have recognised three other atmospheric conditions. These conditions are distinguished from the accepted season by subtle changes in atmospheric temperature as observed by the inhabitants. These climatic fluctuations are barely noticeable and may be as minute as changes in wind direction or the behaviour of some animals or plant species. For example, the arrival of the bird *Shamuwa* (Abdim's Stork/white-bellied Stork, *Ciconia abdimii*) in the region is an indication of the coming of annual rains (Nnoli, 2006, Giade, 2011). These 'signs' of seasonal change are developed not only through observations of the local weather, but also through experiences passed

down to later generations by elders through oral tradition (Nnoli, 2006:32, Sanni et al., 2012, Kipuri, 2009:52-64).

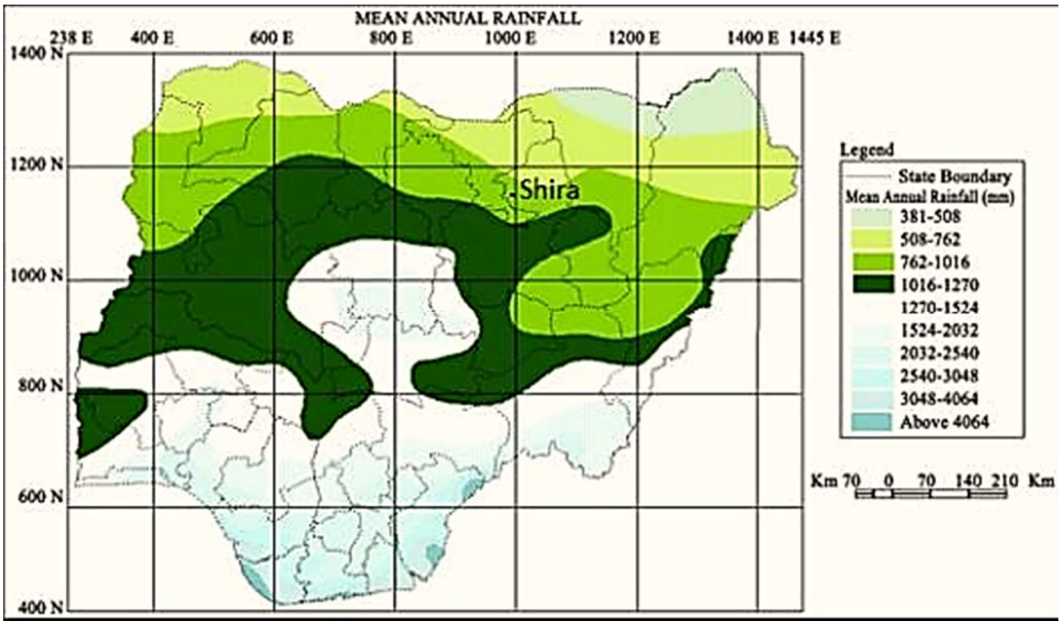


Figure 2.1: Mean annual rainfall patterns in Nigeria (adapted from Ishaku et al., 2012:956).

The five climatic seasons recognised by the inhabitants are as follows;

i. *Damina* (wet/rainy season) – This is the dampest period of the year from mid-April to the third week in August and sometimes lasting up to September/October (Udo, 1970, Nnoli, 1996). The onset of this period is characterised by a continuous heat wave and changes in wind direction from west to east. The people recognise the onset of this season by the flowering of some plant species like papaya (*Asimina triloba; gwanda*), baobab *(Adansonia digitata; kuka*) and tamarind *(Tamarindus indica; tsamiya*) (Nnoli, 2006, Sanni et al., 2012).

ii. *Kaka'a* (the harvest season) – This is the period from the cessation of rain in September to the commencement of the Harmattan in November when all rain fed crops are harvested (Nnoli, 2006, Nnoli, 1996). The *kaka'a* season starts with the harvesting of groundnuts *(Arachis hypogaea; gyada*).

iii. *Hunturu/Sanyi* (Harmattan season) - This is the coldest time of the year. It starts during the month of November and lasts until February (Udo, 1970). The period

is associated with a cold, dry wind that blows from the Sahara desert of north Africa from November to March of the following year (Utah et al., 2006). This climatic condition affects all of west Africa where visibility; can be reduced to a few hundred yards due to dust particles (Robson, 2000).

iv. *Rani* (dry season) – This is start of the off-farm period, when all agricultural activity is carried out in settlements on the river embankment (Johnson, 1967). The period is relatively brief and very humid falling between February and March. Its starts with the harvesting of the cotton (a*uduga* - Genus *Gossypium*) and lasts until the time of *bazara* (just before the rainy season begins). The phase is the hottest period of the year across the northern region. The atmosphere during this period is characterised by windy, hot dry air (Nnoli, 2006) with early mornings typified by cool dry air and evenings characterised by high temperatures.

v. *Bazara* (hot season) – This period is hot and dry. It begins from mid-February or March and ends when the rainy season (*Damina)* starts in April (Udo, 1970). The season is associated with high temperatures, with mean temperatures ranging between 30.10-37.70ºC in April (BSADP, 1995, BSADP, 1994). Agricultural activities during this season include clearing/burning of roots from the last farming season (upland) and bringing manure from the homestead to the farms (Nnoli, 2006, Sanni et al., 2012).

These climatic variations largely reflect how the inhabitants of Shira organise their daily activities. The short wet season for example, has been noted to be the busiest time of the year for the people due to farming activities, with the amount and distribution of rainfall as well as the length of the season determining the regularity of these activities. The dry season, though less busy, is far from idle, as it is characterised by different kinds of economic activities, such as weaving (*saka*), thatching, pottery, hunting and mat making, all of which are pursued to augment the rain fed harvest (Smith, 1959, Hill, 1972).

2.2.2 Vegetation

The vegetation in Shira is essentially that of the open savanna vegetation which (Keay, 1949:25) described as ‘very distinct geographical region typified as much by its climate

and vegetation as by its people' (see Figure 2.2 for Shira landscape). Thorny acacias and mostly low ranged grasses characterize this type of vegetation, with some reaching up to 3.5m or more in height (Kowal and Knabe, 1972, Keay, 1949, Omotesho et al., 2012:283). Much of the natural vegetation of the area has been lost due to agricultural activities and habitation. Despite the sparse nature of the vegetation, more than 121 useful plants and tree species are recognised in the region of northeastern Nigeria and are found to have ample uses ranging from medicinal, animal feed, construction, fuel wood and human food (Harrison, 1987, Von Maydell, 1986, Abdulrashid and Rabi'u, 2013). Other sets of data provided by Allsworth-Jones (1986), Adams and Mortimore (2005) and Blench and Dendo (2007) support the importance of the vegetation to almost every sector of the rural economy, especially in the northern parts of Nigeria.

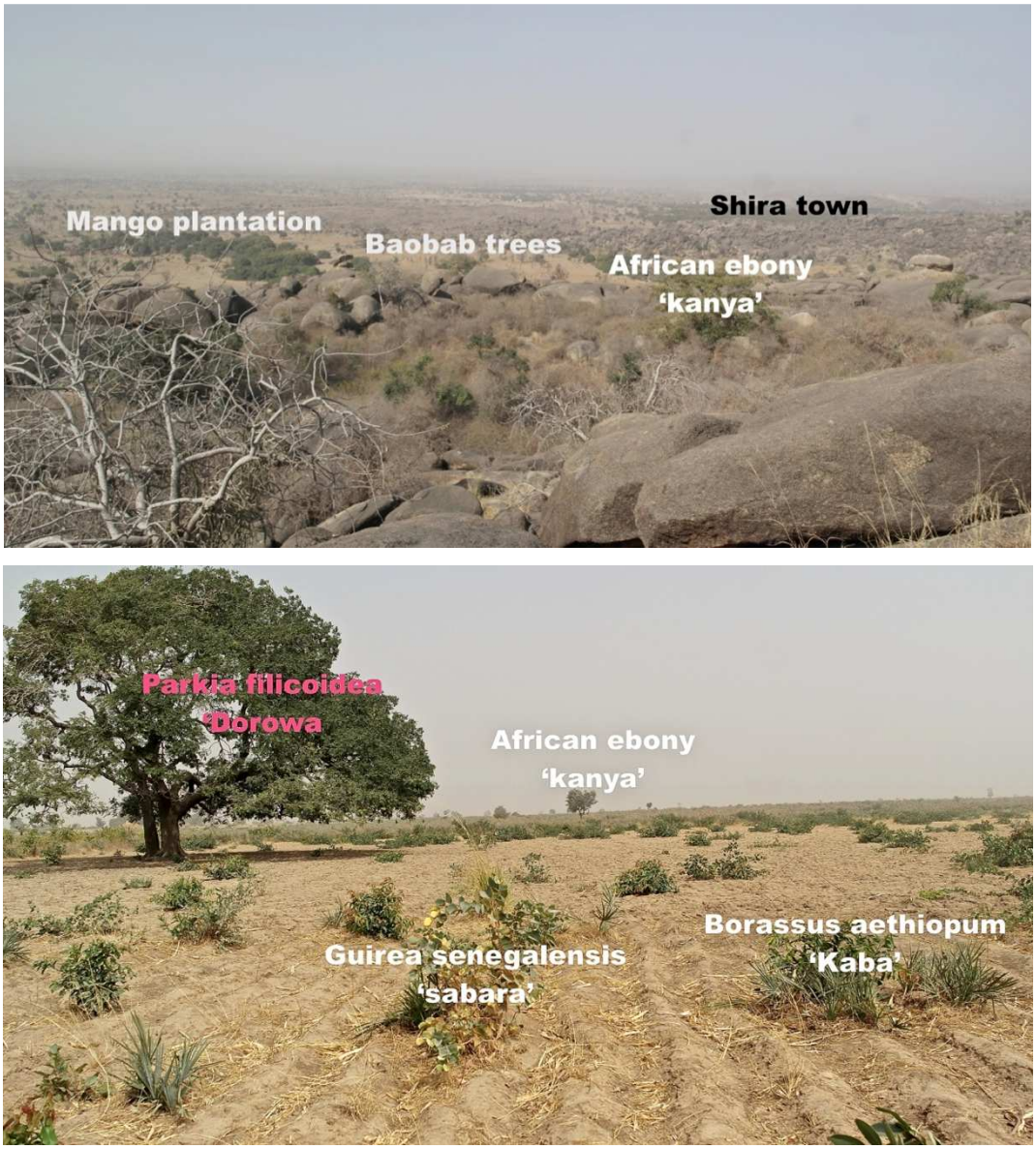


Figure 2.2: Shira landscape.

Other than medicinal functions, many of these tree and plant species are exploited for their economic value or utilised for food and/or fuel (Deeni and Sadiq, 2002). In many instances all parts of the plant and tree including the bark, roots, branches, leaves, seeds, and pods are used, as in the case of the baobab (*kuka - Adansonia digitata*). The black plum (*Dinya -Vitex domiana*) for example, provides both edible fruits and leaves. The Sudan/African mahogany (*Madaci - Khaya senegalensis*) is a suitable hardwood for cabinet working. Trees like the African ebony (*Kanya - Diospyros mespiliformis*) and the tamarind (*Tsamiya - Tamarindus indica*) provide edible fruits. Moringa (*Zogale Moringa oleifera*) is exploited as a food source with roughly every part of the tree used for either food or medicine. Other trees such as the African birch (*Marke - Anogeissus Leiocarpus*) are popular for fuelwood. Leguminous trees such as the *Bagaruwa* (*Acacia nilotica)*, *Dushe* (*Acacia seyal)* and *Gawo* (*Acacia albida*) are generally used as livestock fodder and fuelwood, while trees such as Mahogany (*Madaci-Khaya segalensis)* is medicinal also provides fodder in the dry season. The bark of the *Madaci* tree is taken orally as a broad spectrum antimicrobial agent as well as for the treatment of snake bites. (Doelle et al., 2009:215, De and Gabriel, 2004:28)

2.2.3 Geology

The geological base of Shira has been well studied (Bennett, 1981, Rahaman et al., 1984, Bowden et al., 1979, Woolley, 2001, Anderson, 1994). According to the above scholars, the base belongs to the crystalline basement of the West African craton (Rocci et al., 1991). The most distinctive features are the three exposed hill complexes, comprising one main ridge and two smaller secondary ridges covering an estimated 152 km^2 with the main ridge, *Sarkin na Dutse* culminating at a height of 633.37m above sea level. The two smaller or secondary ridges are less exposed than the main ridge. The composition of the rock ranges from quartz syenite to granite, with the central portion of the hill mostly composed of biotite granite (Bennett, 1981, Rahaman et al., 1984, Woolley, 2001:233, Van Breemen et al., 1977). See Figure 2.3 for the geological base of Nigeria.

The Shira hill complex is an important part of the human geography and history of the area. The hills have not only served as a natural fortification for the past inhabitants but also as refuge. It is on these hills, ridges and foothills that many of the early occupied sites (now abandoned) are located (see Chapter 4). Of economic advantage, the hills and

rocks constitute additional sources of revenue to the people through stone mining and quarrying. The rocks are mined using simple implements such as shovels and diggers, while the industrial companies stationed in Shira use heavy machinery for drilling and crushing the quartz/gravel into granite chips, sold as raw material for building and construction. The environment on the hills and surroundings also provides timber/wood and grazing grasses. While the inhabitants utilise many of the trees that grow on the hills for fuel, as well as building/construction, the grasses that grow on the lower part of the hills are for grazing or are cut and taken home for their animals.

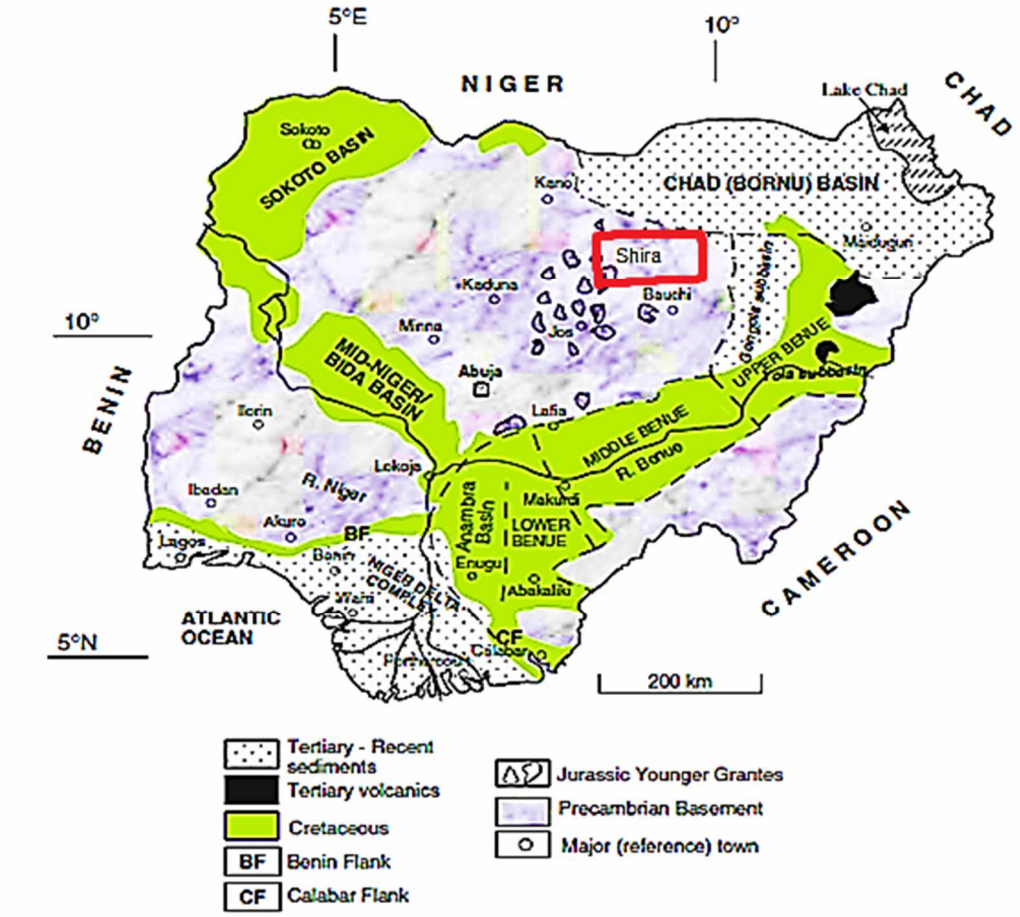


Figure 2.3: Geological map of Nigeria showing the study area (after Obaje, 2009).

In addition, on many of the smaller hills and in particular on the southern part of the highest hill, *Sarki na dutse*, there are many water holes and small springs coming out of the ground. The inhabitants claim that this water contains healing properties, capable of curing a wide range of ailments (Baba Wakili Shira, pers. comm. 2013). Specifically, one of the water holes called *ruwan kirci* on *Sarki na Dutse* is popular for curing skin related infections. Although the veracity of this claim has not been scientifically tested, the water

is claimed to be a ‘working miracle’ and a cure all for all diseases (Mannir Shehu, pers. comm. 2011). The water from any of the waterholes can be accessed at any time, except on Fridays. It is claimed that there is a giant snake that guards the entrance into the underground cave where the water can be collected. There is another claim that water is veiled in white clothes and is invisible to the eye on this particular day. This tradition is vaguely similar to the popular Bayajidda legend, which deals with the founding of Daura, which is traditionally the oldest city of Hausaland, and by extension the history of the establishment of Hausa states by foreign immigrants (Lange, 2012:138, Gronenborn et al., 2012:259). According to Hallam (1966:57-58) the association of snakes and water in Hausa society has to do with a pre-Islamic belief system and probably the scarcity of the water supply in the founding society.

2.2.4 Soil

With regard to the distribution and origin of soil, relatively few soil studies have been conducted in Shira. The soil texture in the area is considered to be stony arising from the basement complex (BSADP, 1994). Studies are of the opinion that this is as a result of complex inter-relationships between several factors, among which is geology (parent material), climate, geomorphology and hydrology (Udo, 1970, Connah, 1981). In essence, it is simply the weathering of rock minerals such as feldspars, quartz and biotite which gives rise to soil such as clay, kaolinite, mica and other types of mineral soil. However, the soil in the northeastern region of Nigeria is categorized as free draining sandy loam that is a moderately deep reddish brown, or brown soil of the semi-arid and arid regions (d'Hoore, 1964 cited Harris, 1999). In terms of agriculture, these soils are considered relatively poor, but is improved through the increased use of animal manure or village refuse (Harris, 1999:277).

Investigating soil in archaeology is important as it not only physically supports humans and their endeavours, but also it affects the nature of the cultural record left by the past. A record of soil and sediment deposits determines whether a landscape was stable at various times in the past or not (Wilkinson and Stevens, 2003). In Shira, the exploitation of soil is limited to agriculture, building construction and pottery. For building, the local lateritic soil *jar kasa* is mixed with other organic materials (grasses, animal feed, manure etc.) for several days to mature before being formed into blocks or *tubali* for construction. There is also the commercial exploration of clay deposits in some of the potting communities in

the Faggo, Yakasai and Malori settlements. These settlements have extensive deposits of good clay linked to the Hadejia-Jama'are river basin, although such deposits do occur in some inland potting communities as in Garande in the Giade local government area (See Chapter 3).

2.2.5 Drainage and water resources

The main source of water in Shira is groundwater, used mainly for domestic activities while rainwater is utilised for farming activities. There are no permanent rivers or streams, but the area is well watered during the rainy season by streams and small rivers that dry up weeks after the rainy season (Fremantle, 1911, Low, 1972). The whole region drains into the Hadejia-Jama'are-Nguru river Basin which originates from the Dilmi area in the Jos Plateau (see Figure 2.4). Key rivers *rafi* and streams such Hadejia-Jama'are rivers as well as the Misau rivers serve as a means of irrigation to farmers and as a source of food (fishery) to the area through which it flows.

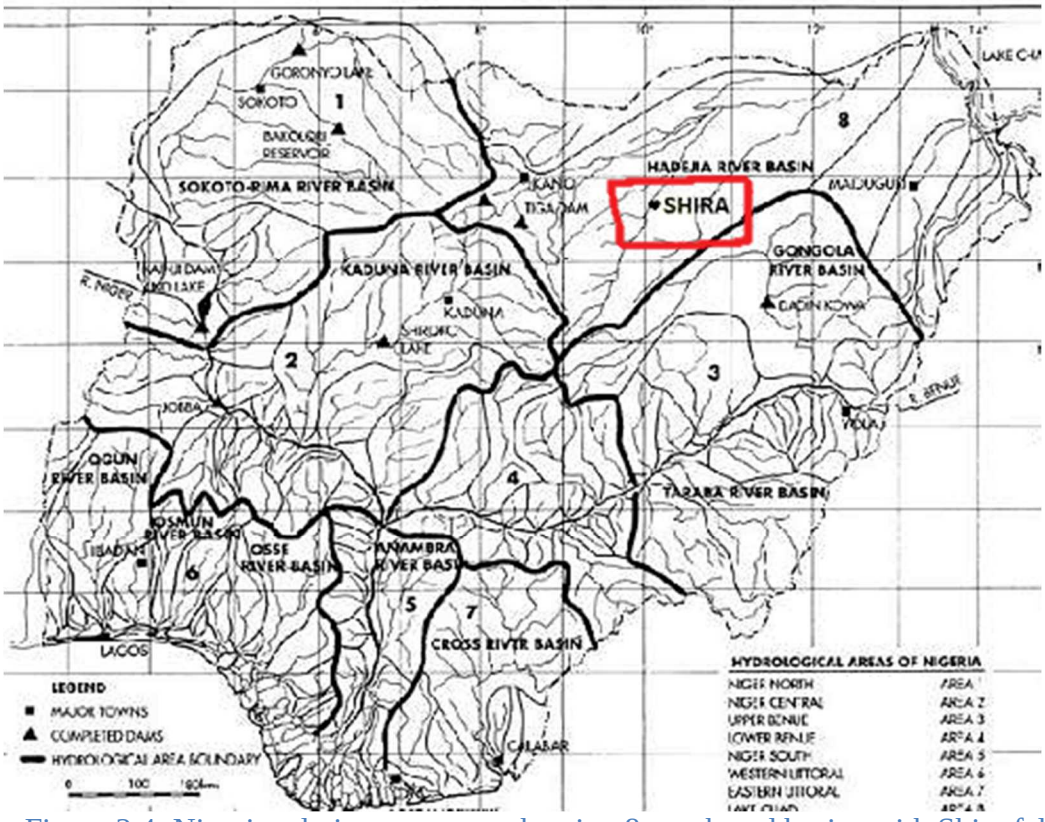


Figure 2.4: Nigerian drainage system showing 8 numbered basins with Shira falling into 'group 8' which is the Lake Chad Basic
(adapted from http://www.fao.org/docrep/005/t1230e/t1230e02.html).

2.3 General historical background

The early history and cultures of many of the societies that lie between the Kanem-Borno Empire and Hausaland have been actively documented by Europeans, colonial officials and missionaries. With regard to Shira, much of the knowledge available on its past is derived from oral accounts, which were collected from the beginning of the European exploration and colonisation of the societies around this region. The only implication of this is that this history is recorded through the 'eye of the stranger' with different cultures and traditions. This is not to say that the studies are irrelevant, but rather that many of the interpretations and possibly suggestions may not be unbiased or 'the standard reflections' in the local African context. The section below outlines the relevant literatures on the history of the different population groups that settled in the region. The section also makes use of the oral historical accounts collected during this doctoral research from the current inhabitants of Shira and surrounding settlements, building on data acquired during the author's previous research periods (from 2007 onwards).

The section outlined the historical phases according to the local scheme, which habitually breakdown the past into a timeline based mainly on the nature of the happenings/occurence in the society, for example, the pre-Jihad era is usually discussed as *zamanin Habe* ('time of the Habe') while the period ca. 1800-1900 is often referred to as zamanin *Fulani'* (Low, 1972:48), and *zamanin Turawa* means the colonial period of the 20th century. It is common practice among the society in northern areas of Nigeria to separate their history into similar categories as above. The following research therefore adopted a similar pattern as will be noted below. It organised the earliest period in the settlement history into three phases (Habe, Shira and Fulani) constructed from population movements into the area. In so doing, the investigation is able to outline the different movements of people, warfare and the different accounts of the settlement history, the majority of which have already been recorded.

2.3.1 The Habe/pre-Islamic period

This is the period before the Fulani were established or and before the coming of Islam into the Shira area. The period was characterised by two waves of migrations; the first wave concerned the arrival of the Karawa, whose main settlement is said to have been on a hill, at the Jarkuka site. Little is known about these people from written records and

their abandoned site holds very few features of archaeological interest. The only record of the existence of this group is contained in the colonial file of the British at the National Archives Kaduna (NAK), which has already been reproduced by Bross (1997:4). The accounts states:

> "The earliest inhabitants now known of to any extent were a race called Karawa whose chief town was on top of the east rock at Shira. Nothing is known of their origin but faint traces can still be seen of huts, which appear to have been circular and built of stone and mud. This was the race found when the Shirawa arrived. There is a vague tradition that four villages existed near Shira before the Karawa but nothing is known." (Bauprof 690, 1929-32).

Beyond these brief accounts, the file only states that the group was probably of Berber stock that had migrated into the region centuries before the arrival of the next group, which will be discussed below. There is another vague tradition, which states the possibility of this group being the remnants of the extinct Sao or *Samudawa* people (Low, 1972, see Migeod, 1923; for information on the Soa population).

With regard to the existence of four villages near Shira before the Karawa noted above, preliminary investigations indicate that these villages may have been occupied by another population group; the Karai-karai, a group currently inhabiting the Yobe province, which lies 50km southeast of the Shira town (Darling, 2004, Adamu, 1993). A map provided by Low (1972) shows 'Keri-Keri' as being split between Katagum, Misau and Fika emirate with their capital at Potiskum, in present day Yobe State. From the historical and linguistics evidence, it is gathered that these population group had once occupied this region (Adamu, 1993, Baba, 1997).

Additionally, existing historical evidence also points to another tradition which claims that 'their centre of traditional worship is at Gwaram near Shira, where some enigmatic rock paintings echo associations with long-forgotten traditions' (Darling, 2004:92). This is further supported by the result of the archaeological survey, which is discussed in Chapter 4, during which numerous rock painting sites were documented. The investigation may also have discovered the worship ground mentioned in a tradition cited by Darling (2004). Indeed, according to the tradition, it is alleged that a site named

'Majjiya', located less than 2km northwest of Jarkuka hill (see Chapter 4 for the location and discussion on this abandoned site), might have been the place of worship of this population group (Nasiru Yarka pers. comm. August 2013). The site consists of a large monolith known as *Majjiya* located on *Sarki na dutse* hill which gives off a smoke-like haze, referred to as *hayaki*, as the sun rises every morning (Figure 4.8). Although the object is no longer worshipped, it is seen to forecast the weather for the current inhabitants. It is alleged by the local inhabitants that when the top of the hilltop is completely covered by rain cloud and is invisible to the naked eye, it will rain (Mannir Shehu pers. comm. August 2013). When the hilltop is however visible, no matter how dark the cloud is on that day, the people believe that so long as the cloud does not completely cover the monolith, the rain will not fall.

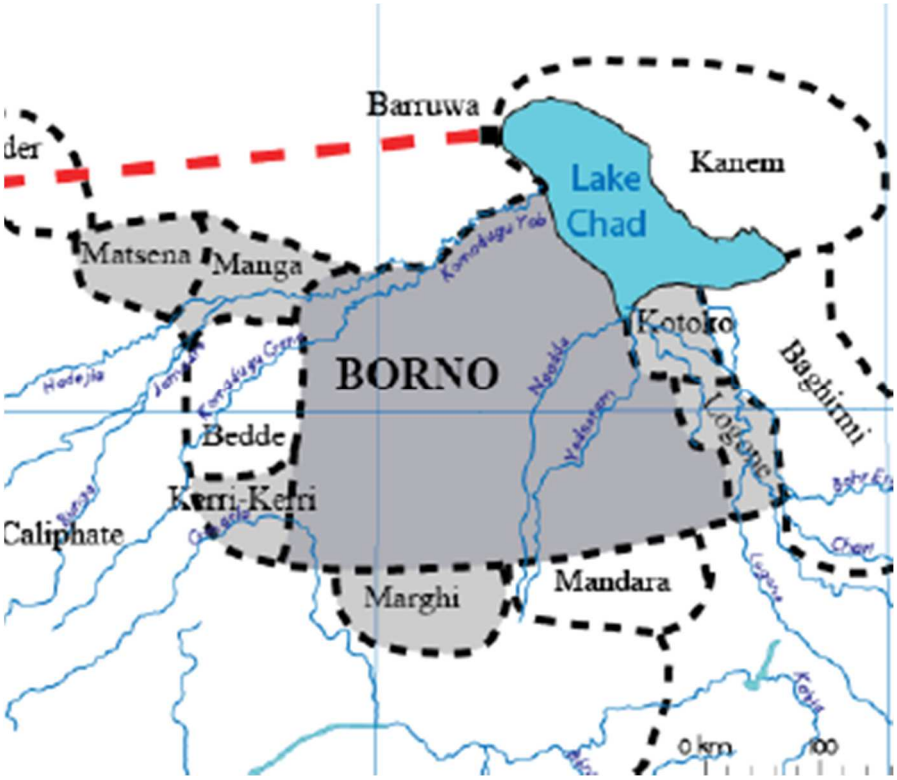


Figure 2.5: The Bornu Region in 1890 with places mentioned in Shira history (adapted from Hiribarren, 2012:111).

So far, no definite sites have been associated with this population group and the location of the four villages is yet to be discovered, but it is alleged that many of the abandoned sites located on the hills belong to this group and might provide evidence of the contact between the Karai-karai and other groups that cohabited here in the past. A description of Karai-karai settlements by Lieutenant Boyd in 1907 (cited in Falconer, 1911b) shows that the open northern plains are studded with numerous villages and hamlets clustered

together but seem to be practically independent and at peace or war with neighbours as circumstances may dictate.

2.3.2 The Shirawa period

The region under study received its name from this migrant group. There are many related versions concerning the arrival of the group into Shira. The earliest written tradition on the arrival of this group states that ‘three members of a Marghi tribe, by name Sheri, Teshe and Auweya, came and founded the towns which bear their name (Fremantle, 1911:299-300, Temple, 1922:32 & 475, Migeod, 1924:260, see also Low, 1972:103). The Marghi are a diverse group, composed of several groups currently occupying the western side of the Mandara Mountain and the region to the south and west of the Gamergu areas (Barkindo, 1989b:39, Tijani, 2010). In another tradition, Migeod (1924:262) states that the brothers (in some traditions, it is referred to as one brother and two sisters) Awuya, Teshe and Shiri were the offspring of a Bagirmi king who left the settlement because "the origin and family of [Awuya's] mother were not known [to the Bagirmi people]" and hence they would not allow Awuya to accede to the throne of his father. In yet another tradition documented in Temple (1922:32), the trio are variously described as Marghi, or as migrating from Bagirmi territory east of the Shari around 1211 AD.

Migration as a reaction to social conditions or unfavourable political situations was a common feature in pre-colonial Africa history and this was particularly common among the societies in this region. As Kopytoff (1987: 10) pointed out that the ability to migrate was an inherent comportment to African in pre-colonial times and that this is made possible as large tracts of land that were open politically or physically or both surrounded many established societies. This makes it relatively easy for immigrants wishing to leave the established societies to move into these internal African frontiers and set up their own social order in the midst of what was effectively an institutional vacuum.

In Shira, this seems to have manifested itself as shown above in the history of the Shirawa. This it is said that once ‘they’ were faced with adverse political conditions, it necessitated ‘them’ to relocated to a new land. The factor responsible was mainly a protest migrations against a more developed authority. It probably regarded that their leaving conditions would be better-off in new internal frontiers such as the Shira area

which was a vase land near the Hausa controlled regions and beyond the border of Bornu Empire. There is considerable debate amongst scholars concerning the date of the arrival of this population group in Shira. The date cited in the initial tradition is disputed. According to the historical accounts collected by Fremantle (1911), the group migrated into the settlement 997 years before the outbreak of the Jihad in Hausaland in 1804, suggesting that the group arrived in Shira AD 970. Some scholars dispute this, pointing out that the date is highly improbable and favouring dates from the 12th to the 14th centuries (Fremantle, 1911, Migeod, 1924, Temple, 1922). Although it cannot be proved at this stage of the investigation, one explanation proposed about the incursion of these new immigrants from, most probably the Bornu Empire, might be as a result of the demise of the Kanem Empire, when the Sayfawa started their conquest in readiness to build a second Empire, West of Lake Chad (Barkindo, 1989b:94). It is deduced that the incursion of the Shira people into the settlement perhaps started at a much later date than the stated AD 970, or at least during the time the Sayfawa Mais were trying to establish a new capital at Birni Gazargamo in the late 15th century. The period was characterised by struggles and conflicts among several of the smaller population groups in that region, notably between Marghi, Gamergu and Mandara Hausa state. The consolidation of Sayfawa power and influence in the 15th century highlighted this contact. The political condition in the Bornu kingdom from the 13th and 15th century may have consolidated the power of the Sayfawa and influenced the influx of people to the area.

There is historical evidence documenting several factors associated with the transformation linked to the expansionary quest of the Bornu Empire during that period. One adverse effect, at least to many of the societies occupying that region, was that of inter-tribal wars and security threats to much of the population. The nature of the landscape was such that, even centuries later, Fremantle (1911) notes that the hostilities with Bornu and along the border never ceased for long as constant raiding and counter raiding were looked upon as part of the natural order of things. Consequently, relationships vary between contending societies, depending recurrently on whether they were at peace or at war with their neighbours. Tijani (2010) notes that the state of affairs was such that many of the indigenous people were forced to either flee into inaccessible areas or to stand their ground and face the enemy. Thus, the impermanent nature of the landscape in that period meant that there were many modifications to settlements, which might have led to the emergence and development societies.

At this stage, the current research views the arrival of the Shira population group within the context of the above time perspective. This by no means implies that the settlement foundation did not start at a much earlier date, but rather the arrival of this particular population group into Shira did not extend as far back as the stated date of AD 970. Fremantle (1911:299) states that 'the settlement was first established on the hills above the present town' before most probably relocating the settlement east of hills. In one of the colonial records stored in NAK, Kaduna as well as in the British National Archives Library, there is an account describing the conditions for existence of the society at that point in time. It reads:

> "….. After living on friendly terms with the Karawa they finally enticed them to join in an attack (on Hardawa?) and having now got safely away from the hill then attacked them and wiped them out. The survivors on the top of the hill and neighbourhood were either captured or fled to what is now Itas District and the Eastern part of Gadau District where they became tributary to Shira." (Bauprof 690, 1929-32:Vol. 1).

After the displacement of the autochthonous groups, the two other siblings, Auyo and Teshena were said to have moved away, to establish settlements of the same name, of which one of the villages, Auyo, is located about 20km south west in present day Hadejia (LGA) in Kano State, while Teshena is still in the same socio-political unit in Katagum Local Government area of Bauchi State. The *Habe* dynasty, of which Shiraka was the first leader, had 71 leaders, the last of whom was named Kuna (Adamu, 1993), whose reign ended with the Fulani conquest of Shira in 1807.

2.3.3 The Fulani conquest

The migration of Fulani into Shira started long before the region was conquered in 1807 through the Jihad that began in Hausaland in 1804. The arrival of the Fulani in the settlement was not connected directly with the Jihad but rather with the grazing of their cattle on the grasses growing along the riverbanks in the Hadejia/Jama'are and Misau rivers. Patton Jr (1981:122) notes the favourable riverine natural environment along Hadejia, Jema'are, Katagum and Misau emirates, which he described as good for cattle grazing. In relation to the Fulani Jihad in Shira region, Stenning (1959:31) points out that

‘the aim of the Fulani in the Bornu vassal States of Shira, Auyo and Teshena was not so much (religious or) a direct attack on the Bornu kingdom but rather for the establishment of petty States on its ill-administered periphery of the Bornu kingdom. However, the arrival of the Fulani in Shira rejuvenated the spread of Islam in the region, as the new immigrants were the main Islamic clerics with ‘access to the latest ideas and books’ (Adeleke, 2014:106). The introduction of Islam to Shira is however credited to one Al-Maghili, an Arab from Algeria, who allegedly introduced the Islamic religion to Kano. It is claimed that Maghili first stopped in Shira from the Bornu kingdom before proceeding to Kano (Mannir Shehu pers. comm. 2010). A similar tradition was also documented by Fremantle (1911:301) stating that ‘the people began to accept Islam 700 years ago (13th century) receiving it from Mohamedu Mangili of Til misana, who came from the east, went on to Kano, and taught the Kanawa, in the time of Gekingako the 19th Sarki’. By 1450-1465 AD, Low (1972) states that there were about 1500 Muslims at Shira at the time of the Jihad (Census 1960). However, it should be noted that all this information is hypothetical as many of these early records on Islam in northern Nigeria were written after the event and tend to portray the spread of Islam as a straight forward success, which it was not. For more information on the Fulani or Sokoto Jihad (see Last, 1967, Johnson, 1967, Sa‘id, 1981).

The fall of the Shira region during the Jihad is credited to Mallam Ibrahim Zaki. Mallam Zaki as he is popularly known, was the son of Muhammadu Lawan, a well-known scholar/missionary doctor of Fellata Bornu-Shuwa Arab descent originally from the Baghirmi, who was the Imam of Shira. His family was influential in the little principality and he had been given a daughter of the Chief in marriage (Stenning, 1959:30-31, also cited in Johnson, 1967). He was a student of the Shehu, who had declared for, and joined, the Fulani in uprisings. Both Fremantle (1911:309) and Low (1972:114-117) give similar accounts on the demise of the ancient kingdom of Shira, Auyo and Teshena. Basically, the account states that Shira was conquered in 1807 by the Fulani, Malam Zara, who was a flag-bearer of the Shehu, who subsequently gave the town over to a famous teacher and military leader, Zakiyo Ibrahim of Yaiyu, better known as Malam Zaki (Schuh, 2001:397). Presumably, Mallam Ibrahim Zaki went to Shira, saw that Mallam Zara had taken the region and persuaded him to relinquish it (Fremantle, 1911:310). In another related narrative, it is said the Shehu bequeathed the region to Ibrahim Dabo (later emir of Kano), or alternatively, to a Mallam Zare (another, otherwise unidentified, flag-bearer in

the Jihad), who was by then in possession of Shira (Low, 1972:116). A third version of the account states that when Zaki embarked on the conquest of Shira, he camped just beyond the outer fortification and that Sarkin Shira (the chief of Shira) visited him in secret at his encampment and offered to pay the Muslim poll tax on conquered Habe (A. *jizya*; H. *jizi'a*) if the region was spared – an offer he accepted. The point to be emphasised is that, whatever the actual circumstances, even if Mallam Zaki made little contribution to the conquests of Shira, 'Shira became a vassal of Mallam Zaki ca. 1807 and within several years it was incorporated into the new emirate of Katagum' (ibid).

After this, it is said that the region witnessed a period of mass movement of people as clans who had lost the war abandoned it and fled with their leaders to become revolutionaries, such as those who established the Dambam settlement, who pride themselves on being the custodians of the Shira record consisting mainly of a list of kings and their activities, which went back a very long way (Fremantle, 1911:304). Unfortunately, most of these records were destroyed when the town fell to the Fulani around 1807, and the few that were taken away by the people of Dambam were found to have been obliterated by rain-water when the colonial officials called for the documents to write up the accounts of the reign of Sarkin Dambam Moma's on his death in 1883. The inhabitants of Dambam were preoccupied with recapturing their lost chiefdom and had succeeded twice in reinstating the pre-*Jihad* dynasty at Shira (Low, 1972:118-123, Hogben and Kirk-Greene, 1966:476) by establishing new settlements north of Shira, for example, Charai-charai and Itas-gadau settlements. The other inhabitants that stayed when the Fulani attacked Shira were believed to have been absorbed into the system.

Significantly, the arrival of the Fulani into the sociopolitical landscape of Shira brought many changes to the structure of the settlement. The period not only marked a turning point in the political history of Shira as it lost its independence, but also marked the relocation of Shira to its present site, which according to Fremantle (1911) was made after the fear caused by Shehu Laminu's invasion had subsided. The relocation was necessitated by the need to defend and protect the settlement from the increasing threat of hostilities from the wider region (Fremantle, 1911:308) as well as from slave raiders from Ningi enclaves (Patton Jr, 1975, Patton Jr, 1981). To choose the new location, Abdurrahmanu Zaki, who was the leader at that time, was said to have prayed for 40 days, after which he was given a vision offering a choice of two sites for relocation. It is

said that he favored the current location of Shira as it offered more safety to the inhabitants.

Twenty eight people are said to have ruled for a total of about 250 years under the Jihad period (Adamu, 1993). At the time this research was conducted, only the names of 22 rulers were collected (Giade, 2011). No female is said to have ruled in Shira, but there is an oral tradition that claimed that one of the daughters of a reigning chief, Maryamu, the daughter of Sarki Abdurrahman held the throne while her father travelled to Sokoto. This was said to have led to the erecting of the defensive wall at Gandu, also known as Kufayin Shira (one of the abandoned sites excavated in the course of this work). There are accounts of female leaders in Hausa, for example, according to the Zaria Chronicles, Queen Amina the eldest daughter of Bakwa Turunku, who founded the Zazzau Kingdom, ruled for 34 years at the turn of the 16th and 17th centuries (Gronenborn et al., 2012).

2.4 Principal documents on Shira

Documentary sources on the history of Shira are so scant and ambiguous and, until this research, lacking in independent confirmation, that questions are raised about whether they refer to Shira at all. These references consist of brief notes from oral narrations and contacts between Europeans and the people of the Sudano-Sahelian belt. These references, dating from late 15th century in some cases, consist of brief mentions of the region which were usually made in relation to other, larger established groups such as the Hausa kingdoms, particularly that of Kano which lies to its immediate west, as well as Bornu Empire and some autochthonous groups occupying the Bornu kingdom. Thereafter, the name of the settlement disappears until the early 18th century when the Europeans began documenting the history and settlements in the Sudan.

What follows below is a review of the existing written literature on Shira from the 15th century onwards. Early mentions are quite rare and much of the literature, as pointed out above, was written by European travellers, colonial officers and administrators during the 19th century as well as other contributions from scholars in the 20th century. These written works cut across all disciplines and like the tradition of origin discussed above, the principal source of documents on the settlement's past is examined from four basic data; Local chronicles, European and colonial officer's contributions, Independence and other independence studies.

2.4.1 Local chronicles

One of the earliest mentions of Shira region is in the "Kano Chronicle", where it states that Abdullahi Burja, the 16th Sarkin (ruler of) Kano, who ruled between 1438-1452, married the daughter of Sarkin Shirra alongside the daughter of Sarkin Dussi and Galadima Daudu (Low, 1972:104, Palmer, 1928). Abdullahi Burja was, according to the Kano Chronicle, the 16th ruler of the Hausa city-state of Kano and under him the region achieved great prosperity with the arrival of Wangarawa and *Turawa* (Palmer, 1928). The marriage has been given different reasons by scholars, with some of the opinion that it is was an act of subordination; others, however, suggested it was connected with trade or a peace pact, representing evidence of an alliance between the different settlements in the wider region (Barkindo, 1989a).

Kasar Shira was also one of the peripheral regions mentioned in the Bornu chronicles of Mai Idris Alauma written by Ahmad ibn Fartuwa (1576 - 78). The Book of the Kanem Wars (*K. ghazawat Kanei)* is a comprehensive tradition of origin of the inhabitants of Shira, where it is claimed that the Shira people are descendants of the family of Tuba'ul Awwal clan, who migrated from the east to settle in various places before finally settling in Shira (Palmer, 1928, Vol. 2).

2.4.2 European and colonial documents

European travellers to the region wrote most of the early accounts that have provided us with insight into the nature of Shira, especially during the 19th and early 20th centuries. Historical data on the area are considerable even though the information in these documents is limited and often repetitive. The region of Shira has virtually been overshadowed and never found its place in the history of *Kasar* Hausa. It was never included in the Hausa *Bakwai* or the *Banza Bakwai* mythology, nor has the region ever attracted the intense attention given to other region in *Kasar* Hausa by the European travellers, but it has always warranted a passing comment and has been mentioned in most of the early European documents on Hausaland as a small, rather negligible region (see Figure 2.6 and Figure 2.7 showing Shira in relation to other Hausa city states).

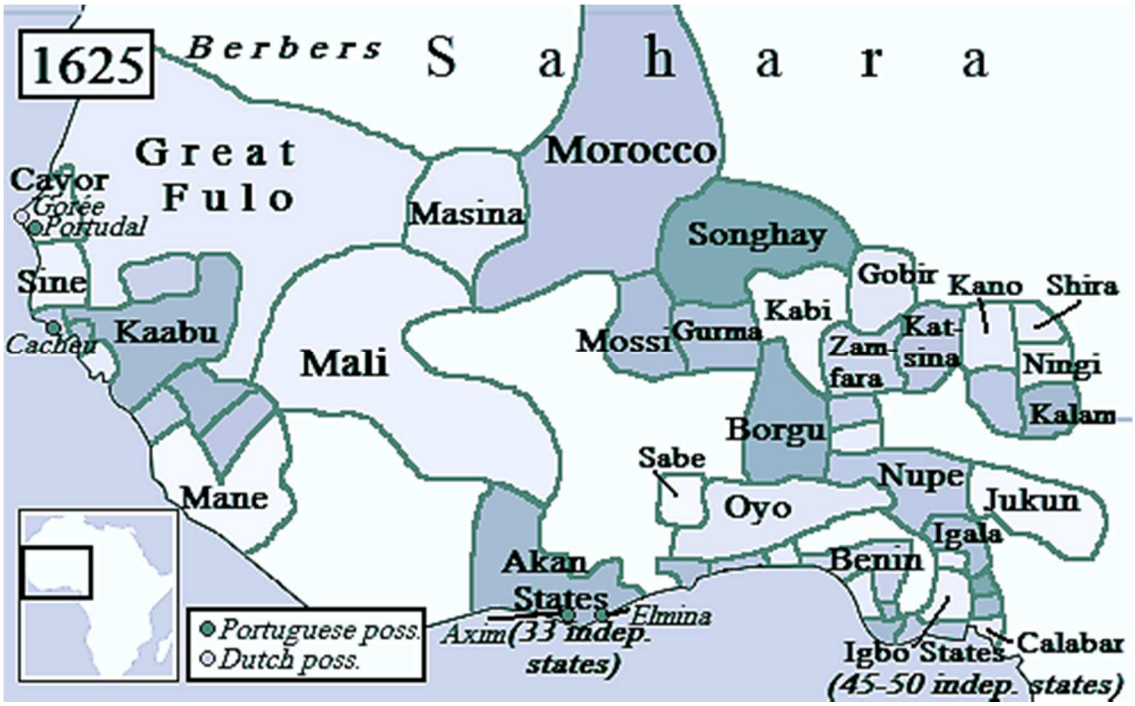


Figure 2.6: Shira and surrounding settlements in c. 1625 (after D'Anania, 1573-1582) adapted from Thornton, 1998).

Such is the case that it found a place in the writing of the famous Italian traveller D'Anania (1573-1582:334), who mentioned Shira (*Scira*) as the region lying between the borders of Hausa kingdoms and Bornu empire, mentioning that further north there also lies Tsotsebaki (see Haour, 2003a for a discussion of Tsotsebaki). Geographically, the area is placed further west from its present site towards the then flourishing, Hausa city kingdom of Zamfara (Thornton, 1998, this information is also cited in Sutton, 1979:198). This area was later identified as the small Hausa region that lies between Kano and Bornu (Hiskett, 1984:73).

Other mentions of Shira include those of Denham et al. (1828: Appendix V) in Bornu and *kasar* Hausa. These travellers provided us with descriptions of the eminent places they had visited in Mandara, Katagum, Murmur, Kano, Sokoto, and other large towns and cities in the wider region of Bornu and Hausaland. Although they did not visit Shira in particular, they visited Katagum, which as mentioned above, was one of the newly formed emirates which had absorbed the region of Shira. Here in the emirate, they are said to have collected information on important trade routes with Shira at the intersection (Figure 2.7). The map written in *ajami* (this refers to handwritten Hausa scripts with or using Arabic alphabets), shows four trade routes radiating outwards from Shira to Katagum (NNE); from Shira via Katungwa to Kano (WNW – 4 days journey); from Shira

to Yakoba which is in Bauchi State (SW by W); and finally, from Shira to Adamawa to the southeast (11 days) (Clapperton et al., 2005:506).

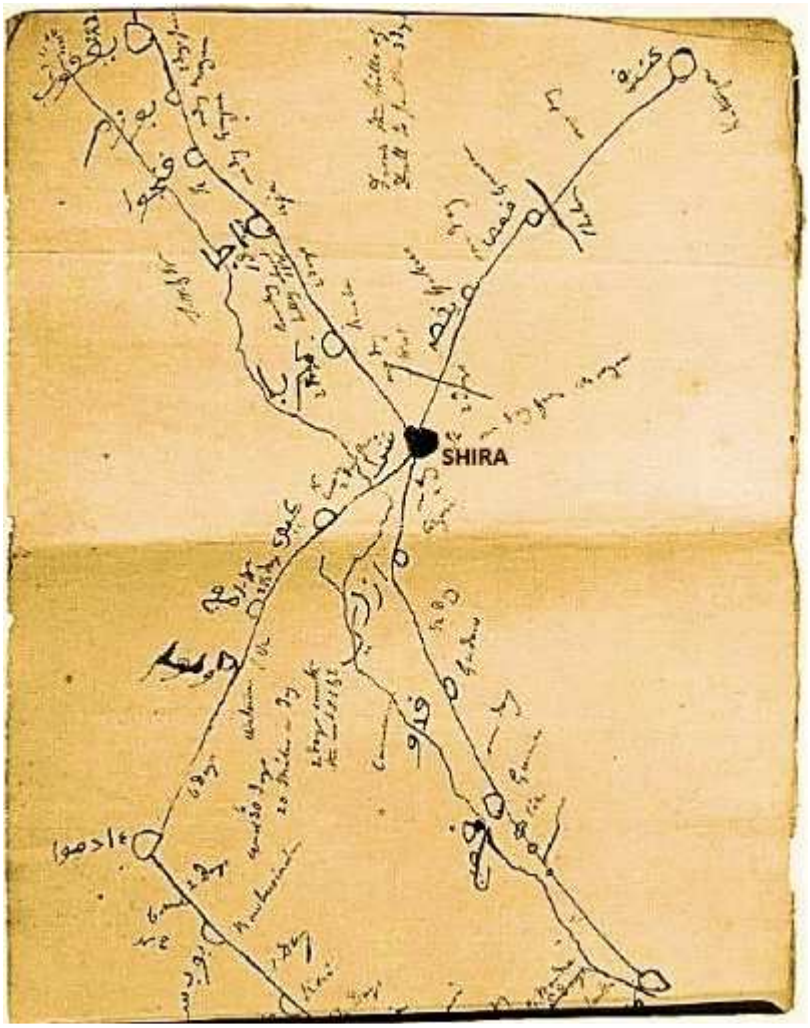


Figure 2.7: A 1826 map of trade routes from Shira (at the centre) to other areas of Hausaland (adapted from Clapperton et al., 2005: 205).

The region was mentioned again in 1851 by Dr. Barth, a German touring the central Sudan for the purpose of making scientific observations, in a series of letters sent to Dr. Beke, which were read before the Royal Geographical Society of London on the 15th January, the 24th March and the 10th November 1851. These were compiled and featured in one of the five volumes he published where he subjoined a list of the more important places (1857 Vol. 1 Appendix, p. 625). Although Barth never succeeded in visiting the Shira during his travels in the Sudan, this information provided additional information on the extent of the settlement. Even though he summarily dismissed the region as one with limited or no economic importance at the time of his visit to *kasar* Hausa, for the first time this information enabled us to geographically place the settlement which he referred

to as ‘S*hera’* an region that is a three day journey from Azare/Katagum when travelling due south/east.

2.4.3 Other studies

The archaeology of the northeastern part of Nigeria includes well-known sites, in particular those that lie to the east of the study area, in the Yobe valley (Hambolu, 1996) and the Bornu region (Connah, 1984, Connah, 1976, Connah, 1981, Gronenborn, 1998, Breunig et al., 1996, Breunig et al., 1993, Wendt, 2007). Sites located to the south of Shira have also been investigated: these include as Kariya Wuro and Ningi enclaves in central Bauchi (Allsworth-Jones, 1983, Darling, 2004) and the Kirfi and Yankari area in the southern Bauchi region (Sule Sani, 2013b, Aremu, 1997). These research projects have provided us with well-dated ceramic sequences and revealed a series of stratified deposits, perhaps most famously in the case of Daima (Connah, 1981, Connah, 1976).

Unfortunately, while the archaeology of these areas is already relatively well-known, studies of the past of the Shira region have only just recently begun and have largely involved historical and ethnographic research which has documented some of the past remains (Fagg, 1957, Fagg, 1956, Seidensticker et al., 1997, Anderson, 1994, Bross and Baba, 1994, Baba, 1994). These investigations, though rich, have always focused on similar themes nearly always emphasizing the same theme as pointed out in Chapter 1 that were outlined by Seidensticker et al. (1997:12), such as linguistic (Bross and Baba, 1994, Schuh, 2001, Baba, 1997), geology (Anderson, 1994, Rahaman et al., 1984, Woakes et al., 1987) and settlement patterns in the northeastern region of Nigeria (Seidensticker, 1997)

No serious archaeological investigations have been carried out in the region of study, other than a limited reconnaissance of the Shira abandoned sites conducted by the present author between 2007 and 2010. This work reported some archaeological features, three abandoned sites of which two were rock art sites and two burial sites. This period set the stage for pioneering archaeological activities in the northeastern region. In the area around Shira, most of the early archaeological findings were accidentally discovered, such as the artefacts documented in 1924 by C.K. Meek when visiting Azare (Bauchi Province, Nigeria). An artefact was identified as a "*shashirma*," a fighting wristlet; which though corroded, it was easy to make out its original form, which was something with

spikes rusted together (Meek, 1927:47).

Another prominent research on the material cultures in the regon was that of rock painting sites and rock gongs documented by Fagg (1956) who identified 10 rock painting sites. Seidensticker (1997) also identified and reported on six of the ten sites that were already reported by Fagg (1956). Two of these painting sites, which had been reported by both researchers, were identified and visited in 2007 (Giade, 2011). The subject matter of the painting, as observed during 2007 fieldwork, can be classified into four groups: animals (wild and domesticated), humans, symbols and unidentified. Prominent among the animal depiction are those of cattle, depicted in many different sizes and shapes (Giade, 2011). Similar rock paintings have been reported in Birnin Kudu, Geji and Gumulel as well as in the Marghi region (Njidda, 1997).

2.5 Conclusion

This chapter has provided a description of the historical, environmental and cultural resources in the Shira region. To enable us to gain a better understanding of the historical dynamic, the chapter attempted to review evidence from oral and documented sources on the environment and the historical role the groups that occupied. An attempt is made to present the existing literatures that illustrate the range of information regarding the settlements and peopling of the northern Bauchi region. The materials are drawn from oral historical accounts, local chronicles, 19th century European travellers, early 20th century European scholars, archival records of colonial officers of Katagum region of Kano division, geographical and linguistic records. Other works cited include a brief review on archaeological research carried out in a neighbouring region of Bauchi and the Bornu area to set the framework for the cultural formation of the region.

Chapter Three : Ethnographic Investigation

3.1 Introduction

The chapter is divided into four sections. The first addresses political and socio-cultural structures to help us understand the organisational set-up of the society. It describes the existing settlement pattern to gain insight into the prevailing spatial design and character of space within the landscape. It also touches on the important debate on the origins and nature of urbanism in Nigeria, particularly northern Nigeria (Mabogunje, 1965, Cohen, 1978, Smythe, 1960, Olofson, 1975, Endsjö, 1973, Connah, 2000, Yusuf, 1974).

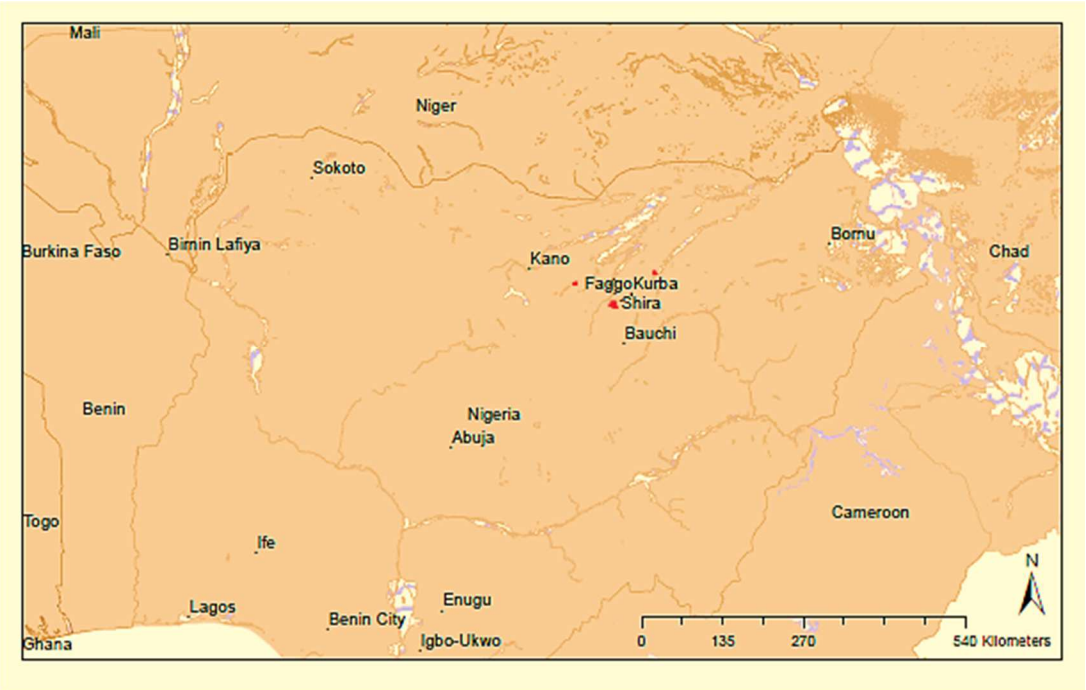


Figure 3.1: Map of West Africa showing the study area and some of the potting villages (developed by the author using ArcGIS).

The chapter then discusses kinship arrangements in Shira starting with family as a socio-domestic work-unit. The role of the family in the region serves both social as well as an economic group. An individual in the society is first identified with his family group or

household before anything else. A family group does not only provide a framework for residential organisation, but is an important unit of political organisation (Eades, 1980). In terms of kinship terminology and many other aspects of the culture, similarities will be drawn between the Shira society and that of the Hausa domestic economy (Smith, 1955:41-48, Smith, 1952, Hill, 1972). It is not known when Hausa cultures spread to the Shira region but this encounter is assumed to have been earlier than the 19th century. The principal method by which this early Hausa culture spread into region is said to have been by means of Hausa traders who distributed their goods through Shira, which has been shown to be at the centre of the trade routes in Hausalands (Clapperton et al., 2005). These Hausa traders not only carried on their commercial activities but also spread the teaching of Islam and the Hausa cultures (Adamu, 1982, Adamu, 1978; see also, Dietler, 1998 on discuss on colonialism and encounters among indigenous societies in Europe).

The final two sections present the domestic, economic and subsistence practices in the region of study. As in the wider society in northeastern Nigeria, agriculture is the mainstay of Shira economy but almost every adult member of the society has another occupation or craft. Many of the traditional crafts such as pottery, blacksmithing and cotton spinning and weaving, which were observed by Barth (1857) in the wider region, are still practised in the rural villages of Shira, while other crafts such as textile dyeing and iron smelting have since been abandoned. Also included in this section are discussions on the exchange system as these relate to trade and commerce in the society.

3.2 Field approaches and sampling

The fieldwork was designed to assess and obtain accurate accounts of the present knowledge of social conditions, political and economic organisations which can provide a foundation for information about, and representation of, the people (Denzin and Lincoln, 2008:1). The research design used in the present investigation involved documenting details that may be pertinent to the research, such as social, economic, religious beliefs and political situations (see Angrosino, 2005:166 for discussion on data collections in ethnography). This yield large amounts of data that relates to technologies relevant to the archaeological research at hand such as potting traditions, blacksmithing, structural and housing practices. The fieldwork utilised informal or conversational interviews, which allowed for general discussion, asking questions and the probing of emerging issues or events in a naturalistic manner. Such “casual” interview techniques according to Reeves

et al. (2008:2) are useful in eliciting highly candid accounts from individuals about the issues being studied.

The locations for the ethnographic investigations involved a much larger geographical area than the present Shira village where the archaeological sites are located. The area covered by the investigation consists of communities which are linguistically referred to as the 'guddiri region', all located within a dozen kilometres of one another (Seidensticker et al., 1997). The respective origins and histories of these settlements are different but they presently share a common ethos (religion and language). Geographically, three of the six settlements are located on the Hadejia Jama'are River, which flows into the Yobe River before joining Lake Chad. Politically, the settlements are all in the Shira district, within few kilometres of one another, with the exception of Garande village located in a different district; Giade. This was the only settlement not located in Shira district nor sited near any river. It is also the only village among the settlements investigated where a large part of the population speak a dialect of Kanuri language, though Hausa is widely spoken. A single potting compound in Malori was observed to speak a similar dialect of Kanuri to that spoken in Garande village (see Figure 3.1 showing the location of settlements mentioned in the text).

The aim of selecting such a cross-section of settlements is to document the nature and diversity of practices within the region. The culture of the area differs only in a minor degree from that of the typically Hausa area. However, the wide selection of the different settlements is considered to be a fairly good representation of Shira people, despite differences in the origin of much of the population from Fulani, Kanuri and other population groups. The fact that most of the traditional crafts are disappearing or are no longer practiced in the present Shira region, was also another factor that led to the inclusion of further settlements for the investigation.

With regard to sampling, the initial key informants were identified through informal inquiries and word of mouth recommendations from one settlement to another. Often, as one settlement was visited, some of the key informants in these villages directed the author to other communities, craftsmen or people likely to be helpful to the research team members. Settlements were pointed out when the author asked about the best possible area to get answers to a particular research question or sets of related questions. In any

settlement visited, where the research team had no contact, people were readily willing to direct the research team to the people engaged in the craft required or to direct the team to the emir's palace from where a guide is provided to the team.

The original research team members comprised of three investigators (including the author) but as the research progressed, more collaborators joined the team. As more informants were identified, the number of settlements visited also increased. At the end, this yielded an additional four team members from the seven settlements visited, which is one member each from Shira, Faggo and Garande while one team member took us around Yakasai, Malori, Kabobi and Laddiga villages. These additional team members also served as informants and were useful in identifying other key informants for interviews in their respective communities. In the villages, permission was asked from the head of compound *mai gida* by one of the male team members before going into the compounds for interview. If he had no objection, he accompanied and introduced the team to the *uwar gida* (senior wife) or an older female in the house. In Malori, one of the *mai gida* refused entry into his house to the male assistant but provided him with a mat and water while the author interviewed the *matan gidan* (the female members) in the household.

All the interviews were conducted in Guddiri dialect of Hausa, which is the widely spoken in the study area. However, each of the villages had a first language, which the majority of people speak. Most of the information was collected using some guided questions developed during the research proposal (see Appendix Z for some of the guided questions). However, the content of most interviews was defined either by information collected or the subject matter of the interviews. The questions asked were based on participant observations of the particular crafts or engagement as the work progressed. All the interviews were documented in field notes and recorded through audio, video and photographs by the author and one of the initial male assistants. This particular informant was particularly helpful in introducing the research and sometimes directing the interviews with minimal interruption from the author when male informants or *mai gida* were involved. These field notes and audio interviews have been reviewed by the author before transcription (into English). A large percentage of the interviews took place in person, as a one-to-one interview-conversation between informant and author. However, a few were conducted by mobile phone after the author had left the field. The over-the-

phone interviews were more for the verification of information collected during the actual interviews.

Figure 3.2: Ethnographic interviews in Malori (credit: Hafiz Sani).

Each settlement selected was visited and sampled several times to generate data on activities ranging from architecture, fishery, pottery, blacksmithing, weaving and so on. The selection of data was based on how many compounds were engaged in a particular craft in that community at the time of the visit. In addition, inside the compounds, the interviews depended on how many individuals were engaging in the production of the craft at the time of the visit. Occasionally, those not involved in the production, or no longer practicing the trade, were also interviewed. These groups were targeted to develop a context on why these crafts are gradually being abandoned. Questions ranged from why the trades/crafts were abandoned, at what age did they learn, who taught them and what circumstances led to the abandonment of the crafts. In each settlement between two to four compounds were visited depending on the household still engaged in the crafts. In addition, between one and five individuals from each household were interviewed. Interviews were either conducted in groups or on an individual basis (Figure 3.2). People were interviewed randomly, mostly in an informal setting during participant observations with open-ended questions.

3.3 Socio-political administrations

Not much is known about past socio-political structures in *kasar* Shira prior to 19th century. However, Low (1972:9) pointed out that much of the precolonial system of territorial organisation in our region of study was analogous to those described by Cohen (1967) for the Bornu region and Smith (1965) for the Hausa-Fulani emirates of northwest Nigeria in the period. Essentially, he maintained that the past political structures in Hausaland survived or adapted to the repeated political changes in the landscape. The society at large simply responded to newer forms of political and 'structural change that had taken place in a single administrative system over two centuries, first under the "Habe" *sarakuna*, then under the Fulani *umara*, and finally under the British colonial administrator and the emirs they appointed' emerging not only with their power intact, but eventually enhanced (Smith, 1997). A good example of such flexibility as documented by Smith (1955:107-8) and Sklar (2004:9) in *kasar* Hausa was that of the many new offices created for the conduct of administrative functions during the colonial period, such as these of education, agriculture, forestry, etc., which were absorbed into the title system and conferment to the traditional purposes of *sarauta* (the Hausa term for titled political office).

At the top of the *sarauta* system is the chief- *sarki* (pl. *sarakuna*) who is assisted by a number of officeholders, *masu-sarauta*, including ward heads, *masu unguwanni* (sing. *unguwa*), whose offices are hereditary. This system of political titled structures and offices, obtained throughout the tier level of society is also found at local village *kauye* (pl. *kauyuka*) and community levels *ruga* (pl. *rugogai*) (Low, 1972:16). The *sarki* executes his village affairs with the help of the village head *hakimi* with the support of the wards heads *mai anguwa* (Dudley, 2013:50).

In Shira, the *hakimi (pl. hakimai)* is the head of the traditional political council. He is accountable to the Sarki or emir of Katagum; who resides in the emirate headquarters at Azare. The Hakimi of Shira holds a dual chieftaincy title of being both a district head and the chiroma ''crown prince', a title given to a son of the *sarki*. Any Hakimi that has his title eventually inherits the crown to become the emir of Katagum. This policy had endured since the Jihad and is still the custom to date. The practice was initiated by Malam Ibrahim Zaki, the original founder of the Fulani dynasty, who after seizing Shira and other settlements in the Shira area located these settlements as fiefs to all his

biological sons except in Shira 'where he appointed his nephew, Dan Kawu to head the Shira district' (Low, 1972:117). Dan Kawu became the emir of Katagum after succeeding his uncle Suleimanu or Liman of Adandaya (ca. 1814-16) who had inherited the crown from Malam Zaki. He in turn appointed the son of Malam Zaki, as the district head of Shira and gave him the title 'chiroma Katagum' to succeed after him. Thereafter, all district heads of Shira came from the families claiming descent to Malam Zaki. In addition, the office of the *hakimi* of Shira comes with some privileges which sets the office apart from his peers, for example unlike all the others *hakimai*, the *hakimin* Shira is the only chief in the emirate who is allowed to appoint subordinate town heads without consulting the emir's palace. He also enjoys the privilege of imposing capital punishment, if he so desires, without consultation with the emirate (Low, 1972:130).

3.4 Socio-cultural structures

The socio-cultural structure in the region is presently not much different from the wider region occupied by the Hausas of northern Nigeria. The society is presently multicultural. Historically, as pointed out in Chapter 2 of this thesis, this region has been populated by different indigenous groups related by history, religion and linguistic ties and, presumably due to trade and intermarriages among the different communities. Baba (1997:23) points out that while the larger society speaks the Hausa language now, there are other indigenous groups such as Fulani, Kanuri, Karai-karai, Bade as well as other speakers of Igbo, Yoruba and Tiv groups present in the society. Hence, a heterogeneous region as Shira, inhabited by different classes of population groups, is expected to feature considerable cultural diversity.

3.4.1 Settlement morphology

In Shira as well as in other Hausa communities, a settlement fundamentally associated with the socio-political organisations outlined above. Some elements of the political structures provide clues to the nature of village morphology and in many ways the original settlement in Shira is linked to this political structure. At the head of a village or any settlement *Gari/Birni/Kasa* in *kasar* Hausa is the *Sarki, Hakimi, or dakaci* who governed his *jama'a or talakawa* (Smith, 1965). The residence of this leader (who is the chief executor in his settlement) is almost always at the centre of the settlement, which becomes the focal organisational point. The village mosque, the town's market, the

village square (*dandali*) are then located next to or surrounding the chief's residence. The residences of the inhabitants then follow the fringes of these central structures. Nwanodi (1989:85) notes that from these focal points there are route ways running to the 'city gates' and in between these route ways lie wards or *anguwa* - groups of walled compounds with narrow passageways in between them. The *anguwa* is the lowest political unit, which is overseen by *mai anguwa*. In this ward headed by compounded heads, *maigida*, *anguwa* are walled compounds with even narrower passageways, 'which are never straight' (Sa'ad, 1981:46). The title *Maigida* is not a political name, but rather a social position conferred on men, who assume the headship of their family at certain points in their life after marriage (see Schwerdtfeger, 1982) and (Schwerdtfeger, 2007:32-77 for additional discussions on compound heads in Hausaland). The position does not carry any political privileges except within a family. However, as married men are considered responsible and upright citizens within society, they can be included in decision making not only within the family but in society at large.

Another shared trait between the present Shira society and the wider Hausa society is settlement hierarchies, from urban to rural. As you move up the hierarchies, the size of the settlement increases, just as the powers exercised by the rulers of these settlements rises. In Shira, the people divide their settlements into rural (*kauye/ruga*) and urban (*birni*). This is further subdivided into three units, based simply on the configuration of the settlement as well as the proportion of inhabitants and the scale of the settlement. A town, *birni* (*pl*. *biranai*) is considered the first-order site. This is a major urban centre with a central government and in recent times it houses the governor of the state. Administratively, the *birni* is divided into wards with several villages (*kauyuka*) and hamlets (*rugogi*) surrounding its fringes. *Kauye*, which is a village, is larger than *ruga* which may consist of only one family unit. An appointed administrator of the sarki manages each of these units of settlement. A *birni* might be an indigenous urban centre like the present Kano, Zaria, or Katsina, which developed prior to Jihad, or another urban centre like Azare which weasdeveloped from the Jihad, or an urban settlement as Bauchi, which was initially founded as a slave collection centre (Udo, 1970:152). A settlement classified as *birni* covered a much larger space than both *kauye* and *ruga* and is heterogeneous in population. Due to the nature of the population, which is often large, the settlements are administered by not only the *sarki* but also by the ward head (*mai anguwa*).

The second unit of settlement is the 'village', *kauye or (kauyuka 'p'*) which is often nucleated in nature and is with or without a central authority. These *kauye* as in *biranai* were at one point in time, fortified by an enclosure known as *kafi*. A *kafi*, though serving the same purpose as *ganuwa* (defensive wall) is built of tree branches and sticks of about 'four to six feet in length set close together in the ground and without ligatures or sharpened tops' (Low, 1972:11). The *kauye* as in *birni* is also often multicultural and surrounded by outlying settlements, *rugogi*.

The third unit is the *ruga (pl. rugogi*), is mostly associated with nomadic (*Bararoji*) or settled/house (*Fulani*-gida) of Fulanis. This unit of settlement is often dispersed, popularly established in a semi temporary to permanent form. The *ruga* comprise of closely knit family members, residing in temporary structured compounds made of stalks with their livestock. The settlements are considerably less refined and a little less complex than the rural (*kauye*) or urban (*birni*) settlements. The population of a *kauye* is homogeneous, administered by a *jauro* who is also Fulani and rather than living in one big hamlet, these Fulani live in dispersed isolated settlements, each having a distinct name and pattern.

Generally, two forms of settlement pattern were discerned in Shira. These are nucleated and dispersed. The rural villages, and particularly the Fulani hamlets in Shira, are characteristic of this form of dispersed settlement. Such settlements are spread over a large area and the houses are situated at some distance from each other (Rana, 2008:261). Mostly, the families in this kind of settlement area are related to each other. In Shira more than one of these *ruga* are located at some distance from the main settlement of Shira. Sometimes these small dispersed settlement or clusters of houses expand and merged with other similar neighbouring settlement, to form a larger nucleated settlement as documented in old (*tsohuwa)* Garande and new (*sabuwa)* Garande in the Giade area which came together to form one nucleated settlement. This observation holds true for the expansion of many states and cities in Nigeria. In Kano, it was documented that the rural Kanawa lived in houses dispersed among their fields, until a late colonial programme of voluntary resettlement created large, gridded villages spaced at short intervals across the landscape (Adams and Mortimore, 2005:38). In Yorubaland, Mabogunje (1969:76) made reference to numerous hamlets and villages being forced to break up and move into the

town. In Benin city, Omoregie (1982:7-9) noted that several independent communities came together to develop the Benin kingdom and these settlements, although now no more than streets and wards in Benin city, are still identified as well-known past settlements.

Currently, the settlement of Shira is generally described as either a compact or a nucleated settlement but there are references in historical accounts of a time when the settlement was dispersed. This compact or nucleated form of settlement was a recent phenomenon, which developed in the early 19th century when the present Shira town was founded. There are several traditions recalling the plight of the settlement, 'lying as it did within a principal zone east-west passage' (Palmer, 1915:268-9), of several centuries of armed conflict between Hausa kingdom, Bornu and the Kwararafa (for more elaboration on these points, see Low, 1972:106, Fremantle, 1911) which affected the configuration of the settlement over time. The main purpose of these wars was essentially for slaving and this constant warring and raiding of the settlement led to insecurity and dwindling of the population. It is claimed that these many wars and constant raiding of the small settlements led many of them to move closer together and build a thick mud wall and trenches as a defence mechanism to ward off external aggression.

3.4.2 Kinships and household

The family is the fundamental unit that underlies all other structural institutions in society. A family in Shira is defined as a husband having more than one wife. Smith (1959:244) also notes that polygamy is widespread among the Hausa society. Kinship is patrilineal with a set of several kin, where as many as five generations can be found living in a single household (see Figure 3.3 for kinship relations in Shira). Every man or husband is the head of his family unit (*Maigida*). However, the oldest male in the household is usually the head of the compound. Seniority by order of birth, Smith (1959) notes is the basis of headship in these ancestral homes, and only men are eligible for such roles. If this person dies the next oldest male person within the household takes over the headship of the compound. This *Maigida* is the spokesperson of the family and is part of most decision-making processes within the different family units in his compound. No decision is taken without his consent and his views on all matters from births, marriages to death, are upheld over anyone's desire.

When it comes to addressing family members, major kinship terms in Shira are the same as that in other larger Hausa society, of which the organisation has been investigated (Smith, 1959, Hill, 1972, Adamu, 1978). However, there is a significant difference in some terminologies due to local difference, for instance the western Hausa as in the Kano Hausa calls 'aunt' *Baba* while in the Guddiri Hausa (which is spoken in Shira) it is *Goggo* or *Uma*, depending on paternal or maternal ties. Similarly, the term for sister and brother *yaya* is the same in western Hausa while in the Guddiri dialect, it is separated - *adda* for sister; *yaya* or *ya* brother. All major kinship terminology is defined by status based on the distinction between patrilineal and matrilineal relationships (Smith, 1959). In addition, there are other non-kinship terms, which are guided by social standing, occupational status and seniority by generation and age (Smith, 1959, Chamo, 2012, Daba, 1987, Salihu, 2014).

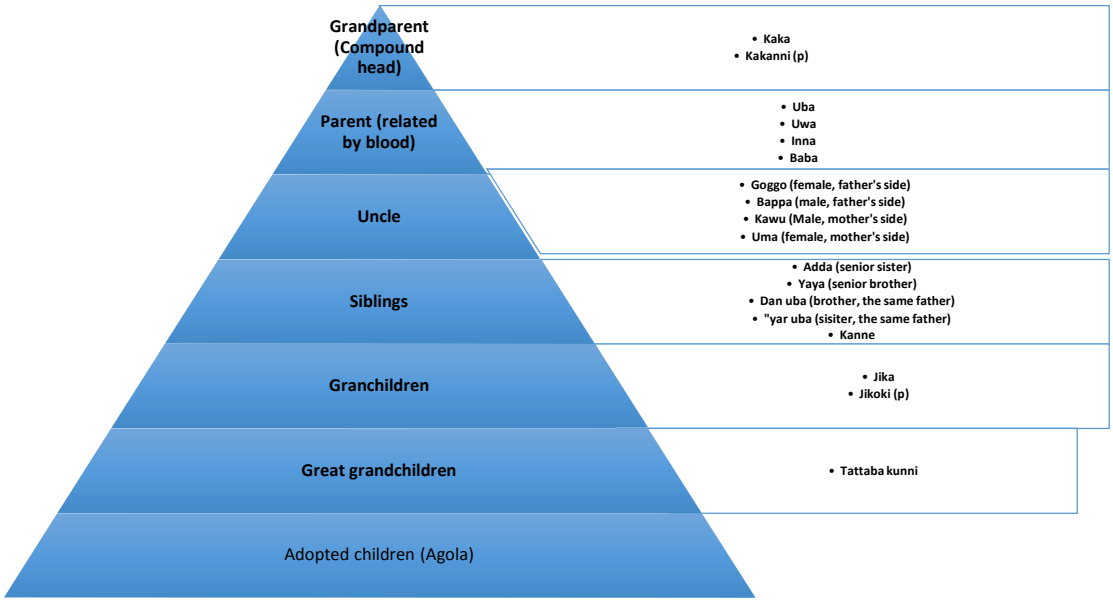


Figure 3.3: Diagram of kinship relationships in Shira (developed by the author).

In total, there are seven basic kinship forms which designate blood relations (Figure 3.3). However, all terminologies have compound meanings and can specify non-nuclear kinship relationships, for example, father (*Baba*) can metaphorically mean mother's brother, father's brother, grandparent, spouse's fathers as well as any adult male member of society who is old enough to give birth to you. *Kaka* for grandparent has a similar frame of reference and generally extends to grandparent's friends and age mates. Other kin relationships include mother (*mama*), son (*da*), daughter (*'ya*), brother (*kani*) and sister (*kanwa*). As above, these terms can also extend to non-kin irrespective of patrilineal or matrilineal ties such as colleagues, friends and even rivals. Other parallel kinship terms

includes uncle (*kawu* - mother's brother) and (*bappa* - father's brother), (aunt - *uma* mother's sister) and (*goggo* - father's sister). However, affinitive ties are distinguished and separated from other kinship terms, notably wife or husband's in - laws *Surukai (plural)* - *Sarkuwa (*female*), Suruki (*male*).* There are no cousins, brother or sister's children terms in the society. Cousins are classified in the same group as brothers (*yaya*) and sisters (*adda*) while brother's or sister's children are included in the same category as children (*'ya'ya*). Find below some important fundamental family relationships in a typical ancestral household in Shira, with emphasis on both the patrilineal and matrilineal ties.

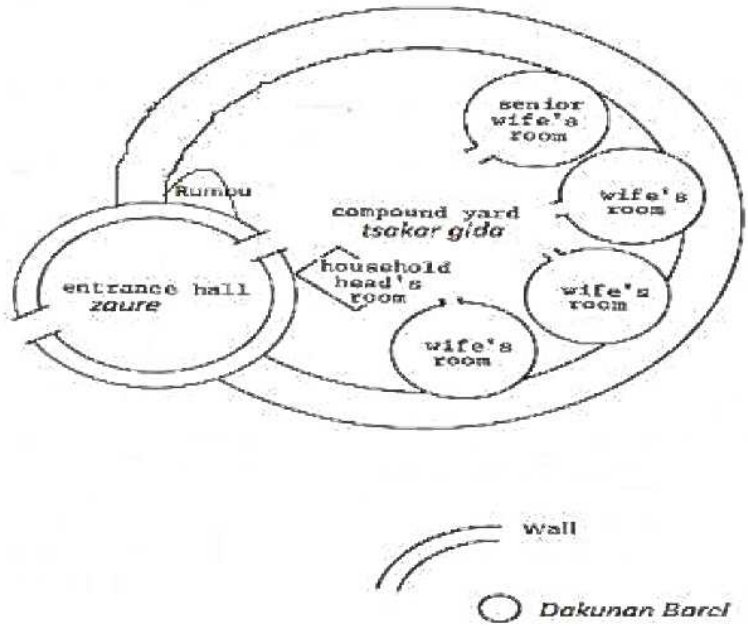


Figure 3.4: A typical Hausa compound plan (adaped and modified from Drucker-Brown, 1986).

3.4.3 Household and domestic structures

The nature and pattern of the spatial organisation of compounds in Shira have a lot in common with other Hausa settlements, which have received much attention from various scholars (see Dmochowski, 1990 for finishing details and building materials, Moughtin, 1985 for building materials, Madauci et al., 1982 for constructions, Schwerdtfeger, 2007 for building decoration, Sa'ad, 1981 for Hausa builders, Kirk-Greene, 1963). Thus, where it becomes necessary to illustrate or elaborate on some aspect of the domestic structures, these scholarly works will serve as guidelines to illustrate the different layouts of domestic households in Shira.

The physical construction and layout of compounds are determined by many factors among which are economic specialisation (crafts, butchers, fishermen etc.), gender, the social status and size of the family unit and so forth (Smith, 1959). The basic unit of residence, which is a compound inhabited by patrilineal kins. This compound usually has only one single entrance into the courtyards *cikin gida*. Two entrances are infrequent, but are found in exceptional circumstances for example where there is a family dispute or the death of the *maigida*. In the case of death, the process of segmentation through which a family passes in the course of generations may end in complete fission and the setting up of several independent compounds (Westermann, 1935, Westermann et al., 1936:236).

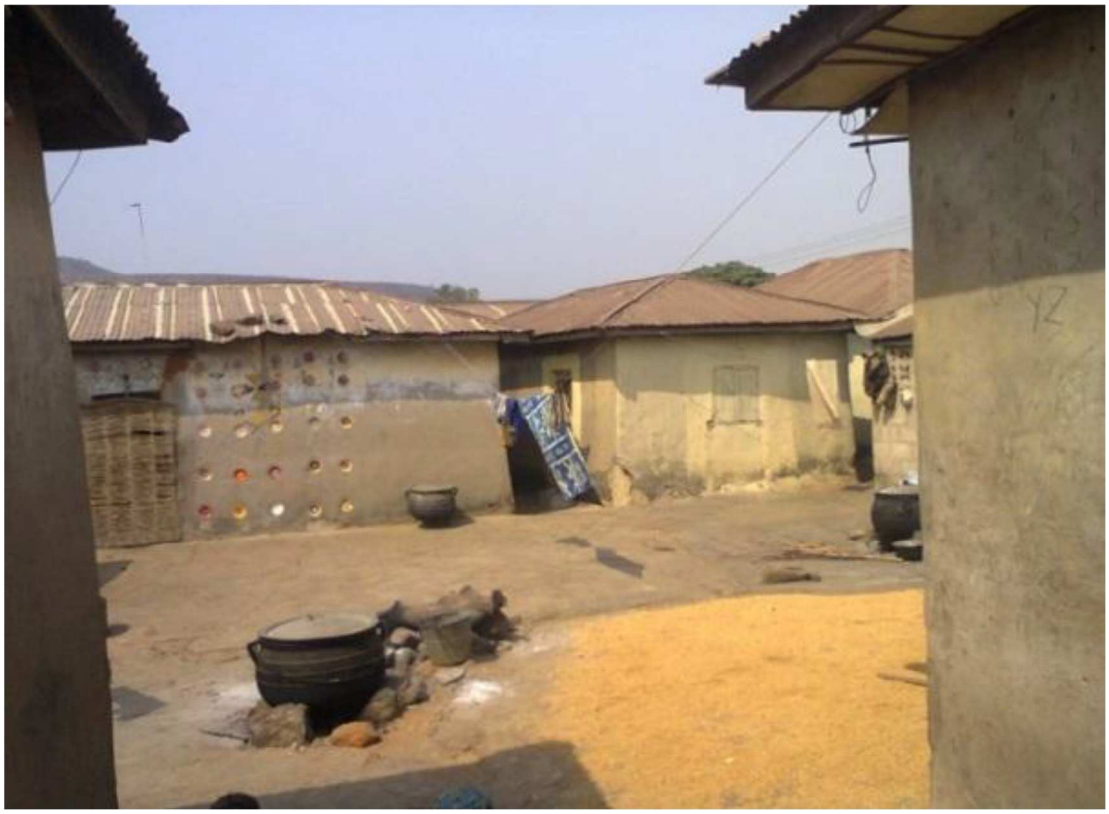


Figure 3.5: A typical hearth in Hausa compound
(adapted from Muhammad and Sa'id, 2015).

The spatial layout of traditional dwellings is never static. The size and layout of houses grow and reduce in size depending on the growth and development, or decline of the residential family groups (Schwerdtfeger, 1982:312). When an ancestral compound space is over run, new compounds are started by a related family unit within a spatial distance from the old compound. In this case, the nearest farm *gandu* to the settlement or family compound is assigned to not just one but maybe several family units of different age groups. Each *mai gida* constructs rooms for his respective family units. The female

members of the household generally have priority over the male when it comes to dwellings. Every adult, regardless of sex, is ideally provided a room *daki* in the compound. However, the female members are given primacy when rooms are first built, for instance where a man has two or more wives living in the same house, each wife has a room for herself and her children. Afterwards if any *daki* remains, the man/husband could then take it, otherwise he has no option but to share his personal effects among his wives (Muhammad-Oumar, 1997). Generally, unmarried young females or spinsters share a room with other females or with younger siblings in the household. Similarly the male, though entitled to a *daki* when married, may have to share a room with other unmarried men in the compound (Muhammad-Oumar, 1997:179).

Most compounds have three kinds of delineated functional spaces; the public, private and function specific spaces Compounds in Shira are organised, walled and fenced according to the principles of Islamic seclusion which (Nast, 1996:44) notes in the analysis of Kano palace, was also a key criteria in internal palace organisation where the seclusion of royal wives, the accommodation of massive slavery (including eunuchism and concubinage), and a strict gendered division of labour pivoted around this ideology. Major spaces like the entrance hall (*zaure/kofar gida*) and the courtyard (*tsakar gida*) are basically public places where members of the household mingle. Set apart are spaces like sleeping quarter *daki* (*pl. dakuna*); toilets (*bayan daki*) are private and function-specific places. All these spaces work systematically to constitute what is spatially termed a 'Hausa compound'. Inside a typical Hausa compound, one finds that the private spaces are well-defined with family heads having their own quarters partitioned off from other living quarters. The living quarters are self-contained and independent of other family units. These quarters are organised around a central focal point, the courtyard (*tsakar gida*), as shown in Figure 3.6 and Figure 3.4, which members of the family use for socialising. The *tsakar gida* serves as a children's playground, a place for washing, cooking, eating and keeping animals.

The main functional spaces identified above vary in number, shape and size in compounds. However, at its very basic a typical compound in Shira have all or at least these spaces discussed below.

Figure 3.6: *Tsakar gida* 'courtyard' in Faggo and Kabobi Villages, Shira.

Zauren kofar gida is main entrance into the compound or front of the house. A *zaure* is a room which serves multiple purposes as an entrance hall as well as either a *turaka*, i.e., the apartment of the *maigida* or a *soro* an outer room where male children (Muhammad-Oumar, 1997:172) which normally serves as a working space for male members of the family, for example weaving, teaching and trading (Nwanodi, 1989:86). At the very least, if a compound does not have a *zaure* which some compounds do not, it will have a *kofar gida* which is a simple wall opening with a door frame. A *zaure* or *soro*, as the case may

be, opens directly onto a courtyard (*tsakar gida*) a multi-functional space that is extensively used by all members of the household for variety of activities.

Dakunan Barci are the rooms used for sleeping. Each wife has her own room, which she shares with her underage children. A room known as *Turaka* is the room for the compound head. These structures are organised around the courtyard *tsakar gida*, often located away from the entrance wall but not far away from the male quarters.

Located in front of these rooms is a large pots, used for domestic activities (Bredwa-Mensah, 1996:49). Smaller pots for storing drinking water are kept in an inner room. These ceramic vessels are usually part of the wedding trousseau provided for a newly married wife by her family (pers. comm. Baba Adama Malori, April 2013). In Shira, this is particularly a gift from a grandmother to the bride. However, a particular case was documented in Malori village where the *randa* was part of the wedding trousseau provided to the bride by her mother (Zainab, pers. comm. May 2013). In Shira, dowry contributions come largely from female family members in the compound, friends and well-wishers from other family compounds. It is common practice in the region that on the occasion of a birth, wedding, funeral, or even a political appointment, friends, relatives and neighbours will come together to mutually exchange services or gifts, in the form of money, food, meat, kola, and domestic consumables (Yusuf, 1975:168). Notably however, a sort of division of exists in such contributions. While the father provides all the major household essentials such as a bed, a sofa, curtains and carpeting, the mother and other female members of the extended family units on the one hand contribute smaller household articles (*kayan daki*) such as kitchen utensils (pots and cutlery) and other household essential such as pots for cooking and water storage, brass and calabashes for decoration. Generally, in the Hausa cultures which predominate in the region of study, the groom's family provides a house for the couple, while the task of furnishing the house is the responsibility of the bride's family (Falola and Bukola, 2015:191-192). In the case when the head of the family cannot adequately provide any of the articles, his grown up children or male members of the family may organise contributions of various amounts to finance the necessary items. There is no specific limit to the amount of *kayan daki* presented; it can be simple or elaborate depending on the wealth and social importance of the respective family. While it is not within scope of the research to examine the dynamics of marriages within the society, this aspect of *kayan*

daki culture is identified as a cultural process that might have led to the manifestation and distribution of pottery into the archaeological records in Shira.

Figure 3.7: The different types of fencing houses and materials (grass and mud) used in Shira.

Zauren-girki, the kitchen, if it exists is found in the compound and within the reach of the senior female in the house. Many houses though invariably appropriate a space called *murhu* (the hearth) within the courtyard for cooking (Figure 3.5). At best, a *rumfa* (shed) is constructed in the area the *murhu* (hearth) is located. Thus, where there is no separate room for cooking, which is the case more often than not in many of the compounds, the

cooking is done in a space within the courtyard (Nwanodi, 1989:58). Cooking is usually communal irrespective of how many kin are in the compound and is carried out by the female folk who take turns.

Figure 3.8: Weaving of grasses into a wall - danga (top) and the finished wall in Malori.

Other equally important spaces in many of the traditional compounds include;

Bayi/*Bayan-gida*, is the bathing area with a pit latrine sometimes separated. It is usually an enclosure with a door cover; most often it has no roof and is found at the back or side of one of the women's bedrooms. The whole household uses this area though there may be a separate one for the head of the household (*Maigida*) and, in rare cases, one for the aged parent.

Rumbu is the granary, a storage room where food surplus from agricultural activities is kept after harvest. It is usually smaller than the rooms used for sleeping (see Figure 3.12). Usually each household only keeps one granary. The oldest/eldest brother in the household/compound holds the keys to the storage room.

A*kurki*, bird/chicken coop may not necessarily be a room but is sometimes just an isolated space (in a corner) inside the compound with a medium sized clay vessel strategically placed within the enclosure. The vessel can be any old broken pot, turned upside down and broken to create an entrance for the birds/chickens. At night a cover is put over the entrance to protect it from predators.

Turke, this is another open area meant for the tying of domestic animals such as goats and sheep (Figure 3.6 'top'). Bigger animals such as cattle are not kept within living quarters. Their enclosure is situated on any unused space in the household. In households with less space the *Akurki* and *Turke* are joined together.

Juji, is the household rubbish/garbage dump. It is located either inside or behind the wall enclosure (*Katanga*) of the household. The garbage/rubbish dump is a good source of fertilizer that is usually emptied just before the onset of the rainy season and spread out on farmlands.

When it comes to compound planning, the physical construction reflects and reinforces the institution of seclusion. The women's quarters are usually located at a close distance behind the men's quarters. As noted above, children share a room with their mothers. In due course the male children move to join other male children in separate quarters built

for them in the compound, while the female children share a room with their mother until marriage. After marriage, women move to their respective husband's settlements and compounds.

3.4.4 The local architecture

The existing housing forms in the Shira region draw heavily from the wider cultural setting and the social values of the people that occupy northern Nigeria. The Shira region shows evidence of numerous local building designs which are greatly influenced by climatic conditions, religion, cultural background and socio-economic factors but the religious factors clearly exercise a sizeable influence over the forms, functions and organisation of housing as discussed above. The shared Islamic teachings of the seclusion of women in Hausaland have greatly influenced construction and building practices. It not only promoted the concept of bringing multiple structures together but also the arrangement of the structures within the fenced compound. However, there are other factors that are equally evident and fundamentally important to the development of traditional building practices in the region (Uji, 1992). In addition, economic factors are also fundamental to the design and scale of building. The size and structures of compounds in the society vary by personal and social status in the society, with wealth or royalty serving as the main determinant. The higher a person's status in the society; the more structured, bigger and elaborate the household he will build.

Typically, the traditional building material in Shira is grass or mud which has been used over the centuries to give a unique decorative character to houses, villages and towns in Hausaland (Moughtin, 1964:22, Moughtin, 1985). Building in the society is a collective process involving a range of people called *magina* (s. *magini*), all with varying degrees of specialisation. These include architects, the people who lay out the building plans and the general construction workers. In the traditional construction this will include those who build with earth known as "builders" (*magina*) those who plaster buildings (*masu shafe*), the mud mixers, the *tubali* or brick moulders and those who carry the *tubali* and finally laterite *birji* miners. In addition, there will be other independent people who will dig and line the pit latrine as well as water wells (*masu aikin rijiya da shadda*). Added to this workforce are individuals who specialise in roofing and floor beaters (see Muhammad-Oumar, 1997 for discussion on Hausa professional builders).

Figure 3.9: Mixing mud for tubali building in Faggo and Malori, Shira.

On average, most men or *mai gida* in the society possess a limited knowledge of building construction to do simple DIY (i.e., Do-It-Yourself) jobs in their homes. However, whereas in Shira many householders do limited repairs, Hill (1972:82 & 172), points out that in Batagarawa, most householders do not possess the skill to effect seasonal repairs.

Essentially, there are four types of construction prevailing in the region of study. This includes the *tubali*, the mud and concrete brick construction and finally the stalk or matting buildings with a thatched *azara* or corrugated metal *rufin kwano* roof. Unfortunately, the latter form of construction does not provide us with much evidence for historical reconstruction (Sa'ad, 1986:106) as the organic materials easily decay in the acidic soil. For building with such organic material, guinea-corn stalks or grasses, which have been lashed horizontally are plaited with rope stalks (Figure 3.8). A dwelling of this kind can be completed by a maximum of three men in a day (Nwanodi, 1989:88).

When *tubali* are used, it takes a maximum of seven days to be completed, with no more than two or three layers of *tubali* laid in a day, allowing each day's work to dry out sufficiently before additional courses are laid (Mortimore and Wilson, 1965:72-73, Nwanodi, 1989:89). For this type of building, materials like *bilak simet* or *birgi* soil, bitumen, animal dung and chopped grasses are added to mud and mixed with water. This mixture is left to ferment between five to seven days, or until all the organic material has decayed. Water is continually added to the mixture on alternate days to prevent the mixture from drying out. On the day of constructions, the mixture is trampled by foot and turned several times with a shovel and other tools, until it is thoroughly combined (Figure 3.9; centre). The prepared mud is then shaped into several oval or egg-shaped pieces of adobe (*tubali*) prior to building and left to dry sufficiently in the sun (see Figure 3.9; lower). The tools used by Hausa builders were few and of a simple kind including a shovel for turning and churning the mud, baskets and calabashes for carrying the leather hard *tubali*, mortar and plaster. There is no one standard way in which structures are constructed within the ancestral compounds. It is a personal preference and depends on the space available. The structures can take any form from rectangular or square to circular. In recent times, circular buildings are becoming less common and are rapidly been replaced by rectangular rooms, mainly built of concrete (or mud/earth) blocks with tin pan (zinc) roofs (Moughtin, 1964:23).

Figure 3.10: The different forms of building construction and materials (stalks and tubali).

In recent times, the indigenous type of construction that is the *tubali* houses have given way to houses built with concrete or cement blocks and roofed with corrugated iron sheets. The popularity of this new mode of construction may not necessarily be because it is more fashionable but, perhaps more importantly because it requires less skill than *tubali* construction (Muhammad-Oumar, 1997). The houses built of bricks are usually

built out of mud bricks, in a rectangular or square shape with a palm trunk *azara* (pl. *azarori*) split into beams to form rafters and corrugated iron sheets used for the roof (Dmochowski, 1990, Muhammad-Oumar, 1997, Agboola and Zango, 2014).

Figure 3.11: Additional form of building and materials used in the society (mud and concrete bricks).

As with the physical architecture, investigation into the current architectural practices in Shira indicates that houses in the area have maintained a pattern and style of building similar to those in the 19th century (Giade, 2011, Nwanodi, 1989). There is no set pattern

on how traditional houses are built in Shira. However, it is believed that the environment inspires the designs when it comes to building materials in the society.

In rural areas for example, houses are the circular type, designed by tying stalk and fibres together with poles to form walled structures while roofs are supported by rafters and then covered with grasses. Square or rectangular rooms made of mud or cement and roofed with corrugated iron sheets were favoured in the urban centres. Regardless, all houses were built around an airy space, serving specific functional purposes in the household.

3.5 Socio-economic and subsistence practices

Non-agricultural occupation in Hausa society is extensive and diverse, each having its own technical specialism as well as rules governing it. Many of these occupations are no longer practiced in the society but their associated finds or remains can still be observed in archaeological records. After a brief description of professional roles, this section will describe pattern of lands use and subsistence practices including agricultural and fishing activities. Crafts industries still flourish in the region and are described in more detail in section 3.6. Generally, the traditional economies revolve around the environment and are largely controlled by the seasons - the wet or dry. Typically, it is expected that every member of the society, including children, should earn a living, either by participating or assisting, as in the case of children, to promote the family 'inherited' crafts or, engage in trade and commerce. In addition to these pursuits, most male members of the society are involved in agricultural activities. Women of reproductive age are generally not involved in any farming activities, but despite being in seclusion (*purdah*), they are allowed within the confines of the house to pursue a trade of choice in addition to their other domestic activities, they may be allowed to go to work in a professional environment or attend to other personal activities occasionally with their husbands' permission and accompaniment' (Callaway, 1987:57). Generally, strict wife seclusion or purdah, *kulle* in contemporary society is observed most in the households of Muslim scholars (*mallams*), wealthy farmers (*manoma*), prosperous merchants (*'yan kasuwa*) and aristocrats (*masu sarauta*) (Straub, 2005:82). However, beyond this, most women even while strictly secluded may leave their houses, but only after dark or for escorted visits to kin on occasions such as births, marriages, sickness or death. They may also go out to seek healthcare and for other reasons deemed appropriate by a husband or male (Robson,

2000:184, Chumley, 1998:4). Smith (1952:334) notes that women are mainly engaged in the preparation of food for sale, spinning, weaving on a special type of loom, pot making, rearing of small stock and poultry, prostitution, and the cult of spirit possession (*bori*).

The adult males in the society are the sole or main income earners and it is mandatory for all adult males to be engaged in one craft or profession *sana'a* (Alhassan and Zarrukk, 1982:52). In addition, despite the *kulle*, women, young adults and even children are equally encouraged to be useful members of the society. Hausa society in general attaches much importance to resoluteness (*himma*) and diligence (*kwazo*) for all adults in the society (Aminu, 2003:8).

On craft traditions, the society at large is highly stratified on a gender basis and division of labour. With gender based-activities, there is clear delineation on what constitutes male or female 'crafts' with 'crossovers' rarely occurring. However, during the postcolonial period, there are documented cases of gender role reversal or rather a shift in attitudes that has allowed the inclusion of women into previously all male production activities. Hausa women in Kura, Kano and among the Nupe of Bida are now engaged in an aluminum smithing centre, which had always been an all-male craft (Wolff, 1986, Manuh and Sutherland-Addy, 2014:405). As a result, while the men continued to shape the aluminum ladles and spoons through hammering process, the smith pay women decorators to engrave patterns on the ladle (see Figure 3.13).

Meanwhile, despite the 'democratisation' in some formerly male-dominated economic spheres, it is much easier for females in the society to join or practice male dominated crafts than vice versa. These women are in fact respected and spoken of with admirable phrase words or labels, such as *mace mai kamar maza* (woman that acts like a man) or *kallabi tsakanin rauwuna* (a female head gear in the centre of male caps). A simple enough sentence, admirable yet disparaging, as basically she is seen as 'above her sex'. However, men are at a disadvantage when it comes to role switching, whoever is seen to 'transgress' is scorned and mockingly referred to as *dan daudu* (*pl. 'yan daudu*), meaning cross-dresser (men dressing in women's clothes) or men who act like women (Adamu, 1978, Salamone, 2005, Salamone, 2009:109-110).

Figure 3.12: A granary in Kabobi Village, Shira.

Generally, what is not considered an ideal 'masculine' activities is scorned and looked on with distaste in the society. Another point is that a person's social standing can also determine and prevent a man from engaging in certain crafts, simply because it is seen as 'beneath' him. For example, the *masu sarauta* nobility, high ranging political office holders should not be seen directly engage in trading nor should they be seen to be physically working on their farm (Adamu, 1978:7). This is not necessarily a taboo per se or an indication that the person is above doing such activities, but it is simply associated with what the society terms as shameful (*kunya)* and unrespectable (*mutunci*). The main concern is that the integrity of such a person is simply at stake and opened to ridicule, should he be seen acting to be in such a common fashion as the ordinary people (the *takalawa*).

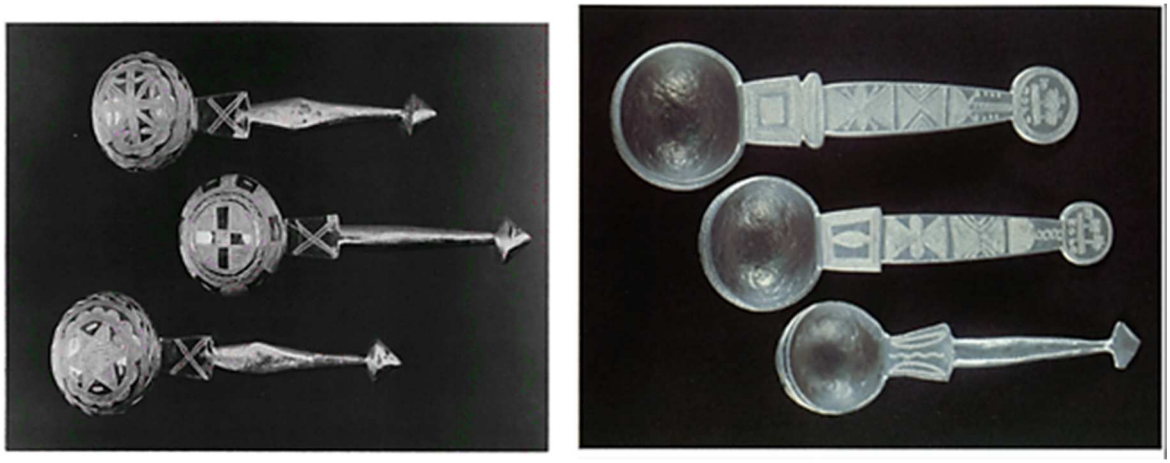


Figure 3.13: Some local spoons and ladles (Wolff, 1986).

3.5.1 The subsistence economy

The nature of the subsistence base in Shira is examined in light of some basic aspects of Hausa economic structures which Lovejoy (1980) pointed out were based largely on environmental and artisanal specialisation. These structures, as discussed by Adamu (1978), were and are still the basic ways in which people made their living. Candotti (2010) further notes that the Hausa people are renowned as great tradesmen with a complex pattern of trade and manufacturing specialization, which has developed over many centuries. But first and foremost, most people in Shira, as well as in neighbouring Hausa society are engaged in agriculture (*noma),* which is their major means of subsistence after seasonal traditional crafts (*Sana'ar hannu/gargajiya*) alongside commerce and trading *(kasuwanci*), with each of these categories sub-divided into smaller units. Traditional craft in the society falls into male and female category, with each having administrative employment of various types to extend the list. For further discussion on traditional occupation in Hausaland, see Smith (1952) and Alhassan and Zarrukk (1982:39-64), who in their various study of Hausa subsistence economies, divided the subsistence base of the people in Hausaland into a number of groups, primarily based on the observed differences in subsistence patterns, for example, the sources and methods through which the societies at large (to use a popular phrase) 'struggle to put food on the table'. Thus, using this approach, the subsistence type was divided into five interrelated categories (Alhassan and Zarrukk (1982:22) and see (Figure 3.14).

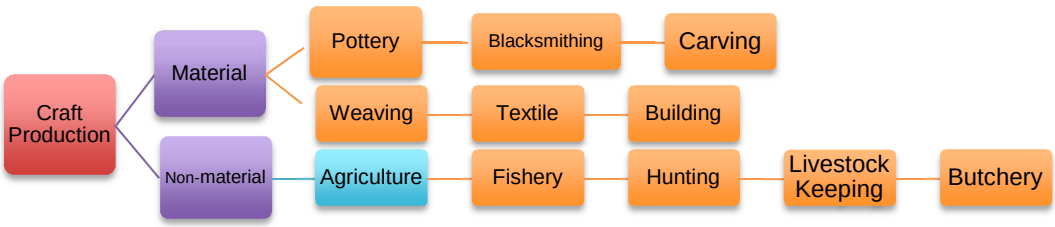


Figure 3.14: Local and subsistence practices (developed by the researcher, after; Alhassan and Zarrukk, 1982 discussions).

- Primary production – this includes household subsistence production that is for direct consumption, for example, hunting (*farauta),* fishing *(su),* farming *(noma),* butchery *fawa* and livestock keeping (*kiwo).*

- Secondary production – the processing of primary materials into useable household products such as blacksmithing (*kira)* and carving *(Sassaka)* manufactured from iron and wood respectively. These are often the best source of basic materials for useable household products.

- The production of other primary products such as textile production - spinning (*kadi),* weaving cloth (*saka),* tailoring (*dinki),* dyeing (*rini),* the production of leather and tanning (*jima* & *dukanc*i), house building and other construction activities (*gini*).

- Traditional trade and commerce, of which there are different types in Hausaland, for example long distance trade (f*atauci),* Itinerant haberdasher (‘*yan koli*), market broker (*dillanci* and *awo*) and so on.

- Other forms of commerce includes skills that supply services to the people for instance, the barber (*wanzami;* pl. *wanzamai*), hairdresser (*mai kitso*), and hired labourers/helps in houses or farms (‘yan *kwadago)* and so on.

3.5.2 Land use and economy

The major economic activities in Shira revolve around agricultural activities during the wet season. As discussed in Chapter 2, farming activities are entirely reliant on the four to five months of rainfall, except along the banks of the major rivers and other seasonal watercourses, where some irrigation is undertaken to produce perishables such as tomatoes, onions, peppers and so on. The major crops cultivated in Shira include grains like maize, guinea corn, millet and sorghum amongst other agricultural crops such as cowpea, beans and groundnuts which are produced for food and as cash crop (BSADP, 1994, USAID, 2007).

Livestock keeping and herding constitute another important aspect of the socio-economic life of the inhabitants of Shira and, as is common in other parts of northern Nigeria, small

and large animals such as goats, sheep and cattle are kept in most households (Figure 3.6). The keeping of these animals not only serves as a meat diet but also source of income for most people in the region (USAID, 2007, Kandji et al., 2006). Traditionally, people are encouraged to keep birds and small animals not only for the above reasons, but also as a shield and protection against evil intent. Other small livestock, especially goats, are used to provide milk for babies.

Other than seasonal cultivation and livestock keeping, the inhabitants of Shira also engage in a variety of after-rainy season activities to augment their income. This becomes necessary as grain reserves from farming activities almost always dwindle within five to six months, thus making most households with minimal livestock needing to supplement their food resource through such activities as weaving, woodcarving or even resorting to seasonal work migration '*cin rani*' to earn the money for food as well as other essential household products (USAID, 2007). *Cin rani* which literally means 'to eat the dry season' is a male activity (though the Fulani or Bororo women are known to partake), undertaken in search of work, food or offering services for money to augment the rain fed farm produce (Udo, 1971).

Figure 3.15: Farm cleared for cultivation (showing small heap of manure).

3.5.3 Agriculture and farming practices in Shira region

Agricultural production for their own consumption plays a major, and indeed a basic, role in the economy of Nigeria and in the northeastern part of Nigeria it is the main occupation of a large percentage of the population that inhabit the region (Barbour, 1971,

Norman et al., 1979). Generally, farming is rain-fed in Shira, though there is also dry-season irrigated farming in those settlements lying along the river banks. Each of these systems of farming have significant variations in the way the farming activities are carried out. In the rain-fed season (see Chapter 2), which falls between May and October in Shira (this period differs from place to place within the region), the activities start well before the first rainfall. The preparation for the farming season starts with the clearing (*sassabe*) of all obstacles, shrubs and stumps are uprooted from the farm, two or three months before the start of rainy season (see Figure 3.15). This activity sometimes starts right after the harvest period. The important thing is for this part of the work to be complete before the beginning of the rainy season. The farmers in Shira use hand tools as machetes (*adda)* and axes (*gatari)* for this purpose. In the wider northern Nigeria, Hill (1982:72) observes that farm tools have remain basically unchanged since they were described, at the beginning of the 19th century, by Denham et al. (1828). The Hausa cultivators according to Hill, relied, and still rely, on a range of hoes and the cutlass, which are all of a traditional design made by local blacksmiths and carpenters (Hill, 1982:50).

After the vegetation is cleared, the debris is set on fire in clusters across the farmland. The subsequent ash from this debris is used as manure on the land. However, the main manure is brought from family compounds including animal droppings from goats, sheep, donkeys and cattle which is kept by the farmers (more recently in Shira, excess manure from the compounds is sold to farmers for profit by negotiation) as well as latrine manure and compound sweepings (Udo, 1970:183, Hill, 1972:20). As mentioned above, all families in the region keep household sweepings, animal dung and so on, in open space either behind or along the main wall of the house and the main function of this is the provision of manure to farms (Figure 3.15). The manure is usually spread on the farmland by distributing it along the furrows, between the ridges left from previous years, after which the furrows are filled up with soil during ploughing (Udo, 1970:183). This intensity in the application of manure increases the crop yields and is found to be particularly important for good yields of millet (Ajeigbe et al., 2010:6). Other than household manure, most farmers also apply chemical fertilizers which are subsidised by the government ‘but are as yet of little importance relative to natural manures, which is much more popular’ (Hill, 1972:20). The costs are among major factors limiting the

use of fertilizer in northern Nigeria. While manure is spread and covered up with earth prior to planting, fertilizer is used after the crop has germinated.

After the land is cleared and the manure is spread between last season's ridges, the farmers prepare for the current planting season by ploughing the land with either an animal drawn plough or with large hoes. The ploughing starts after the first rains have penetrated deeply enough into the soil to facilitate easy ploughing (Figure 3.16). The large hoe, *fartanya*, is the most basic tool used by the majority of the population, but where income is available people prefer the animal drawn plough, *garma*. Mechanised farming is rarely practiced in the region. The absence of tractors is one of the major constraints with regard to this farming process. Even under these circumstances, most farmers in the region have to hire the ox-drawn bulls during the planting season. Hence, the majority of the population depend on the hoe for ridging their land.

Figure 3.16: A ploughed farmland in Gandu Shira (showing the test pit).

The ground during ploughing is contoured into parallel ridges as shown in Figure 3.15 and Figure 3.16. Ploughing is normally done three times, once after the first rains and prior to planting, a second time to control weeds after planting *shuka* and then the farm is plough for a third time when the crop has reached the height of an average male in the society. In Hausaland, Madauci et al. (1982:50) observes that the entire farm is ploughed after the groundnut germinates (*noman fari*), the fresh shoots are reduced, leaving between three to four shoots in each hole. Then, the second cultivation occurs when the

millet has reached height of an average horse. Ploughing or ridging farmland is carried out with the help of family members or hired workhands, whose wages are paid at end of each day according to the number of ridges completed.

When the rains have become steady, the farmer and family members start planting the crops *shuka*. Women (particularly women who have passed child bearing age) and small children are sometimes involved in this activity and during the harvest *roro*, the shredding of crop *sussuka*, and the shelling of the crop *surfe*. The system of planting differs from place to place within the region depending on the soil type, for example, in the northern areas long-handled hoes '*sungumi'* are used during sowing and only one thrust is required to make a hole of the required depth because the soil is sand and therefore soft. But in the south the short handled but long bladed hoes *garma* or *fartanya* are used and it takes two to three plunge before a deep enough hole is made for the seeds to be sown (Madauci et al., 1982:50).

In each hole made, farmers sow up to 10 seeds depending on the crop being planted. Seeds used during the farming season are either reserved from the previous year's harvest or purchased from the market and they are more often than not intercropped with other crops, with the most popular mixture in the Shira being millet/sorghum/groundnuts or sorghum/groundnuts/beans. The most popular combination as observed in all the three villages and among the five farming families is planting guinea corn in two or three ridges, followed by a ridge of millet. The groundnut or cowpea is planted on the ridges and between each sprout of millet or guinea corn. Guinea corn and millet are usually sown first before the groundnut and beans (Madauci et al., 1982). Millet matures much earlier than any of the other crops by about one to three months.

In the *fadama* farming system, which permits year-round cultivation due to the water table being located close to the surface (Norman et al., 1979), cash crops such as rice, maize, sugarcane and vegetables (onions, tomatoes) are produced. In Shira, Faggo to be specific, vegetables such as onions, tomatoes, peppers, lettuce, as well as sugar cane and rice are generally intermixed. The *fadama* system of farming is found to be in relative uncommon in comparison with upland farm fields in Shira. This may be related to the inability of most settlements along the river Bunga banks to participate in the *fadama* farming system.

S/No.	Farmers	Study area	Farm details	*size (hectare)	Procurement	Type of farming
1.	Farmer 1	Faggo	Fadama	0.50	Inherited	Mixed
2.	Farmer 2	Shira	Gona	5.0	Purchased	Mixed
3.	Farmer 3	Shira	Gona	Small	Inherited	Mixed
4.	Farmer 4	Giade	Gonakai	Large	Purchased	Mixed
5.	Farmer 5	Faggo	Fadama	Small	Inherited	Single

Table 3-1: Farm ownership in Shira (developed by the author).

In Shira, cultivated fields fall within the range of 0.5 to 3.0 hectare. The author looked at five farmers involved in upland (*gona*) and lowlands (*fadama*) farming. The fields used as farmlands were acquired through inheritance, bought or contracted through exchange (see Table 3-1). It was noted that inherited lands are much smaller fields than those acquired through sale. This may be due to having had the land carved out from a larger field after the death of the head of the household. Although in one case, it was noted that further purchase of surrounding fields (farmland) had enlarged the farming space. Some characteristics of the farmers include, all are male and family unit heads with at least one and up to three wives. Of the five farmers, two were into commercial farming while for the other three, farming is the only means of subsistence. The two fadama farmers shared the same lineage with their farms adjacent to one another. For three of the farmers, the field was acquired through inheritance while two purchased their land (purchased the initial field and then expanded by exchanging fields with neighbouring farm). The most popular method of tillage is hired labour or with hired implements (plough-drawn oxen) in the commercial farms while in the fadama and in one of the upland farming families, labour was supplied by family members.

3.5.4 Livestock production

In Nigeria, livestock production is more prominent in three zones namely, north-west, north-east and central zones (Oladele et al., 2005:359). In the northeast of Nigeria, the livestock production system is roughly divided into three forms: *kiwon isa* meaning simply exceptional livestock involving mules (*alfadari)* and horses *(doki)*. These animals are kept for their attraction or appeal rather than for sale and are considered to be the rich

people's livestock because a person has to be financially capable to keep/feed these animals. Next is *kiwon fatauci*, which is that of breeding and keeping animals and birds for sale such as chickens, pigeons, cattle, goats and sheep. The last is *kiwon raha*, which is simply keeping animals for as hobbies. This includes the keeping of animals considered to be pets such as peacocks *(dawisu)*, ostriches (*jimina)*, dogs (*kare)*, cats (*kuliya*/*mage*/*kule)*, rabbits (*zomo)*, monkeys (*biri)*, parrots (*aku)*, canaries (*kanari)* and so on (Alhassan and Zarrukk, 1982:43). In Shira, animals such as cattle, goats, sheep, donkeys and horses are reared for income, meat, dairy, and serve as beasts of burden (the donkey) while birds including chickens; ducks and pigeons are also kept for income, meat and eggs.

Generally, livestock keeping in the region is closely linked to farming, for instance cattle are used for ploughing and pulling wagons throughout the faming season. While the Fulani inhabitants of Shira predominantly keep cattle, most households keep small animals such as goats, sheep and birds. A person's first animal/bird is most likely to be a gift from family members or bought with gift money given to mothers on the birth of a child, or occasionally by family members. Traditionally, people are encouraged to keep animals or birds as a shield or protection against the evil eye or evil intent *jifa*/*asiri*/*sammu*. There is a common belief in northern Nigeria that people have the power to harm you just by looking at you. This belief is known as *asiri* (secrets) and takes many forms; there is *jifa* (throwing or casting), *sammu* (poison) or *tura* (push spirits), all of which can cause harm, illness, injury and even death to the victims (Hadj-Moussa and Nijhawan, 2014:140, see Tremearne, 2014:109-153 for study of Hausa customs and superstitions). Anyone can be affected by this and as a result people are advised to keep animals among other protective measures which may act as a shield or protection for them. The belief is that should there be any misfortune or evil intent directed at you by another person, such plans would fall on the kept livestock. It is common when commiserating with such a person, to hear such words as 'we pray that it has protected you against calamity' (*Allah yasa ya tare wani abu*).

As stated, generally the keeping of large animals such as cattle in Shira, as well as in other parts of northern of Nigeria, is mostly associated with the pastoral Fulanis (Phillip and Ogunbile, 1993:215). However, Hill (1972) notes that this does not apply for all northern Nigeria. In fact, in Batagarawa, she observes that 'the number of cattle reared by

Hausa farmers for sale to butchers far exceeds the number of plough-oxen' (Hill, 1972:217 & 288). Most farmers maintain their plough-oxen but where there is more than they need, 'most owners board out their animals to the Fulani to save labour on herding' Hill (1972). These animals are largely kept for income, milk *nono* and other milk related products, like ghee *man shanu*, which are essentially sold through the weekly market in Shira. The manure of these animals as indicated above is used as fertilizer on farmland while the skin and horn after they have been butchered are the materials used for leather making. Large animals such as cattle are considered to be a symbol of wealth in the society. Small animals, which are much more easily disposed of for cash than large animals such as cattle, are kept to serve as a source of ready income for an immediate family, they are essential in most compounds and they are also a source of meat to the larger society. Bayer (1986:141) estimates that in Nigeria, small ruminants contribute an estimated 35% to the total meat supply and that they are apparently more important in the north than in the south, and more important in rural than in urban areas.

Figure 3.17: Animals grazing in Shira.

3.5.5 Hunting practices

Hunting (*farauta)* is a crucial component of subsistence activity in Shira. It is an important traditional occupation in many local Hausa communities in northern Nigeria. The Hausa of northern Nigeria have a very strong culture of traditional hunting, which is famously associated with the migration histories of many of the original settlers of the Hausa city-states, for example, the Kano Chronicle, states that the city's first settler was

Barbushe, its chief, who was of the stock of Dala (the name of a rock and also a man), ' a black man of great stature and might, a hunter, who slew elephants with his stick and carried then on his head about nine miles' (Palmer, 1908:63). Many of these traditions exist in other smaller Hausa city-states for example the town of Kazaure in Kano also claims to have been founded by hunters from this same Dala hill.

The information on traditional hunting in Shira was collected from two local hunters in Shira. Traditionally, only men hunt. There is no taboo of any kind on women partaking in *farauta*, although women are traditionally expected to stay at home, the case was recently documented in the *aminiyar* newspaper[1] of a Hausa woman who hunts from Kano (Hassan, 28 March 2014). Nonetheless this is the exception not the rule. In Shira as in other Hausa communities, there are three types of traditional hunting practiced: a) where a single individual hunter (*maharbi)* goes hunting alone with his dog, wire traps, gun, bow and arrows in wooded areas, caves and rock shelters for small animals, birds and rodents; b) where a group of children with slingshots, sticks and other small traps or objects go into wooded areas to hunt for hedgehogs (*bushiya),* rabbits (*zomaye)* and bandicoot rats (*gafiya);* c) where experts hunters come together at certain periods of the year, mostly in the dry season, for hunting in a much larger wooded area or forest (Alhassan and Zarrukk, 1982:40). This occasion is usually celebratory with drumming and a display of pageantry by participants. Before the hunt, there is a ritual performed for luck, including what is known as *daurin daji,* to enable them to easily locate the animals and prevent accidental encounters with dangerous animals. This is carried out collectively by all the participants (Tala Gwadan-gwadan, pers. comm 2013; see also Aiyedun, 1996:67, Alhassan and Zarrukk, 1982:39). All wild animals can be hunted, but some species are restricted due to superstitious beliefs, for example, killing animals such as deer is often avoided when a hunter's wife is pregnant that in the belief that killing such a deer will lead to the still-birth of the hunter's child (Aiyedun, 1996). Animals hunted include a variety of snakes; viper (*kububuwa),* python *(mesa),* black-headed cobra *(kummurci),* rabbit (*zomo),* gazelle (*barewa),* jackal (*dila),* deer (*buck)* and birds such as guinea fowl (*zabuwa),* wild partridge (*fakara)* and so on.

[1] Aminiya is a Hausa-language newspaper established by Media Trust, a regional newspaper company primarily established as a voice for the northern region of the country.

Subsistence hunting in the Shira society is valued not only for food but specifically for the provision of medicinal remedies. Most Africans believe that wild animals and their by-products (hooves, skin, bones, feathers and tusks) can be used as curatives and preventative medicines (Adeola, 1992:125). The animal by-products which have healing powers are sold by the hunters to *yan shimfida*, traditional medicine sellers, who are sometimes also herbalists (both male and female) who sell them on to sick people (see Figure 3.18 for medicinal body parts displayed in market place). The therapeutic uses of the animal by-products include treatment of certain bodily ailments, e.g., camel dung is used for the treatment of ear pain and cataracts. Other uses include protection of the body from spiritual attack or the protection of homes and farms against evil intentions by either humans or spirits (Ibrahim et al., 2010:392).

Figure 3.18: Body parts of wild birds and animals for sale in a market
http://africageographic.com/blog/monkey-paws-at-durbans-muthi-market/

3.5.6 Fishing

There are different fishing practices (*kamun kifi)* among the Hausa (depending on the type of water present. These are the *kwarya* gourd and net fishing made famous by the Argungu fishing festival (north-western Nigeria) where thousands of fishermen, with a

hand net and large gourd, fish with their bare hands (Shyllon, 2007, Hutchison, 1975). This is known as s*u*, where the fisherman balances himself on a large gourd, dragging a small hand net known as *koma* as he floats along to catch fish. Another type, known as *Taru*, which involve a large circular net made from bamboo stalk is thrown into the water to catch fish. A weight is attached to it on the surface to make it sink deep into the river. Other popular methods include *lalabe* where fish are cut using bare hands while standing in the water. There is also *fatsa*, which involves a rod and hook. Alhassan and Zarrukk (1982) also mentioned the *Hargi*, where a spear is used to catch fish in rivers. More often than not no distinction is made between large bodies of water in the region. At its most basic, any large collection of water, lake, large river or a ravine through which water flows is simply called *kogi*. However, the small bodies of water are differentiated into pool (*tafki),* spring or fountain of water *(marmaro),* pond (*kududdufi)* (Figure 3.19), small body of running waters (*gulbi, korama/kwari).* Fish caught include mud fish *tarwada/gaiwa* (*proto-pterus;),* catfish *ragon ruwa* (*Bagrus bajad/docmak),* tilapia *bugu* (*tilapia nilotica/sarotherodon niloticus),* ray-finned fish *karfasa* (*actinopterygii), and* catfish *hambama* (*siluriformes;)* (Bwala et al., 2010). Fishing in the society is a spearheaded by the *Sarkin Ruwa,* who is assisted by *Galadima ruwa.* The *sarkin ruwa* is believed to have spiritual powers over any river water activities and is known to stop rivals from fishing successful or the fish refusing to cook, he communicates with river spirits and gives medicine for ailments. A superstitious beliefs surrounding traditional fishing includes the belief that he who fishes on Saturday will be turned into a monkey (Sarkin ruwa Yakasai, pers. comm. 2013).

Figure 3.19: A fishing pond with some fishermen in Faggo.

3.6 Traditional craft industries

Other than the seasonal cultivation, livestock herding and related subsistence practices, a greater part of the year in Shira is spent engaging in a variety of after rainy season activities to augment the household income. Primarily, the people of Shira are known in the northern Bauchi for their expertise in basketry – fans, mats, ropes, hangers and animal mouth griddles. Other flourishing, yet dwindling, crafts noted in the region include woodcarving, pottery and blacksmithing. Studies conducted elsewhere in Hausaland have shown that on an average, the male adult member of the society spends about 41% of the total days worked in off-farm work, which is undertaken both in and out of the village (Norman et al., 1979). According to the research by USAID (2007) in northern Nigeria, the after farming work is necessary as grain reserves from farming activities almost always dwindle within five to six months, thus leaving most households with minimal livestock to supplement their food resource. The money from such activities as weaving, woodcarving or seasonal work migration is used to buy the balance of food as well as other essential household products before the next annual farming season starts. Primarily, it was noted that the inhabitants of Shira are well known for their expertise in basketry – fans, mats, hampers - and woodcarving and blacksmithing within the region. Pottery has all but disappeared from the urban centres and manufacturing is done only in the inner villages of Shira. Craft-related tools described in the following section are illustrated in appendices ‘Appendix B - Appendix D’

3.6.1 Pottery production

Despite the availability of plastic and aluminium containers in most households in Shira, the production and consumption of pottery vessels for household use are still prevalent in the wider region of northern Nigeria. Unfortunately, no detailed ethno-archaeological descriptions exist on the technical traditions and the social context of pottery production in our region of study. This investigation provides the first detailed examination of pottery production practices in the northern Bauchi region. The people of the Shira region, where the archaeological investigation took place, do not engage in pottery production even though all households visited in the course of this investigation have a clay object of some sort in use for the storage of water (*randa)* or cooking (*tukunya),* or simply kept for aesthetic purposes (*gajimari)*. These clay vessels, it was discovered were

sold in the local weekly market (see Figure 3.41). Thus, the investigation attempted to visit six potting communities, which include Faggo, Malori, Sambuwal, Yakasai, Kurba, and Garande settlements that produces pottery around the present Shira region.

In total 32 individuals in four households each in Faggo and Malori, and two in Yakasai and Garande villages were studied. There was also one in Kurba village, where unfortunately the last living potter, a male, had died before the scheduled visit, but all his pottery as well as other working apparatus had been documented, these were to provide comparative data on manufacturing process. In Sambuwal, the interview involved four retired male potters who used to produce larger water pots and water bottles. Among the 32 individuals interviewed, 28 are female and five are male. Three of the males interviewed have switched to other vocations while one is partially retired due to old age. Among the women interviewed, seven people were not practicing pottery due to marriage and living in different settlements that has no clay source, one person had retired due to old age and five people who occasionally lend a helping hand to potters.

3.6.1.1 Technical practices

This section describes the technical style of the potters investigated in northern Bauchi from learning networks to the acquisition of the raw materials used in pottery production through the manufacturing process and distribution of the finished wares. The pottery production is mainly looked at from a technical approach, which has to do with identifying the manufacturing techniques and the way the technological styles are structured among the potting groups. Scholars have established that knowledge of technical styles in pottery production has been useful in identifying social groups of potters in the present, and this approach has the potential to unravel some of the social context and history of pottery production (Gosselain, 1992, Gosselain and Livingstone Smith, 2005, Gosselain, 2011, Gosselain, 1999, Gosselain, 2000, Livingstone Smith et al., 2005, Livingstone Smith, 2010a, Livingstone Smith, 2010b, MacEachern and David, 2012, Sterner and David, 1991, Mayor et al., 2005, Gosselain et al., 1996).

Figure 3.20: Some children at ‘work’ in Faggo.

3.6.1.1.1 Learning process

There is no special tutoring when it comes to pottery production. Apprentices are shown the operational systems to follow by observation and imitation. The teaching and learning procedure among potters in Shira is relatively informal with the 'teacher' passing on the technical skill learnt from their own 'teachers', for example, if one specialises only in making small pottery vessels like the small kettles *(buta)*, it is that particular skill that will be passed on to the next generation of potters. As a general rule, potters explain that they act according to tradition; i.e., that they use similar tools and recipes as the person(s) from whom they learned the craft and that they have never changed the technique of production or adopt another (Gosselain and Livingstone Smith, 2005:8). While most of these women claimed to have inherited the craft, learning from their mothers, two women who were married from non-potting households, had to engage in a brief apprenticeship with the experienced potter, and in Faggo one of the older potters now trains other women in the household to perfect the act.

In another household in Malori, one of the potters stated that she had learned to make pots by watching other potters at work in the compound. Learning of the craft is open to all, regardless of social differences even though none of the pottery-making households have had the experience of teaching anyone outside the family, except those that were married into the household so that effectively knowledge does remain within families.

Learning can start quite early for those living in the potting compounds, sometimes as early as five by being or given verbal instructions formally by their mothers, beginning at about the age of ten (see Figure 3.20) or later for those who want to take it up for economic reasons. Children in potters' compound are hardly given any formal instruction but mostly learn through day-to-day informal observation. Male potters are taught by other male potters who train them as apprentices (Yau Sambuwal, pers. comm. 2013). As a rule the older, more experienced potters 'teach' newcomers and instruct them on the technical choices and processes, but contemporary potters also learn from each other.

Figure 3.21: The potter's work space and workshop in Malori and Faggo.

Females are the primary potters producing unit in all the communities visited. However, as noted above the research has documented the experiences of male potters who had stopped production due to retirement or other engaging in other occupations. No working male potter was documented in any of the villages visited. Currently, the only stage were males were involved in pottery production is during extraction when male children help their mothers to dig clay.

All the potters documented, worked inside their compound and are independent of their neighbours. Pottery making is conducted in workshops or workspaces inside compounds, is usually informal and can be any space within the household (Figure 3.21). The use of

the family compound (*tsakar gida)* was found to be most popular as it gives them an opportunity to carry out their work while caring for their children.

Such was the case across all the potting communities except in Faggo, where the potters used a collapsed building as their central workshop though everyone has a place in front of their sleeping quarters to use when the need arises.

Pottery is produced all year-round in the compounds as part of the domestic routine but it is drastically reduced, or entirely stopped, during the rainy season as people are busy with farming activities and the rains prevent the vessels from drying adequately for firing. The range of pottery vessels differ from one village to another and even from one compound to another in the same village, although techniques are the same.

Many of the potters specialise in making certain types of vessels all made in the same kind of way as they first learned. The technical styles first learned by a potter hardly change throughout their production years even when the potter moves to a community that does it differently. Therefore, the technical style is transmitted more or less as a conscious practice of social identity from the original learning spot (Wayessa, 2011:307). Some of the most popular range of pottery vessels include cooking (*tukunya tuwo/miya)*, cashbox (*asusu)*, room warmers (*kaskon-wuta)*, aesthetic pots (*gajimari)*, storage pots (*tulu)*, pot for boiling of water used mostly for bathing after delivery (*kafara)*, kettle (*buta)*, fryer (*tanda masa)*, lantern (*fitilla)* and so on. Clay vessels are produced for household and economic purposes and sold at nearby village markets in all the communities.

3.6.1.2 Pottery production practices in Shira

This section will describe the various stages of the manufacture of pottery. This study was important in setting a background for the archaeological objects recovered and in addressing themes pertaining to pottery production within the study area. The ethnographic work sought to characterise techniques and learning patterns among several potting communities and to determine whether there existed a specialist distinction in the manufacturing techniques. More generally, the study of pottery production practices allowed the author to gain familiarity with key parts of the chaîne opératoire such as clay sourcing, shaping and decoration, and as such were important in the subsequent analysis

of the archaeological materials. For example, a better understanding was reached of techniques of decoration, and the contrast between archaeological and present-day cultures noted; observations concerning the form of modern-day pottery enabled hypotheses to be formulated concerning the function of archaeologically-retrieved vessels; documentation of pottery-production areas alerted the author to the traces that might be sought during survey.

Figure 3.22: Collapsed clay mines in Garande and Faggo settlements.

Thus, the primary aim of observing the pottery manufacture is to identify the primary habit or practices of production and discard behaviour by studying the physical material, production technology, exchange, use, and discard of pottery in the present that could provide analogies, or differences or interpretation of how potsherds may have come to be in the archaeological record. These includes what types of activities may have been occurring in different stages of production and how pottery are discarded at the end of their use-life. In most instances, potsherds recovered by archaeologists are found broken. These objects may have been deposited/abandoned intentional or accidentally. The documentation on discard shows a range of household activities from Shira which may have certainly made. First, it was noted that substandard goods are intentionally discarded during production (after firing) when noticed. These types of pots are broken and use as temper (grog), left laying around the compound or gifted when it is only minor flaws such as misshaped vessel or fire-cloud on surfaces. Pottery vessels are also intentionally broken over graves. These pots are broken into large portion of twos and placed over a body before the earth is put back. At times, broken pieces of potsherds are used as lid/cover. There are also used as room warmers with charcoal as fuel. Though not common presently, pottery are intentionally smashed and used as floor covers in domestic compounds. Transportation was also noted to contribute towards discard/destruction of pottery.

3.6.1.2.1 Clay extraction and mining practices

Similarities were documented in the villages visited with regard to obtaining clay even though the sites from which the clay is collected vary greatly from one potting community to another. In Faggo, clay is mined in shallow pits on river valleys where it has been deposited by the retreating waters, whereas in Garande village, it is extracted from a pit almost 5m below the surface, located along a dried watercourse. Although no active mining of clay was observed in other potting communities, the potters informed the research team that the clay mines are located along watercourses within 1km to 1.5km from the villages. These distances roughly correspond with clay extraction versus workshop idea, which indicates that most African potters collect their clay within a 3km radius from the place where they live and/or practice the craft (Gosselain and Livingstone Smith (2005:1).

Generally, clay extraction is through surface collection or pit extraction (as shown in Figure 3.23 below). The potters in Shira are assisted in collecting clay by their children (see Figure 3.23; left and centre), although potters in Yakasai and Malori villages sometimes buy their clay from individuals (adults) who go further away from the villages to mine good clay sources. Mining can be hazardous. In Faggo, one young man was nearly killed when the upper layer of the mine collapsed (Sama'ila Faggo pers. comm. 2013). Another pit in Garande village was alleged to have been abandoned before it collapsed (Figure 3.22 'top').

Figure 3.23: A shallow clay pit mine and an extended view of the clay extraction site in the Faggo (bottom).

As for mining, it was discovered in Faggo that the miners use both systems to mine clay from two different extraction sites; one from the surface deposit of Hadejia-Jama'are riverbeds and on the ground on the slope of a hill. The clay mined from the riverbeds is fine textured and dark in colour (*bakin yumbu)* while the clay from the hill slope is of

lighter texture (*farin yumbu* or *ballo* as people who eat the clay popularly call it). Across the northern Bauchi region pregnant women eat small pieces of this dried white or lighter textured clay. The practice of geophagy is quite widespread among population of the Tropics and there are various proposed hypotheses trying to explain the cause and effect of this practice among women and children (Vermeer, 1966, Andrea S. E. and Solomon H. K., 1998, Lar et al., 2014).

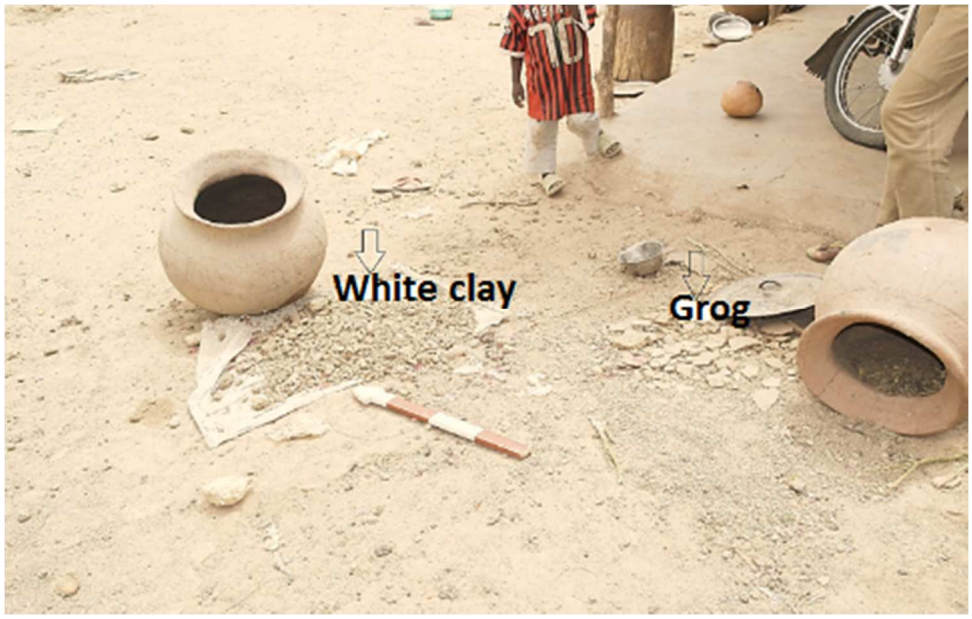


Figure 3.24: Materials used for temper in Shira.

In all the potting villages visited, there are no prohibitions surrounding clay extraction or even pottery production in the communities, nonetheless, potters as witness in Faggo, tend not to make pottery during times of mourning and funerals or ceremonial periods such as births or wedding celebrations or religious ceremonies. With regard to the variety of tools used in mining, the miners use hoes, spades, crowbars, pickaxes and even knives

(see Appendix B for photographs of tools). Generally, miners dig until access to the 'good' clay, or that perceived to be of high quality, is exhausted before moving on to another source. However, in the two mine fields visited in Faggo and Garande, several mines were in use at the same times. A mine is also abandoned when it is a danger to the miners due to fear of collapse (see Figure 3.22 'top').

Figure 3.25: Tempering of clay with millet husks in Malori.

3.6.1.2.2 Clay preparation

Depending on the moisture level of the clay when it reaches home, the potters spread it out to dry, or air dry, before hand sorting it to remove any natural debris like roots and leaves. The way the potters crush the dry clay material and combine the powdered clay appeared similar in all the settlement but one. In Faggo, the potters use two types of clay, one of which is the temper, which is crushed and the powdered clay is shaken through a sieve. The coarse element is soaked with the main clay in water while the fine sieved clay is used to knead the soaked clay before forming the body. This is done to increase the elasticity of the clay. In the other potting villages, the potters do not crush the clay before soaking it over night.

Figure 3.26: The two main categories of shaping techniques used in Shira.

After the drying, sorting and sieving, water is added in small amounts until the desired consistency is achieved and the clay is then kept covered to ferment, or sour, for a day or perhaps just a couple of hours if the potter is in a hurry to finish a vessel. The potters claim that fermentation helps to distribute clay particles uniformly, increase clay workability and limit the risk of cracking during drying and firing (Wayessa, 2011:309). Regardless of the clay's characteristics, it is mixed with another material, the *temper*, to adjust the plasticity of the soaked clay. The Shira potters select material for tempering based on the choices they were taught during their training. During clay processing in the

study area, the potters use two different types of white clay (*farin yumbu* - Faggo), or another kind of material such as sand (*rairayi* -Yakasai), millet shaft (*kaikayi* - Malori), finely crushed potsherds or grog (Garande, Kurba) as temper. In Garande, the grog used is produced from potsherds collected from the village's abandoned sites, while in Kurba the grog are made from pots that have broken while in use or during firing. A limited use of broken pots was documented in Faggo (see Figure 3.24; right).

With regard to mixing or tempering the clay, there are diverse classes of materials used by the potters. As already indicated above, the potters in Faggo mix two different types of clay, which the potters classified as *namiji* (male) and *mace (*female) clay. The 'male' clay is of a lighter texture (*farin yumbu)*, mined from a hill gorge, while the darker textured, black clay (*bakin yumbu)* is mined from riverbeds.

The potters consider the coming together or mixing of these two kinds of clay as a marriage union, where one category cannot stand alone, but the two strengthen one another. The Malori potters, on the other hand, soak the clay for the night and knead the soaked clay with millet husks (*kaikayi)*. This technical practice of using millet husk (*kaikayi*) as an additive in their clay mixture was documented in a single household in Faggo. In Yakasai and Garande villages, broken pottery or grog (*kaura)* was the temper that is added to the clay, which had been soaked overnight. All the potters mix the temper and soaked clay by repeatedly kneading and pounding the two materials together with their hands (Figure 3.25).

3.6.1.2.3 Shaping technique

The Shira potters use the technique of molding over a convex mold (Gosselain, 2000:201-202). The potters fashioned their vessels using a combination of both molding and coiling. The base of the vessel is shaped on a convex mold, which in all the villages happens to be an unused pot and then build the upper part of the vessel with coils (Figure 3.26; bottom left). The hand is then used to flatten the coil between the fingers to help merge it to the upper section of the pots. A wooden mallet called *mamari* and the fired lump of clay *diddinge* is then used to smooth the two sections together.

Figure 3.27: Construction of the lower parts of a vessel in Faggo.

The Shira potters divide the process of forming the vessels into three; *rufi* (meaning to cover), *dagu* (the leather hard stage just before the upper portion is built) and the *kururrumi* (which is the stage when the rim of the pot is built and other finishes are carried out) (Figure 3.27). The potter begins to shape the base of the pot on the mold. Before the paste is placed on the mold, wood ash is dusted on the exterior surface of the mold to prevent the clay from sticking to it. The paste once placed on the mold, is gently beaten in a downward motion with *dindige* (a lump of fired clay) to stretch and smooth the paste over the pot. As the potter works, the ash is repeatedly sprinkled on the surface

to prevent the *dindige* from sticking to the clay paste. When the shape is fully formed, the vessel is carefully detached from the convex container and put on the side to harden sufficiently before the rim is created.

Figure 3.28: Forming of the upper parts of a vessel using hand, mamari, diddinge and makankari.

The stage between when the formed base is lifted to the time when the rim is attached is what the potters called the *dagu* stage. Failure at this stage leads to the collapse of the vessel. As the vessels are left to harden, the potters attempts to fashion more pots until all the soaked clay paste has been used, leaving only enough to form the rim of the vessels. When the vessel is leather hard, it turned over and placed on an aluminium container or

bowl (*kwano)* which has been filled with sand. In Malori, the potters make a shallow hole of about two inches deep in which to place the leather hard vessel. Thereafter the potter begins to add the required number of coils needed to make the rim of the vessel.

Figure 3.29: Demonstration on how a piece of cardboard is used for refining the rim.

The rim is made by adding chunks of clay coils to the edge of the vessels, and then crushing it with the fingers before smoothing it with the fired clay (*diddinge)* and a wooden mallet *(mamari/katampa)* (see Figure 3.28). The number of coils used depends on the type of vessel the potter is making. At a minimum the potters usually requires two or four coils of clay for the neck and rim, for example, a bowl (*kafara/balangada)* needs two rolled rings to form its neck and rim while a pot/jar (*randa/tukunya)* requires three large coils or roll of clay. These coils are attached one after the other, first using the forefingers to stick the clay onto the leather hard vessel before the *Dindige* (discussed above) and wooden mallet (*mamari/katampa)* are used to slowly beat it into place. Both tools are used concurrently to achieve smooth wet coils. The potter then takes a scraping tool, a shell (*makangari)* probably sourced from a river, to further smooth both the interior and exterior of the newly formed vessel. All tools discussed above can be found in Appendix B.

Figure 3.30: Air drying of formed vessels in Faggo and Garande.

When the last coils have been smoothed in, the lip of the vessel is shaped with the leaves of pawpaw (g*wanda/gwanduwa*) tree or animal skin (*fata*). When these materials are not available, the potters make use of cardboard paper, which is briefly soaked in water to soften it before it is folded in half and dragged over the wet 'lip' (Figure 3.29). Gosselain (1992:570) notes a similar method used among the Bafia potters, who took 'the leaf of the rikzum tree or of a banana tree, folded it into a small rectangle and placed it on to the rim,

overhanging the wall on both sides. The potter holds it between her thumb at the outside and second finger on the inside, keeping her forefinger firmly pressed as it is pulled around the edge of the vessel which is turned as the leaf or cardboard paper is dragged across it.

Figure 3.31: A potter applying red slip to a vessel using *Gwargwami.*

3.6.1.2.4 Drying and post-drying treatments

Drying is an important stage in pottery making as it limits the risk of cracking during firing. The duration of drying for a vessel depend according to its thickness as well as weather conditions. The vessels are put under a shaded area to dry (Figure 3.30).

Figure 3.32: Some decorated vessels in Shira.

3.6.1.2.5 Decorations and tools

Prior to firing, the dried vessels are subjected to other treatments that seal and beautify the surface of the pots. These treatments include burnishing (*zuga*) and applying slip, which is a suspension of red soil, locally known as *jar kasa* and water applied to the vessel walls (Figure 3.31). A string, made of baobab seeds (*gwargwami),* is used to burnish and apply the soaked red soil (*jangargari*/*jar kasa)* by rubbing it over the vessel surface until it is all covered. The potters report that this is done also for decorative purposes, to attract customers and to make the surface stronger (Wayessa, 2011).

A vessel is usually polished and slipped after it is sufficiently dry and before firing. Bowls are usually burnished and slipped on both the interior and exterior, while small to medium sized pots such a *tukunyar tuwo* are slipped only externally. The essence of burnishing is to give a vessel a glossy exterior. In Malori, the vessel is given an extra touch after the *jangargari* have been used to burnish the surface. A little groundnut oil is applied on the upper part of the body and the *gwargwami* is used to further smooth the oil into the vessel. This gives the water vessel (*randa)* a glossy and shiny exterior.

Vessels are decorated after drying while painting is a post-firing treatment. The potters report that vessels are decorated and/or painted to enhance and increase their monetary value. Decorations are usually at the prerogative of the potter. The major decorations documented in the potting communities include smoothing, polishing, slip, incision, perforation and applied/additive decoration. Tools documented include *kibiya* (small arrow-like tool) and *aska* (small iron knife), *daudar maguzawa* (bark of certain shrub used as roulette), *mazaraniya/zare* (roulettes). For painting, the potters make use of natural and synthetic materials. These include any red soil (*jangargari/jar kasa),* light brown earth (*koya* light), chalk or kaolin *(alli),* and synthetic red or green coloured substance *(alkasa* da *garura).*

Some of the decorations favoured by the Shira potters include; incisions; *Zube (vertical incision), Gashin Zabuwa* (Guinea fowl's feather), *Mazan tsaye* (standing Men) and applied/additive decorations *Batsitsa mai nono* (breast), *Batsitsa mai nono da aljihu* (alongside), *Batsitsa, Guru* (waist chain/beads), *nonon kare* (dog breast) and paintings. Most often these decorations are mixed together and in many cases, the decorations are

combined with incision, which includes vertical, horizontal, wavy and boxed line decorations.

Figure 3.33: Perforated vessels in Malori and Faggo.

The incision is achieved by dragging a knife (*aska, kibiya, or mayanki)* over the surface of the new vessel to draw vertical or horizontal and/or criss-crossing lines or patterns while roulettes are rolled across the surface of the vessel. The decorations, though basic, are suggestive of the people's every day cultural values and have a gendered element as can be seen though the names they are given (see Figure 3.32 for some of the decorations from Shira).

Figure 3.34: Some of the roulettes documented in Garande and Sambuwal communities.

Different decorations tend to be associated with different types of pots, but are not completely standardised (Aiyedun, 1988). In Shira, the potters presently decorate mainly the water storage vessel (*randa)*, which is usually inserted into the ground, in front of the sleeping quarters of the female members of a household as mentioned in 3.4.3 above.

The *randa* as discussed is generally part of the dowry, a bride brings into her matrimonial home. All vessels were however well burnished and slipped in all the potting villages.

Other preferred decorations include the *Guru*, which is made by adding a roll of wet clay around a vessel to form a ridge. The fingertip is then used to make an impression over it. All *guru* decoration are either lumps as shown above Figure 3.32 left and centre had rolled clay on pottery surface. A single water vessel in Malori was found with images of animals, birds and handbags. When interviewed, the potter maintain that it has no ritual or ceremonial purpose but was done to appeal to a buyer. Another type of decoration noted during the fieldwork is perforation where the holes are made with a knife and cover

the entire the ‘base’ of the vessel. Perforated vessels with handles are colanders while those without are steamers (*Gitere)* (see Figure 3.33).

Figure 3.35: Firing process in Faggo, Shira.

For rouletting, the Shira potters use a damp corn cob, which is rolled over the vessel. Other types of roulettes, though no longer used, were recovered from three former male potters in Sambuwal village, Shira. These roulettes were made of vegetable fibre, twisted and rolled to between 5-8cm long (see Figure 3.34 and Appendix D).

3.6.1.2.6 Firing

The firing process (*gashi/toya)* is a communal activity carried out once a week in all the potting communities (Figure 3.35). Prior to firing, all the potters in the compound bring their vessels to the firing area (*matoya),* which is located inside the compound, except in Garande where the firing space is at the back of the family compound. Depending on the number of potters in the compound, a household may have two firing area as documented in Faggo, or a much bigger space as noted in Malori settlement. All potters within a compound fire their pots together.

The firing in all the potting communities are done in a demarcated space, usually behind the sleeping quarters within the compound in an area known as *matoya*. This may probably be as a result of the purdah system which is practiced in all the communities. The preferred fuel for firing includes animal dung especially that of cows, dried shrubs such as *sabara* (*Guiera senegalensis*), millet stalks and *roba* whose botanical and English name is not certain. It is however, one of the grasses that grow along riverbeds. Larger pots are arranged and laid sideways on the dung floor forming a support for the smaller clay objects which are placed on top. Sometimes smaller vessels may be put inside the larger vessels.

After the vessels have been arranged, one on top of another, dried shrubs, or grasses are then carefully organised to fully cover them. The potter's aim is to produce a red colour, which is formed in an oxidising atmosphere. When all the vessels are covered, wooden ash is sprinkled over the top of the grass before it is set alight. In Faggo, water is lightly sprayed across the ash to stop the dry grass going up in flames. Where necessary, more grass is added during firing to cover exposed vessels. This act prevents the exposed part of the vessel from darkening (Aiyedun, 1988). Firing takes all night or all day and fuel is continually added to exposed vessels, to prevent them from developing dark spots (see Figure 3.35).

3.6.1.3 Classification and functions of pottery

Generally, potters in *kasar* Hausa produce a wide range of vessels for diverse domestic purposes. The Shira potters, based on shape, size and function. Group A are generally pots or vessel with everted rims, spherical bodies and round bases, such as the large water

storage pots (*randa)* for water storage, the medium sized pot for cooking millet/corn paste (*fufu/tuwo tukunyar tuwo)*, and the small sized pot for cooking stew/soup (*tukunyar miya).* Group B are bowls known as *kafara*. These vessels come in different dimensions, which irrespective are still known by the same name. Group C are miscellaneous objects used for a variety of purposes. These includes such objects as oil lamp (*fitilla)*, moneybox (*asusu)*, kettle (*buta)*, fryer (*tanda)*, stove (*murhu)*, chicken coop (*akurki)*, smoking pipe (*lope* - rarely currently made in any the potting communities) and the rounded pitcher with constricted neck and mouth (*tulu)* for storing water (Figure 3.36).

Figure 3.36: *Tulu* and *buta*; constricted water vessels from Yakasai and Kurba villages.

3.6.2 Blacksmithing

Iron smelting is no longer practiced in any community in Shira. However, iron tools are still vital in the social life of the communities and virtually every settlement has a blacksmith workshop (*makera)* that forges small tools such as farming implements, knives and other domestic tools. To this end, the investigation sets out to study the general trend of blacksmithing in Shira. The ethnographic investigation surveyed four blacksmiths in the Shira region. All the blacksmiths interviewed had learned the trade from their fathers and although those not born into a blacksmith's family can learn the trade, according to Madauci et al. (1982), these individuals rarely become experts in

the business unless they started learning it from an early age, as do the children of blacksmiths. Training starts in childhood for most apprentices from the blacksmith's family and other apprentices from outside the family who do not pay tuition and are not obligated to be present all the time (Jaggar, 1994, Aliyu et al., 2008). The female child is not trained professionally but is allowed to help during forging or pumping the bellows. Blacksmiths forge their product from discarded metal implements bought or sold in the market. Finished products are rarely marketed by the smiths in markets but placed in front of his workshop for sale. However, many individuals simply provide the blacksmith with the metallic fragments for him to forge whatever they want made. Mostly, he simply produces or repairs broken hoes, sickles and knives for the local people (Figure 3.37).

Figure 3.37: A blacksmith forging a knife in Faggo.

The blacksmith's workshops are simple sheds made up of corrugated iron and zinc sheets with wooden rods positioned for supports. When constructed, the building is made materials similar to the local buildings with larger or wider windows providing cross ventilation. Working tools are relatively simple and few in the workshop. These includes anvil (*uwar makera),* bellow *(zugazugi, zugazugai pl.),* hammer *(guduma)* and another type of hammer (*masaba).* In addition to this the blacksmith has files for use in sharpening knives, cutlasses, axes and machetes (see Appendix C for these tools). For fuel, the blacksmith make use of charcoal from the tree *Prosopis Africana* (*kirya*). The wood from this tree is said to be hard, burn slowly and produces very good smokeless fire. The *kirya* woods, due to its hardness also the preferred wood used for producing the Hausa small chair, mortar and pestle (see Figure 3.38).

Although blacksmiths do not smelt iron presently, knowledge about how iron was smelted in the most recent past in the region is still known. According to Baba (1994), the last furnace in this region was built in 1947. The smelting was achieved through a reduction process, in a shaft furnace built without blast apparatus. The wind, which entered the furnace through tuyeres that were arranged at the very bottom of the furnace in a star-like pattern, circulated enough air into the furnace. When the furnace was built, charcoal was laid first before the iron ore was placed inside. The heat of the fire was regulated during smelting, using a clay tablet (*waina)* in front of the tuyeres which prevented air from streaming inside.

Figure 3.38: The Kirya wood in a blacksmith's workshop in Faggo.

3.6.3 Carving and carpentry

The art of woodworking is known as *Sassaka*. Wood is made into domestic items such as the door frame (*kyaure)*, short wooden char (*kujera)*, mortar (*turmi)*, pestle (*tabarya)* and the wooden part of farming tools such as the wooden part of hoes (*kota)*, axes and cutlasses (Garcia-Ruiz et al., 2013 & Yau mai Ice, pers. comm. 2013). At the most basic woodworking requires just three tools; an axe (*gatari)*, adze (*gizago)* and a curved chisel with a wooden handle (*makodi).* According to Madauci et al. (1982), the axe is used to cut down the tree branches, or even an entire tree, into smaller chunks. The adze is used to dress the wood to the required size and shape it after the bark has been removed, and finally the *makodi* is used to give a finishing gloss to the final articles by smoothing and

scraping it with the *makodi*. Besides this type of carving (sassaka), the people of Shira also practice calabash carving *Mafika*,. The calabash remains one of the containers still widely used for domestic use in the region study. Other than these crafts, which may be inherited, there is also carpentry, where individuals are given training by experienced artisans on how to make wooden beds, tables, chairs, and boxes.

3.6.4 Weaving

The people of Shira no longer engage in weaving of textiles but the knowledge on how it is done still exists. Textile manufacturing was carried out by both genders with women engaged in all stages of manufacturing; from preparing the raw fibres to spinning, weaving and dyeing. However, the spinning of cotton into thread was mainly women's work. For this, it was carried out by using wooden stick which was weighted at the lower end by a spindle whorl (see Figure 3.39). Cotton, spinning yarn and cloth dyeing have been an important trade and industry in the region for hundreds of years, until around the 1980s, when cloth production it gradually declined and was eventually abandoned. This was mainly because there was greater availability of cheaper, foreign yarns and the economic conditions surrounding cotton production also changed significantly when the government abandoned its cotton policy and abolished the cotton board. Until its decline, cotton spinning was mainly a female orientated craft. The cotton was either family grown (owned) or bought from the market. Before spinning into thread, the *angurya* seeds are removed from the cotton by a process known as *gurza*. This involved putting a handful of cotton fibre on the surface of a slab stone (*magurji*), then gently, using a metal roller pin (*bida*) to remove the seeds. This is repeated several times until the seeds separate from the fibre and then the hand is used to grab the seeds and pull out. The cotton is then ready for spinning (*kadi*).

The method employed in *kadi* spinning involved twisting the cotton fibres around the wooden spool/stick known as a *sinka/masilla*, and from there it is spun onto a thin stick *gora/mazari*, which is weighted at one end with a lump of clay called *gululu* (Temple, 1922:484, Appendix 1). When all these were assembled, it would then spin around on a basket covered with leather skin *fata*/*mataiki*. Frequently, as the spindle whorls were spinning, the spinner would dips the hand holding the newly spun thread, into kaolin (*alli*) powder for a better hold on the thread. The types of thread made depended on the purpose for which the thread would be used. In all, two kinds of thread would be

produced; *zare* and *abawa* (Adda & Umma pers. comm. 2013). The *zare* is a finer-textured filament, flexible and strong (usually used for stitching fabric). The *abawa* thread on the other hand has a softer, coarse structure and is mostly used for weaving clothes.

Figure 3.39: Contemporary spindle whorls from Giade.

The contemporary inhabitant of Shira are renowned for weaving of the grass *kaba* into local fans and mats. The craft is a subsistence practices for both men and women, each specializing in one form more than another, for instance, females focus more on local fan weaving than rope making which is more popular with male weavers.

However, there is no restriction in style/form of practice between the genders. Yet, while it is a part-time activity for many of the women, carried out within the confines of the household, their male counterparts weave in specially designed workshops known to the local inhabitants as *kurfi* (Figure 3.40). The *kurfi* is an underground man made cave, on farmlands, in which to carry out occupational activities.

The most popular technique for the grass weaving is a series of plaited strips, intertwined to produce a preconceived design. This method is used to produce a wide range of domestic articles from traditional mats, to hats, baskets, local fans, ropes, lids, and

winnowing. The objects are made from the leaves of the *Borassus aethiopium* plant *'kaba'* in the local dialect, which grows wild locally. The grass is used either in its natural colour, or dyed with tannins and dyes. To dye the grass for mats and basket weaving, rhizomes are pounded before boiling with the grass for several hours, to give a khaki, brown, blue or reddish brown colour. These coloured grasses are used to create different motifs on the manufactured articles, generally falling into three popular themes; plain objects, lettered articles and all dyed articles.

The kaba, which grows wild in Shira, is harvested for many of the weavers by their children and can be bought in bundles from the local market. The bundles of stalks are sold in their dry state while the drying stage for direct foragers commences the moment the stalks are brought home. The *kaba* is sliced into individual stalks before drying using a sickle-like knife or an iron pin (*kibiya).* After sun-drying for 2 – 3 days, the sliced stalks are either left plain or dyed before production (Akinbogun and Ogunduyile, 2009). The dyes for the colouring, *galura,* are available at the local markets. The pigment, which is either in crystal or powdery form, is dissolved in hot water (Appendix B; SF/No. 6-9). The pot containing the solution is left on the fire until the end of the dying period. The fibres are soaked in the hot solution for between 40 minutes to 1 hour (Akinbogun and Ogunduyile, 2009:220).

3.6.5 Trade and commerce in Shira

The market is the centre of the majority of trading activities in most societies in *kasar* Hausa. Theoretically, the act of trading in market places in Hausaland is open to all but in practice it is controlled by a few individuals whose leader is *sarkin kasuwa,* the chief of the market. Markets are usually stratified into grids with each area separated by enough space for manoeuvering in the market. In a typical market setting, all sellers with the same type of commodity are located in one area, for example, the grain sellers may be located to the east of the market and next to them will be group of vegetable sellers and meat sellers (Figure 3.41).

Traditionally, there are many different branches akin to specialization recognised in commerce by the people. Among these are long/short distance trading *(Fatauci),* grain selling *(Arkomi),* haberdashery *(Koli). Fatauci* is subdivided into three categories. The first *fatauci Jakai,* translated to 'donkey peddlers' is internal trading within the

surrounding provinces or settlements within *kasar* Hausa, but has recently become associated with export business from the northern part of the Nigeria to other regions of Nigeria.

Figure 3.40: An underground weaving workshop *'kurfi'*, Shira.

There is also the *fataucin kasa* which is the type of commercial activity dealing with long distance or regional trading, such as with the Yoruba of southwestern Nigeria. *Sodori* is yet another type of commercial activity which deals exclusive with animal marketing. *Dillanci,* as identified by Smith (1952), is another commercial specialisation. He describes *Dillanci* as a type of commission selling by which the commission agents trade (buy or sell or both, as the case may be) with another person's capital at the direction of that person in return for limited rewards. *Arkomi* are simply commercial traders dealing in selling grains *(hatsi)* in market places within the region. The *arkomi* can be male or female. Lastly, is the *dan Koli* who as pointed out by Hill (1972), peddle small wares, mostly female related items, on market days within the region.

Figure 3.41: Some pottery in Yana market, Shira.

3.7 Conclusion

This chapter described the ethnographic fieldwork conducted in Shira to aid our understanding of the people whose presently occupy this region, particularly as it relates to social and economic institutions. The aim was to investigate the dynamics of the present society to aid our understanding of the material cultures documented during the archaeological survey and excavation. Interviews were conducted in seven different settlements within the area of study, considered best suited to offer a representative range of data that can provide a foundation for the subsistence practices in the region of study. The fact that most of the traditional crafts are disappearing or are no longer practiced in Shira was a benchmark used for selecting some of these other settlements.

The chapter first established the socio-cultural framework of the society, which expresses the similarities between this society and their western Hausa neighbours. The resulting

picture is of a society which appears as one, even as we know that historically this region at large has been at a crossroads of human movement from such population groups as the Karai-karai, Kanuri and Fulani of Bornu and Hausaland. The societal norms are similar to that of the larger Hausa society, of which there have been several foundational studies providing a general description of societal and households settings: Greenberg (1941) on clan organisation among the Hausa; Smith (1955) the economy of Hausa community; Adamu (1978) on the features common to Hausa identify; Hill (1972) on rural settings. In addition to the discussion of family and compound structures, the architectural/building methods and structural organisation of planned and unplanned settlement were examined.

The second section establishes how the political framework is also applicable to this study, as well as indicating that many of the political norms currently used are that of the Hausa, but are also unique in the sense that some of the political configurations are structured to suggest local origins devoid of Hausa influence. One of such policy that appears at least in one respect, to have been peculiar among the northeastern emirate of Katagum during the Jihad, is that of allocating fief areas to men of royal blood and the appointed officials lived on their fiefs rather than in the state's capital (Low, 1972:117). This broad strategy is quite different from that in the Hausa or the Bornu regions where the chief can reside in any area of the kingdom.

The final sections of the chapter concentrated on the economic and subsistence practices in the region of study. It was noted that many of the traditional crafts such as pottery, blacksmithing, cotton spinning and weaving as observed by Barth (1857), are still practised in some of the rural settlements visited in Shira, while other crafts such as textile dyeing and iron smelting have been abandoned. However as will be seen in the next few chapters, the associated products of these technologies are visible in the archaeological record of the settlement and their discussion is therefore important. Lastly, the exchange system in relation to the nature of trade and commerce in the communities was also outlined in order to provide views on how the society disposes of their ready made goods.

Chapter Four : Archaeological Survey and Mapping of Shira Sites

4.1 Introduction

This chapter reports on the archaeological survey, which was conducted during 12 consecutive weeks from January to April 2013 in Shira. This was the first archaeological survey conducted in Shira and its execution helps to address the limited state of our knowledge of the archaeology of this part of northeast Nigeria. As already indicated in Chapter 2, the area in which these sites are located is historically rich, mentioned as far back as the 16th century in external sources and frequently written about, and visited, by European travellers during the 19th and early 20th centuries. Yet, due to relatively the very limited archaeological work in the area, the past human activities remained rather poorly understood. The aims of the survey were to assess and record the significant archaeological resources and also to identify sites for further investigation.

The chapter starts with brief notes on the background to the survey. The chapter is divided into sections outlining context, methodology and results. Each section will outline the sites identified as well as the accompanying archaeological finds and features, and where possible, mapping the position of the existing remains. To make the accounts as complete as possible, all artefact and especially those objects made of clay, metal and stone were collected and documented on a systematic grid.

4.2 The fieldwork context: strategy and constraints

The archaeological survey in Shira was conducted with the assistance of the local community who, at different stages of the fieldwork, pointed out new sites or volunteered to join the research. The core field team however, consisted of a local guide who was familiar with the history and terrain, a local hunter and a local boy who provided

assistance in the last phase of the fieldwork season. The fieldwork season began with a visit to register the research at the Nigeria's National Commission for Monuments and Museums (NCMM) Abuja, the institution managing archaeological sites within the country. When the author reached Shira, a meeting was arranged at the administrative headquarter of the Shira local government council at Yana to inform the administrators of the on-going research and obtain an approved administrative map of the region, if possible to be used as a base map. Unfortunately, the only map made available showed surrounding villages, roads, footpaths and some physical features with no date or scale. However, other maps were obtained from Google maps as well as the Internet.

Before the research commenced in Shira, the research team visited the *Hakimi*, the current traditional ruler of Shira, Alhaji Umar Kabir, to acquaint the palace of the current research activities within Shira territory. Unfortunately, he was absent from the palace. However, the *Wakilin* Shira (second in command to the ruler), Alhaji Umaru Sulaiman Katagum, who is the official representative of the *Hakimi*, and some other palace officials received the team members. When the purpose of the visit was related to them, they were enthusiastic and opened up discussions on the general history and culture of the people. The palace officials narrated some of the history of the Karai-Karai group before pointing out the abandoned sites belonging to these population groups and other various past remains around the Shira landscape. Other than this visit to the emir’s palace, various courtesy visits were made at different stages of the field survey to village heads of Koli, Kyawawa, Kwala, Gwadan-Gwadan, Lafiyawo and Iliyari settlements, where some of the prominent abandoned settlement sites in the region are located. The information provided by these traditional rulers about the location of abandoned sites led to the discovery of past settlement places which had been, until then, undocumented.

Generally, the research team were received with much interest and support among the villages and many elders in the community. However, being a pioneering effort to document and record archaeological sites, the research was hampered to a degree by logistical and environmental constraints, which should be brought to the attention of author who may want to conduct archaeological surveys in a similar region. There have been instances were requests for an audience to village heads were denied despite repeated visits and reassurances that the author was not part of any government-sponsored programme. This occurred, for instance, when the research team made several

unsuccessful appointments to meet with an 80 year old man (name withheld as he did not want to be interviewed by the author). The visits were not successful and when we finally met with the ruler, he refused to talk or make any comment for the duration of time the research team were with him. This did not however interrupt on-going interviews and before the team members rounded up the ground survey in that area, he let it be known to the team, through the local guide, that the issue was simply that he did not want to be on record. Other than this traditional ruler, another did make a request for his identity, and those people mentioned during the interviews, to remain anonymous when transcribing the data collected from him, asking if possible for the information to even remain off record. He was particularly worried about the information he provided about the former inhabitants of the hilltops, who were converted to the Islamic religion during the Fulani Jihad. The former inhabitants of the hills are allegedly relocated in a specific unit *unguwa* in the settlement under study. This request was to protect the identity of the descendants of the people that inhabited some of the known non-Muslim abandoned sites around Shira. Commonly, it is considered disgraceful or rather shameful (*abin kunya*) to be even remotely associated with anything pagan or considered not to have come from pure-bred Islamic ancestors. In addition, such a 'shameful past' or information in general, as explained by another elderly woman, 'best remains in the past' (Hajiya Dada Giade pers. comm. 2005). According to this informant, dredging up the past causes nothing but emotional pain to the affected person or people.

Also encountered were the usual problems posed by particular locations during the survey. Generally, conducting an archaeological survey in arid and semi-arid areas gives an archaeologist the combined ease of movement and visibility to be able to identify and collect archaeological materials. However, the topography as well as thick, thorny hedges of *magaria* (*Daisylirion wheeleri*) and *duhuwa* (*Fabaceae*) on many of these hills restricted access to the archaeological sites and surface archaeological features were very difficult to locate. It was realised during the survey of the hills that applying the same method of survey that was utilised on the ground during the transect survey would be difficult. There were difficulties finding GPS signals when under rock shelters and following the compass bearing also proved rather difficult in some areas due to the topography on the hill. Pathways were created in a few places to allow for easier passage, but it is possible that some sites may have escaped notice due to the overgrown thorny bushes.

Another problem was that of the human impact on the environment, especially as it relates to cultivation in the area. All available land on the plains in Shira is cultivated with the exception of a few plots of lands called '*Tula'* which are more or less are safeguarded by superstitious beliefs which claims that the those particular lands are cultivated, the person will die before the next rainy season. The contention is that the lands are sheltered by '*kafi'*, a protection amulet or medicine buried outside entrances to compounds or villages in the past. The current state of farm practices in Shira poses a problem to the survival of artefacts and their condition on many farmlands as cultural materials are repeatedly brought to the top or reburied during terracing for cultivation. Sometimes in the process sub-surface features, as well as organic materials, suffer damage as a result of the tools used. However, it should be noted also that this practice also helped in discovery of artefacts. Another problem was the poor state of the few existing roads, as well as gullies created erosion which made it very difficult to reach some of the sites which may have survived on the plains. This erosion has also greatly affected the cultural features as they are exposed to the surface or washed away from their natural layers

In addition to this, it was noted that there has been widespread removal or destruction of artefacts from their original locations by both children and adults. These artefacts had been collected by the present inhabitants as 'souvenirs' and in fact on many occasions, artefacts as stones axes, iron arrows, crystals as well clay pipes, have been repeatedly presented and offered to the research team for sale. Pottery vessels in particular are often removed and reused when found complete, but a number of artefacts which are less appreciated or of less value are easily destroyed even when seen on the surface. Furthermore, graffiti had been documented in some of the rock art sites and a general destruction of past wall enclosures was noticed in Gwadan-gwadan, Kwala and Gandu Sarki, the Shira abandoned site. The hilltop vegetation is also heavily exploited for firewood. Overall, this systematic survey was thus an opportunity to document Shira's archaeological record and collect as much data as possible before the cultural materials are further impacted.

The research also considered the slight hostility from some youths in the area as logistical constraints, notably warnings issued to the local guide 'to stop revealing the secret of the community to strangers' when we were surveying the Lugu-lugu rock shelters, an

abandoned site immediately east of the Shira town. In a sensitive region like northeastern Nigeria, where conflicts occur under very many different circumstances, this warning was treated with circumspection and precautions were taken, such as dressing as much as possible in the local attire, speaking the local dialect, name-dropping of individuals well-known in the region, all designed to ward off any future antagonistic encounters. Whilst these precautions seemed to work for the most part, on several occasions our survey was interrupted. Of particular note was yet another encounter during the survey of the south transect, where, as we started to approach Birji village, we saw a crowd of people darting out of the village towards us. At first we were concerned, thinking that it was trouble, but we had to stop to find out. The people were local farmers who thought we were in the vicinity to scout sites for a telephone mast and every person present wanted to offer us his land for economic gain. Although they left the research team to continue, they still left their children to follow the team to the end of my work.

However, it should be noted that the research problems faced in Shira are not unique to this region. Many researchers who deal with the local population at close quarters may encounter similar difficulties as in the Shira, for example, Ogunfolakan (2009:88-89) documented some religious-cultural issues while conducting an archaeological survey among the people of northeast Osun, where he encountered such issues as not being allowed to enter a shrine until a particular time or until a ritual was performed. He also mentions a similar encounter to those experienced in Shira, where the ruler of a community did not keep his appointments and lastly he discusses problems he encountered with farm owners that wanted compensation before their land was surveyed.

4.3 Methodology

In line with the basic aims of the archaeological survey, which has been stated above, the research intent was to identify and record the archaeological features within the study area. For the purpose of this study, an archaeological site is defined as a place where artefacts or material remains of a specific human activity located within a spatially constrained area are found in the landscape (Drewett, 2011:3-4). There may also be some human modification of the natural environment in or around the 'site', such as, occurrences of baobab (*Adansonia digitata; kuka*), tamarind trees (*Tamarindus indica; tsamiya*) and so on, which are often regarded as past markers and associated in archaeology with past human activity. This is because once trees such as these are planted

in a settlement, the trees will continue to grow long after the settlement has been abandoned and they come to represent the settlement that once thrived in that location. These tree markers are inherently regarded as 'dwelling places of powerful spirits' (Bascom, 1969) in the study area but are typically planted in the Hausa region, in addition to the supernatural meaning mentioned above, for their many domestic uses (see Darling, 2008 for more information on Baobab trees in archaeological studies).

In attempting to put the archaeological survey in Shira on a theoretical and methodological basis, the survey employed different field survey methodologies and strategies 'with emphasis placed on optimising the probability of detecting archaeological material' as well as sites (Banning, 2012:29). The survey covers an area of some 16km^2 with the Shira-Azare road serving as the boundary in the west and the eastern boundary set at the plain of Kwala, the cemetery where past rulers of Shira were buried. To the south, the boundary was at Kawaga hill in the most southerly part of the Shira plain, while that to the north was placed at 1.5km north of Koli village (see Figure 4.1). These boundaries were considered by oral histories to be the boundary or limit of the past settlement. The survey area was chosen on the basis of the preliminary survey (from 2007 to 2011) as well as oral histories, which considered these areas to be the limit of the past settlement.

To be able to achieve the stated aims of recording as many of these archaeological features and sites as possible in the survey area, the 2013 field survey period draws heavily on the archaeological surveys conducted at Kufan Kanawa, Niger Republic (Haour, 2003a), Ede-Ile (Ogundiran, 2002a) and Ilare district (Ogundiran, 2012:229-230). In all three works, the researchers adopted two survey strategies. These involved using extensive investigation along four transect lengths placed on cardinal points, which in the case of the current research in Shira, divided the landscape into four arbitrary sections (the north, east, west, and south), before the researchers proceeded intensive examination of targeted sites. In the present survey, the collection strategy involved recovering artefact at 100m interval for the macro survey and at 10m intervals along transect's length. In both, the macro survey and the intensive survey, the research team adopted foot walking which much of the archaeological literature on this topic seems to favour in terra incognita (Drewett, 2011:39-44, Collins and Molyneaux, 2003:57-58, Banning, 2012:41). The method is usually applied to abandoned landscape that has been intensively occupied

in the past. The method is simply a strategy where team members are evenly distributed across the space in such a way as to inspect some geographical unit systematically. The people usually spaced an equal distance apart with transect interval varying from 5m to 25m rarely wider and perhaps 3m to 10m apart. Each team member is expected to walk the assigned length of the transect to search for traces of material culture on the surface before beginning another such transect (Collins and Molyneaux, 2003:58, Banning, 2012). This approach was adopted in the Shira survey, where team members walked 10m apart along the transects.

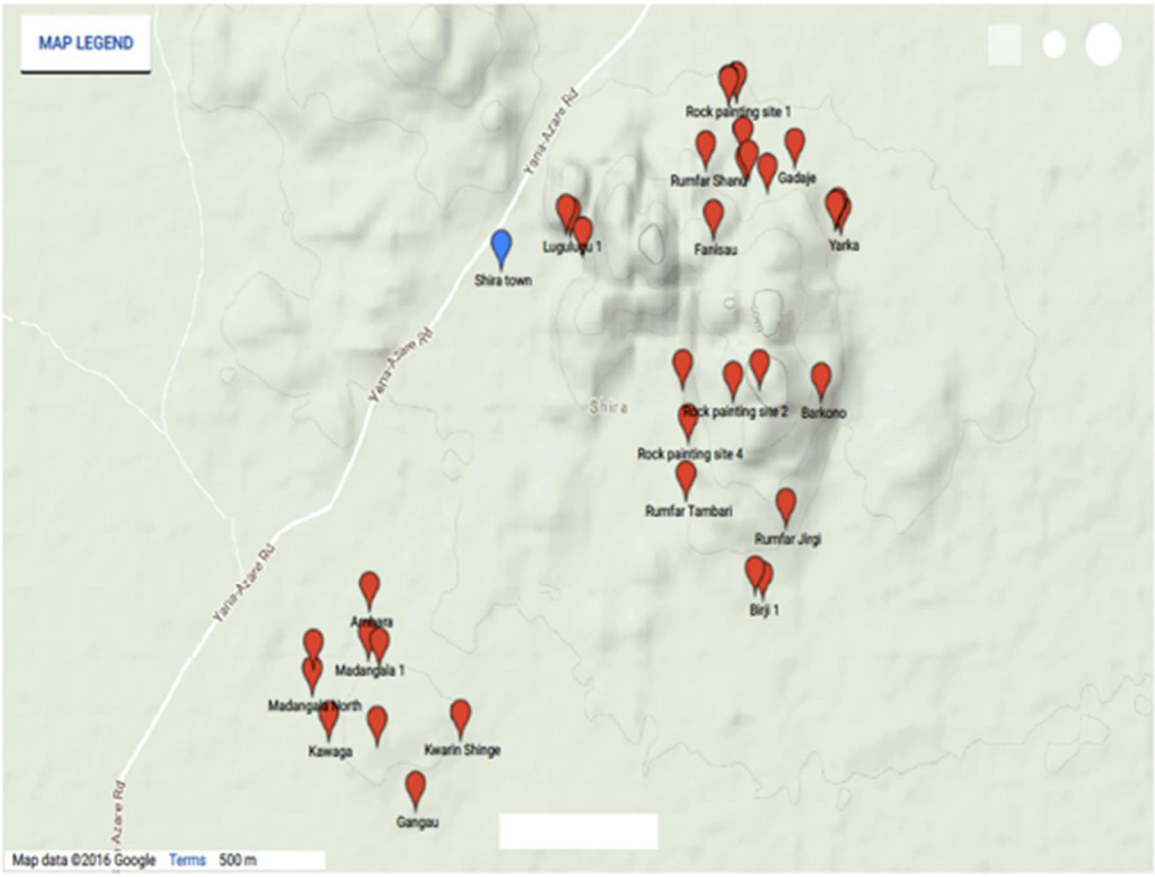


Figure 4.1: Map of survey and sites mentioned in the text (created using Google map).

To begin the survey, the investigation established two points of origin or datum points, with the first placed on the highest point on *sarki-na-dutse* hill and the second on the plain. These datums points were used to establish temporary and permanent benchmarks. The first was established at a concrete block on *sarki-na-dutse* hill at 11.453154 N, 10.066646 E while the second point was at an old water well (11.2832 93 N; 10. 0350.71 E) in the village of Koli, a settlement of less than 100 inhabitants about 1.2km northeast of Shira town. The well is one of the two existing wells in the village, lying about 150m east of the last house in this extant settlement.

The first phase of the survey, which gave great priority to a broad comprehensive coverage of the landscape, was designed to retrieve surface information on settlement patterns as well document archaeological variability across the landscape. To have control of the survey, the investigation divided the study area into four broad sectors oriented along cardinal points; east, west, north and south tracks. This divided the survey area into four artificial sections from the datum point sited on the plains at the water well in Koli village. Here, the research team began the survey of the western transects at 100m heading towards the South. The survey began with this particular transect because of the clear absence of any human or environmental constraints along the length to be sampled, which as will be discussed below, hindered the survey along the other transects. There was an almost clear vision from the datum point to the road. GPS waypoints were taken at 100m intervals using the GPS to determine the distance from one point to the next while a compass was used at the start of the next 100m walking in order to maintain a straight-line bearing to the next point along the line. Sampling units at these stops were established as 10m by 5m. At each of these stops point (the end of 100m), an assistant measured 5m to the left hand side of the author, another 5m on the right side and finally 5m to the front using a 20m tape. These points were then all drawn together using a stick to form a rectangle. Then, any surface material within the area, in the case of potsherds any items of a diameter of over 27.5 mm (equivalent to a 1 naira coin) were collected (any cultural materials outside this rectangle are ignored). Within this framework, a sample area of more than 10% was examined along each transect.

The transects were variously terminated at different lengths during the survey. For example, the survey which started at the western cardinal point had 14 stops, which makes this transect length 1400m. Surface materials were collected in all but one of the stops, which was devoid of any cultural material. The surface of this area was sandy with loose soil. The northern transect was next to be surveyed. Here, the survey was terminated at 1500m with 15 collection stops. Surface materials were collected from all the stops except one which survey was constrained by the village's burial ground, which lies 500m along the transect from the datum. To systematically circumvent and continue the survey without losing the initial trail, the research team tried to create a straight line by using a compass and ranging poles. For this, one team member held a compass while another person with a ranging pole moved to the end of the cemetery. Once a straight line

was achieved the survey continued from that end. This method was used on both the eastern and southern transect where a river valley and rock outcrops were encountered respectively (see Figure 4.2).

Figure 4.2: Example of obstacles: watercourse ways on the eastern and southern transects.

The eastern transect, like that of the western transect was terminated at 1400m. The southern transect was twice the length of the others as it terminated at 3100m. All transects were terminated when no artefact is collected after 3 stops that is equivalent of the last 300m. This distance was probably attained because the length encompassed one of the hills in Shira. One of the constraints of this transect was the hill top where the survey was hindered by rock outcrops and openings which had to be sidestepped or jumped over. The boundary of this transect unlike the others, was not clearly defined as it featured rich potsherd scatters that made it impossible to identify the end of this transect.

Cultural materials were collected in 19 out of the 31 areas with the highest collected from the hill base, while the hill tops produced the least amount.

	Site	Potsherds	Spherical Objects	Clay Pipes	Metal	Utilised Sherds	Lithic	**Total**
Transects								
1	North	54			1			**55**
2	South	294	6	3	3			**306**
3	East	46	1				1	**48**
4	West	177						**177**
Sites Surveyed								
1	Jagindi	1009	17	13		8		**1047**
2	Badali	2818	12	18	6	6		**2860**
3	Gandu Shira	3831	14	17	1	3		**3866**
4	Rumfar Bango	132		1				**133**
5	Jar Kuka	42						**42**
Survey total		**7832**	**43**	**49**	**7**	**17**		**7948**
Grand Total		**8403**	**50**	**52**	**11**	**17**	**1**	**8534**

Table 4-1: Surface collections from transects and site survey.

Following the macro survey, the next phase of the investigation, which involved complete surface collections on a 10m collection grid in three flat plain sites of Gandu Shira, Jagindi and Badali, and two-hill abandoned sites at Jarkuka and Bango rock shelters, commenced in March/April 2013 (see Figure 5.1). These sites were not specifically measured to record the total area being studied but were well-defined by some prominent features of archaeological significance or natural features. For example, the remains of a fortification, which was mapped during the survey, define Gandu Shira boundary. This wall covers was 400m^2 in length. Beyond this, the methodology applied is the same in all the sites. This involved intensive survey and total station mapping of two of the five sites

investigated. During the intensive survey phase, the team systematically walked the site at 10m intervals and collected a sample within 10m x 5m unit.

4.4 Results

The archaeological survey located and recorded 64 sites, of which 5 later become the subject of detailed investigation (Table 4-1, Figure 4.1 and Figure 5.1). Each one was documented using GPS using their identified local names. The sites, which include rock painting sites, rock shelters with visible signs of human occupation and flat land sites, were classified as either hills or plains sites. In locating the abandoned sites, the survey team were sometimes guided by prior knowledge, as in the case of the rock art sites which, as already indicated, had been reported before. Many of the plains sites were also easily detected due to the abundant potsherds on the surface, exposed by cultivation and erosion. This was entirely different on the hills, where due to poor surface visibility, rock, and boulder scatters, as well as thorny trees and shrubs, the area selected for the survey was biased. The survey here depended on the distribution of footpaths. However, the bulk of information comes from the local inhabitants of Shira who had knowledge of the historical landscape.

In the surveyed areas, the investigation identified and recorded three types of archaeological resource; sites, feature, and artefacts. Sites, as already defined above, are activity areas utilised at certain points in the past by humans, with the remains of at least two types of artefact classes, such as potsherds and stones.

Features are immovable material finds, created or modified by humans, such as bedrock mortars, grinding grooves or any modified bedrock surface in a rock shelter; as well as mud walls. Surface finds or artefacts are portable objects associated with these sites or features.

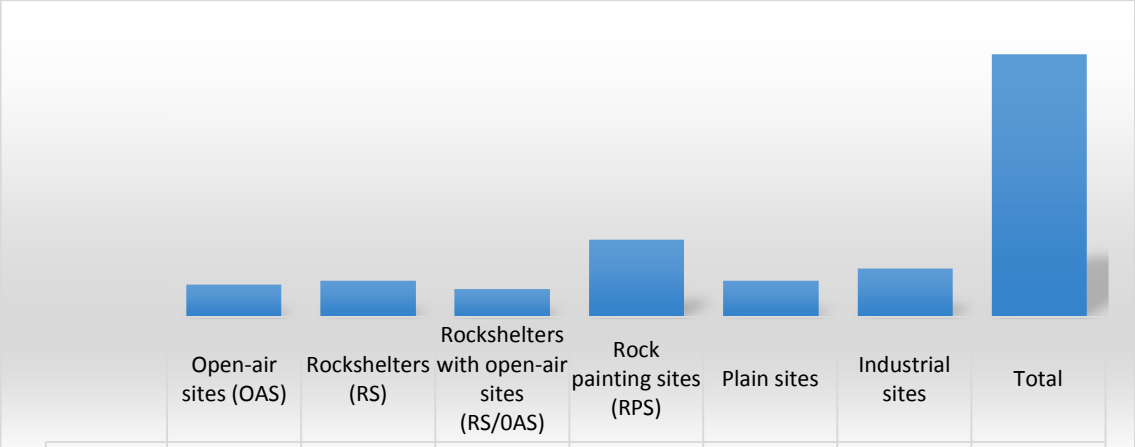
4.4.1 The Shira abandoned sites

Abandoned sites in Shira are found throughout the landscape, with habitation sites marked by baobab trees and abundant potsherds. The survey revealed the existence of two distinct settlement zones; hills and flatland abandoned sites, from where four discernible sites were identified. The abandoned hill sites are located on crests, slopes and

at the base of the hills, while areas designated as plains sites are currently heavily ridged and parcelled into private farm plots. The sites in this region, unlike those of Bornu or the Lake Chad area, lack mounds and although abundant potsherds and baobab trees surround sites, there are no clear indications of where a site begins or ends on the plain. A description of these various places is presented below, discussing first the sites found in the hills, then those of the plains.

4.4.1.1 The hill sites

Abandoned hill sites are widespread features throughout the territory of Nigeria. Such sites have been reported from the Jos plateau (Buchanan and Pugh, 1955:105), the Benue valley in Tivland (Gundu 1980**,** Andah et. Al., 1981), to the Zaria region (Effah-Gyamfi, 1986) down to the forest areas of Yorubaland (Gleave, 1966:43) The survey work in Shira recorded 43 abandoned hill sites.



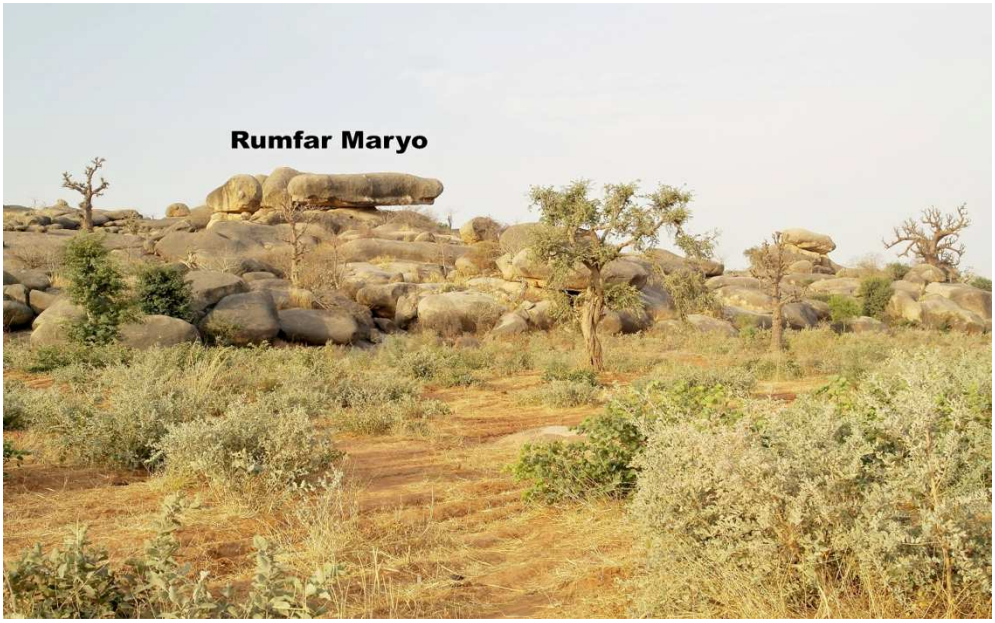
	Open-air sites (OAS)	Rockshelters (RS)	Rockshelters with open-air sites (RS/OAS)	Rock painting sites (RPS)	Plain sites	Industrial sites	Total
No. of sites	8	9	7	19	9	12	64

Figure 4.3: The archaeological sites documented in Shira.

In recording the sites, the general names by which the local inhabitants identified them were used. Many of these were simply names of the owner of the farm on which the site is located, or simply named after a tree that had once stood at that location. Some were named after other topographical features such as *rumfar Birji* meaning 'white clay shelter'. Rock shelters are prefaced with the word '*Rumfa'*, meaning 'shed' (Seidensticker et al., 1997).

Irrespective of designated local names, the paintings found on rock overhangs, consisted mainly of a red outline of geometric and anthropomorphic figures. The figures painted

were found either on the wall or roof of a rock boulder inside the shelter. The rock shelters with adjoining abandoned habitation sites evidenced a higher density of potsherds than those used exclusively as painting sites, which had less dense and more dispersed concentrations of artefacts. Potsherds were collected from rock-shelters used as painting sites while stone tools were simply noted and left in situ (Figure 4.8).



Figures 4.4: Some of the rock painting sites in Shira (Rumfar Jirgi and Rumfar Maryo).

Other features associated with the rock painting sites were rock hollows (small cubicles on the rock shelter surfaces), rock gongs (some of which were documented by Fagg, 1956) and pounding/round stones. Some other standard findings documented in many of

these rock shelters include spring water such as at *Ruwan kirci* located on the highest hill complex in Shira. Complete pottery vessels were noted at the Badali abandoned site, as well as those in *Rumfar Kuka*.

Figure 4.5: The two categories of rock paintings found in Shira (Rumfar Jirgi and Rimin Jigawa).

The sites on the plains were easily recognisable by their potsherd scatters, baobab trees or stone foundations. mainly circular in shape, as well as the remains of earth structures or

mud walls. However, some sites may have gone undocumented, due to the thick grassy cover during the rainy period and the dense vegetation on the hill. Other than the evidence of collapsed walls or structures, the rock shelters and surrounding hills also provide a sort of natural fortress, shielding these OAS (open air shelters) sites from view.

The rock shelters located on the hilltops which usually have a plain sites nearby, had signs of human occupation and were generally without paintings while those rock shelters at the base and on the slope of the hills featured paintings as well as rock hollows or grinding mortars as stone tool artefacts and a few potsherds scatters. The rock shelters with painting sites were generally located on gentle slopes or foothills while those located on the hilltops were generally secluded and hidden from view. Although all rock shelters, with or without paintings, featured potsherds, those associated with plains sites featured a higher density of potsherds than did the shelters featuring images. Another distinction noted was the presence of rock hollows and rock gongs which were mainly observed on the rock shelters with paintings along the slopes and base of the hills.

The rock shelters and sites on the plains and hills presently serve as playgrounds for children or as refuges from the rain for the adults. The open-air settlements are utilised for their grasses and trees for fuel and feeding small-domesticated animals kept in households in the communities, as well as small recreational hunting grounds for both adults and children.

4.4.1.2 The plains/flatland sites

The second type of evidence are the sites located on the plain. Every available space near surrounding villages, as pointed out above, is cultivated during the annual rainfall and on the surface of these farmlands are scatters of artefacts. According to the historical data collected, these flatland settlements can be split into two categories. On the one hand are those abandoned in recent memory and acknowledged by the present inhabitants as their ancestral abandoned sites. Families that once owned the lands now cultivate the area. On the other hand are sites about which oral narrations are silent; for instance Kawaga, Faula, Jagindi, Sirko, Kwala, and Ililuna. These abandoned settlements were recognised as the ancestral homes of the first inhabitants of the area. Other abandoned settlements such as Badali, Gandu, and Jarkuka were presented by oral historical accounts as abandoned royal sites.

Another type of site associated with flat land are those showing evidence of past economic activity. These were documented as industrial sites. The plain sites found within the vicinity of the abandoned settlements are discussed below.

Figure 4.6: Gridding of Gandu Shira.

4.4.2 Site surveys

Five abandoned sites from the two distinct zones identified above were variously selected through oral histories and accidental discovery, for intensive survey that subsequently led to excavating the sites.

4.4.2.1 Gandu Sarki or Kufayin Shira

Gandu Sarki, also known as Kufayin Shira, is a 4km^2 walled site that is attributed to the contemporary inhabitants of Shira. Two distinct traditions exist relating to the abandonment of the site. According to the historical accounts, the main reason was to increase security. The tradition states that after Ibrahim Zaki conquered Shira, he crowned his nephew, Muhammad Dan Kawunsa, as ruler (Adamu, 1993), and he ruled until his death in 1816. The throne was then passed on to Zaki's son, Abdurrahman Zaki, who relocated the people to the present location in 1817. He was said to have named this new site Darassalam (residence of peace). The relocation was necessitated to defend and protect the settlement from rising hostile neighbours, such as the Ningi slave raiders popularly referred to as 'the devil from the hills' who had continuously raided the land of Shira and had built a 'collection' camp near the abandoned site which was named '*Yarka'*.

Figure 4.7: Jagindi site showing the rock painting site seen from the test pit.

To choose the new location, Abdurrahmanu Zaki was said to have tied up cows at two locations he felt were suitable to establish a new settlement. The cows that were tied around Gwadan-gwadan (an existing village in Shira) died, (according to the testimonies

collected in Shira 2007; they were eaten by hyenas which were in abundance until quite recently) while the one at contemporary Shira was still alive. He was said to have prayed and fasted for 40 days for divine guidance before finally picking out the new location. In another tradition, it is claimed that the relocation was actually done to offer the people a fresh start or beginning in a new location devoid of any evil or pagan undertakings. Today the place is a field belonging to a chief of present Shira and maintained by village head/*Hakimin* Yarka.

The surface scatters consisted mainly of potsherds, clay pipes, spindle whorls (some of which were collected for analysis), fragmented grinding stones with occasional exposed bones. The vegetation of the area consisted of palm trees (*giginya - Borassus aethiopum)*, mango (*mangwaro - Mangifera indica*), and baobab trees (*kuka - Adansonia digitata*). The archaeological feature documented includes the remains of the collapsed walls and one large elevated mound on the northeastern side of the abandoned settlement which is alleged to be the palace of the past rulers of Shira. The size of the mound can be estimated at 4m high by 9m wide while the wall enclosure is estimated to be 4km^2 with a distinct east-west pathway, identified as areas where the gates into the settlement were located. The walls, which were mapped as part of the present research form an almost continuous chain, broken only on the eastern foothills of the *Sarki-na-dutse* hill, suggesting the hills might have been an extension of the walled settlement in past societies. The average height of the wall has been measured to about 1.8m at its highest point and the only noted ditches, laying on the north-western angle of the wall were measured to 2m deep by 20m wide. However, these measurements might not have been the actual representation of the original wall as the local inhabitants were seen excavating the walls and ditches for mud to build their houses (Figure 5.4).

4.4.2.2 Jagindi rock painting site

There is no living tradition on the people who occupied this location. This rock painting site is located 988m southwest of the extant Koli village and about 3.2km from contemporary Shira. It is located in a C-shaped hill, separated midway by a low lying sand ridge, which splits the area into two parts: Jagindi *ta gabar* to the east and Jagindi *ta yamma* to the west.

Figure 4.8: Jarkuka site showing the location of Test Pit A and the monolith Majjiya from the test pit.

The choice of this site for excavation was made for a number of reasons, among which is that the site lies close to a seasonal water course, where erosion had exposed some material culture which gave us insight into the material that may be revealed by excavation. The location for the excavation lies at close quarters between a rock painting site, an abandoned dyeing site, a baobab tree and a house foundation. Other features of archaeological interest include house foundations, exposed dyeing pits, rock art sites and abundant ceramic and metal remains.

Figure 4.9: One of the stone circles at the Jarkuka site.

4.4.2.3 Jarkuka hill site

This abandoned site obtained its name from a baobab tree '*Jarkuka'*, literarily meaning red baobab, at the bottom of the hill. The area is identified by the local inhabitants as one of the earliest places occupied by the Karai-karai, a group credited with establishing many of the early sites in Shira (see Chapter 2). The hill is one of a series of similar rocky hills in Shira that featured other small abandoned sites.

The area surveyed is approximately 250m up the hill from Jarkuka (from the Baobab tree which the site draws it name). There is a footpath, which rises steadily into the surrounding plain of the abandoned settlement from this baobab tree. About 200m up the hill is a flat area where water accumulates on the surface and traces of small pools lays approximately 30 - 40m to the flat inhabited area on the hill. There are two paths linking up the pool space to the opened-air area.

This is identified as an open-air site. A conspicuous feature is a large granite rock outcrop called '*Majjiya'* located on northwest of the site at a distance of 410m from one of the stone circles documented in the site (see Figure 4.9). Oral historical accounts have it that the outcrop served as a place of worship and that rituals were carried out around it to appease the gods and request favours, especially in times of war. Though the coming of Islam to the community has abolished the practice of traditional worship, the inhabitants are still in awe of it, as the outcrop is said to emit smoke every morning after sunrise. The region around the *Majjiya* is believed to harbour the spirits *aljannu,* which can spiritually harm humans (Figure 4.8).

The area surveyed, measuring about 400m^2 is naturally divided into two sides by a bushy patch of acacia on its east-west length. The surface of this space was overgrown by weed and grasses as the area was investigation was conducted during the wet season (August 2013). No economic trees were noted growing in the vicinity. The surface on the northeastern end of the site was covered by the hyena's onion (*albacce buru*) or dog's onion (*albacce dawaai*). This plant is also called Harmattan lilies ('*gadali)*' (Burkill, 1995, Blench and Dendo, 2007 and also Mannir Shehu pers. comm. 2013). Cultural features included circular stone foundations, some exposed pots, potsherds and slag (Figure 4.9).

4.4.2.4 Rumfar Tukwane site

This site is located on natural high ground, at an average elevation of approximately 517m. It is found in an open space among a group of inselbergs. There is no record of the people who occupied this area but remains of house foundations and large storage pots are still visible. Prominent features include stone circles, compound walls, buried pots and abandoned storage pots. It is said there was once a big baobab tree standing here and the site is sometimes referred to as Rumfar Kuka meaning Baobab shelter (Mannir Shehu,

pers. comm. 2013). Some of the surrounding rock shelters have signs of occupation with numerous broken potsherds as well as metal objects.

Figure 4.10: Metal remains in Ruwan Kirci rock shelters.

4.4.2.5 Rumfar Bango rock shelter

Rumfar Bango is a rock shelter located in *Sarki-na-dutse* chain hill complex, approximately 195m northwest of the datum pointed located on the hill. It is located about 619.4m above sea level. The term Rumfar *Bango* is said to derive from a Hausa word *Bango*, meaning "walled shelter'. There is no clear or accepted tradition on the people that had occupied this shelter but historical narration tends to favour the Karai-karai people as occupants of the hills.

The mouth of the rock shelter, which is oriented to the southwest, is blocked from view by a large boulder. This offers it security from outside interference. The site contains the remains of two collapsed structures. One of these was measured to be 22.10m in circumference. It measured 7.13m on the western wall, 8.90m on the southern wall and 7.10m on the eastern wall. The two walls on the east and west were joined to the surface of a rock boulder on the north measuring 8.13m (Figure 4.11). The second structure was smaller and round in shape. The surface scatters in the rock shelter comprised potsherds, grinding stones and stone stools.

Figure 4.11: Mapping of a collapsed structure in Rumfar Bango rock shelter.

4.4.3 Artefacts

The archaeological survey in Shira revealed several sites on both the hills and plains which appear to share common features, such as pottery, the remains of walls and

collapsed buildings, granary foundations, rock art sites, rock cupules and so forth. Examination of the artefacts can allow a finer examination of possible cultural similarities between the sites. In summary, the archaeological survey recovered a total of 8,534 cultural materials of which 98.4 % were potsherds (Table 4-1). Analysis of the various categories of finds will be discussed in Chapters 6 and 7, in conjunction with the excavated materials.

Figure 4.12: Some of the buried pots from the survey at Rumfar Jirgi and Badali.

4.4.3.1 Ceramic vessels

Also worth pointing out is the number of buried pots documented in the plains and rock shelters during the survey (see Figure 4.12 & Figure 4.13). Though, potsherds were by far the most abundant cultural finds recovered during the survey, many small and large sized pots discovered, buried or found lying or attached to rock boulders in rock shelters during the survey. Many of these buried pots had broken edges probably caused by human activity such as farming, while the pots were discovered in rock shelters were usually complete. By the end of the survey, 17 complete and half broken, ash or earth-filled pots were documented.

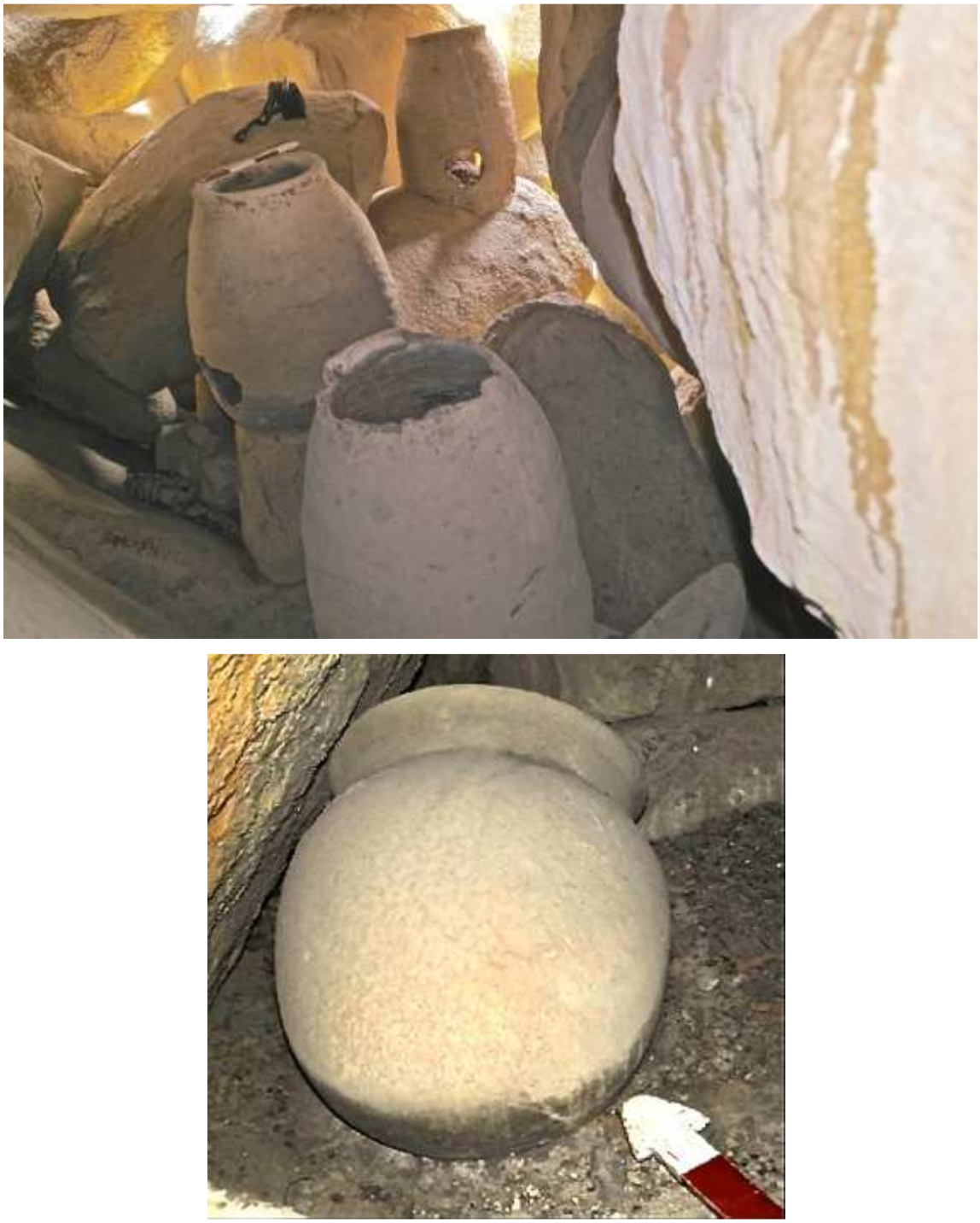


Figure 4.13: Some abandoned vessels in Rumfar Tukwane and Badali rock shelters.

Historical accounts suggest that the larger vessels were probably used for storage and/or dyeing while the smaller vessels were used for the storage of water or cooking in a domestic context. Some of the pots, especially the large pots documented at Jagindi site which were exposed by erosion, were identified as probably dyeing pits while other complete pots documented at Rumfar Tukwane/Kuka hill site were likely designed for grain and water storage. The water storage pots documented at Badali was carried away by the local guide who accompanied the team to the rock shelter. Whole pots, according

to the guide are usually broken or carted away to homes for a variety of purposes, especially the storage of water, maintaining that if left in situ the pot is likely to be smashed by another local. The villagers are known for plundering these pots for domestic use or damaging them because the locals believe they find will precious objects inside the pots. Sometimes, the pots are damaged by local children who are curious to see how far they can throw the broken pieces. A great number of the buried pots were also damaged by the locals during agricultural activities. These pots are usually left in place but are annually chipped away during the farming season to create more space for the cultivated area (as documented in Figure 4.12 above).

4.4.3.2 Spherical clay objects

A total of 38 whole and fragmented spherical clay objects, recognised as probable beads or spindle whorls, were recovered during the surface survey in Shira. Spindle whorls, according to ethnographic information, were used in the production of thread from cotton by the drop-spinning method. The research into clay products in Shira as will be noted in Chapter 7 further reveals that many local people still owned and had used the spindle whorls and other weaving tools until quite recently.

The inhabitants of contemporary Shira are no longer spinning cotton into textile despite the presence of spindle whorls. Six abandoned dyeing sites were documented during the survey (see Figure 4.25) indicating textile production in the past. The spindle whorls are mostly plain and circular with a central hole while some have a series of radial incised lines across their lower surfaces.

4.4.3.3 Clay pipes

This assemblage consists of 32 fragments of clay pipes, with a varying degree of decorative treatment, from burnished surfaces with reddish clay slip to roughly incised circular channels running across the stem and the mid-section of the outer surfaces of the funnel (see Appendix T). Virtually all the fragmented pipes recovered were either burnished or decorated, with one or two showing no sign of minimal red soil pigment. Although the origin of this type of pipe is not clear, ethnographic information reveal that clay pipes are still used on a limited basis by the present inhabitants for the burning of herbs used for protection against ailments (Figure 7.5).

4.4.3.4 Metal objects

Evidence of metalworking survives in of the form of iron debris – slag and metal fragments – found during the systematic and targeted survey. These objects may have been fabricated on site, although the practice of terracing on farmland during agricultural activities, which results in the rapid destruction of sites and the sifting of artefacts make it most likely that objects are not preserved in-situ. It may have been brought to its present location by human action. However, the industrial debris resulting from working iron smelting waste found in an area to the south of Yarka and east of Jagindi, indicates that metallurgical activities were part of the occupational activities of the past inhabitants of these regions. Although artefactual evidence for slavery is scarce, a partial iron shackle was documented in Badali. These metal objects were said to have been used for holding slaves (Mannir Shehu, pers. comm. 2013).

4.4.3.5 Stone objects

Stone objects were documented in many sites during the survey (Figure 4.14). All stone objects with the exception of two stones from Barkono rock shelter (Appendix V, SF/No., 1 and 2) where left in situ.

Figure 4.14: Some of the round stones documented during the survey.

4.4.4 Cultural features

This category discusses some of the archaeological features such as rock art sites, rock cupule, and rock gongs, stones circles and standing stones all documented during the field survey in Shira. Many of these features are associated with the hills at Shira which lie on the south-eastern perimeter of the study area where there is a large concentration of

abandoned sites, especially rock art sites, some with a complete absence of pottery but others with evidence of such features as paintings rock cupules or hollows and rock gongs.

4.4.4.1 Rock arts sites and paintings

The survey documented 19 rock art sites primarily consisting of paintings made from red and, in rare instances, yellow pigments as documented in *Rumfar* Maryo (see Figure 4.1 & Figure 4.4 for some of the sites and rock paintings documented during the survey). The Shira rock art seems to be of two separate traditions (Figure 4.5 & Figure 4.15). The first is of naturalistic/anthropomorphic showing stick-like humans and cattle with depictions of suckling calves (Fagg, 1956). The second is a geometric tradition dominates across the area. The naturalistic tradition is relatively rare when compared to the geometric tradition. The animal depictions are distinct and are never found within the same part of the site.

The content of the animal tradition consists of a small number of poorly painted cattle and calves, with the calves giving the impression of nursing (Giade, 2011, Seidensticker, 1997 and Figure 4.16). According to Mannir Shehu (pers. comm. 2011) there was, at one point in time, an additional figure depicting a stick-like man holding a stick across his shoulder alongside these paintings was found at Rumfar Shanu (sometimes referred to as Rimin Jigawa). Unfortunately, at the time of this investigation, this figure had faded and could not be isolated from the rock wall panel. Similar subject matter has also been reported in Birnin Kudu, Geji and Gumulel in Bauchi (Mtaku, 1997, Fagg, 1955, Samuila, 2014, Szentes, 2009, Mangut and Mangut, 2012).

The tradition may perhaps be associated with pastoralists and historical accounts associate cattle rearing primarily with the pastoral Fulanis in Nigeria. This cattle painting tradition can be compared to Saharan themes/subject matter falling between 5000 and 1000 BC (Striedter, 1984). However, in the case of the Shira site, the subject matter may be much later and perhaps associated with pre-19th and 20th century historical context (Seidensticker, 1997:71).

Figure 4.15: The two traditions of paintings from Shira; naturalist ‘top’ and geometric ‘lower’

While the subject matter of the naturalist art tradition is known and attributed to a certain group, the art for the second tradition (geometric) remains unknown. These art traditions are no longer created today in Shira and as such carry no definite meaning.

Figure 4.16: Other sets of rock paintings from Rumfar Jirgi.

However, there have been similar paintings documented in the Uba local government area of Bornu state in the Lake Chad region. These paintings as documented are still practiced and associated with the *mba* tradition ceremonies celebrated among the Marghi population (Vaughan, 1962, Njidda, 1997:-84-122, Seidensticker, 1997). These geometric figures involved crosses, boxes and hourglasses, usually depicted alongside stick-like human representations.

Figure 4.17: Remains of stone circle and house floor on Sarki na dutse hill, Shira.

4.4.4.2 House foundation

The stone circles encountered during the survey were interpreted as house foundation (*daki*) or granary (*rumbu)* remains. This interpretation is based on the size of the circles, which considered *rumbu* to be about 2m in diametre while the house foundations (*daki*) documented in Jarkuka site for instance, were twice this size (Figure 4.9). The stone circles where only documented on the hills as none were discovered on the plains.

Figure 4.18: Some of the small-sized rock hollows documented during the survey.

The vicinity where these stone circles are located is generally sparse and lacked cultural material. The stone circles featured more on the southern end of the area. These stone arrangements were identified as house foundations (Figure 4.9 and Figure 4.17). Similar types of circular household compounds can be seen in nearby villages.

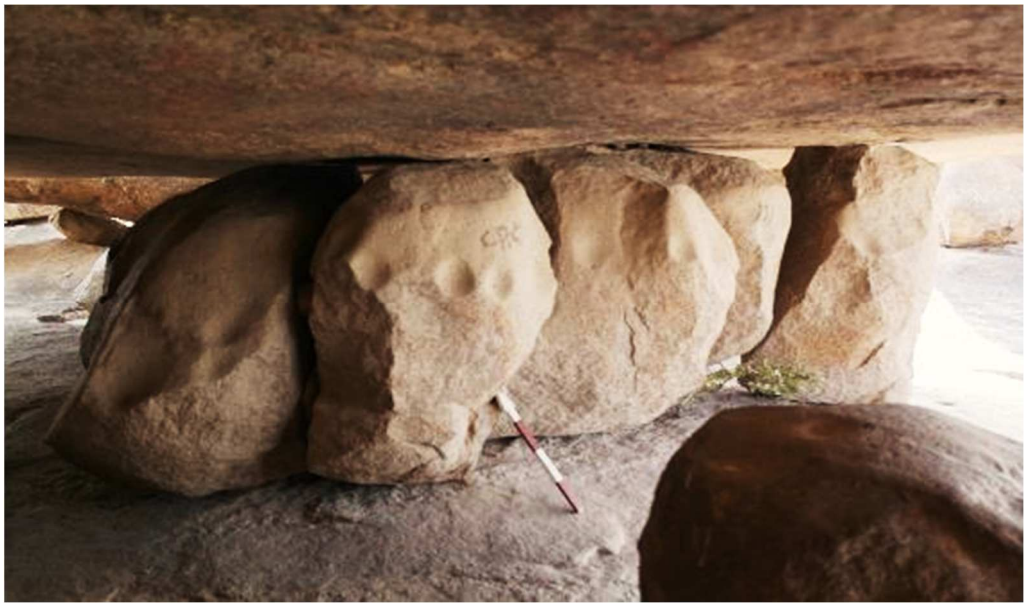


Figure 4.19: Rock gongs at Rumfar Maryo rock painting site.

4.4.4.3 Rock gongs

All the rock art sites discovered have some form of ringing rocks. Few of them show signs of wear, demonstrating that these rocks may not have been used in the past.

Generally, rock gongs are widespread in Nigeria, for instance, Vaughan (1962) reports on the existence of these rocks in the Marghi settlements while Fagg (1955) documented a similar type of rock in Birnin Kudu. The 'ringing rock' or 'rock gong' is used here to denote the numerous natural rock boulders, slabs, spalls and exfoliations abounding in hills, which vibrate with a ringing tone when struck, and some show indisputable evidence of having been used as percussion instruments (Fagg, 1956:17). In Shira, these rocks are free standing boulders, sometimes found balanced on top of one another (Figure 4.19).

Figure 4.20: Some of the medium-sized rock hollows from Shira.

To test if the rock boulders in Shira vibrates, a small rock, large enough to fit into the palm of the hand was used to lightly beat the surface to emit the sound. When these boulders are struck with a stone they emit a ringing tone that produces a series of rhythmic notes. The rocks are commonly interpreted as some of the earliest musical instruments (Fagg, 1956:42, Fagg, 1957). They are alleged to have been employed for communication, ritual and recreational use. Among the Jarawa people in the Jos area, circumcision initiation ceremonies were held at the rock gong. The Kuta-Kubok as the

rock gong is called has a wide range of notes and is more metallic in its ring that most. The rock gong is audible for a mile or more and is reputed to be heard at the foot of the mountain 4km away (Goodwin, 1957).

Figure 4.21: Some of the larger rock hollows or mortars.

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4.4.4.4 Rock hollows/mortars

Unfortunately, these finds in northern Nigeria have never been given the attention they deserve. Who did the stone gongs belong to, the present Hausa people, or rather to the native Habe inhabitants? Is the wear and tear in the form of small depressions from continuous usage? Due to the lack of known significance and use of these rocks currently, their pattern of distribution and relation to rock paintings need further investigation (Ibriszimow et al., 2000:182).The Shira survey also recorded several pitted boulders in close proximity to rock shelters and rock art sites. While no detailed inventory was taken of these rock hollows it can be said that these features were widely found in the rock art sites. Here, the pitted boulders are small with some no more than mere shallow depressions on the surface of the rocks (Figure 4.18). These shallow depressions show a slight yellowish or reddish stain suspected to be remains of the dye used for the painting. The depressions are interpreted as dye grinders. Within the same vicinity, the survey also documented the presence of rounded or pounding stones (Figure 4.14).

Other similar finds were sets of paralleled grooved holes usually found in clusters of between 8 and 13 holes (Figure 4.20). The holes in these clusters are deeper and larger than those found in the rock art site. The holes have an average depth of 1.6cm and the average horizontal measurement is 4.2cm x 2.3cm.

Other much larger and bigger hollows in both diameter and width, with sizes of 20 - 45cm diameter by 30cm deep were also recorded around many of the outcrops (Figure 4.21).

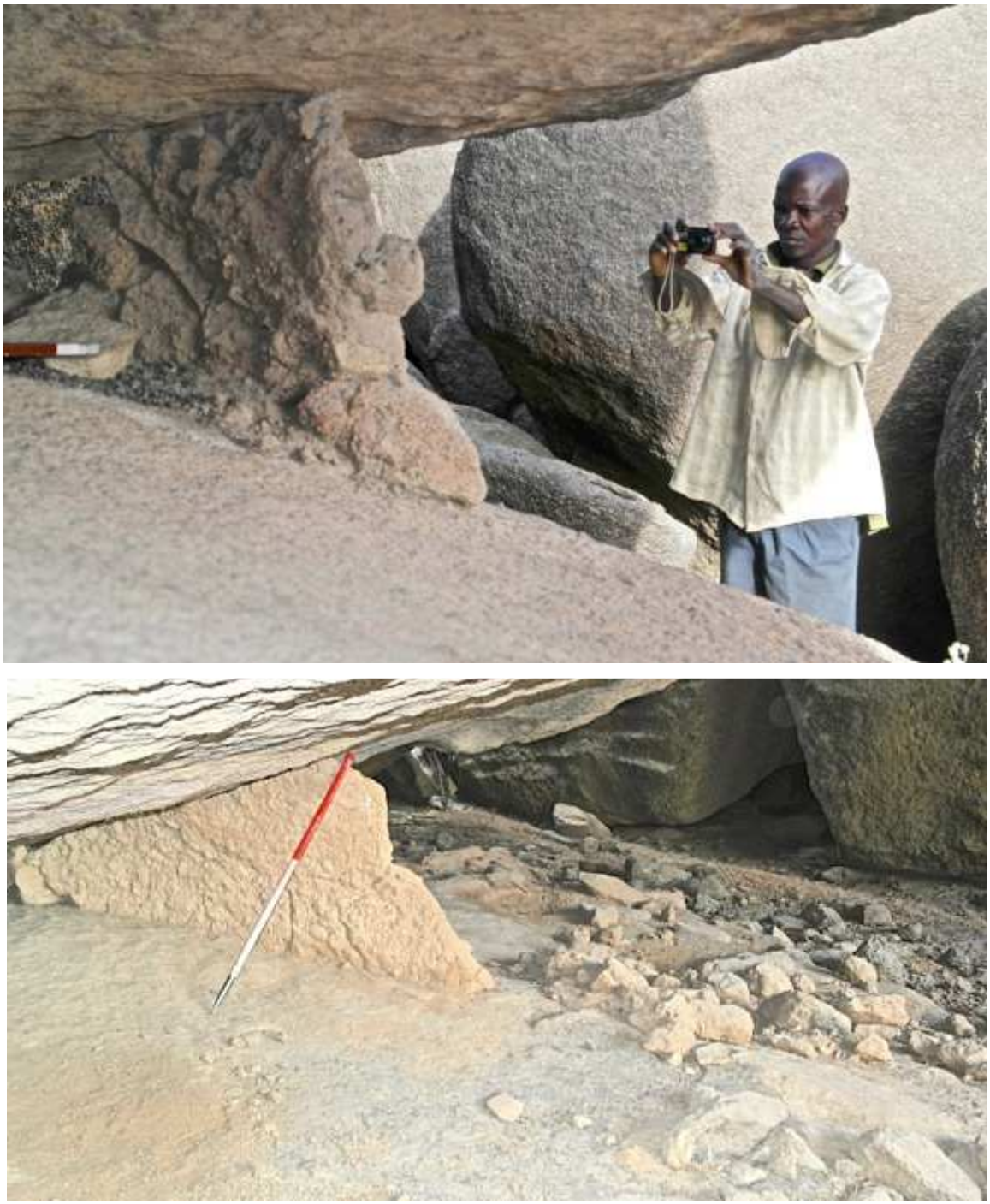


Figure 4.22: Collapsed mud walls in rock shelters.

The purpose of these rock hollows is unknown and the only attempt made here is to classify and describe the features based on information collected from local informants. The form and the simple rock depressions found in the rock art site are thought to be connected with rock paintings rituals, probably used as a solution cup. Concerning the medium sized, pitted rock hollows found in clusters, two possible interpretations were collected from informants. Firstly, the features are interpreted as grinding grooves having domestic importance. In Shira and several other places, these features are said to be corn-

grinding grooves (Maram Mafulul pers. comm. 2013). The second interpretation was presented by Mannir Shehu who explained how in the past, military men would stand on those boulders, looking out for invading an army. Other people commented that the boulder is of great power and utilised as a place where past inhabitants seek or obtain power. The larger hollows for their part are interpreted as water holes and even today hunters and passersby utilise them for water storage.

Figure 4.23: The surveyed walls at Gandu Shira (in red showing the test pit excavated).

4.4.4.5 Remains of collapsed walls and structures

Several collapsed walls were documented during survey (Figure 4.22). These structures, especially the smaller-sized walls, are more widespread on the hill sites, probably because there is less human disturbance in these locations. Unfortunately, due to deterioration of many of these walls, their presence could only be broadly documented through photographs and GPS. However, one of the larger remains in rumfar Bango rock shelter was mapped after the survey of the rock shelter.The larger, more extensive walls documented as defensive walls, *ganuwa*, were also documented on the hills and plains. In total, 4 of these extensive structures, two on the hills and two on the plains, were documented. While the makers of the hill defensive structures are unknown, the defensive

wall on the plains is credited to past inhabitants of Shira. The defensive wall located in Gandu Shira for example is credited to the daughter of one of the chiefs who, allegedly, made her people build the wall in one day after hearing of coming attackers. It is said that by the time the attackers came to Shira, they met a wall surrounding the site. As described above, this wall was mapped during the survey (Figure 4.23 and Figure 4.24).

The other defensive wall on the flatland site is *ganuwar romo* located on the easternmost end of the site at Kwala. This site is recognised as the abandoned royal burial site *kusheyi*, where all the past chiefs of Shira were allegedly exiled to die. The traditional stories about this site claim that once a chief is old, a structure is built for him at this site. On an appointed day, he is accompanied to this area with enough food to last him and a single servant for 40 day. Once the chief had entered the structure, a wall is erected to block all exit routes and they are left to die. It is said that after the 40 days, the people will visit the place, if they notice maggots coming out of the structure they know the chief is dead and a new chief is crown, if not they keep coming back until he dies (Malam Sarkin Kyawawa, July 2013). Concerning the defensive wall, it is claim that the wall was built with animal and human remains. Hence the name *romo* meaning pepper soup (Mannir Shehu and Malam Modibbo March 2013).

Settlements in the region are no longer fortified. However, fortification of past settlements in *kasar* Hausa was widespread, among which are the famous Kano and Zaria city walls (Effah-Gyamfi, 1986, Sutton, 1976b). While the Zaria city wall is attributed to Queen Amina, the Kano wall is alleged to have been started in 1100 AD by Sarki Gijimasu and extensions were later added by Sarki Muhammadu Rumfa (1463 – 1499) and Sarki Muhammadu Nazaki who reigned between 1621 –1623 (Minjibir, 2012, Moody, 1967, Moody, 1969). Such structures have also been widely discussed (Haour, 2003b, Sutton, 1976b, Connah, 2000).

As mentioned above, the settlements are no longer fortified in the region but it is claimed that the construction of these large earthen walling systems, several kilometres in length in *kasar* Hausa began at the time when communities were at war with their neighbours and such communities were raided for slavery (Malam Buba Yarka pers. comm. 22/4/2013). Most of these walls today are not standing except in collapsed or eroded form but few as in those of Kano, Katsina and Zaria have been refurbished/rebuilt and can still be found standing.

Figure 4.24: The Gandu Shira defensive wall.

It is not known when the communities in *kasar* Hausa started building such walls but at the time the Arabs came as early as 9th century AD these walls were standing. These walls are not built for beautification of the community but to protect and prevent warring communities from raiding the group (Malam Sarkin Kyawawa pers. comm. July 2013). The walling system known as ganuwa in Hausa language is built several kilometres larger

than a community and enclosed inside this walls, are residential houses, farms and water sources.

Figure 4.25: Abandoned dyeing sites located at Koli and Kurba villages.

To build *ganuwa*, the *Sarki* who is the leader of the community, calls a council meeting of *fadawa* (royal bodyguards), *Hakimai* (lesser chiefs manning smaller communities) to map the area where the wall will be built. Each Hakimi is demarcated a portion of the

wall to build. The *Hakimi* in turn divide this portion to all *dakaci*. The *dakaci* now calls on the *talakawa* (the citizens) within his domain and show them the area to be built. The work is then divided into individual tasks, with some digging the earth, some mixing the earth with water and straws, while others making the *tubali* (round earth balls) at the same time some people will be building.

The earth used for building *ganuwa* is dug on the spot so that the wall follows the edge of the pit. After the walls have been built, this pit is expanded to provide additional protective measures. The pit known as *gwalalo* or '*tare-mahara'* is expanded to make it hard for the enemy to cross over. According to Malam Sarki Kyawawa (pers. comm. 2013) should the enemy come in the night, they will unknowingly fall in and if it is during the day, it will create enough obstacles to allow the community to close the town doors to the invaders. To further make the wall impenetrable, *Kaya*, a thorny shrub is planted inside the pit. This is to make access by the enemy more difficult.

Presently, the building of walls or structures is different from how it used to be. For example no settlements today are walled; rather walls are built to surround individual houses/homes. This practice is alleged to have been introduced into the society with the coming of Islam in the region. Another divergence from the past on building practices is the issue of *gaiya*, the tradition of inviting the public to volunteer in communal services. Today, the erecting of structure is more a family affair using collective labour or based on monetary payment.

4.4.4.6 Ash mound

The survey also documented six abandoned ash mounds, probably the remains of dyeing. The most prominent among these sites is the Koli ash mounds (Figure 4.25), measuring 1.7m in height, lying in a 45m wide area. Another such ash mound lies approximately 500m northwest of this area. A greater portion of the surface of this mound contained a heavy-ash layer, organic material especially burnt bones, broken potsherds, burnt earth, as well as several baobab trees. No recognisable dye pit was documented. However, based on the features as well as remains documented on the mound and from historical accounts, it is suggested that these ash mounds are accumulations of sediment from indigo dyes, wood ash which acts as mordant or fixative, as well as the remains of pottery and other dyeing materials. The wood ash is required to prepare the dye bath in the pot

alongside the dye material (called *baba* in Hausa*).* There is not much documentary evidence on the connection between dyeing and ash mounds and very little has been written even on past dyeing practices in Hausaland.

On the other hand, ethnographic data from the south west of Nigeria revealed the formation process of an 'industrial' ash mound (Folorunso, 2002:142). Given the size and accumulations of the Shira mound, it is suggested that it probably represent an industrial site. The main features of this were the workshop, which was owned by a woman, had pots placed one on top of another, arranged in a row at the base of a large ash mound The ash mound is formed from the waste products of ash used in the preparation of alkaline (soda) for soap making. With regard to the Shira ash mound, enquiries concerning the history of the site revealed that cloth dyeing had been practised on the site on a large scale in the past, by men of the extant village of Koli suggesting perhaps the character of the deposit as well as the origins of the ash formation. However, as Nast (2008:247) suggested, a great deal of archaeological work needs to be done to ascertain the nature of such sites and how and why such a large amount of debris accrued in one place. Other than this industrial activity, the survey also documented abandoned smelting sites at different locations with the largest recorded at Jarkuka site.

4.6 Conclusion

This survey set out to document hitherto unknown archaeological sites and remains in Shira. The survey strategy included using GPS, camera and measurement tape to document the abandoned sites and the archaeological remains and features located in the various sites. Through this, the survey identified more than 64 sites with many archaeological features which included 5 plains sites, 19 rock art sites, and several rock shelters showing signs of occupation, as well as industrial sites. The basic material remains were divided into artefacts and cultural features. For the latter, the survey documented such features as rock gongs, rock arts, rock hollows, stone circles, ash mounds and defensive walls, while artefacts recovered include potsherds, remains of pots, spherical objects identified as probable beads or spindle whorls, stone objects which include grinding stones as well as pounding stones. These elements demonstrated the richness of the Shira archaeological landscape and allowed the identification of promising sites for excavation. Chapter 5 turns to the description of the excavations sampling.

Chapter Five : The Excavations

5.1 Introduction

This chapter presents the results of the archaeological excavations carried out between June 2013 and August 2013 at the five abandoned sites of Gandu Shira, Jagindi, Jarkuka, Rumfar Bango and Rumfar Tukwane. The objectives were to provide potential samples for radiocarbon dating and to recover any surviving archaeological deposits for analytical purposes that could be used to produce pottery chronology. The chapter is divided into three sections; the first describes the fieldwork schedule and activities involved, the excavation techniques employed as well as the recording methods and limitation of the excavation. This is followed by a detailed site-by-site description of the excavated deposits and structural remains as well as sections and profiles of the test pits. The last section gives a brief overview of the finds recovered during the excavation. These finds will be analysed in greater detail in Chapters 6 and 7 of this thesis. Then to provide a description of the radiocarbon dates in the Shira region, specifically focusing on the key sites of Gandu Shira and Jagindi the only test pits (out of the nine excavated) that yielded large quantities of datable materials; one of the test pits excavated at Jarkuka which also yielded a radiocarbon date.

The excavation was conducted over a three month period, from June 24 to August 12 2013. The excavation activities marked the end of the archaeological fieldwork which began much earlier in 2007 and ended in September 2014. It was noted in Chapter 4 that more than 60 sites were recorded through field walking, among which were the five abandoned sites of Gandu Sarki/Shira (SHR ‘13), Jagindi (JAG ‘13), Jarkuka (JKE ‘13), Rumfar Bango (RBF ‘13) and Rumfar Tukwane (RPK ‘13) which were selected for excavations (Figure 5.1 below).

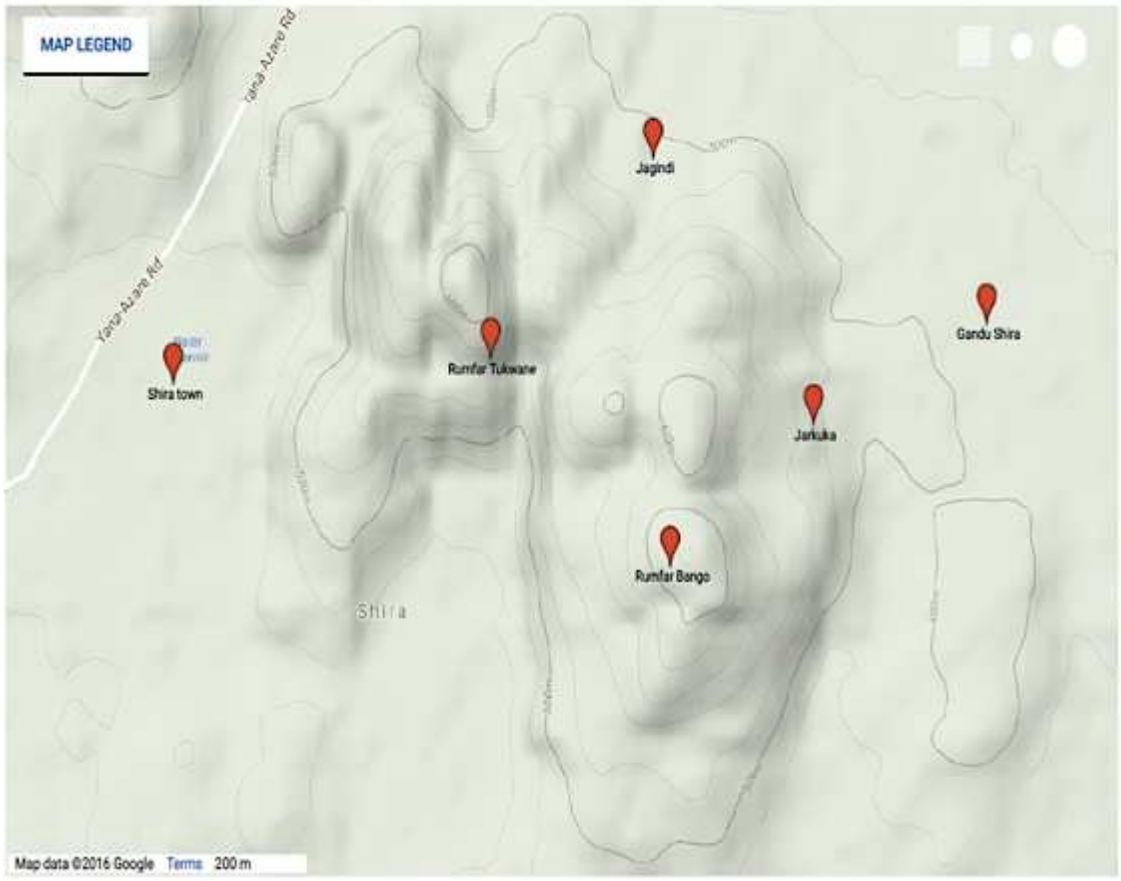


Figure 5.1: Location of the 5 test pits showing Shira town (created by the author using Google map).

Geographically, the five sites were spread out on hilltops, rock shelters and on private farmland owned by locals (Figure 5.1). The choice of the sites was informed by claims from oral historical evidence that earliest archaeological occupations in the region are located on the hills. This information was gathered during the historical survey in Shira to gather more information on the sites in question. It was gathered from oral histories that there existed two types of sites in Shira: those conventionally classed as *namu*, meaning 'our own', which are the abandoned settlements belonging to the existing communities, and a second category frequently attributed to the Karai-Karai population, whose association with this area has been discussed in Chapters 2 and 4 (Bross, 1997, Baba, 1997, Schuh, 2001, Mtaku, 1999). The latter sites, which are mostly located on the hills, are alleged to be earlier than the sites on the plain.

Other than their association by oral tradition with past populations, the sites to be excavated were selected based on field observation on site conditions, surface evidence, topography and landform. Thus, the choice of two open-air hill sites, Jarkuka and Rumfar Tukwane, and of the rock shelter Rumfar Bango, was informed by the anticipation of

finding evidence of the earliest settlements in this region. As regards the plains, or flatland, sites, the choice was informed by the suggestion by present inhabitants to excavate one of the known historic sites said to have belonged to the earliest inhabitants of the region, the Shirawa, who allegedly settled in Gandu Shira, referred to as the residences of the rulers of Shira.

In total, nine test pits were excavated on five abandoned sites (see Table 5-1 for the number of sites and test pits excavated during the fieldwork).

S/No.	**Provenance**	**Code Name**	**No. of Test Pits**	**Latitude (N)**	**Longitude (E)**
Plain Sites					
1	Jagindi Rock painting Site	JAG '13	1	11.46732	10.06478
2	Gandu Sarki/Shira	SHR '13	1	11.27435	10.04447
Hill Sites					
3	Jarkuka site	JKE '13	2	11.45887	10.07124
4	Rumfar Bango	RFB '13	4	11.45437	10.06544
5	Rumfar Tukwane/Kuka	RPK '13	1	11.46098	10.05818
Total Number of Test Pits = 9					

Table 5-1: The number of test pits excavated by sites.

5.2 Methodology and procedures

The aim of the excavations at Shira was firstly, to obtain secure data for dating in order to establish an initial chronological framework for the occupation of the region and secondly, to secure a material culture assemblage to characterise the human occupation of the region. All the excavations on the plains, which were located on farmland, were conducted with verbal permission and co-operation of landowners and farmers. Field crews were sought from villages nearest to the area being excavated. The field crews at each test pit, varied between six and eight, working approximately from 8 am to 6 pm, with an hour break at 1 pm, except on Fridays, when it was a half day to enable the field workers to attend the Muslim Friday prayers. In addition to the paid field crews, there were always a minimum of two or three archaeology students from Ahmadu Bello University, Zaria throughout the excavation period.

Figure 5.2: Recovering small finds at Jagindi site.

The procedures adopted were the same across all the excavations. Soil deposits were removed in arbitrary spit levels rather than stratigraphic layers due to the difficulty in defining the natural earth strata. The use of the spit system has been widely employed across West Africa, for instance by Connah (1981) at the sites of Daima and Birni Gazargamo, sites across the Yobe valley, northeastern Nigeria (Hambolu, 1996), Kasana, Ghana (Nkumbaan, 2008), South Africa (Davies, 1975) and in the Iron Age sites of the Méma region in Mali (Togola, 2008).

A standard size of $2m^2$ was adopted for all test pits, with the exception of those at Rumfar Bango rock shelter, where the dimensions of the test pits had to be reduced to $1m^2$ due to the small size of the rock-shelter. After an initial clearing of the working surface of grasses and cultural material, excavation proceeded until sterile ground was reached. The decisive sterile layer was determined when no cultural material or artefact was recovered over a depth of 20cm. In the process all artefacts including fauna were collected and bagged at the site according to the levels and separated by class of material.

In addition, all artefacts recovered were hand collected and sorted inside test pits during excavations while charcoal samples were retrieved using a trowel and wrapped immediately in foil paper and stored in zip-locked bags. To maximise recovery of small finds such as beads, seeds and other environmental residues, each spit level was subjected to dry sifting through a fine 5mm mesh. Any cultural materials recovered on the mesh were stored in a labelled bag and joined the rest of the artefacts recovered. All bags were subsequently coded and bagged according to the particular spit level. Finds such as pottery and bone were collected in a labelled cloth bag while less common cultural objects classified as 'small finds' (such as beads, spindle whorls, clay pipes etc.), were placed into zip-locked plastic bags.

Plain Sites			**Hill Sites**			
	Gandu Shira	**Jagindi**	**Jarkuka**	**R/Tukwane**	**R/Bango**	**Total**
Artefacts						
Pottery	2847	2243	267	156	54	**5567**
Lithic	8	20				**28**
Pipe	9	2			2	**13**
Utilised sherd	11	15	3			**29**
Spherical Objects	10	28				**38**
Metal	24	26	9			**59**
Beads	11	2				**13**
Cowry	2					**2**
Structural & Industrial Waste						
Slag	27	14	30			**71**
Daub/burnt Earth	125	13	1	3		**142**
Unidentified	52	9	1	1		**63**
Total	**3126**	**2372**	**311**	**160**	**56**	**6025**

Table 5-2: Cultural materials recovered from the excavation.

The Munsell Soil Colour Charts (KIC, 1990) were used at the end of each excavation to record changes in soil colour, which determined the stratigraphic layers for each test pit. After wall profiles were drawn, soil samples were collected for flotation from all the test pits according to stratigraphic strata at the completion of the excavation. Hand sorting of artefacts and dry sieving were carried out on site while flotation of soil for smaller artefacts took place at the home base at the end of the excavation.

All artefacts recovered from the excavations were cleaned, washed and sorted into categories at the base camp. The pottery artefacts were washed with water and spread

according to levels overnight to dry in the storage room, while the faunal assemblage was initially spread out to air-dry through the night to remove any excess soil, and later washed.

5.3 Results of the excavations

As detailed in Chapter 1, little is known of the archaeology of this part of Nigeria and the present research represents the first excavation in the northern Bauchi region.

In total, 6,025 items of cultural material including structural and industrial remains were recovered from the nine test pits (see Table 5-2). A general inventory of the material finds is attached as Appendices at the end of this thesis.

5.3.1 Gandu Shira site (SHR '13)

Gandu Shira is also known as Gandu Sarki or Kufayin Shira meaning Shira abandoned site. As already pointed out in Chapter 4, the most prominent features were the remnants of a defensive wall with a surface area measuring approximately 4km^2. Oral historical evidence indicates this was an important centre of past human activity that included tales of wars and conquest. While local informants reported the existence of several low mounds, the survey team could identify only one. The destruction of the mounds occurred most probably due to the intensive agricultural activities. At the same time, however, this agricultural activity had exposed many cultural materials, many in an excellent state of preservation especially the fragments of bones as well as the abundant surface potsherds recovered from all over the surface of the only surviving mound. However, in sharp contrast to the surface collection during the survey, there was a comparative dearth of potsherds in the topsoil of the mound during the excavation.

The Gandu Shira excavation terminated at a depth of 410cm (Figure 5.3) and two dates from an ashy feature near the bottom of the trench place the infilling of the feature in the period towards the very end of the 15th century – quite similar to the dates for Jagindi (see Table 5-3 for radiocarbon date). In summary, the test pit was placed at the lower end of the mound (Figure 5.4), in the south-eastern area large amounts of potsherds, many as pointed out above, in an excellent state of preservation were recovered. One possible interpretation of the mound formation, from Malam (pers. comm. 2013), the chief of

Kyawawa, one of the extant villages nearby, is that the mound derived from the disintegration and collapse of walled structures that were still standing until quite recently (15 to 20 years ago).

Figure 5.3: Gandu Shira test pit.

A 2m^2 test pit was positioned in an area with a heavy concentration of potsherds. After locating the position of the test pit, an area 15 by 15m was gridded and each square given a reference number to position the test pit (see Appendix E). Unfortunately, due to lack of sufficient time, the figures have not been used to create the site map.

5.3.1.1 The depositional sequence in Gandu Shira

This site produced five stratigraphic layers at completion of the excavation (Appendix AA)

Layer 1: Munsell Soil Colour Chart 2009, YR 4/3, brown soil

This layer consisted of brown coloured soil at between 0.5cm and 62cm in depth. Due to agricultural activities, the top of the test pit was highly disturbed and rootlets persisted to almost 30cm in depth. The cultural materials recovered on the surface consisted of potsherds, bones and 2 pieces of iron slag. The soil was damp to around 40cm when it started to become dry and brittle. It was at this level that the soil became visibly reddish, evidencing many kaolin particles.

Layer 2: Munsell Soil Color Chart 2009, YR 4/4, brown soil

This layer consisted of brown clayish soil with minimal disturbance from rootlets, extending from 62cm and 124cm. The soil at this level was brown and compacted. The excavation proceeded with trowelling, although soil from the two lowest levels were not sieved due to soil dampness. Artefacts recovered at this layer included slag, a large number of potsherds, stones, bones, an iron pin and an unidentified object.

Figure 5.4: Gandu Shira mound and location of the test pit.

Layer 3: Munsell Soil Colour Chart 2009, YR 5/6, strong brown soil

This layer was strong brown in colour and extended from 124 to 165cm. Preliminary observation of fragmented pottery at this layer showed fine finishing with a glossy surface. Other materials recovered included bone, charred seeds, small beads collected during sieving, teeth (probably human), a spindle whorl, two cowrie shells and pottery.

Layer 4: Munsell Soil Colour Chart 2009, YR 4/6, strong brown soil

The soil at this layer was strong brown was fine textured and loose and did not contain as many cultural materials as the above layers. For the most part, the moisture content at this layer was high even without the rains. This was attributed to the possible proximity of the water level. Most of the spits at this level were not sieved, or sieving was discontinued partway, due to the moisture content of the soil. In most cases the soil was spread out on the mesh to dry before sieving and usually by the time soil from the following spit had been brought up, it had dried sufficiently to be sieved. Where it was not dry enough to allow sufficient sieving, the deposit was thoroughly searched by hand.

As the excavation proceeded, the materials recovered reduced and by the end were only coming from a dark ashy spot on the north-western wall. This led to a decision to continue excavating only this particular area. Thus, a quadrant of 1 x 1m was demarcated at the north-western angle of the test pit, in an attempt to find additional information pertaining to the dark ashy earth.

Site	Nature of sample	Laboratory Number [all Beta-]	Date uncal.	Calibrated date (2 sigma)
Gandu Shira	Charcoal	378252	290 ±30 bp	Cal AD 1500-1600, Cal AD 1615-1660
Gandu Shira	Charcoal	378253	310 ± 30 bp	Cal AD 1485-1650
Jagindi	Charcoal	378254	300 ± 30 bp	Cal AD 1490-1655
Jagindi	Charcoal	378255	280 ± 30 bp	Cal AD 1520-1595, Cal AD 1620-1665
Jarkuka	Charcoal	378250	300 ± 30 bp	Cal AD 1490-1655
Jarkuka	Charcoal	378251	980 ± 30 bp	Cal AD 1015-1050, Cal AD 1080-1150

Table 5-3: Radiocarbon dates from the Shira sites.

Calibrated at two sigma by Beta Analyitc using INTCAL13. References Mathematics used for calibration scenario A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, *Radiocarbon* 35(2):317-322; Reimer PJ et al. IntCal13 and Marine13 radiocarbon age calibration curves 0–50,000 years cal BP. *Radiocarbon* 55(4):1869–1887.

Layer 5: Munsell Soil Colour Chart 2009, YR 5/8, red soil

The quadrant demarcated at the previous layer was excavated to a depth of 150cm below the level of the rest of the trench. This layer started from 224cm and ended at 410cm, and the last two levels (30 cm) were sterile. The main soil colour of the layer was reddish brown with some localised areas with ash. The soil was sandy with grits.

Charcoal samples recovered from the upper and lower parts of the ashy deposit at 330cm (associated with fish bones, daub, burnt bones and charred seeds) and from 340cm (considered to be the earliest or the beginning of the feature), returned dates of 290 ± 30,

Cal AD 1500 to 1600 (Beta-378252) and 310 ± 30 BP, Cal. AD 1485 to 1650 (Beta-378253) respectively (see Table 5-3).

5.3.1.2 Summary of finds

A total number of 2847 potsherds were recovered from the Gandu Shira excavation, of which only a few were decorated (Appendix F). Also recovered were bone fragments, 124 fragments of structural remains, 11 beads, 27 pieces of iron slag and 24 metal items. Among other finds recovered were spindle whorls, clay pipes and charred seeds, which appeared in almost all levels during the excavation. Unfortunately, many of the seeds were discarded before the excavation team realised that they should be retained. The initial analysis of the Gandu pottery suggests it is characterised by little diversity of decoration and fewer variations in vessel forms than occurred at the site of Jagindi.

5.3.2 Jagindi rock painting site (JAG '13)

As already pointed out in Chapter 4, there is no existing record regarding the people who inhabited this site. This site is located on a C-shaped hill, separated midway by a low lying sandy hill called *jigawa* in the local language, which split the settlement into two parts; Jagindi *ta gabar* to the east and Jagindi *ta yamma* to the west. The test pit was located in the latter. The choice of this site for excavation was determined for a number of reasons, among which was that the site lies close to a seasonal water course way with an exposed section which gave an insight into the kind of cultural materials that might be encountered, such as pottery, bone and buried pots. The surface of the site, now farmland, is characterised by permanent water sources, a dry streambed, a rock art site, foundations, bones, potsherds and buried pots. The local informants revealed these vessels may not have been abandoned, but gave a number of reasons why they may be buried. These range from safekeeping of valuables such as money or cowries (of which many are said to have been exposed during farming activities), to *kafin gida*, meaning 'house protection'. The intensive agricultural activities have accelerated the destruction of the archaeological remains.

The test pit in the site was located near an area where past material culture was seen from the substrata of the dried river. These materials were especially visible in the edges of the exposed river way, just south of the test pit where a baobab had recently fallen.

Observation of the exposed area showed it to be composed of stones, potsherds, bones as well as other small debris forming three discernible layers. The 2 x 2m test pit was placed perpendicular to the west edge of the rock art site, separated by a dried watercourse way 16m wide. Likewise, the area to the north featured an abandoned dyeing site with three dyeing pits, of which two were broken and buried pots. After the excavation, the investigation team went on to grid a large section of the site to help maintain horizontal control of the excavation (see for site plan).

Figure 5.5: Setting and clearing of Jagindi test pit.

5.3.2.1 Description of the excavation

The 2 x 2m test pit at Jagindi was excavated to a depth of 220cm. Every attempt was made to sieve the soil deposits from all spit levels, however because the work was carried out during the rainy season, some spit levels could not be screened due to excessive moisture in the soil. At Jagindi, two such spit levels (100 - 110cm and 150 - 160cm) were not sieved due to the rain from previous days. However, the soil deposit was thoroughly searched by all crew members not excavating at that moment (Figure 5.2). In some cases, the soil was spread out to dry on the mesh and subsequently sieved to retrieve cultural material.

5.3.2.2 The depositional sequence at Jagindi

The stratigraphy at Jagindi consists of seven cultural layers (see Appendix BB).

Layer 1: Munsell Soil Colour Chart 2009, 5YR 4/4 reddish brown soil

This first layer featured some grasses and rootlets. As the excavation progressed, very few potsherds and bones were recovered. The layer had reddish brown soil and varied in depth from 0.5cm to 0.9cm on the eastern wall to about 20cm in depth on the northern and southern walls, which slopes towards the western side. In summary, the layer has a depth of 0.5 cm – 45cm. Also noted was the association of some of the potsherds with bones. The area where these few potsherds recovered was ashy or had darkish traits on the floor of the test pit. A single stone was recovered on the other end of the western wall at the northern angle.

Layer 2: Munsell Soil Colour Chart 2009, YR 5/4, brown soil

This stratigraphic layer consisted of brown soil deposits starting approximately from 45cm – 77cm in depth on the southern wall. The layer was only noticeable on the eastern and southern walls, disappearing completely on the western wall. Notable finds included recovery of two flat-faced spherical objects with red and white paint, possibly beads or, most likely, spindle whorls. In addition, all the lithic objects recovered from Jagindi, with the exception of 4 tools which came from 30cm, came from this layer. Remarkably, the stone tools recovered at 60cm were found arranged on top of one another. Also included is a stone fragment with reddish brown paint found this layer. Other finds included potsherds and other clay finds such as fragmented clay pipes.

Layer 3: Munsell Soil Colour Chart 2009, YR 6/6, reddish yellow soil

This layer encompasses spits level 7-14 (77 - 140cm). The layers had very loose and highly fine sandy soil that was very hard to control during excavation. Embedded in the layer was a thin ashy layer splitting layer 2 from this layer, on the western wall. The layer was incorporated into layer 3 as it was visible only on the western wall. The column measured 6cm in depth at its deepest angle. Also embedded in the layer were the remains of potsherds and the roots of the Baobab tree which had been pulled down due to erosion to the south of the test pit. The rootlet had to be cut periodically as the excavation progressed. The cultural materials recovered were not as plentiful as in layer 2 above, but included more variation such as grinding stones, pounding stones, bones and pottery.

Figure 5.6: Jagindi test pit at 40cm and the end of the excavation.

Layer 4: Munsell Soil Colour Chart 2009, YR 5/6, strong brown soil

This layer was a solid clay matrix of a strong brown colour with fragments of kaolin and sandy gravel of approximately 7cm thickness. Rather than incorporate the layer into layer 3, a decision was taken to interpret it as an independent layer as it was considered cultural in nature due to a marked difference in colour and soil consistency. The layer which was

not more than a strip on the upper region of layer 3 is visible only from western wall and ends in the southern wall.

Layer 5: Munsell Soil Colour Chart 2009, YR 7/6, reddish yellow soil

This layer was reddish yellow, consisting of fine to coarse-grained soil. The layer was noted for the large collection of bones (2kg plus another 328 pieces of bones). In addition, the layer also produced a single radiocarbon date of 300 ± 30 BP (Lab Number: Beta 378254), Cal AD 1490 to 1655, from a charcoal sample collected at 80cm.

Layer 6– Munsell Soil Colour Chart 2009, YR 6/6, reddish yellow soil

This layer spanned depths of 105cm to 177cm. This was the most extensive layer and a charcoal sample recovered from 170cm produced a date of 280 ± 30 (Beta 378255) Cal AD 1520 to 1665. The soil colour was similar to that of layer 3 though somewhat darker and like the above mentioned layer, the excavation was hard to control.

Layer 7 – Munsell Soil Colour Chart 2009, 7.5YR 6/4, light brown soil

This layer encompassed the spits from 188 – 220cm. It consisted of brightly coloured light brown soil. The bulk of the cultural materials recovered within this layer came from the top of it and finds were drastically reduced to only charcoal samples as the excavation reached the lowest depth. The excavation continued 20cm into sterile which was loose and sandy and had no cultural material.

5.3.2.3 Summary of finds from excavation

The excavation at Jagindi produced a total of 2,243 potsherds. The excavation also yielded a fairly large assemblage of animal and bird bones, stones as well fragments of fired earth (daub). A full inventory of the cultural materials recovered is attached as Appendix G while analysis of these materials will be discussed in Chapters 6 and 7 of this thesis. Some brief notes are nonetheless given here in order to provide an overview. It was noted that the majority of the potsherds recovered were plain and undiagnostic either due to size or erosion of their surface. Potsherds were discovered at all levels and their frequency seemed to decline with the increasing depth of the test pit.

The excavation also produced a remarkably high density of bones. Due to lack of scale, the bones were separately counted and calculated. In total, 1,821 bone fragments were

recovered from this test pit. Extremely fragmented specimens, measuring less than 10mm, with the exception of diagnostic fragments belonging to very small mammals and birds, were discarded during cleaning at the home base laboratory. Of this total, 1379 bone fragments were collected from levels between 70 and 100cm in depth. The frequency of bone fragments recovered decreased in the next two spit levels, 110 – 140cm. Recovered with the bone remains were some human teeth, shells and fish remains, as well as other unidentified bone fragments. The final analysis of this collection is discussed in Chapter 7, where a report of the preliminary analysis is given.

The excavation further recovered 19 pieces of stone. Preliminary classification of these stones carried out in the field subdivided the finds into two categories; the grinding stone comprising lower and upper grinders and pounding stones. The lower grinders correspond to the contemporary grinding stones found in the Shira area. The stones are usually large, immobile with a convex base, and with flat to slightly curved working surfaces. The lower grinding stone recovered from the Jagindi test pit had rectangular/squared ends with a rounded base. No complete specimen was recovered during the excavation and these stones were not collected but only documented due to their size and weight (see Appendix V for dimension). The upper grinding stones were rectangular, or loaf-shaped, stones used in conjunction with lower grinding stones for preparing cereals into flour or crushing vegetables into a fluid/paste. The upper grinding stones all show traces of wear on either one, or both surfaces. Also found were miniature lower grinding stones probably used for grinding small condiments or non-consumable goods such as pigments and spices (see Chapter 7). In addition, round pounding or hammer stones of ovoid to disc form with evidence of wear on the surface were also recovered. Charcoal samples were recovered, along with the pottery at all levels, right down into the sterile layer. Two dates were run on this trench falling between Cal. AD 1520 to 1665 and Cal. AD 1490 to 1655.

5.3.3 Jarkuka hill site (JKE '13)

Jarkuka is an open-air site located on a low ranging hill top about 3km southwest of the extant Yarka settlement. This site was excavated based on the presumption that it was the earliest settled site in Shira. The main area of interest was the possibility of recovering secure data for dating this site, which oral historical accounts suggest, has a long distant past, involving settlement by the Karai-karai who are said to have been occupying the

region before the arrival of the Shira people from the Kanem-Borno kingdom. Hence, if this information is correct, then Jarkuka would be one of the oldest settled areas in Shira.

Figure 5.7: Jarkuka Pit ‘A’ before and after clearing.

Visual inspection of the site revealed a number of structures identified as a possible remnants of house foundations, buried pots and potsherds as well as some characteristic slags with glossy surfaces. Two test pits were laid in two different parts of the site. The first test pit, Test Pit A, was placed vertically over a stone circle, identified as a possible house foundation (Figure 5.7). The second test pit, Test Pit B, was placed northwest of the test pit A, in an area where traces of metalworking were found. The surface of this

area was composed of metal debris and fragments of tuyères. There were no traces of any structures or boulders found within the vicinity of the area. It was located approximately 58m, 270º northwest of Test Pit A and was excavated to a depth of 80cm with the last 20cm sterile. Test pit A, on the other hand, consisted of 9 spit Levels with the last 20cm being a sterile layer (Figure 5.9).

Figure 5.8: a close up view of the stratigraphy at Jarkuka Pit A and Pit B.

5.3.3.1 Depositional sequence

The stratigraphy from the two pits is similar. Only two stratigraphic layers were detected in each case (Appendix CC, Figure 5.8, Figure 5.10 and Figure 5.11). The soil colour for each of the strata was determined using the Munsell Soil Colour Chart 2009.

Figure 5.9: Jarkuka Test Pit A at 30cm and 90cm.

5.3.3.1.1 Test Pit A

Layer 1: Munsell Soil Colour Chart 2009, 7.5 YR 3/3, dark brown

The soil at this level was dark brown. The layer started from the surface to 35cm and contained many roots and rootlets. Cultural material consisted mainly of potsherds. The most striking feature of the excavation at this layer was the exposure of a stone pavement on the south-western wall of the test pit. The stones were laid below the larger exposed stone circles and several were alignments across the floor area seeming to relate to one another. The entire floor at the stone pavement area was noticeably gravelly intermixed with sand across the entire perimeter. A charcoal sample associated within this stone pavement returned a two-sigma radiocarbon date of 300 ± 30 BP (Beta 378250); Cal AD 1490 to 1655. This sample was recovered from the exposed stone pavement.

Layer 2: Munsell Soil Colour Chart 2009, 7.5 YR 3/4, dark brown

The soil was dark brown. The last 20cm of this layer was sterile and devoid of any cultural material. The layer contained rootlets from trees and plants on the site and rat burrows. The soil was hard and compacted and was hard to excavate using only a trowel. Thus, a pick was used for excavating the lower section of the test pit. In addition, charcoal samples from this layer were submitted to Beta Analytic to date the earliest phase of the occupation of this hill top site. This samples returned two-sigma dates of 980 +/- 30 BP (Beta 378251), Cal. AD 1015 to 1150. These dates correspond with oral tradition accounts, as well as written historical records, all of which gives a much earlier date to this site. But given the presence of burrows and roots, it is possible that this date was contaminated.

5.3.3.1.2 Test Pit B

The second test pit designated ‘Pit B’ also had two distinct stratigraphic layers (Figure 5.10). The excavation reached a depth of 80cm.

Layer 1: Munsell Soil Colour Chart 1991, YR 5/4, brown soil.

The layer spanned 3cm to 26 cm. The thickness of this layer ranged from 23cm thick to almost 34cm thick at its deepest deposit. The soil was reddish brown silty clay soil, which gradually lightened as the excavation went deeper. Embedded on the northern wall was a

potsherd and a stone on the western wall. Other than these, the profile on all four walls were devoid of any artefacts.

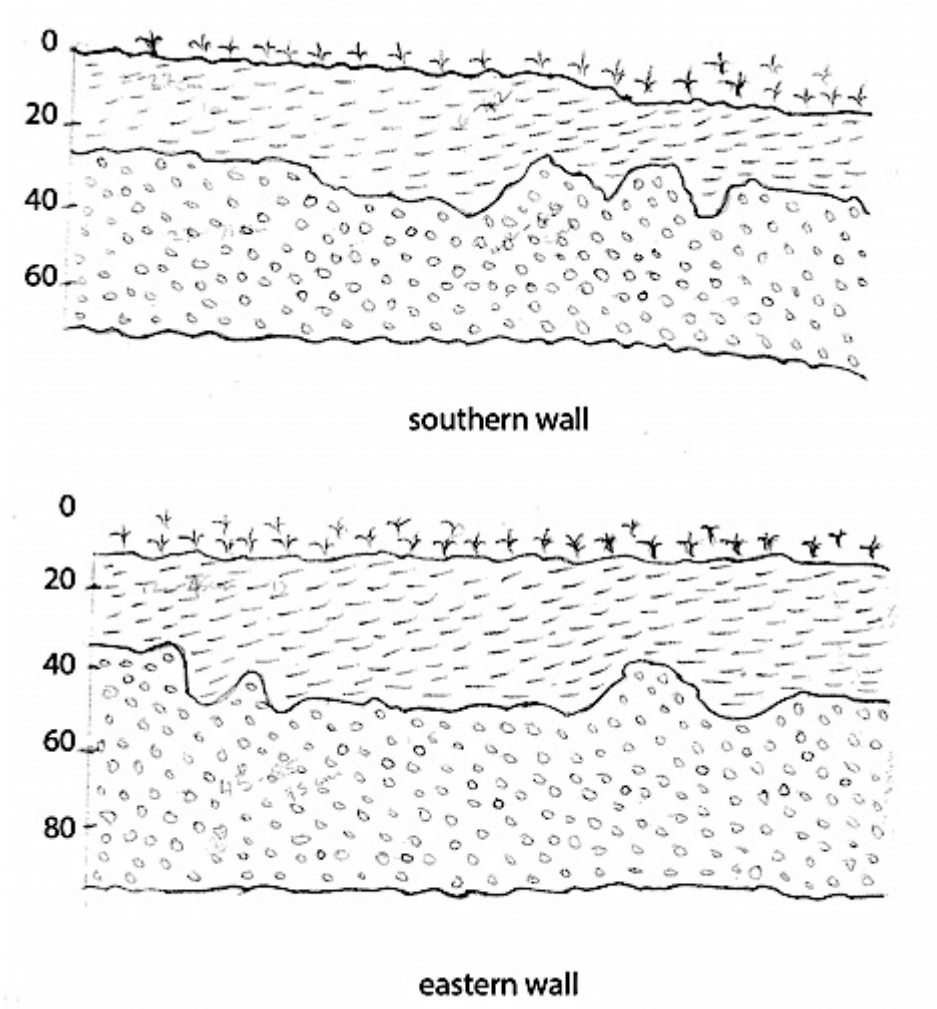


Figure 5.10: Jarkuka Test Pit 'B' (the southern and eastern walls).

Layer 2: Munsell Soil Colour Chart 1991, YR 5/4, brown soil.

This layer started from 26 to 80cm. The layer had a hard brown soil. It is also contained rootlets of various sizes. A large percentage of the cultural materials were recovered from this layer included iron slag and pottery but towards the base of the level, the deposits were sterile.

In comparison to the flat land excavations, the Jarkuka test pits produced very few cultural materials (see Table 5-2). However, these few artefacts are diagnostic. The cultural materials recovered from the two test pits were similar, consisting mainly of potsherds and slag.

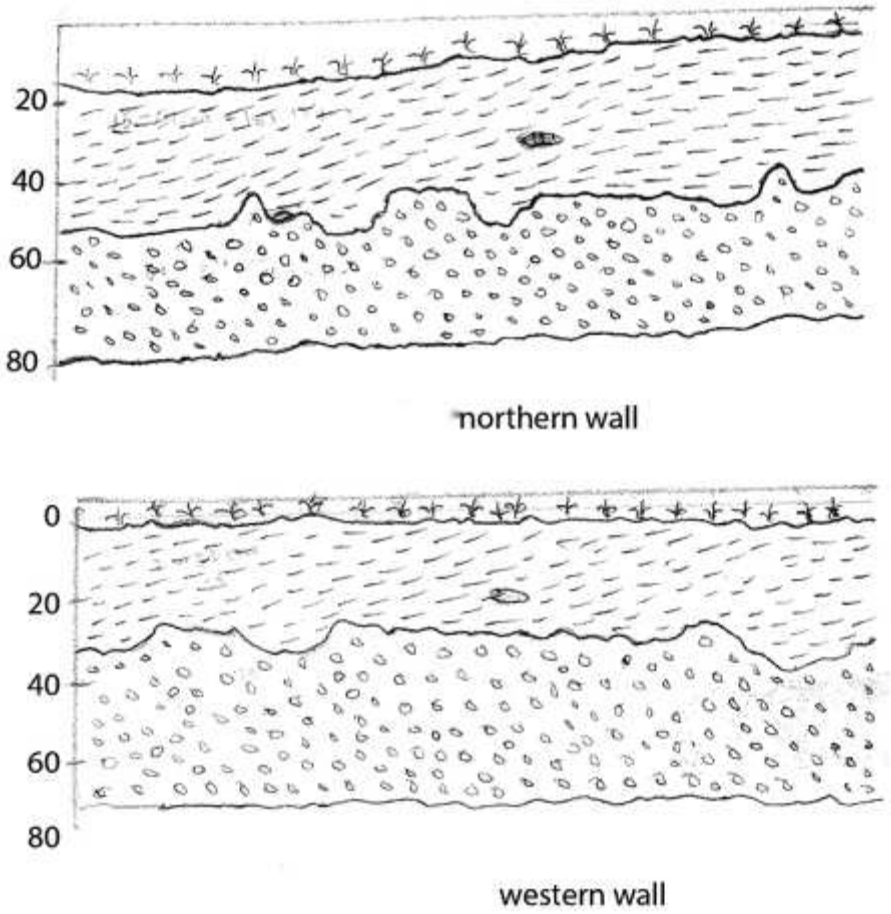


Figure 5.11: The northern and western walls at Jarkuka Pit B.

5.3.3.2 Nature of finds

The bulk of the pottery was worn with decoration barely visible while the slags had a glossy surface with a hollow sound. No bone fragments were recovered. In total, 94 pottery samples comprising both rims and potsherds were recovered from Test Pit A, with the bulk of the material coming from between 20cm and 50cm while over 180 rims and potsherds were recovered in Pit 'B' with Level 3 (30cm) having the highest number of pottery (86 potsherds). Appendix M at the end of the thesis provides a list of material finds and their context.

Figure 5.12: Jarkuka Test Pit 'B' at 30-40cm and at the end of excavation.

5.3.4 Rumfar Tukwane (RPK '13)

This site is located on a hilltop on *Sarki na dutse* hill complex. The surface was devoid of any obvious cultural materials at the time of the visit. This is connected with the nature of the site, which was overgrown by dense vegetation of acacia (*albida-gawo; seyal - fararkaya*) and thick woodland. However, the vicinity of the sites was noted to be archaeologically rich and featured number of stone circles and four large vessels. The location chosen for the excavation lies on a footpath about 800m southwest of the rock shelter that contained some well-preserved granary pots (discussed in Chapter 4).

Figure 5.13: Rumfar Tukwane test pit.

The test pit at Rumfar Tukwane lies between two rock boulders (Figure 5.13). The excavation terminated at 50cm. The topsoil (0-10) was dense and devoid of any cultural material as were the last two levels of the excavation. All the cultural materials recovered thus came from the 10 - 20cm and 20 - 30cm levels. Potsherds were the only artefacts recovered and they were largely plain. The assemblage also included a few rims.

In total, 159 potsherds were recovered, of which 95 were from top soil - 10cm while the other 64 were recovered at 10 - 30cm. Other features excavated included two stones, initially thought to be grinding stones but they turned to be only granite outcrop (Appendix I).

Figure 5.14: Profile reading at Rumfar Tukwane.

5.3.4.1 The depositional sequence at Rumfar Tukwane

Three main stratigraphic layers were deciphered from the four walls (Figure 5.14). The first layer measuring 6cm consisted of clayish compact soil (Munsell Soil Colour Chart 2009 YR 3/3, dark brown). The second layer, considered to be the cultural layer at this site, was at 6 - 30cm. It consisted of hard sandy brown clay (Munsell Soil Colour Chart 2009, YR 3/4, dark brown). The third layer comprised of dark brown, hard compacted clay with visibly discernible stony grits (Munsell Soil Colour Chart 2009, YR 3\4, dusky brown).

5.3.5 Rumfar Bango rock shelter (RFB '13)

As described in Chapter 4, Rumfar Bango is a large overhanging rock shelter composed of several granite outcrops, which permanently shades the shelter. The shelter covers an area of approximately 40m x 50m with an open surface of about 30m for excavation. For the excavation, the surface of the site was subdivided into four areas according to the surface condition and evidence observed around the site and it was tested at these points. The datum point selected for the pit was at 11.27296 N and 010.03892E. It is a rock boulder, with a tree growing beside it at the entrance to the rock shelter.

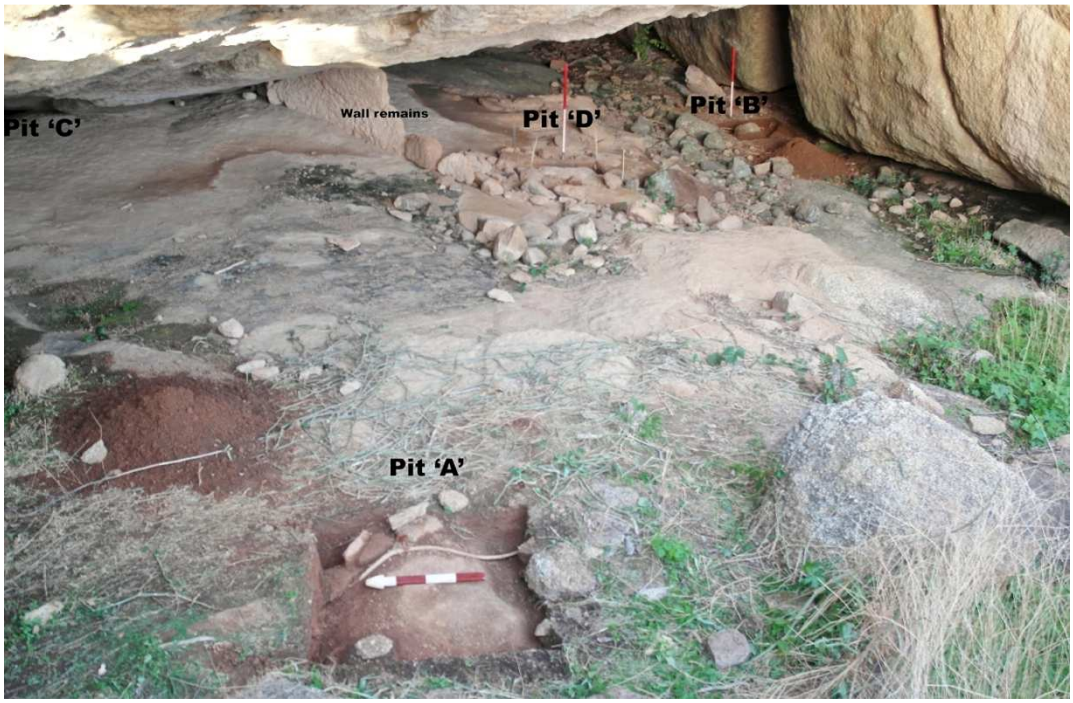


Figure 5.15: The test pits at Rumfar Bango.

5.3.5.1 Excavation

The decision to excavate four areas within this rock shelter was made with the intention of capturing variations in sediment depth and human activities (Figure 5.15). This placement was designed to sample not only the sediment depth, but also the remains at various points of the rock shelter. Three of the test pits were terminated at the depth of 20cm, while the fourth test pit was terminated 40cm.

The test pits A – D were placed in front of the shelter, the mid-section of the shelter and at the back of the rock shelter. Initially, three test pits were opened at the front, central and interior parts of the rock shelter.

However, an additional test pit; Test Pit 'D' was later added to sample a possible fireplace within a collapsed structure, 3.60m across the test pit tagged 'Pit B' (Figure 5.18). The other test pits, which included Test Pit A, C (Figure 5.16) and 'Pit D' were set in different locations within the rock shelter. 'Pit A' (Figure 5.17) for instance was placed 2.3m west of the datum (which was a rock boulder at the front entrance of the rock shelter), over a collapsed wall structure which dominated the front of the rock shelter which is partly covered by several other small rocks while Pit B was located at the 'central living area' of the shelter. The area is just across the remains of a circular house

structure. Test Pit ‘C’ was opened between two boulders at the back of the rock shelters, on a possible watercourse way (Figure 5.16) while Test Pit ‘D’ was located at a dark ashy spot in the centre of the rock shelter.

Figure 5.16: Rumfar Bango Test Pit 'C' at the end of excavation.

5.3.5.2 The depositional sequence at Rumfar Bango

A stratigraphic reading could only be taken at Test Pit ‘C’, as all the other test pits were terminated at 10 - 20cm, had no definable stratigraphic layer and produce little to no cultural find. This test pit on the other hand terminated at 40cm with two identifiable stratigraphic layers (Appendix DD).

Figure 5.17: Rumfar Bango Test Pit 'A'.

Layer 1: Munsell Soil Colour Chart 2009, YR 2/3, dark brown

This layer started from 0cm to 7cm. The soil is of greyish colour which easily crumbles between fingers.

Figure 5.18: Rumfar Bango Pit 'B'.

Layer 2: Munsell Soil Colour Chart 2009, YR 4/4, dark brown

The soil colour lightens to brown from dark brown and ran from 8cm to 40cm.

Figure 5.19: Rumfar Bango Test Pit 'D'.

5.3.5.3 Summary of material finds

Generally, the quantity of archaeological material collected in the excavation conducted in this rock shelter was very low. These consisted of 54 pieces of pottery and 5 pieces of bone from test pits combined. The low quantity of the excavated material contrasts with what was recovered during survey, which comprised 119 potsherds (See Appendix J).

5.4 Preliminary comparison of the archaeological materials from the excavation

At first glance, it would seem that all the three sites share a similar assemblage from the standpoint of range of materials. At each site, the largest single artefact category consists of pottery, many of which were plain with no decoration other than slipping. The second largest category is that of faunal remains which, as documented in chapter 7, consist mainly of domestic animal remains, birds and fishes. In addition to the pottery and faunal remains, other significant artefact types include spindle whorls, beads, glass substances as well as an ivory piece.

The test pit excavated at the site of Gandu Shira is located on a mound. According to historical accounts, this mound is the location of the palace of the past chiefs of Shira. Testimonies collected from the Mallam Sarkin Kyawawa (pers. comm. July 2013) indicates that some thick wall structures were standing at that location less than 10 years ago. Although no brick fragments were discovered at Gandu Shira during the excavation, numerous pieces of burnt earth were recovered in the course of excavation.

In total, 3112 artefacts were recovered from the test at this Gandu Shira site. Other than the abundant potsherds recovered, some artefacts worth noting include beads of some which most were made of glass with the exception of one suspected to be an imitation of pearl. The excavation also recovered a greenish substance of unknown origin but assumed to be remains of glass. Other than this find, the test pit also produced two forms of pipes; thin and thick walled pipe fragments. The thick walled fragments collect from the beginning of the excavation were similar to those that were collected from the surface during the archaeological survey. The second form of pipe came from the lower part of the excavation. These pipes were completely opposite to the early pipes discovered at the beginning of the excavation. These pipe fragments were thin and finely made with shiny and well polished surfaces. The general picture that emerges from the Gandu Shira excavation shows a society with a range of economic activities that may have had outside

contacts. It should be remembered that this site was also the only site excavated that have an extensive wall surrounding it.

The site of Jagindi, which is also a plains site like Gandu Shira, lies approximately midway between a hill, a dyeing pit and the river mouth. The excavated area lies about 10 meters away from a riverbank. There is no existing oral tradition as to the people that occupy this area. However, the abundance of exposed artefacts due to erosion and farming activities led to the excavation of the site. A total of 2364 artefacts including potsherds, clay pipes, spherical objects, metals etc. were recovered from this site. One of the most intriguing discoveries in Jagindi excavation was the variety of clay beads/spindle whorls. More than 30 fragments and whole spindle whorls recovered were mostly oval and flat as well painted in white or red. The presence of such a variety of fine objects along with the unique shapes of the samples that have not been documented anywhere else suggested that there may have existed local specialization.

Jarkuka is a hill site that lies on the plains of a hill which derived its name from a baobab tree that lies at the bottom of the hill. A rough estimate of artefacts recovered from this site would be at least 314 of which 267 were potsherds. This site was noted by historical sources to be one of the oldest sites in Shira and the survey shows a widespread occurrence of iron slag and other evidence for metal-working on the site. This suggest perhaps that Jarkuka is associated with a hitherto unknown, exploitable, iron resource.

5.5 Conclusion

This chapter set out to describe the five sites that were excavated and the cultural materials generated from the nine test pits. In summary, the five abandoned settlement sites were excavated to the sterile layer. Soil deposits were taken down at 10cm interval. A 2 x 2m trench was demarcated for all the test pits except in the Rumfar Bango rock shelter, where the test pits excavated were only 1 x 1m, due to the limited working surface in the shelter.

All the sites share a similar assemblage from the standpoint of the range of material cultures. For depth, the sites excavated on the plain had greater depth than those on the hill with plains exceeding 2m (Jagindi test pit) to 4m (Gandu Shira test pit) while the hills sites all had two stratigraphic layers falling within the range of spit level 20 to 90cm in

depth. At each test pit, the largest single artefact category consisted of broken pottery, of which many were plain with minimal decoration. The widespread distribution of potsherds at all the sites indicates that pottery was commonly used, but the amount generated from the hills abandoned settlement sites is not great in comparison to the abandoned settlement sites in the flat lands.

Altogether, a total 5,569 of potsherds were collected in the excavations (see Table 6-1 in Chapter 6 as well as Appendices at the end of this chapter for material recovered during the excavation). On the fauna assemblages from Shira, it is estimated that over 55% of the bone fragments are diagnostics. Lastly, the excavations in the abandoned sites uncovered a significant amount of clay objects which included clay disks (worked potsherds), clay pipes, and spindle whorls. Generally, metal and iron slag were recovered from both hills and flat land sites during the excavation. Other than these cultural materials, a significant amount of lithic materials were also recovered and charred seeds were found in almost all the levels at the Gandu Shira excavations. Chapter 6 and 7 will consider these various finds.

Chapter Six : Classification and Typology of Potsherds

6.1 Introduction

This chapter contains descriptive analysis of all the potsherds recovered in the course of the archaeological investigation in 2013. It provides details on the nature and distribution of traits found on the ceramics, such as the various surface treatments, finishing, vessel shapes and forms. In addition, the chapter describes the approaches as well as typological scheme taken to recognise the pottery types in the Shira assemblage. In total, 11156 potsherds were recovered during the fieldwork conducted in 2013 (as shown in Table 6-1). By far the most common item recovered was pottery. The pottery samples from the two plains sites of Gandu Shira and Jagindi are discussed in greater detail because the pottery collection, in terms of quantity from the other sites were extremely small and lacked at much in the way of diagnostic features. In addition, the material finds from Jarkuka will be looked for comparative purposes. However, it should be noted that all the rims and decorated potsherds associated with nine units excavated were analysed and this included the surface collections from the sites that were identified during surveys. This gives us a substantial assemblage which allows us to describe for the first time the archaeological material from this area.

6.2 Artefact classification system

Preliminary treatment of the Shira pottery washing, sorting, and counting. The artefacts recovered during the fieldwork were analysed on two different levels. On the broad level, all artefacts were quantified and categorised into broad classes (potsherds, clay pipes, spindle whorls, fauna, shell, metal fragments, slag, lithic and ‘other’ artefacts; see below for general inventory of artefact collections). This provides a broad sense of the diversity of cultural materials recovered from the sites and the surface features on these artefacts. Then each category of data was individually coded and catalogued with a number, site

provenance and context then entered into a Microsoft Excel sheet. The coded artefacts were then examined in terms of a number of their formal and non-formal properties.

For this analysis, a total of 1,312 diagnostic potsherds from surface collection and excavated materials was treated. These potsherds were be studied and classified in terms of forms and surface features.

Artefacts	**Surface Collections**	**Gandu Shira**	**Jagindi**	**Jarkuka**	**Rumfar Tukwane**	**Rumfar Bango**	**Total**
Pottery	5585	2847	2243	267	159	55	**11156**
Lithic	1	8	19				**28**
Clay Pipe	34	23	1			1	**59**
Utilised sherd	11	10	13	3			**37**
Spherical Objects	38	10	27				**75**
Metal	5	17	26	10			**58**
Beads		11	2				**13**
Slags		27	14	31			**72**
Daub		125	13	1	3		**142**
Unidentified		34	9	2	1		**46**
Total	**5674**	**3112**	**2367**	**314**	**163**	**56**	**11686**

Table 6-1: Nature of material finds from surface collection and excavation.

6.3 Scope and limitation of the analysis

This ceramic analysis, as already indicated in the introduction, will focus more on the potsherds from three of the nine test pits excavated; these make up 90% of the potsherds recovered from the excavation. In addition, the analysis will also consider the surface treatments on the samples recovered from both transects and sites surveyed. Generally, the scope of the materials analysed was limited by a number of observations, which emerged after the fieldwork. At a general level, was the overwhelming number of undecorated potsherds. It was realised that 90% of the pottery assemblage had undecorated exterior surfaces, without any, or only very limited surface treatments. In sum, this limited the number of diagnostic samples that were used in the analysis below, to less than 10% of the entire assemblage.

Other than the limitations imposed by the small diagnostic sample size, the analysis was further limited by the diversity of material examined. Although it was certainly important to get a sense of the broad landscape through excavation at five sites, in terms of material culture analysis, certain trenches yielded too few items or too few diagnostic items. For example, altogether the four test pits in Bango rock shelter yielded only 54 potsherds, while Rumfar Tukwane/kuka yielded only 159 potsherds which were all plain and had only 4 rims and these samples are insufficient to provide a reliable characterisation for the in-depth classification that the research aimed to conduct. This is why the decision was made at the start of this analysis to concentrate only on the potsherds from the three test pits at Gandu Shira, Jagindi and Jarkuka Test Pit 'A', which together with the surface collection yielded the bulk of the diagnostic materials from Shira.

In summary, the samples from three test pits (the two plains sites of Gandu Shira and Jagindi, as well as Jarkuka Pit 'A') are the main focus of the analysis below. However, despite the low density and absence of much diagnostic material in the other assemblages, the detail of respective shared traits noted in other pottery assemblages will also be recorded for comparison.

6.4 Methodology

Identification of types in any archaeological assemblage depends more often on the research questions at hand and what part of the vessel features is discoverable and can be defined. In the case of the Shira material, the analysis concentrated on identifying such basic attributes as surface finish, paste, temper, decoration, thickness, size and firing process. For the documentation, the stylistic features on pottery were illustrated and/or photographed while those samples, which were selected for their shapes and forms such as the rims, were scale-drawn. For the classification of forms and shape that is rim analysis, the criteria utilised by various researchers such as McIntosh (1995), Effah-Gyamfi (1981a), Wendt (2007), and Haour (2003a) were used. To record the other attributes from the Shira assemblage, such as size, thickness, composition (temper inclusion) and surface treatment (decorations) on potsherds, a table developed by the Crossroads of Empire Project, running in the northern Republic of Benin, was used. For other morphological and typological descriptions of pottery analysis such as decorations, temper inclusion, the general analytical methods adopted in other previous research from

across the African continent were adopted (Haour et al., 2010, Shepard, 1956, Joukowsky, 1980, Connah, 1981, Rice, 1987, McIntosh, 1995, Gronenborn and Magnavita, 2000).

6.5 Description of pottery assemblage

The classification of the pottery, in preparation for the full analysis, started whilst on the site, by separating the assemblage into classes based on dimension and vessel parts. All potsherds, irrespective of size, were recovered during the excavations as well during the surface surveys for quantitative analysis. After the counts, the potsherds that were smaller than 27.50mm, which is equivalent to one Nigerian *Naira* coin, were discarded as too small to offer any reliable analysis of decoration and shape.

After the initial count, the pottery assemblage was sorted into a standard classification of rims, necks, bodies, bases and handles, with body sherds accounting for a large percentage. This classification is in accordance with the different segments that make up a vessel. At its most basic, a vessel consists primarily of three parts: rim, body and base, or four components when the body of the vessel can be divided into neck and belly, such as in the case of pots/jars which are made up of rim, neck, belly and base (Wodzińska, 2010; see Figure 6-1 below). Between the surface collections and the excavations, all these vessel parts occur in the pottery assemblage from Shira.

6.5.1 Vessel parts

Discussed below are the different vessel parts identified in the pottery assemblage from the survey and excavation in Shira

6.5.1.1 Rim

This is the uppermost part and the main point of entry into any vessel. It can be found either alone, or directly attached to part of the neck/shoulder or the main body of the vessel. It may flare outward, slope inward, or simply be straight or vertical. All these forms (outward, inward or straight angled) depend on the mode of transition of the rim from the ‘shoulder’, or main ‘body,’ of the vessel. In this analysis, rims are identified as straight, everted or inverted depending on the inclination. In most archaeological

research, this part of the vessel is analysed in more detail than other parts as it generally provides a better indication of the form and shape of the vessel (Campbell, 1962).

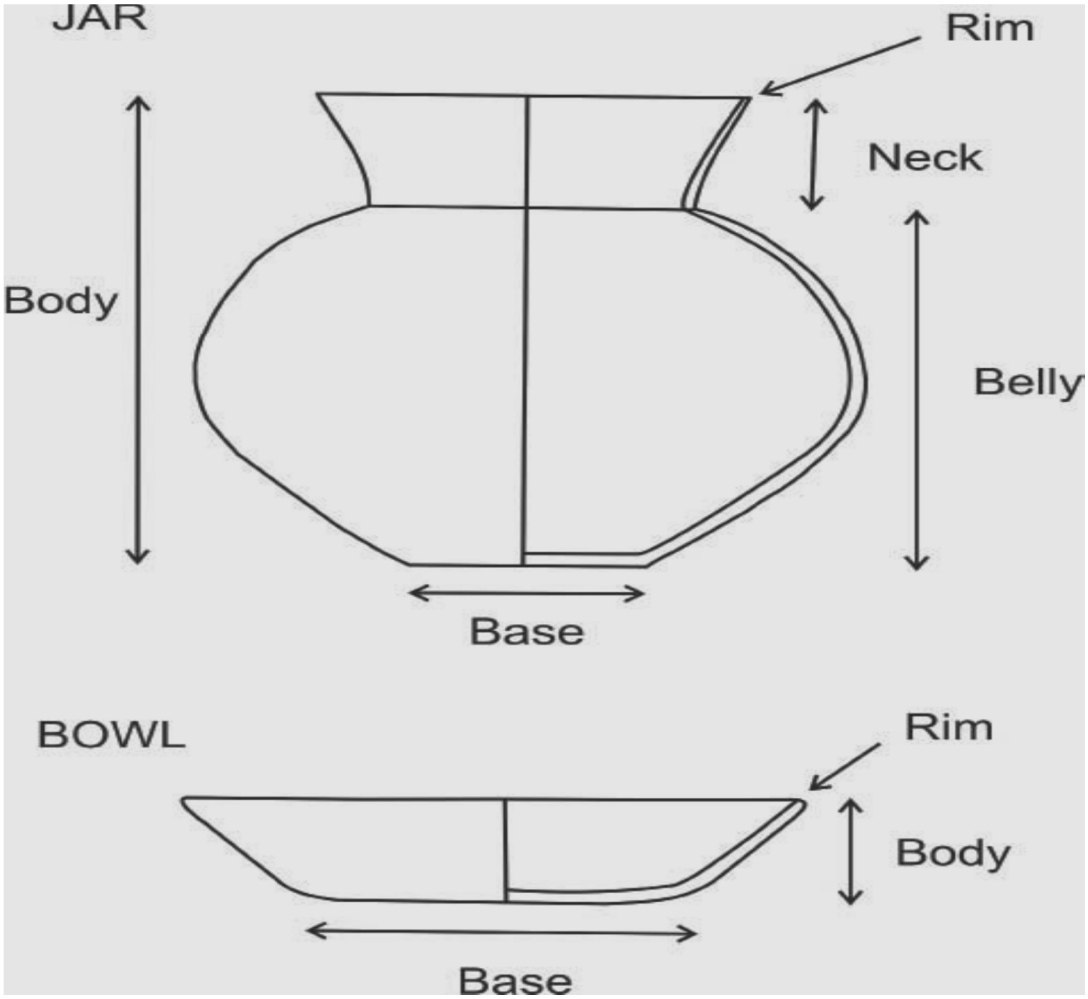


Figure 6.1: Vessel parts adapted from (Wodzińska, 2010:3, Figure 1).

Connected with the rim is the 'lip', and the term are often used interchangeably because the point where one ends and the other begins is not always clear (Rice, 2015:234). The lip or rim with the lip is the end or finishing point on the uppermost part of the rim. This part was also important during analysis due to the mode of finishing or treatments which were noted to be finished differently in some pieces. The rim lip may be considered to be square, round or tapered. The measurement of rims for analysis is by diameter and thickness taken from its sides. In total, 562 rims were recovered (Table 6-2).

6.5.1.2 Neck/shoulder

The 'neck of a vessel is that part above the body commencing with a point of inflection and terminating in a rim' (Lawton, 1965:45, Rice, 2015). Not all pottery vessels carry a

'neck' or 'shoulder' but 'where it exists it may join the body with a curve or an angle' (Rice, 2015:235). Mostly, it is represented with an arc that joins the rim to the 'body' of the vessel and terminates just below the point where the rim starts (Joukowsky, 1980). However, in some cases it is merely an extension of the body (Lawton, 1965). The presence of a neck/shoulder on a vessel is functional and often reflects the form of the vessel. Size and length varies from vessel to vessel in accordance with the function it served. A vessel is defined either as 'open' or 'constricted'. The 'open' vessel runs seamlessly, without any demarcation between the body and the upper rim while a 'constricted' vessel shows a reasonable demarcation separating the 'body' from the upper region, the rim. In this analysis, the absence of lip distinguishes neck-shoulder potsherds from rims. A total of 60 potsherds were classified as neck/shoulder parts. This represents 0.5% of the total potsherds collected.

6.5.1.3 Body

The body is that portion between the base and opening that includes the maximum diameter of the vessel or the region of greatest enclosed volumes (Rice, 2015:224). Generally it refers to the contour of the external vessel wall between the base and the lip (Rice, 1987; see also Figure 6.1 above). It is the largest and principal part on a vessel and extends from the neck to the base. This part is usually spherical or ovoid in shape and serves as the storage area of any vessel. The number of body sherds recovered far outnumbered the rest of the potsherds and account for 94.3% of the entire pottery assemblage. This accounts for a total number of 10515 potsherds, excluding parts regarded as diagnostics 'neck' and 'base' (those decorated, for example). In the end, those 'neck' and 'bases which had no decoration were counted as 'body parts'. This represents 94.3% of all the vessel parts recovered during the fieldwork at Shira. All the undecorated body potsherds were discarded after counting and recording the limited surface characteristics found on them. The analysis of these kind of body sherds was limited to either burnished or unburnished. These basic descriptions were carried out during field analysis and the potsherds were not available for further restudy at the time this analysis was carried out.

6.5.1.4 Bases

As the name implies, this is the lowest part of the vessel which all other parts rest on. Only two potsherds were recognised as bases, with one flat and one thick rounded bottom which considered as part of a bowl. However, it is possible that the number of bases were higher than was identified and more might have escaped notice since they can be difficult to recognise reliably.

6.5.2 Other vessel parts

These are additional body parts that can be present in clay vessels such as handles, stands or foots.

6.5.2.1 Handles

The presence of a handle on a vessel is functional and provides an easier and safer way of transporting the contents of a vessel. From ethnographic information, handles are attached or applied to the body of a vessel by adding slip, usually to the side of the vessel. Information regarding function or non-functionality is based on the method of attachment, that is, whether they are vertical or horizontal (Joukowsky, 1980). A total of fourteen (n=14) were recovered, of which all but two were from excavations.

6.5.2.2 Stand/foot

Stands or feet are extensions of the base, added greater stability (Hopper, 2000). Most of the evidence recovered from Shira did not include foot (standing foot) but rather had a flat or rounded bottom, some with added lumps of clay attached to the bottom, probably for 'sitting'. Only three (n=3) potsherds were identified as the stand/foot that accompanied the base. Two of these stands were ring/disc bases, while the third was a tripod stand. Most vessels documented during the ethnographic fieldwork did not have a foot/stand but are rather formed with a flat or curved bottom.

After this classification, the decorated potsherds and the rims, considered most important for understanding the ceramic sequence, were selected, counted and transported to the Sainsbury Research Unit, University of East Anglia for detailed documentation. These diagnostic potsherds were then marked and classified in terms of fabric, stylistic features,

forms and shapes. All these are documented in detail below. In the course of the classification mentioned above, some very minute clay objects that were considered unique and important for understanding form and shape variations, were selected and transported along with the other special finds (these are discussed in Chapter 7).

S/No.	Vessel Parts	Quantity	Percentage
1	Rim	562	5
2	Neck/shoulder	60	0.5
3	Body	10515	94.3
4	Base	2	0.02
5	Handle	14	0.14
6	Stand	3	0.03
Total		**11156**	**100%**

Table 6-2: Summary of vessel parts recovered during survey and excavation at Shira.

6.6 The pottery analysis

The work of Effah-Gyamfi, (1981a, 1981b), McIntosh (1995), Haour (2003a) and Wendt (2007) informs the basic framework of this analysis. Mainly, the sorting of the pottery samples into classes was based largely upon the classification criteria and typology used in the above studies. The analysis is mainly based on visual observations. The main attributes recorded for all diagnostic potsherds include surface treatments such as the presence or absence of burnishing/polishing, decorations, temper inclusion and thickness. For rims, wall thickness, rim diameter, rim profile/angle of inclination and lip form were recorded. Decorated rim sherds are double-counted, as they featured both in decorated sherds and under the rim category. The presence of additional attributes such as fire cloud, slips, potter's tool marks and the level of preservation (eroded surfaces) were also noted and documented when encountered on a sample. For all these different variables, all samples were observed and calculated. However, not all the variables looked at all the potsherds, for example, while the fabric, slipping and wall thickness looked at the distribution of samples from both surface collection and excavation, the surface samples were excluded from decorative variables due to insufficient time.

6.6.1 Surface finish and treatment

Surface finishing refers to the final treatment applied to a leather hard vessel before firing and includes not only burnishing/polishing but also decorations. The potsherds at this stage were analysed using various approaches, such as, fabric/temper, slip, wall thickness and decorations, as summarised below. Also see Appendix L to Appendix N for characteristics found on individual potsherds recovered from the surface collection and excavation. Under this category, the total sample of 750 including rims with decorations were analysed.

	Surface Collections		**Main sites**		**Minor sites**			**Total**
	Transects	Site Survey	Gandu Shira	Jagindi	Jarkuka	Rumfar Bango	Rumfar Tukwan e	
Decora-ted Sherds	56	383	108	157	42	4		**750**
Rims	47	315	94	83	16	3	4	**562**
Total instances	**103**	**698**	**202**	**240**	**58**	**7**	**4**	**1312**

Table 6-3: Diagnostic samples from Shira (excluding handles, bases and stands).

6.6.1.1 Fabric and temper

The analytical method employed for the fabric/temper typology was limited to visual observation; neither petrology nor chemical analysis of raw material has been carried out on any of the described sample (Figure 6.2 for some examples of the fabric differences, as seen on the interior surface of two potsherds from Gandu Shira surface and Jagindi 40 – 50 cm). It is believed that even such simple macroscopic observation is sufficient to identify the constituent fibres added to the vessel as most of the inclusions were noted to be of reasonable size, and could be identified by eye and the few that were not, were broken at the edge to expose fresh edges for the observation. Where required, identification was further aided by the use of a 15X magnifying glass. However, it must be emphasised, that these dimensions are only subjective as this stage, and a petrographic

sample would be needed to present a valid description of the range and dimension of inclusions in any pottery sample.

Figure 6.2: Examples of fabric differences, as seen on the interior surface of two of the sherds analysed (Gandu Shira Surface and Jagindi 40cm) left, gritty, coarse mineral fabric, and right potsherds with holes suggesting vegetal inclusions.

The basic matrix of any clay pottery includes sand and the visual examination carried out on samples shows fine sand grains as the main substance in the potsherd, with irregular evidence of coarse-sized sand grains. As discussed in Chapter 3, ethnographic investigation carried out on modern concepts and uses of clay resources in Shira during the 2013 fieldwork, revealed that there are certain classes of non-plastic materials added to the prepared clay by the potter to counteract excessive shrinkage and ensure uniform drying. These 'added' materials prevent cracking and breakage of the vessel during firing. It was observed that the archaeological material two different types of temper; mineral and vegetal. The mineral temper includes granites and ground potsherds (grog) while the vegetal is limited to millet husk (see Table 6-4). Mineral inclusions are usually evident to the naked eye as grits or coarse rock grains (round or angular) on the surface of potsherds while vegetal fabric are detected as 'holes' on potsherds. These holes occur when the vegetal matter has been burnt away during the firing process and what usually remains after the firing are little holes seen on the surface of potsherds (see Haour, 2003a for a discussion).

	Surface collections		Excavation samples					Total
Sample	Transect	Site Survey	Gandu Shira	Jagindi	Jarkuka	Rumfar Bango	Rumfar Tukwane	
Mineral	49	329	104	112	42	4	0	**640**
Vegetal	7	54	4	45				**110**
Total	**56**	**383**	**108**	**157**	**42**	**4**	**0**	**750**

Table 6-4: Decorated potsherds: summary of fabric.

6.6.1.1.1 Comparison of sites

The whole essence of this analysis is to identify the nature of the material inclusions in the samples. Broadly, two types of inclusion were noted in the Shira samples; mineral or vegetal fabrics (see Figure 6.2). On the whole, the dominant treatment in the pottery sample is mineral fabrics comprising of 85.3% of the sample, with a greater percentage of this category (104 potsherds) of the excavation samples coming from the Gandu Shira site. The samples from the sites at Jarkuka, Rumfar Bango and Rumfar Tukwane consist mainly of mineral fabric while the samples from the site of Jagindi exhibit a similar pattern, but this site also features the largest sample displaying vegetal inclusions (Figure 6.3).

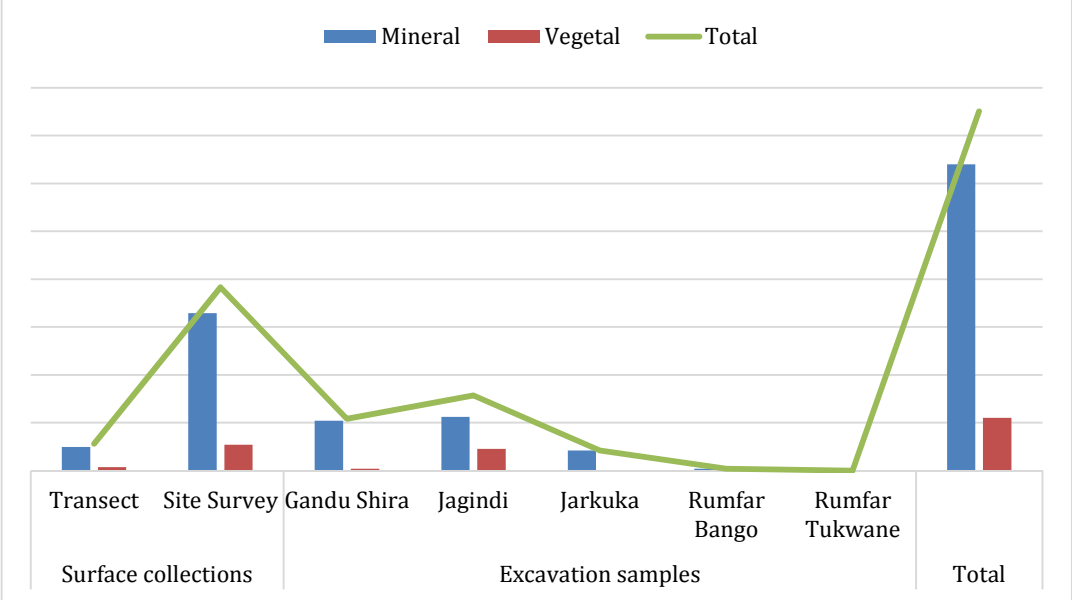
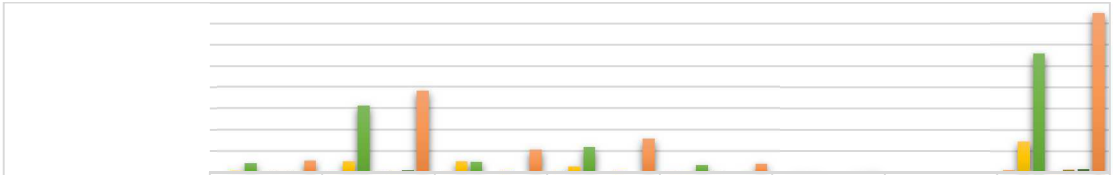


Figure 6.3: Comparison of fabric inclusion by sites.

6.6.1.2 Slip

This section describes one more treatment which a vessel undergoes before firing. Slipping (the act of applying slip that is most often a liquid suspension of clay, to the vessel) is both a functional and decorative act that condenses and compacts the pottery. Mainly, slip improves the surface texture and colour of the vessel, making it more appealing (Joukowsky, 1980). In contemporary Shira, it was noted that vessels was coated with a laterite-based liquid prepared from gravel. The solution as noted in the potting communities, Faggo, Malori and Yakasai in Northern Bauchi, Nigeria, was applied to the surface of the vessel with a string of baobab seeds, *gwargwami* (Figure 3.31). The presence of slip on the Shira samples was observed with the naked eye. The main colours identified on the samples ranged from reddish brown to a dull shade of brown. The application in ethnographic record was done with a back and forth motion, often resulting in a smooth flawless brown surface.



	Transects	Sites Surveyed	Gandu Shira	Jagindi	Jarkuka	Rumfar Bango	Rumfar Tukwane	
Interior		3	2	5	1			11
Exterior	9	52	52	29	1	2		145
Int. & Ext.	43	313	50	118	36	1		561
Eroded	1	1			1			3
Unslipped	1	3	4	5				13
indeterminate	2	11			3	1		17
Total	56	383	108	157	42	4		750

Figure 6.4: Frequency of slipped potsherds from Shira.

For slipping, most of the potsherds exhibit interior and exterior slip and it is most prevalent in the sample from Jagindi and Jarkuka. The sample from Gandu Shira displayed almost an equal amount of internal and external slipping. In total, interior and exterior burnishing and slipping is most widespread across the sites (see Figure 6.4 above).

6.6.1.3 Wall thickness

To establish wall thickness, the sample was divided into five categories. This first group included those potsherds which were considered thin, falling between 1-5mm. This category included 39 potsherds, accounting for 5.2% of the total assemblage. The next group were medium sized samples consisting of potsherds between 6-10mm thick. This group consisted of 397, which accounted for more than 50% of the sample examined. The next category were those decorated sherds falling between 11-16mm. These were classed as medium with a total of 295 samples. The fourth category was limited to sherds 17-20mm thick, of which there were only 14 potsherds in the sample. The fifth group consisted of the thickest potsherds in the sample, falling between 21 to 25mm, represented by only 4 potsherds. No pottery sherd had a thickness below 3mm and none was greater than 22mm.

Wall thickness measurements were rounded up or down to produce whole figures for example, the series 4.1, 4.2, 4.3 or 4.4mm was rounded down to 4mm while 4.5, 4.6, 4.7 to 4.9mm were rounded up. Therefore, for the site comparison, the average potsherd thickness varied from location to location. In the plain sites of Gandu Shira and Jagindi, wall thickness fell between 4mm to 21mm with the thickest and thinnest potsherds coming from Gandu Shira. The thinnest (3mm) potsherds were only recorded on the samples (n=4) from surface collections. The pottery from the rock shelter and hilltops excavated sites fell within the medium sizes category, with wall thickness between 6mm to 15mm.

The basic concept that underlines analysis of potsherds' wall thickness has to do with the presumed function or intended use of a vessel. On the basis of ethnographic data collected from Shira during the 2013 fieldwork, it can be suggested that most of the vessels used for cooking and for transporting water fall within the range of 3mm to 10mm while those that fall between 10mm to 21mm were possibly used for storage and water vessels. During the ethnographic survey in the potting communities there was evidence that the potters built the larger pots with thicker walls, if not the vessels will collapse and can easily break. The thin wall vessels were often shorter in height than the thicker vessels.

6.6.2 Types of decorations

Due to lack of time, the analysis on decorative types focuses only on decorated potsherds from the excavations. This consisted of a total of 309 potsherds. This analysis examined the decorative types, technique of manufacture and frequency of occurrence in the assemblage. For the decoration, the analysis divided this category into two; single and multiple decoration. Single decoration means one kind of decoration appearing once on the potsherd sample while, multiple or double decoration are those samples with more than one type, or kind, of decoration.

Decorations included grooves, incisions, roulettes, punctuates, stamping, appliqué and paint. In addition, the potsherds decorated with roulettes were sub-divided into three; folded, twisted and cord-wrapped. Lastly, were category of potsherds with unrecognizable decoration, which were categorised as indeterminate. Thus, in total potsherds with decorations were categorised into 9 types (Figure 6.16). These decorations in Shira seems to occur in two different forms; painted and plastic decoration. The painted decorations are achieved by applying a different colour of substance to the surface of a vessel at leather hard stage, or after firing, depending on the type of colour used. Meanwhile, plastic decoration involved manipulating the clay surface using an object or hard tool to impress, indent or stamp to the surface of a vessel while also in the leather hard stage.

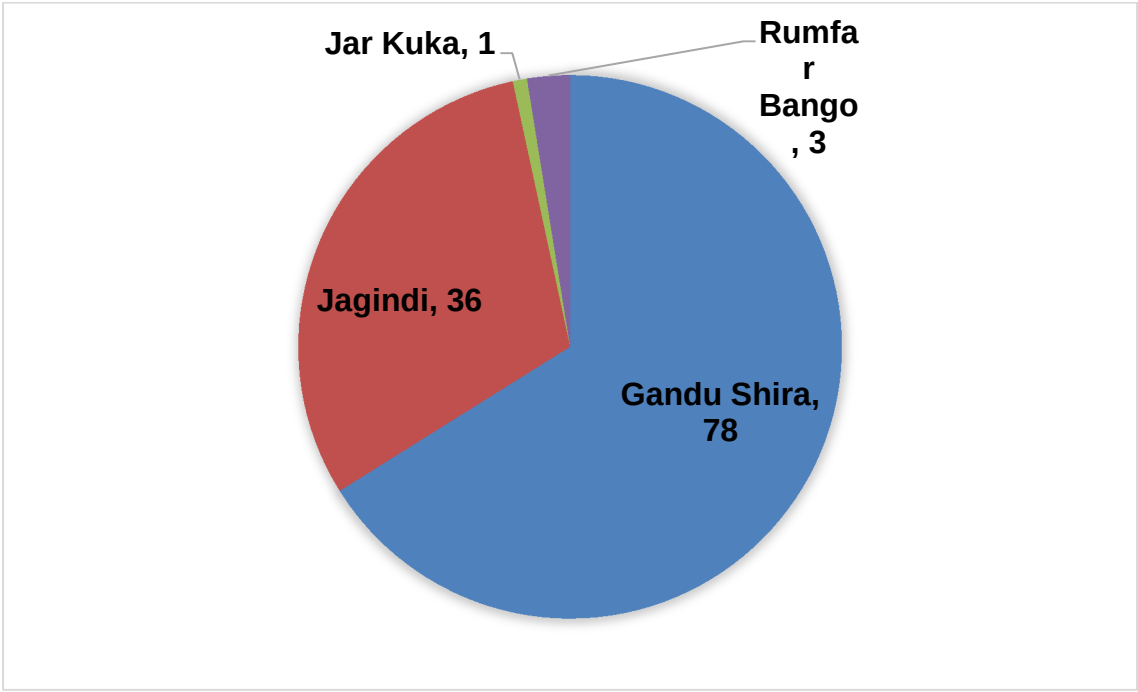


Figure 6.5: Showing total of grooves by site.

6.6.2.1 Grooves and incisions

This category consisted of 118 potsherds decorated with grooves, among which are 3 samples classified as incisions. All the above decorations are produced by dragging a blunt or sharp edged object over the surface of a leather hard vessel and are differentiated in this analysis by their degree of occurrence and depth on the surface of the potsherd. The term 'incision' refers to line, stroke, or notch cut by a sharp tool as a result of which the clay is pushed out on the side (Joukowsky, 1980:831). In some Shira potting communities, this decoration was achieved through the use of a broom (*tsintsiya*) at Yakasai. In Malori, it was achieved by using the pointed end of a knife (*wuka*) while in Faggo, the sharp end of a pointed iron pin, locally called *kibiya,* was used. Grooving on the other hand is produced on vessel with a broader, more blunt tool than that used in the creation of incisions, such as a bamboo stick. The technique of manufacturing was the same except that the tool used in incision was sharp whereas in the second the tool was broader, more blunt and produced deep narrow cuts (Effah-Gyamfi, 1981a:206).

Figure 6.6: Examples of grooves and other incised decorations in the Shira assemblage

In total, grooving was the most common, and often repeated, decoration found on the pottery and was most prevalent in the Gandu Shira collections, accounting for 66% of the total groove samples (Figure 6.5). This was followed by the collections from Jagindi with 36 samples. It was found in singles, in pairs and multiple lines that were deep and wide. It was also the most common decoration used in combination with other decorations. Two

distinct techniques of grooving were identified; the deep etched grooves and what this research classified as 'ridge or shaved-down grooves'. Whereas the first type of groove was achieved by dragging a wide blunt object across the surface of the vessel to form a wide channel, in the 'ridge or shaved-down groove' the tool used was probably flat and was used to scrape away, or shave down, the plastic clay in a downward motion to form a sort of ridge or step groove. This type of groove ('the ridge') was found mainly on rimsherds which sometimes were combined with the ordinary channel groove. The diversity of grooving and incision is versatile and appeared in many of patterns and form as shown below in Figure 6.6. The decorations included four different type of grooving styles – horizontal (single, double or banded), vertical, wavy and mixed/compound (horizontal and vertical groove) as well as curvilinear.

6.6.2.2 Roulettes

A total of 173 potsherds featured some form of roulette decoration (Figure 6.7). These included 103 potsherds with folded strip roulette (FSR), 49 samples identified as twisted cord roulette (TCR) while 21 potsherds were categorised as bearing cord wrapped roulette decoration (CWR).

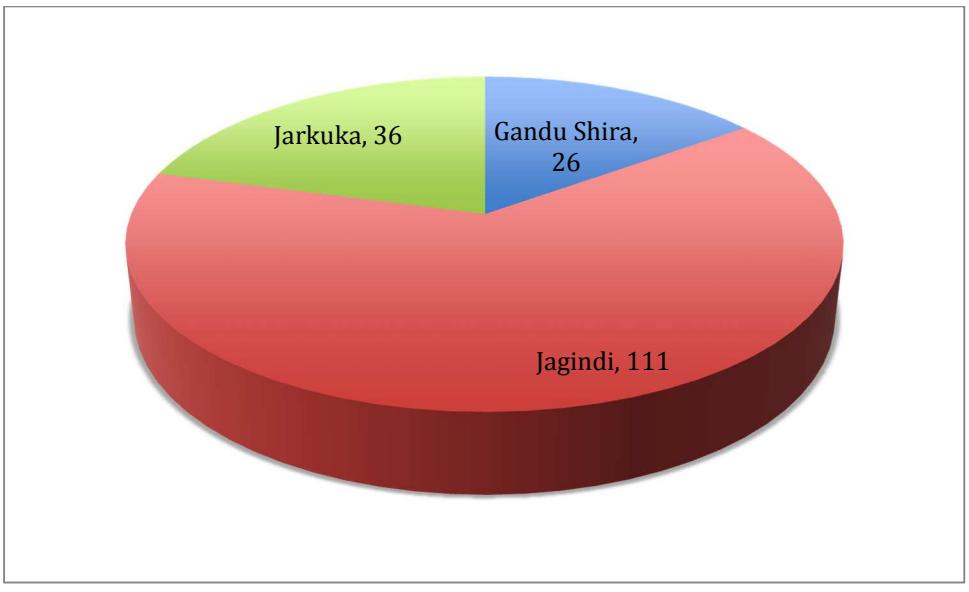


Figure 6.7: Roulette occurrences by sites.

All terms used in this analysis are based on terminologies outlined in Soper (1985) and (Haour et al., 2010) terminologies. Roulettes have several variants, produced by rolling a cylindrical object, which has been plaited, folded, knotted or braided and rolled over the surface of a vessel in its leather-hard stage to produce the pattern of the roulette (Soper,

1985). As regards rouletting tools, the roulettes could be made from wood, iron, reed/straw/grass, or maize cob, as documented in contemporary Garande settlement. This left a band of continuous rows of crisp textured or patterned impression depending on the material (cord or flat fibre) that is rolled over the surface (Livingstone Smith, 2010a). Generally, rouletting is considered to be both ornamental and functional. It was found that when applied all over the pottery surface, the texture prevents a vessel from slipping during transportation or use (Priddy, 1971, Smith, 1978, Gosselain and Livingstone-Smith, 1995, Aiyedun, 1997). Additionally, the coarse surface is alleged to help conduct heat consistently during cooking as the heat is evenly distributed (pers. comm. Goggo Adama Faggo, 2013). Some other potential functions are that these decorations add to the visual appeal of the vessel, which boasts the sale of vessels, as polished objects are considered prettier than plain pottery vessels (*ibid* 2013). Soper (1985) also noted that rouletting could promote an increase in production as more vessels are effortlessly decorated faster especially when compared to other decorative techniques such as incision or grooving.

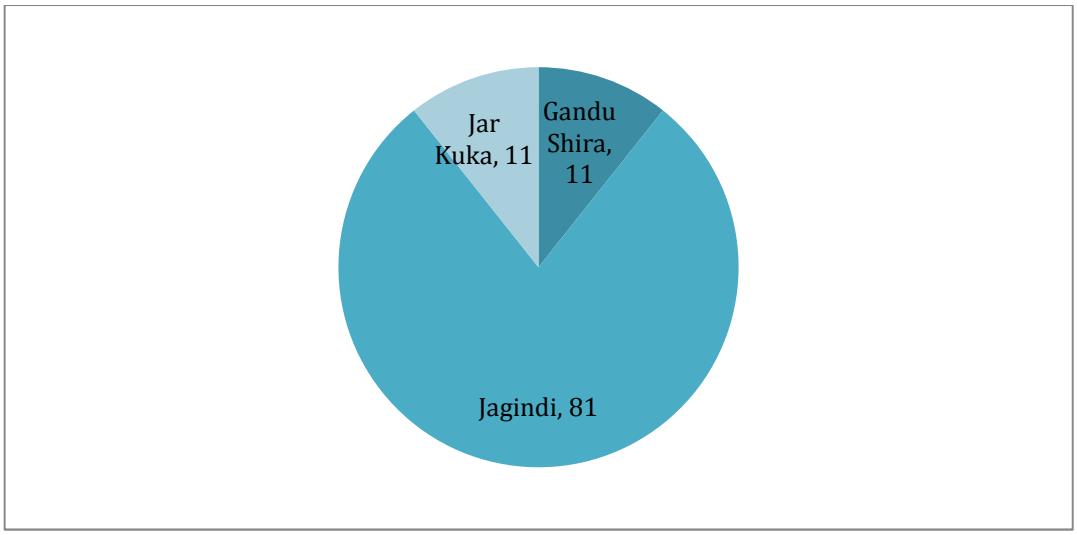


Figure 6.8: Folded strip roulettes by site.

a) Folded strip roulettes (FSR)

The folded strip roulette as shown below (Figure 6.9) is achieved by rolling a folded strip tool over the surface of a vessel. This creates evenly spaced rows of raised ovals and sometimes square impressions, which are repeated in every third or fourth column (Haour, 2010). This form of roulette is commonly documented archaeologically in the Chad Basin and the Niger bend (Connah, 1981, Gronenborn and Magnavita, 2000,

Mayor, 2011). In terms of popularity, folded strip roulette is the most popular type of roulette in the Shira samples, accounting for 103 potsherds in the roulette sample. The decoration also appears in combination with grooves and polished surfaces in the samples. In total, folded strip roulettes are most prevalent in Jagindi site, with 79% of the total folded roulette coming from the assemblage. Both Gandu Shira and Jarkuka had a total of 11 samples each in the collections (Figure 6.8).

Figure 6.9: Folded strip roulette decorated sherds from Shira sites.

b. Twisted cord roulettes (TCR)

Twisted cord roulettes (Figure 6.10) are considered the simplest and most ubiquitous of the cord roulettes that are widely executed across West Africa (Arazi, 2010, MacDonald et al., 2011). This roulette is made by twisting round-sectioned fibres (pulped bark, grass, cotton) together and then doubling them over to form a small length of cord which creates a series of horizontal or diagonal rows of oval or rounded concave impressions (Soper, 1985). Variation occurs when the roulette is given a double or triple twist (Livingstone Smith, 2010a, Dueppen, 2014). Thus making the row of impressions created seem loose, with a slightly "peanut shaped" impression rather than ovals (See McIntosh, 1995 Figure 11 under Cord). In Shira, it appears in conjunction with a band of grooves and burnished surfaces. The decorations on the samples were described as either loosely twisted or finely twisted roulettes. The impressions are identical to other twist cords across West Africa (Effah-Gyamfi, 1981a, Ogundiran, 2002a, Mayor et al., 2005:36, Aiyedun and Shaw, 1989, Livingstone Smith, 2010a). By sites, the decoration was most popular in the Jarkuka collections with 45% of sample.

c. Cord-wrapped roulettes

The tool consists of a central core, which is either flexible or rigid, wrapped in one or more cords, left twisted or untwisted (Soper, 1985). The appearance of the decoration produced when using this roulette depends on whether a flexible or rigid core has been used and on how deeply the tool was impressed.

Figure 6.10: Twisted cord roulette decorated potsherds.

In either case, cord-wrapped roulette decorations, as shown in Figure 6.11 below generally appear as parallel rows of continuous lines where the tool has been rolled over the vessel surface, or display parallel rows of concave segments resembling rounded grains of rice (MacDonald and Manning, 2010:144). The Shira sample produced a total of 21 samples, with most recovered from Jagindi site.

Figure 6.11: Cord wrapped roulettes.

6.6.2.3 Painting

Only one painted sample was reliably identified in the pottery collection from Shira. This was discovered in the Jagindi collection (see Figure 6.12). However, while the archaeological record show little sign of paintings or pigments on potsherds recovered, several spindle whorls and beads recovered from the Gandu Shira and Jagindi assemblage were painted. The use of paints is also very popular in the contemporary communities, the colorants used in the various potting communities visited during the ethnographic survey, included both natural substances such as, kaolin and red earth, and synthetic materials. Most pigments used on pottery as identified by Rice (1987:148) are mixtures of colorants,

fine clay, water and a binder rice. In the contemporary potting communities in Shira, for instance, in the Faggo settlement, the red painting material was obtained from the normal soil/earth used for building, while at Malori and Yakasai village, it was mined at a quarry site which had red stone. These substances in all the settlements were ground into a powder before being mixed with water and applied to the vessel surface with a rag. The white paint in Faggo was obtained from mining a quarry site about 3km from the settlement, while in Malori and Yakasai settlements, the potters bought their supply during market days.

An additional paint, not identified on any of the pottery sample from Shira, but is popular in the contemporary settlements, is green paint (synthetic material). Paints are applied to the surface of a vessel in two major ways. Rice (1987:148) identified two major types of surface colorations, those applied to only a portion of the total area and those that coat the entire surface. In Shira, paints occurred only on body sherds and none was found on any rims. A third way of altering the colouring of potsherds is through firing, which in the Jagindi sample, appears as black potsherds (Figure 6.12 on the right). The painted decoration observed included horizontal (see Figure 6.12 on the left), inverted triangles and zigzag using either white (probably of kaolin source) or red (earth) paint.

Figure 6.12: Painted (left) and black (right) potsherds from Gandu Shira and Jagindi respectively.

6.6.2.4 Appliqué

Appliqué was only discovered in the Jagindi collection. The decoration is achieved by the addition of extra clay, attached or applied to the surface of the vessel to form a ridge or projection as shown in Figure 6.13. For best results, the clay of the vessel and appliqué should be at roughly the same state of wetness, either leather-hard or plastic. The surface of the vessel where the appliqué is to rest may be rewet and roughened, or the applique may be joined by luting, in which a small amount of fluid clay slurry, or slip, is used to promote adhesion (Rice, 1987:148). These decorations are either functional, for example, when large chunks of clay are attached to support a vessel (base or feet) or ornamental, when applied to the surface of the vessel to beautify it.

Figure 6.13: Appliqué decoration.

6.6.2.5 Punctate/stabbing

Potsherds with punctate/stabbing, as shown in Figure 6.14 only appeared on four samples with three coming from the site of Jagindi while 1 sample was recovered in the Gandu Shira collection. The depressions are punched into wet clay, usually with a sharp or pointed instrument, such as, a stick, a hollow reed, an awl or a finger or fingernail (Rice, 1987:145). In the Shira sample, the decoration was either circular or quadrilateral. The decoration appeared individually or in combination with others as seen below in Figure 6.14.

Figure 6.14: Stabbing/punctuate.

6.6.2.6 Indeterminate

This category represents potsherds that were modified with surface treatment (decorated) but could not be assigned to any group (Figure 6.15). These consisted of seven potsherds found in the Gandu Shira and Jarkuka collections.

Figure 6.15: Indeterminate group

6.6.3 Comparison of variables

In summary, grooving appeared to be the most popular decoration found in the Shira assemblage, accounting for 50% of the total samples with decorations, and it appeared across all the sites. By site, as already pointed out above under the discussion on grooves, it was found mostly in the Gandu Shira collection. For roulettes, especially folded strip, it was the most favoured decoration in Jagindi site appearing to account for 79% of the decoration. In Jarkuka site, twisted cord roulette was the preferred style of decoration in the collection. For the other decorations, incision, stabbing/punctuate, painting, applique

and indeterminate decoration accounts for only 6% of the total decorative samples from Shira (Figure 6.16).

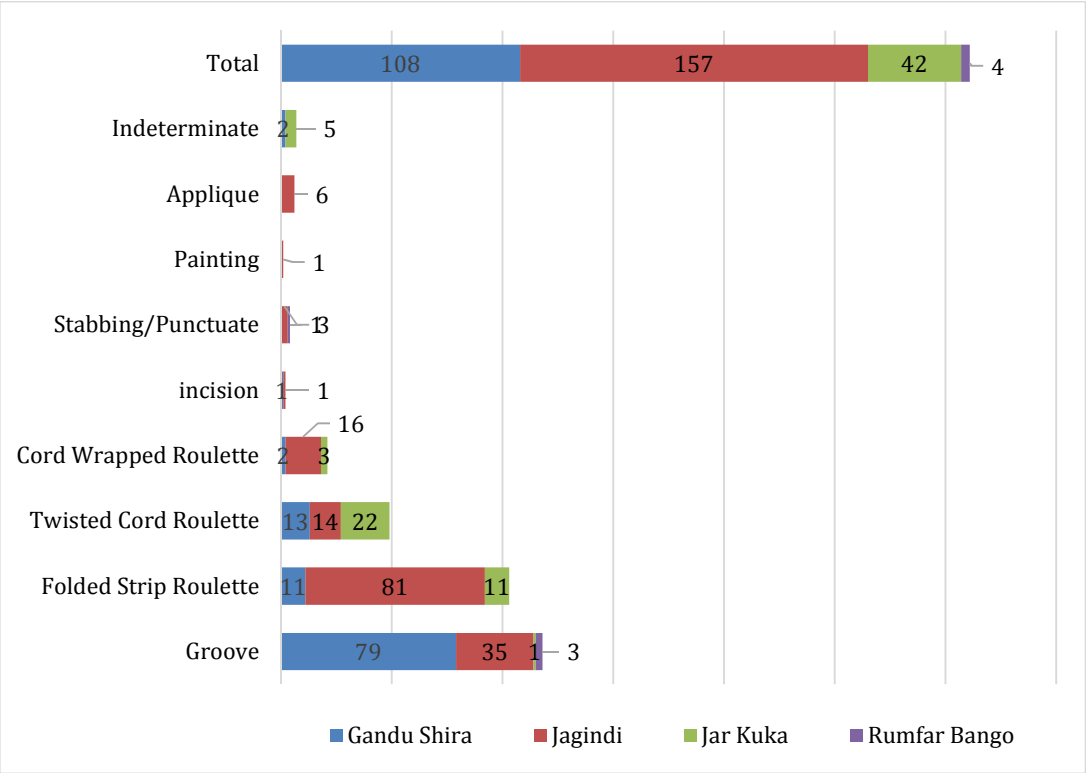


Figure 6.16: Distribution of decoration by sites.

6.6.4 Rim/vessel forms

Rim angle data are particularly useful for characterising rims (McIntosh, 1995). The vessel form analysis was limited to those rim fragments large enough to provide a reliable estimate of vessel forms from the excavation assemblage. As with decorations on potsherds from Shira, only the excavated samples, consisting of 200 potsherds, were analysed (Table 6-5). No complete or restorable vessel was found in the assemblage, even though there were indications within the sample that a few of the rims might have been from the same parent vessel, no attempt was made to refit them. A few rims within the sample retained the upper part of the body and others had the rim-neck portions still attached. Overall the vessel forms were classified according to attributes of sample size, rim characteristics and form projections/angles (Figure 6.17). The classification described each form of class, as well as the frequencies of each form. The classification began by separating and grouping the rim into three variables, which included simple, everted and thickened-out, under which were found many variables (Figure 6.19 to Figure 6.27).

These groups were further sub-divided into variables in terms of the shape from manufacturing.

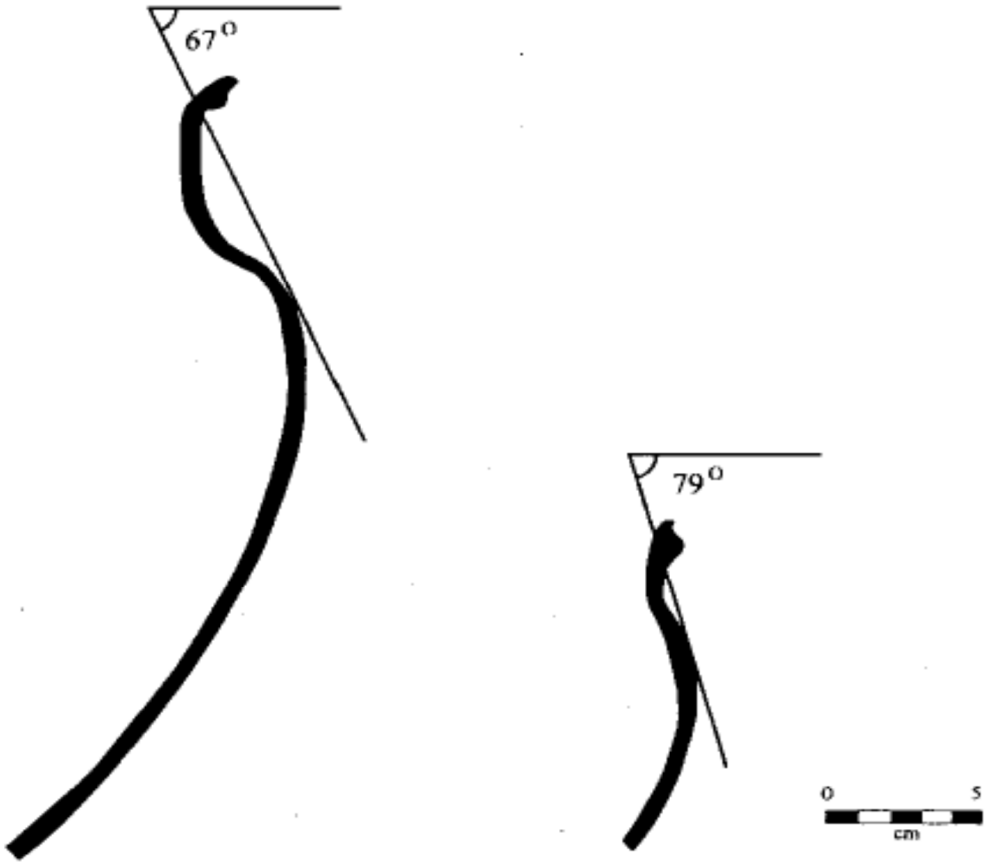


Figure 6.17: Rim angle measurement adapted from Wilson and Rodning (2002:31, Figure 5).

The analysis also considered the rim 'lip' types, which were classified into round, square/flat or tapered in shape. In addition, the analysis also considered decoration on the rim/lip surface, for which a total of 19 were found to be decorated on the lip with single horizontal grooving, while one sample featured cross-hatching. For the lip grooving, the decoration was represented by a deep, short and sharp line. Pertaining to other decorations on the rims sherds, 75 rims were identified with surface decorations. This consisted of thirty-four (n = 34) rim sherds with single horizontal grooves, one single rimsherd was identified with wavy grooves. Other types of grooves identified on other rims included 16 rim sherds with banded horizontal grooves; 9 samples with internal grooving, including one with wavy grooves. Additionally 5 rim samples were recognised as bearing incision, while a single rim sherd was identified as having a cord wrapped roulette with groove decoration. Other decorations included twisted cord and folded strip

roulette which were represented by 5 samples each. See Figure 6.18 for rim samples with decorations.

Figure 6.18: Composition of rim decorations.
(Top) Rim sherd decorated with twisted rows of cord impressions; a fragment of a rim sherd with ridged and horizontal grooves. (Bottom) A fragment of a rim and shoulder of a pottery vessel, marked with a cord-wrapped stick impression accompanied by grooves and a rim sherd with folded strip impressions.

6.6.4.1 Rim types

Discussed below are three groups of rim types from Shira (Table 6-5).

6.6.4.1.1 Group A (Simple-S)

These were vertical rim sherds exhibiting straight sides on both the exterior and the interior (see Figure 6.19 and Figure 6.20). The sherds were characterised by straight prominent projections without any discernible rim-neck joint. The rim angles fell within the range of 90-180º. In total, the sample consisted of 106 rims that were further classified into 4 sub-types.

S 1 (n=20)

These were straight-sided rims, with no discernible curvatures, standing at almost 90 degrees (Figure 6.19). The rims in this category mostly had flat/square rim lips but few appeared to have rounded lip regions. Some of these have horizontal grooves or shallow depressions in the lip region making these samples noticeably different. These forms were assumed to be similar to rim Type 44 found at Jenne Jenno (McIntosh, 1995).

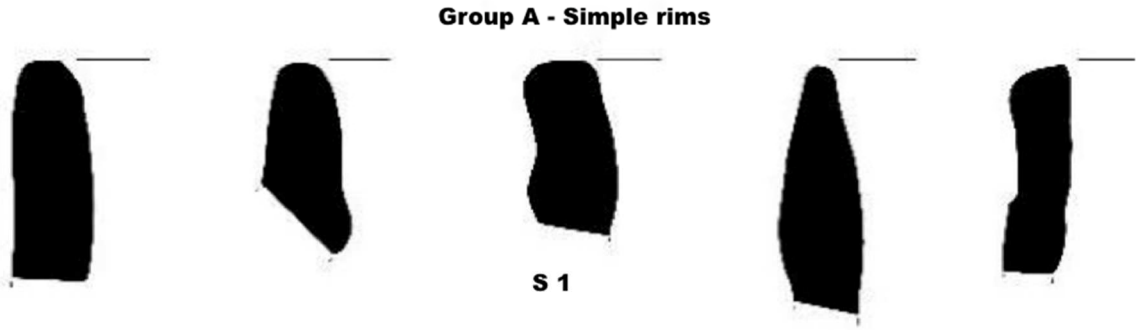


Figure 6.19: S 1.

S 2 (n=34)

These were straight projecting rims with no discernible rim-neck joint alternating between 45-120 degrees. These rims had slight variations in thickness from top to bottom. As a whole, rim diameter ranged from 10cm to 30cm. In addition, the analysis included a few number of rims that had grooves across their surface. The presence of these decorations gave these rim sherds a unique feature (Figure 6.20). Although distinct, the stylistic difference did not separate them from others with the same form.

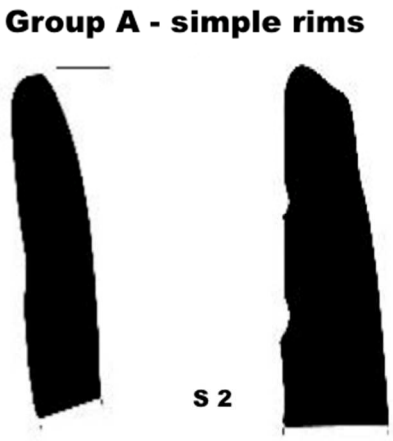


Figure 6.20: S 2.

S 3 (n=38)

These were straight simple rims with slight internal flaring (Figure 6.21). In appearance, the profiles of these rims were thumb-like, with tapered to rounded lip.

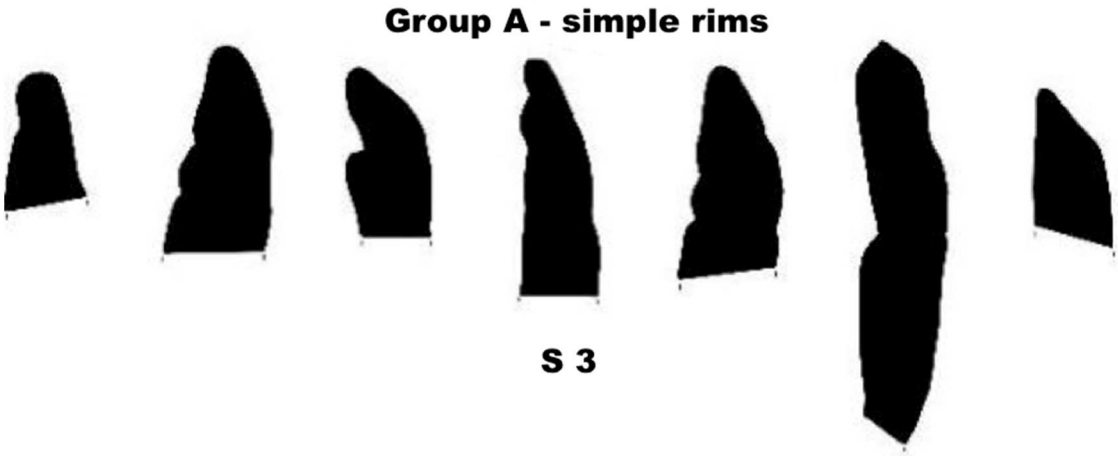


Figure 6.21: S 3.

S 4 (n=14)

These were identified as rims of bowls with no discernible rim neck joint (Figure 6.22). One feature of this form especially with regard to the manufacturing technique, was that both internal and external surfaces were well burnished and smoothed. A similar vessel bowl type was also reported by (Effah-Gyamfi, 1981b Figure 3.2f) in the Samaru-West collections.

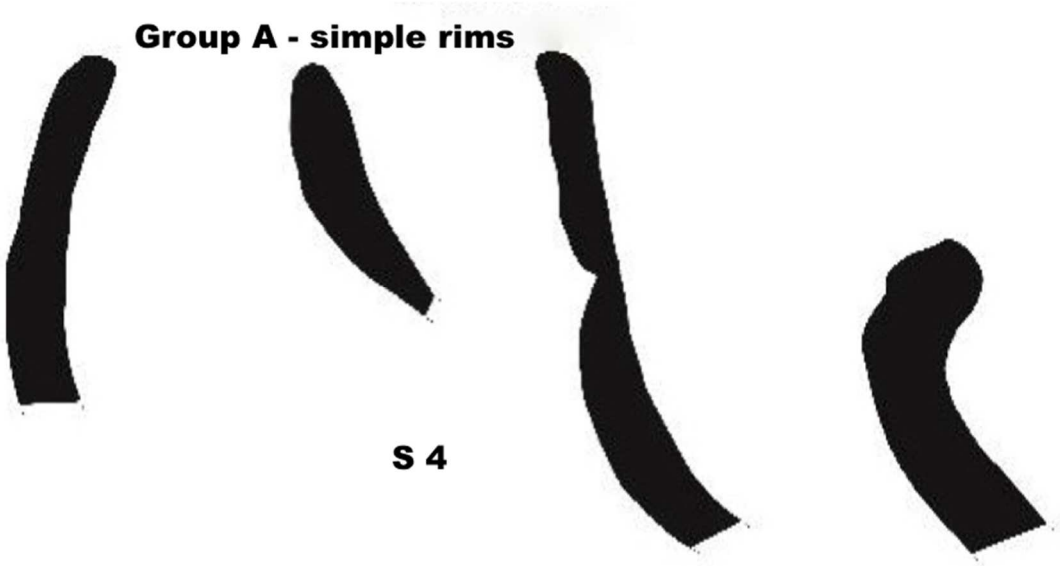


Figure 6.22: S 4.

6.6.4.1.2 Group B (Everted -E)

These samples showed evidence of out-flaring rims, internally and externally. While there were few sharply everted rims, the majority of the rims of the everted exhibit simple to medium sized curvature. This group consisted of 90 items.

Sites	Group A (Simple)				Group B (everted)				Group C (thickened out)		Total
	S1	S2	S3	S4	E1	E2	E3	E4	T 1	T 2	Total
Jagindi	9	13	17	1	13	12	6	12			83
Gandu Shira	10	19	19	10	17	5	10	1	2	1	94
Rumfar Bango		1			2						3
JKE Pit 'A'			1	2	2		1				6
JKE Pit 'B'	1		1	1	2	2	2		1		10
Rumfar Kuka		1			1	2					4
Total	20	34	38	14	37	21	19	13	3	1	200

Table 6-5 Summary of rim types by site.

E 1 (n=37)

These were everted rims with gentle internal and external curvatures. Rim diameter ranges from 24 - 30cm and rim thickness from 5-14mm. There are several variants of this form, from long to medium sized curvatures. Whatever the variants, all the rims had evenly proportioned curvatures, both internally and externally (Figure 6.23). The rim

form was identical to the Category E at Kufan Kanawa (Haour, 2003a). A similar rim occurs in the Tsauni rim type group m-3d; Figure 85 (Effah-Gyamfi, 1981a:63).

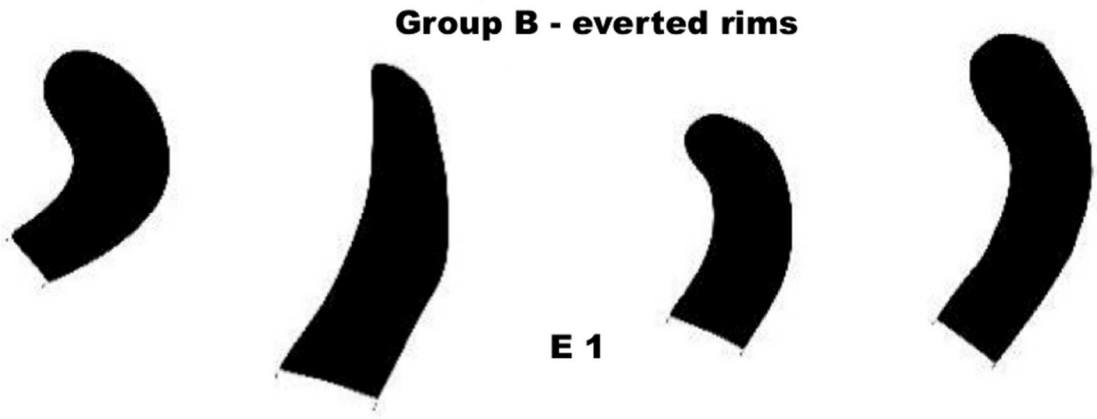


Figure 6.23: E 1

E 2 (n=21)

These were everted rims with sharply angled internal or external curves with a gentle slope on the interior or exterior surface (Figure 6.24). The distance between the rim neck joint to the lip at the angled exterior is between 4 - 6cm. All these rims had tapered lips. The rim thickness measured 8 - 1mm and rim diameter ranged between 14 - 26cm.

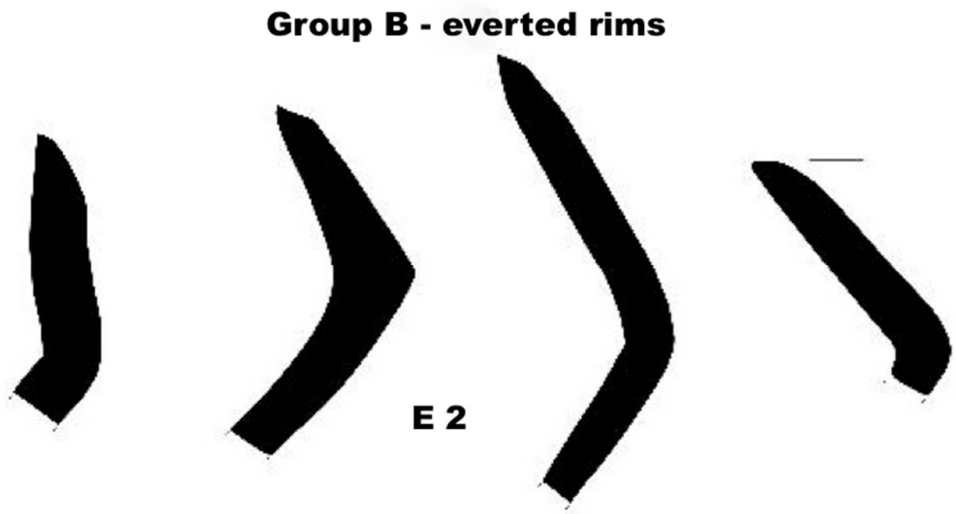


Figure 6.24: E 2.

E 3 (n=19)

These were everted rims with flaring occurring only around the lip region. The rim neck joint was about 50 – 65mm from the lip. The curvature usually occurred just around the lip, both internally and externally (Figure 6.25).

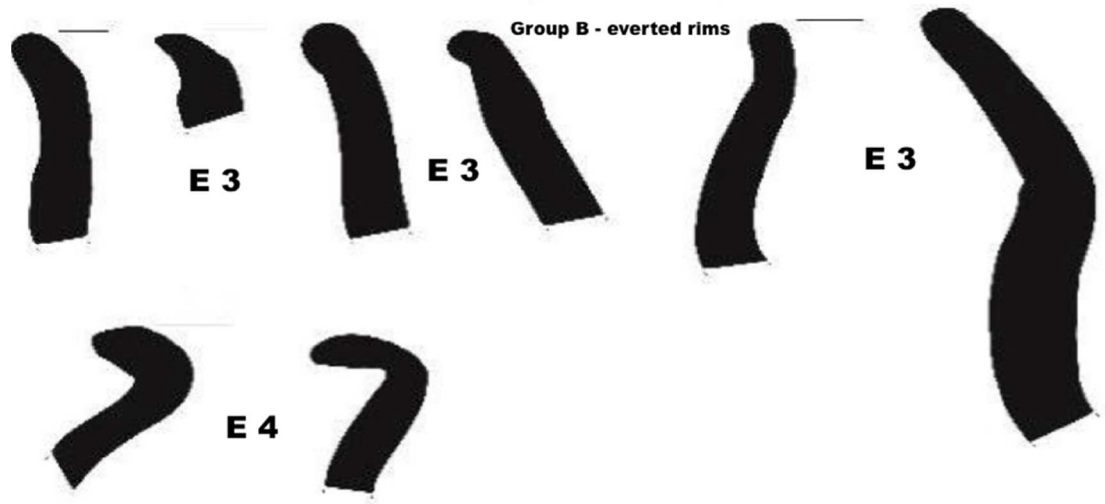


Figure 6.25: E 3 and E 4.

E 4 (n=13)

Rim type 8 was represented by everted rims of globular vessels with a rim thickness of 8mm - 10mm (Figure 6.25). The rim diameter falls within 14cm - 24cm.

6.6.4.1.3 Group C (Thickened-out - T)

The thickened-out group were a beaked rim type having a prominent and sudden curved/projection at the neck joint to form a pointed end (Figure 6.26). The group consisted of 4 samples.

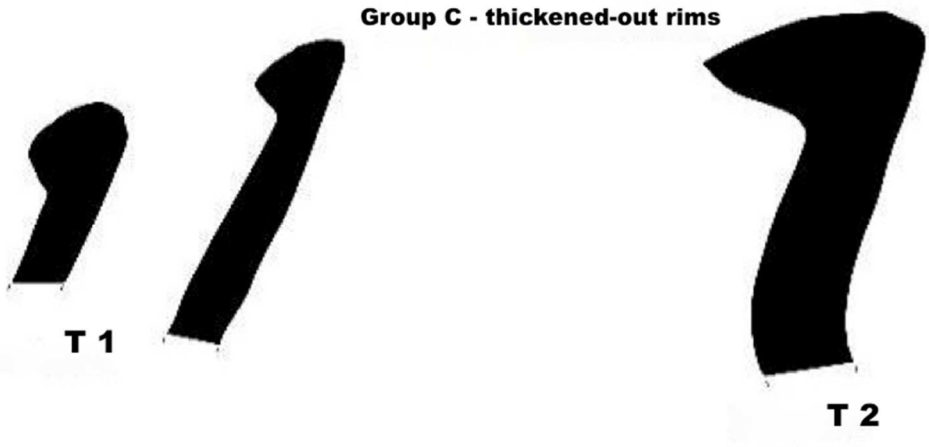


Figure 6.26: T 1 and T 2.

T 1 (n=3)

This category consisted of a thickened-out upper lip that gently curves out (Figure 6.26, T 1). These samples were otherwise straight necked vessels but with very thick lips.

T 2 (n=1)

This category was represented by one sample (Figure 6.26, T2 on the right and Figure 6.27 'top'). It had a prominently constricting, curved profile with a short and thickened out-curved neck. The rim diameter measured 27.0cm and the rim was 19mm thick at its thickest angle. The potsherd was black on both the interior and exterior. The external surface was adorned with composite decorations consisted of notching, banded by wavy grooves on both sides (Figure 6.27). On the juncture between the neck and the body was a shallow, carination and ridge, presumably where the potter pinched wet clay between the fingers.

6.6.4.2 General discussion on rim type

The Gandu Shira site had the largest collection of rim sherds, with 94 samples. The site also produced the highest number of rims classified as simple rims, with 58 out of the 106 samples coming from the site identified with these features. The site of Jagindi, on the other hand, accounted 40 samples, which is 37.7% of these rim types. In the sub-category, Simple rim category S3 was the most widespread, followed closely by everted

rim. ‘E1 numbering 37 potsherds. Equally S2 and E3 appeared to be more popular in Gandu Shira.

Figure 6.27: T 2 (thickened-out category ‘top’) and a modern pottery from Shira (lower).

For the everted rims, this category consisted of 90 samples with 33 samples of the collections coming from the site of Gandu Shira. However, even as it appeared to be most popular in Gandu Shira, site-by-site comparison showed that in some sub category of

everted rims, such as, E2 and E4, the Jagindi samples appeared to be more widespread with a total of 12 each. For Jarkuka, whose collection was less than these two plains sites, 9 of its 16 samples were everted with E1 sample recorded as most widespread. The thickened-out rims were only found in Gandu Shira and Jarkuka sites, with only 1 sample from the latter.

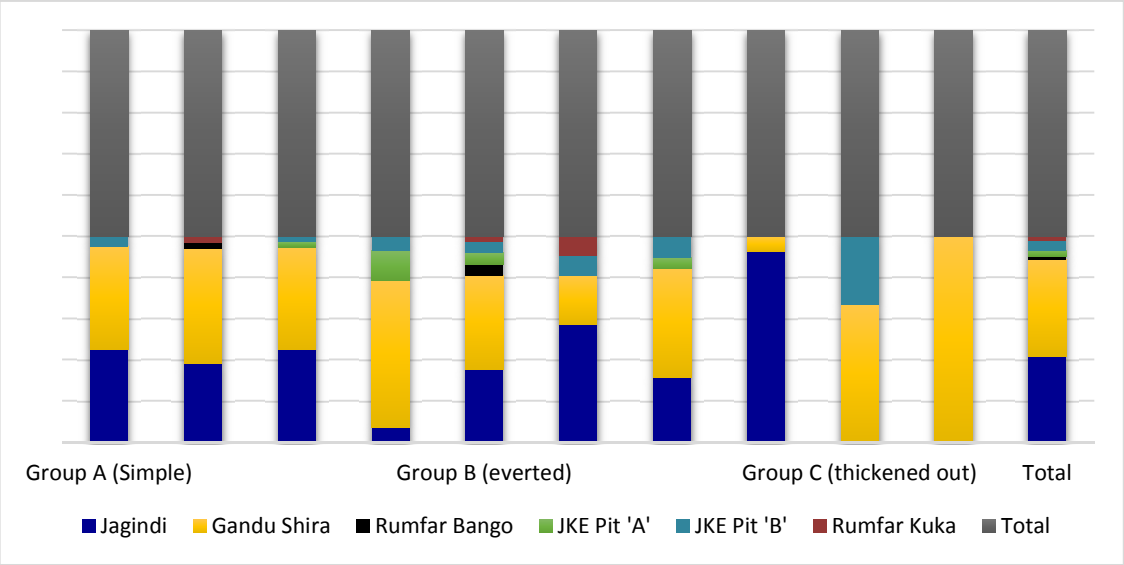


Figure 6.28: Rim types by sites.

6.6.5 Comparative analysis of the pottery from the excavation and ethnographic data

The surface survey and excavation in the Shira region have provided us with numerous type of artefact, mainly pottery which are the bulk of the material evidence recovered from the three sites. There are no notable differences in artefact frequencies by spit levels but there exist the differences between sites.

In summary, the three sites share a similar assemblage from the standpoint of range of materials. At each, the largest single artefact category consists of broken pottery, mainly functional vessels (pots and bowls). The pottery recovered from the upper part of the excavation and the documented ethnographic materials are remarkably similar and fairly widespread throughout in the surface collections that one may tend to draw a conclusion of a common origin or living in close quarters that the people used virtually the same pottery type at a certain point in time

Perhaps the most notable difference between the archaeological materials analysed and the information collected during the ethnographic survey is that of rouletting. Roulettes figure prominently in the assemblages from Jagindi and Jarkuka (although most of the impressions are faded) but are near non-existent in the contemporary/ethnographic record, with the possible exception of the use of maize/corncobs, documented in one potting village, Garande. Some roulette tools were also made for the author at Sambuwal village, a former potting community. The maize/corncob was first saturated with water and then rolled across the body of the leather hard vessel to produce a set of repetitive impressions. Based on examination of the pottery from Shira, only one potsherd from Gandu Shira was identified as having a maize/corncob decoration. Other than this, there seems to exist some overlap in surface treatment between grit-tempered and fibre-tempered pottery. For example, in the Shira sample rouletting especially those recovered from Jagindi were mainly tempered with fibre. This type of tempering was documented in Malori during the ethnographic survey of potting practices in Shira. In addition, grooving, which was much more common on grit-tempered potsherds, also occurred on few rouletted potsherds.

Most of the potsherds recovered from Jarkuka are faded and eroded but stylistically the potsherds are similar to those collected from the excavation on the plains. The presence of such potsherds raises an initial question as to whether these potsherds were of an earlier date than those recovered from the plains excavation. However, it is equally possible that the weathered state of the potsherds may have been due its use in stone pavements.

In summary, when examining rim forms, the assemblage was sorted into three main groups. The rim samples were identified as simple, everted and thickened-out, with rim diameters generally falling within 10 – 20cm. The combined analysis of all diagnostic rim sherds resulted in the devising of ten pottery types. These types do not seem to vary through the sequence; as was the case with decorations, the excavation did not produce any clearly defined dominant type or types for each spit. The amount and distribution of ceramic types recovered from the three study sites are summarised in Table 6.5 and illustrated in Figure 6.20-6.27 above.

S/No.	Location	Sites	Dates	Unique Features	Pottery	Sizes/thickness
1.	Plain	Gandu Shira	AD 1500-1600. AD 1485-1650.	5 stratigraphic layers, almost 4 metres long.	Numerous grooves.	Sizes ranges from 2 x 2cm to 15x13cm.
				Large collection of burnt clay including burnt earth fragments and daub.	Shiny and well burnished surfaces.	Thickness range
				Beads.	Reddish surfaces.	4mm to 21mm.
				Thin-walled pipes.		
2.	Plain	Jagindi	AD 1490-1655. AD 1520-1665.	Rich in faunal remains, not very well preserved, but including domesticated animals, fishes and birds.	Have more roulette in terms of decorations than other sites. These decorated potsherds appear more on fibre-included samples.	Size: 2x1cm to 3x7cm.
				Spindles whorls.	Reddish brown surfaces	Thickness: 4mm to 16mm.
					Inclusion of fibres/vegetal temper.	
					Fire cloud surfaces.	
3.	Hill	Jarkuka	AD 1490-1655. AD 1015-150.	Stone pavement.	Eroded and worn-out surfaces and	Size: 2x3cm to 3.4cm.
				Shiny remains of iron slag.		Thickness: 4mm to 16mm.
				Tuyères fragments.		

Table 6-6: Sites investigated with their relevant features.

6.7 Conclusion

This chapter characterised the potsherd assemblages recovered from surface surveys and excavations in the Shira region. Potsherds were the largest group of artefact recovered

from the excavation. Pottery occurred in almost all levels of the excavation with their quantity reducing gradually as the excavation increases in depth. The sampling strategies for both of these categories of potsherds are presented in chapters 4 and 5. In summary, a vessel was observed to have a minimum of four parts with additional body parts supporting these parts which were often functional and decorative. The enquiry revealed that the plain body sherds were most widespread, consisting of over 97% of the total assemblage. When a vessel part or variable could not be identified, it was considered indeterminate. All undecorated potsherds were left in the field.

Following this, the diagnostic sample composed of 1,312 (Table 6-5) rims and the decorated sample (Table 6-4) was subdivided into different variables based on certain attributes. For potsherds with decorations, surface morphology, fabric inclusions, wall thickness as well as presence of burnish and/or slip were recorded. Fabric analysis was undertaken to assess the kind of inclusion that was used in the assemblage. Whereas Gandu Shira presented a high collection of sandy, grit temper, the samples from Jagindi had more fibre. In the wall thickness analysis, the categories of vessel falling within 5-15mm were considered medium sized vessels and were the most widespread. The identification of colour was visual and the majority of the sample displayed a black interior core, with a thin reddish brown outer layer of slip visible on the interior and exterior surfaces. Slip and burnishing were popular across all sites with only about 11% per cent of the total samples not well-slipped and burnished. Both interior and exterior surfaces of the majority of the pottery samples were slipped.

The vessel decoration, which was the final variable looked at under the category of surface finish and treatment/undecorated vessels, observed that grooves were the most prevalent decoration in the sample, it was most widespread in Gandu Shira. In Jagindi, roulette decoration was more widespread with 70 of the collection exhibiting some type of roulette (refer to Appendices for sample numbers). In addition, other decorations including painting, applique and incision albeit small, were present in the samples.

Chapter Seven : Analysis of Small and Other Finds

7.1 Introduction

This chapter discusses the small finds and other groups of miscellaneous finds, including remains of industrial waste, buildings and fauna recovered during the survey and excavation. The volume of materials recovered was small, consisting of 269 items, many fragmented or eroded (see Figure 7.1 for distribution of small and other finds recovered from Shira). The finds include clay objects other than pottery (note that the potsherds were discussed in Chapter 6), lithic and stone objects, remains of metalwork, with the exception of the slag and tuyères that are discussed under the industrial waste section. Other small finds discussed in this chapter include miscellaneous glass objects and ivory. Additionally, remains of industrial waste, remains of building materials, fauna as well as burnt seeds recovered, are discussed in the second part of the chapter. The discussion deals with the survival rate of some of these cultural materials, as not every type of find survives in archaeological records particularly due to the acidic nature of the local soil. The survival of objects such as those made from organic materials, for example, textile, is unusual or, when it did survive, as in the case of iron objects, these were often found in only a fragmentary state. However, proxy finds such as slag, tuyères, burnt earth or daubs do suggest the presence, or use, of these materials or structures. A detailed catalogue of the small finds, illustrations as well as photographs is included in Appendix R to Appendix X.

7.1.1 Methodology

The group of small and other miscellaneous finds were divided according to their nature and materials. This meant that every identified material was put in a single class such as metal, stone, clay objects and so on. For the analysis, these single classes were further subdivided into different groups of materials, for example, for clay objects, the materials

were divided into four; spindle whorls, utilised sherds, clay pipes and unidentified clay objects. Any material find, which was too fragmented or eroded to be defined under any category was placed in a separate section marked ‘unidentified’. This method was applied to all the other material finds.

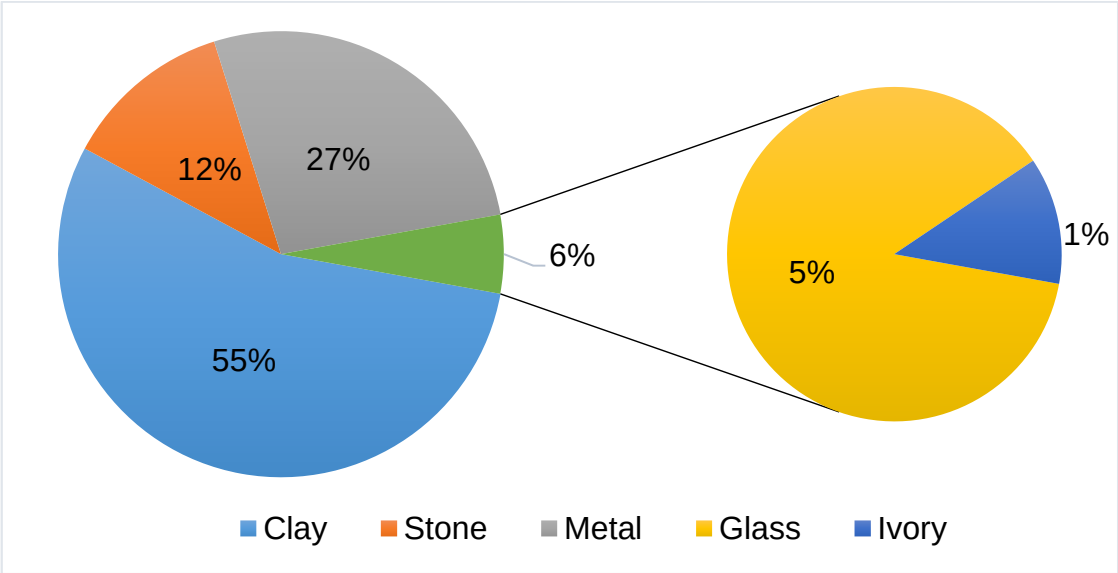


Figure 7.1: Distribution of small and other finds from Shira.

The one drawback to this form of classification is the repetition and lack of unity in the form when cross-referencing, such that the same form of materials will be discussed under two different sections, for instance, the iron and glass bracelets are discussed separately in the analysis below. However, some of the classes of finds were brought together for discussion under a single category of use and function, as in the case of the remains of agricultural implements from the abandoned sites. All finds are presented in a single catalogue with each entry (one single find) in the list providing the site details, find number, context, length/width, weight and remarks or observations, where possible (Appendix L to Appendix M).

Other approaches taken in order to understand the material finds from the site included involving different specialists to look at some of the categories of small finds, for example, faunal remains were analysed by Veerle Linseele (pers. Comm. 2014), burnt seeds (Champion pers. Comm. 2014), ivory (Rosser-Owen. pers. comm. November 2013) and a stone tool (Didier N'Dah pers. comm. 2013). In addition to these essential interpretations, the author allowed the contemporary inhabitants to visit the excavation sites during which ideas were sought as to the people’s perceptions and likely functions

of these artefacts. Additional effort was also made during the ethnographic investigation to exploit contemporary processes to support the idea of production of these finds, which could help with interpretation or at least generate data as to the likely purposes and functions of these material finds. By seeking interpretation from these different sources, it was generally thought that the various categories of materials would benefit from a much more detailed study.

Generally, the small finds from Shira were similar in nature to other materials that have been extensively recovered throughout West African sites; from the Sahel to the coastal area of Benin and Ghana (Connah, 1981, McIntosh, 1981, Haour, 2003a, Shaw, 1960, Wendt, 2007, Ogundiran, 2002b). In other words, these finds are in keeping with what has been found elsewhere and interpreted by scholars across the African continent and worldwide. These studies give insight into the nature of the material finds from the sites of Shira that will enable us to place them in context. This chapter aims to suggest a possible purpose or function for the material finds as inferred from the above sources, to determine if there is any perceived temporal trend or change.

7.2 Classification and analysis of small finds

The category of finds discussed under this category includes objects made of iron, stone, glass and clay. The various clay objects in the entire collection make up 55% of the small finds, with half of the assemblage coming from surface collections. This is followed by metal objects with a total number of 73, many of which are eroded and fragmented due to the corrosive nature of iron making only a few of the objects identifiable. Those objects identified are characteristic of the usual range of iron objects recovered from most west African sites such as weapons as well as domestic and agricultural objects. The sites at Jarkuka, Rumfar Bango and Rumfar Tukwane produced the least amount of small finds with none recovered from the latter (Figure 7.2). These test pits were located on hills. In comparison, more than half of the recovered materials during excavation came largely from the site of Jagindi followed by Gandu Shira, with ceramics from surface collections forming the largest percentage of the assemblage.

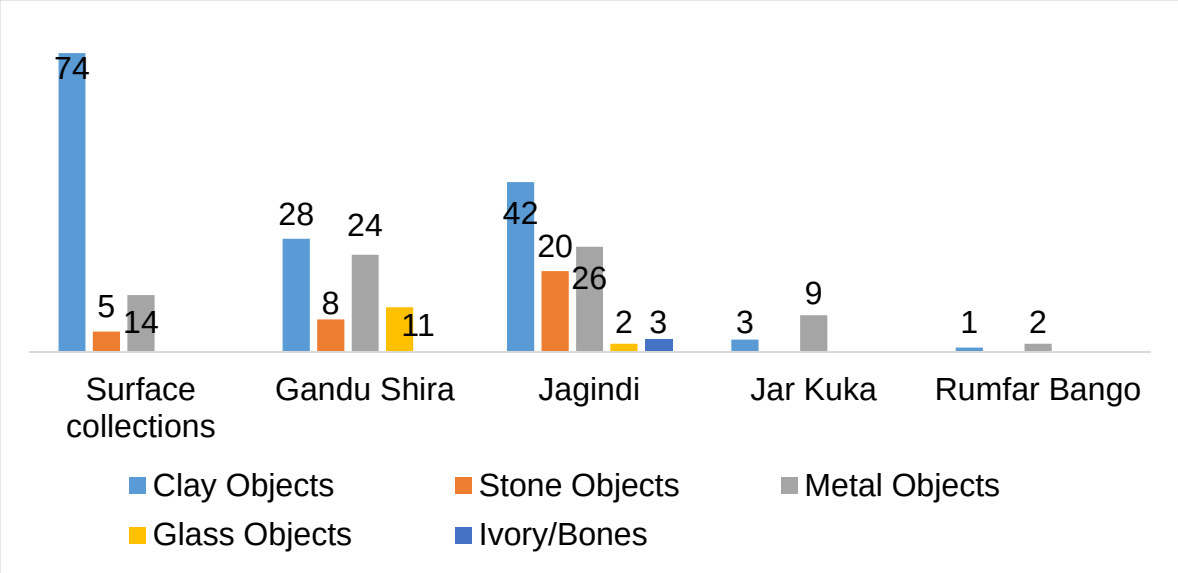


Figure 7.2: Distribution of small objects by sites.

7.2.1 Clay objects

The clay objects identified were grouped into utilised potsherds, spindle whorls, clay pipes and unidentified. Below are details of each group of objects, while a catalogue of the finds is provided in the Appendices at the end of this thesis.

7.2.1.1 Utilised Potsherds

The utilised sherds from Shira included the samples from the surface collections as well from three of the nine excavated test pits. In total, the investigation recovered 37 of these reused potsherds (Appendix R). As indicated above, these were from three of the five excavated sites, with only three samples, out of the 37 fragments collected from the hill top excavation at 60cm and on the surface (two samples) at the Jarkuka site.

In general terms, these objects are without doubt sherds from broken pottery vessels which may have been deliberately modified for specific purposes, such as pot smoothers, counting objects or stoppers. Reused potsherds are common finds in many assemblages across the world and there has been some discussion among scholars as to the function of these objects. With reference to similar finds recovered elsewhere, for instance, Aiyedun and Shaw (1989) not only interpreted these objects as net sinkers but also pointed to the possible use of the discs as weights. This was also considered by McIntosh (1981:217-218) who draws on the possibility that some of the discs recovered in Jenne Jeno resembled the pottery discs discussed by Garrard (1982) and McIntosh (1981:144) from

Begho and Gao who suggest they may have been an Islamic weight system created for an average weight of 27.3 grams (*uqiya).* Other research in the Wushishi area of Niger state by Aiyedun (1984), noted the presence of some clay objects, which he branded as clay net sinkers. Similarly, Connah (1981) in Daima, detailed these utilised sherds, which were first noticed in Daima II and continued to be significant throughout Daima III suggesting that they were possibly remnants of potsherd pavements, because over time many of the sherds in an edge-laid pavement became worn on one of their edges (ibid 148-149). This was similarly noted in Ilare (Ogundiran, 2002a), where related features and objects were associated to pavement remains. The site at Kufan Kanawa has also been known to have these objects, which were common in the archaeological record of the wider area (Haour, 2003a).

Figure 7.3: Sample of utilised potsherds from Shira.

With regard to the utilised sherds dealt with in this analysis, the objects were observed to be similar in shape, size and weight across all the sites (see Appendix R). Generally, the shape falls within 0.7mm – 38mm while the weight ranged from 6.9g to 33g. When it came to shapes, three were recognised, thus the samples were categorised into rectangles, spheres, and triangles as shown in Figure 7.3. Among the spherical or round shaped samples with perforations, two are complete (from Jagindi 50cm and Gandu Shira 170cm), with perforations ranging from 5mm to 7mm (see Figure 7.3 above). All the samples except one fragment were undecorated. The fragmented sample was decorated with a cord-wrapped roulette. A common general feature of these objects, irrespective of shape and weight is that the discs were formed by chipping and grinding fragments of pottery to produce a smooth border. These objects are only found as reused pottery.

A follow up on the ethnographic use of reused pottery in the Shira area today, did not offer much more information on the precise function or methods of production for these objects. However, reused pottery is very common throughout the contemporary settlement. Broken pots are used for a variety of purposes for example, in erecting cooking structures to form hearths in a household. Unwanted pots are also ground into mud brick to strengthen the fabric of wall structures. This was also documented on wall remains during the survey at Rumfar Jirgi plains in Shira. A brief survey of houses in the Giade settlement, northern Bauchi, indicated that broken pottery was combined with mud to make floors and pavements. However, this is also used to pave doorways, not the entire room floor (as shown in Figure 7.4). Broken pots are also used as incubators (*akurki)* for hens' eggs, serving to protect the chicken from vermin at night. When broken into pieces, the larger piece of a broken pot is used as *kasko,* to contain water for birds and household animals. The pots broken into large parts are still very much part of the burial system in the entire northern region of Nigeria. A lot of houses even use discarded or broken pottery fragments with lighted charcoal as a room warmer/heater during the harmattan season.

While the recycling of a broken pottery vessel is clearly still popular in contemporary society and extensively used in many household contexts, none of the reused fragments were however found to have ground edges, as in the utilised sherds recovered during the fieldwork.

Figure 7.4: Contemporary potsherds pavement.

It is therefore quite possible, that the primary functions of the utilised sherds and contemporary uses for the discarded sherds might have been different. However, the diversified approach for the use and reuse of pottery vessels within the contemporary setting is indicative of how pottery vessels that could be multifunctional (cooking, storage) are still used in their damaged or broken state.

7.2.1.2 Spherical/near spherical clay artefacts

In total, this investigation recovered 75 whole, and fragments of, spherical or near spherical objects, of which 45.7% were recovered from the excavations of Gandu Shira and Jagindi (see Appendix S). None of these objects were recovered from any of the hilltop excavations. The majority of the objects were recovered during the surface survey from the Jagindi and Gandu Shira excavations, with twice the total amount collected from the surface. The site at Jagindi (10cm to 130cm spit levels) produced 73% of the total recovered while the remainder were from Gandu Shira.

Some of these spherical clay objects, particularly the category which were classified below as 'Type A', were identified as spindle whorls. These samples are consistent with those documented during the ethnographic survey in Shira. However, there were others, such as 'Type C' that may perhaps have been beads. The distribution of these artefacts throughout the plains, including surface collections and in excavated test pits from the plains sites at Gandu and Jagindi, is an indication that the spinning of cotton, and perhaps weaving of cotton, took place. Given the age of these archaeological sites, which all date to the 15th century AD, it would be a normal expectation to assume that textiles were produced. Combined with ethno-historical data which recount cotton weaving as an activity that nearly all women in this region performed in their homes, this indicates that the technology was widely accepted. As (Candotti, 2010:202, 2015) pointed out, at the end of the 19th century, textile industries were widely distributed and developed all over northern Nigeria, with textile workers having varied levels of skill and types of products they made. For instance spinners, who were mainly slaves and women, prepared the thread for weaving cotton strips subsequently sewn together by tailors, then beaten and dyed by professional workers and eventually embellished by embroiderers. The possible importance of this industry in the region is further strengthened by a 1912 provincial assessment report on the Azare district by Backwell (1912), which identifies Shira as an important centre of textile production with 2143 dye pits and 2723 weavers, as against

786 dye pits and 840 weavers in Chinade. Athough, we cannot say for sure when the technology was introduced into Shira, this text shows that the Shira residents were involved in the production of textiles until the early 20th century AD.

Figure 7.5: Contemporary clay pipes from Kurba village, northern Bauchi.

With regard to the archaeological samples from Shira, the virtual absence of any of these spherical, or near spherical, objects tends to suggest that the inhabitants of the hills were probably not involved in textile production. This is in sharp contrast to the plains sites, where all our data as well as associated finds, came from six abandoned dyeing sites and dye pits which were discovered during the survey. The recovery of archaeological textiles is extremely rare. One can cite the 9th century items recovered from the site of Igbo-Ukwu in Nigeria. There was also cotton and woollen cloth from an 11th century deposit in Mali (Picton and Mack, 1989, Gilfoy, 1987:15). Elsewhere in south-central Africa, textile remains, together with fragments of woolen rope probably used for attachments, were also discovered in some of the graves at Kissi, Burkina Faso (Magnavita, 2008:243, Magnavita, 2009:90). However, it should be noted that the graves did not produce any spindle whorls and there is a possibility that the textiles found there, dated between the 4th and 6th centuries may have been imported. These woollen remains are presumed to have survived due to the corrosion of metal objects, also found in the graves (2008:90).

Discussed below are different categories of spherical objects from Shira;

Type A (n=27)

These items were identified as spherical with a symmetrical shape. The type was noted to be more common at the Jagindi site with 17 while the others (n=10 samples) were recorded at the Gandu Shira site. A very common feature of these finds is a white strip of paint, of which there are 5 samples, out of the 27 in the category. It is possible that these were beads, not spindle whorls.

Type B (n=31)

These items were the most common type recovered in all the excavated sites. They were mostly of different variations of a bi-conical shape.

Type B1 (n=6)

These were elongated pear-shaped whorls with biconvex curves. Most of Type B1 occurred in the early stages of the excavation at Jagindi (between 10cm - 30cm spits) and appeared in the surface collections from Gandu Shira (Appendix S, SF/No.8, SF/No. 10 and SF/No. 61). A single circular shaped whorl from Jagindi (Appendix S, SF/No. 32) was assigned within this subgroup as it appeared to have most of the same characteristics but not enough to separate it into a different class. A characteristic of this group of spindle whorls was that they were heavier (14-17g) than the other Type B spindle whorls.

Type B2 (n=1)

This category consisted of only one sample (see Appendix S, SF/No. 67). It was a pointed pear-shaped artefact with flat facets. Weighing 12.7g, it was well burnished and black in colour. Similarity was drawn with whorls found at the excavations at Jenne-Jenno, Hambarketolo and Kaniana (McIntosh, 1995; LX-S Feature 16).

Type C (n=5) Type C1 (n=4)

A total of 7 were identified as flat top spindle whorls and assigned into one of the two sub-groups based on mode of decoration and form (Appendix S, SF/No.22 and SF/No.

29). Type C consisted of 4 whorls with a flattened top and bottom, similar in form to samples from Feature 16 (Figure 33) at Jenne-Jenno (McIntosh, 1995) and were decorated with white paint. The other sub group, Type C1, were similar to the spindle whorls recovered from Niani (Guinea) which have been dated to c.1650 (+/-50) AD. (Filopowiak 1979 in Niane 1984). These whorls are flattened slightly at one end (lower or upper portion). Decorations found on these whorls were mainly grooves on the body surface and closely around the rim lip region.

In terms of surface treatment, all the spindle whorls were well burnished and slipped. Some were decorated with incised lines but the majority (n=27) were painted. Painting was restricted to excavated samples. Occasionally, the paint was used to pick out the incised design already on the spindle. The most popular design found was a combination of red and/or white paint, found especially on the samples recovered at 110cm at the Jagindi site (see Appendix S, SF/No. 25, 26 - 30). Popular among the spindles from the excavation were small circular incisions drawn along the edge of the hole on the spindle.

7.2.1.3 Clay pipes

Clay pipes were fairly common. They were very frequent on the surface and in the top few spit levels during excavations. All the clay pipes from Shira were recovered from the surface and excavations at Gandu Shira and Jagindi, with one sample collected from one of the four test pits excavated at Rumfar Bango. They are completely absent from the Jarkuka and Rumfar Tukwane sites, both hilltop abandoned sites. In total, the collection of clay pipes consisted of 51 diagnostic bowl and stem fragments. Of this total, 36 pipes were classified as bowls. This category was further divided into two, based on wall thickness; all walls less than 5mm were categorised as thin-walled (Figure 7.6), while greater than 5mm were thick walled bowls. The thin-walled type had 17 specimens while the thick-walled had 19. Other categories included stem fragments with a total of 13 specimens, which accounted for 25% of the total number of the assemblage and, lastly 2 fragments were classified as bases. It should be noted that no complete sample was recovered and all the pipes analysed were from the plain sites of Jagindi and Gandu Shira, except one that was recovered from the surface of the hilltop at the Rumfar Bango rock shelter.

The assemblages were mainly recovered from the surface during the survey and in the

earliest levels of the excavations at Jagindi (60cm) and between 20cm - 190cm at the Gandu Shira site. All the pipes from the Gandu Shira issued from 5 spit levels (20cm; 60cm, 110cm, 150cm, and 180cm) with only one sample each and an additional four samples from level 190cm). These levels were all characterised by a large collection of pottery and very few material remains. A large percentage of the clay pipe samples recovered were from the surface with a total of 34 fragments, with the majority of these fragments being lengths of the stems (see Appendix T).

Figure 7.6: Some of the thin-walled clay pipes from Shira.

It was noted during the analysis that all the thick walled samples were recovered from the surface and early stage of the excavations while the exceptionally thin walled, well-polished, fragmented clay objects were recovered at the later stage of the excavations. The entire collection of thin walled pipes were bowls, no stems or bases were recovered. The samples with lip regions were well pronounced and thicker than the body. Most of the fragments were also well polished with a shiny lustre (Figure 7.6). Decorations on the thin walled fragments were limited to incisions and grooves. The thin walled samples which were mostly recovered in the later part of the excavation, were completely different in form from the earlier thicker. In appearance, these thicker pipes were not only stubby with thicker stalks, but were not as finely finished as the thinner walled pipes. This difference elucidates changes that may serve, perhaps as cultural and chronological markers.

The rims of the thicker walled fragments, unlike the thinner walled pipe, which had a pronounced lip region, were mostly flat/squared and bases were dense and flat. In terms of decorative treatments, half (n=46) of the thicker pipe fragments were decorated with

rows of incised grooves and the others, though undecorated, were well burnished and slipped, varying in colour from light reddish brown to grey. A notable difference between the later and earlier clay pipe fragments was their size (thickness), with finer detailed incisions or roulettes made on the thin walled samples, and even the plain pipes were well burnished to the point of being shiny.

The majority of the pipes showed that they were elaborately decorated with incised herringbone lines, sometimes laid between thicker grooves. Five of the 34 pipes were decorated with finely twisted cord roulette. Two of the base pipes recovered resembled the flat-based pipes 'Type 2a-2b' described and illustrated by Ozanne (1962) but because only the base was recovered there was no evidence that it was the same in form as the Gold Coast smoking pipes. The remainder of the Shira pipes appeared to most closely resemble some pipes found in Ghana (Effah-Gyamfi, 1980) – suggesting possible outside trade contact. Another useful sample, which shared many of the same characteristics with a Sudanese pipe illustrated by Shaw (1960 Nos. 8 & 9 on the Figures of smoking pipes from Abu Geli, Sudan) was S/No 28 (Appendix T). The pipe was interpreted as possibly used by the elites and royals. It was understood that in the past, the size of a pipe and the way it was fashioned, particularly the bowl, informed one of the intended users. The larger and more fashionable clay bowl, for examples, usually belonged to the elite of the society (pers. comm. Sule Sani, 2013).

Generally, the technology for pipe making has become extinct in all the potting communities visited during the ethnographic survey, but there is still a relatively low patronage and pipes are made sometimes by special request, especially among medicinal/herb users (Goggo Adama Faggo, pers. comm. 2013). There is a popular belief among the population that some herbs are better ingested through smoking/inhalation and clay pipes are still the preferred method (especially among the older male population) of inhaling these medicinal herbs. This information supports Effah-Gyamfi's (1981b) assertion that the presence of pipes in archaeological sites does not necessarily equate to tobacco smoking and that, possibly, smoking may predate Atlantic trade in many African societies. However, it should be noted that no tobacco seeds have been recovered from any of the excavated sites and no residue analysis has been undertaken to find out what was smoked in the pipes recovered from Shira.

7.2.1.4 Other clay objects

These were groups of incomplete clay objects. From the small fragments recovered, it was not possible to determine the shape or design of any of the sample. It was uncertain what the objects were or for what purpose these might have been used. All the objects were fragments of a larger whole made most definitely from a clay source. Firstly, there is a looped clay figurine (Figure 7-7) probably the handle or base of a larger object, formed by twisting several clay coils. The artefact, which measured 1.7cm in length, was recovered during the surface survey at the Jarkuka site.

Figure 7.7: White clay tablets.

Another object classified as unidentified due its hitherto unknown purpose was recovered from Jarkuka. The sample though small, was distinguished by its irregular rough surface with a well-defined circular rim that had a short sloping inner surface. Also recovered from Jagindi were some white clay objects/tablets of unknown purpose (Figure 7.7). These objects were perhaps used for shaping or smoothing pottery surfaces.

The third object in the category was a potsherd recovered from the Jagindi site showing a clearly discernible impression of a potter's finger. This object is a thick piece of broken potsherd (probably the wall of a vessel) with a finger impression on the upper part of the tablet. The interest in this sample is not particularly what kind of object it is but rather what the finger impression represents and the question of what could be done with such an object. All the same, there is a strong likelihood that the finger print was made in the

course of ordinary contact with the object while handling the wet clay. It should be noted that even though the interpretation of the objects is vague, it was not possible to identify if the imprint was intentional or accidental as there have been recorded instances where finger impressions were utilised as a form of decorative design on pottery (Moran, 2007). Another object recovered from Jarkuka (surface collection) is a looped clay object interpreted as a piece of terracotta (Figure 7.8).

Figure 7.8: Miscellaneous clay object from Shira.

Two other complete clay discs, as shown in Figure 7.9 below, were recovered during the excavation at the Jagindi site. One has a perforated hole at the top, at about 3mm from its edge. Many such samples (that is clay objects with perforation) are generally considered to have had a different use in the society from the spindle whorls or utilised sherds discussed above. All the edges of the tablet, unlike utilised sherds (which were broken at one end or the other) are well grounded. Although the function of this particular clay slab has not yet been determined, some interpretations collected during the fieldwork had included objects that had been used as amulets/charms *laya* (Bakinde pers. comm. 2013, Babaleliya pers. comm. 2013), a slave pendant or a labret, or 'lip lock', used to prevent slaves from speaking (Amina Kwarga and Uma Summaye pers. comm. 2013). A plausible interpretation is that the object may have been used in a similar manner to a labret (lip plug). The other item was an oval object of unknown function but seems to

have been made from clay and recovered from Jagindi during excavation (level 50-60cm). The sample measured 20.5mm in diameter by 17mm high.

Figure 7.9: Utilised potsherd and clay table from Shira.

7.2.1.5 Potter's Tools

These were a cluster of clay and other classes of material tentatively collected from both Gandu Shira and Jagindi sites and interpreted as a potter's tool kit. Each of the items was considered to have been useful for manufacturing pottery. The oval fired clay artefact and the pebbles (Figure 7.7 and Figure 7.10) could have been used to smooth the inside of a vessel during manufacture, as the potter pressed them to compact the wet clay, as well as being used for burnishing a vessel. The use of sandstone or pebbles for polishing was generally noted in all of the potting settlements in Shira during the ethnographic survey. The iron tools were used to make decorations on the surface of the vessel or to cut and even out the rim. The shell fragments recovered (not shown) may have been used as pottery scraping tools. Today the potters of Shira continue to use shell, usually clamshells found on riverbeds. When the author observed the Shira potters, shell was employed to either draw up the vessel wall during forming, or for preliminary scraping on the vessel before it was completely dry (see Figure 7.11).

Figure 7.10: Some potter's tools from the excavations at Gandu Shira and Jagindi.

Also included among the potter's tools was an iron tool, which could have been used for decorating the surface of pottery vessel.

Figure 7.11: Clam shell used in contemporary pottery production.

7.2.2 Lithic/stone objects

The excavations produced 45 stones, of which only 31 samples were considered to have been modified and used (see Appendix V). In the analysis, the stone objects were classified into three different typological classes based on likely function. This included grinding stones, consisting of upper and lower grinders and thirdly, the round or pound stones. All the lower grinders collected from the excavations were fragmented. As indicated in Chapter 4, grinders were only documented and left in situ during the survey. These stones were differentiated in a number of ways. For example, lower grinding stones were usually identified by the evidence of wear, which could also be present on upper grinders, but on the lower grinders appeared as a slightly concave surface or groove

resulting from the grinding action. However, many of these tools show little or no shape except for grinding wear on their surface. In this same category were stones identified as pounders (round ball stones). These stones were not necessarily modified, but put to use in their naturally occurring form to crush or grind a substance (Babaleliya pers. comm. July 2013). The third category were simply a group of miscellaneous objects classified as 'unidentified miscellaneous objects.

All other stone artefacts considered to have been modified or used by past inhabitants, such as lower and upper grinding stones were measured and left *in situ* after recording (see Appendix V). Other stones such as pounders (granite ball-like stones) were mainly noted in the field notes during the surface surveys. All but three of these stones were recovered. These objects included one item considered likely to be a stone tool collected from the Rumfar Bango rock shelter. The tool was smooth on its inner surface while the outer surface was very rough and the tip and edges were chipped (see Appendix V, S/No. 1). From examination, the sample seemed to have been deliberately flaked.

Figure 7.12: Stone object from surface collections at Jagindi site.

It is noted that these lithic objects are not unique to Shira, as there have been several written documents about similar stone implements which were once used and still are used in some parts of Nigeria (Fagg, 1944, Soper, 1965, Connah, 1981, David, 1998, Aiyedun and Shaw, 1989). However, variation does occur in the form and nature of some of the objects recovered in Shira. For instance, a single triangular stone piece (Appendix V, SF/No. 17) with dark-red ochreous pigment similar in colour to the paintings on the rock wall was recovered from the Jagindi site. This site, as mentioned in Chapter 4, is an

abandoned rock painting site and ochre was one of the likely sources of pigments used in the paintings. Vaughan (1962), and later Njidda (1997), noted the widespread nature of the use of the ochre pigments in the Marghi rock painting sites and these rock paintings have been noted to share a very close similarity to the rock paintings found around Shira (Seidensticker et al., 1997, Giade, 2011). This stone may thus have been used for crushing or grinding the ochre for the paintings. Similar contemporary rock slabs of the same form, but different rock type are commonly used to grind antimony (stibnite) *kwalli* for eye makeup or, it is also likely that this might have been used for grinding herbs as shown below. The mid-section or centre of the tool was worn out, most probably from continual usage. This gave the stone a sort of hourglass profile (18.9 - 19mm on its thickest ends and 14mm at the centre). The object weighed 70.9g (see Figure 7.12; not included in Appendix V).

Figure 7.13: Small grinding stones from Jagindi excavation and a contemporary stone from Shira.

7.2.2.1 Grinding stones

The function of the grinding stones according to oral informants, was to grind household grains, vegetables and local herbs among other things. In the surface collection, two grinding stones lying 187m and 150m away from the plain datum point, on a bearing of 38^{o}NE and 258^{o} SW, were measured respectively (length 42cm, thickness 22cm; length 38cm, width 24cm, thickness 17cm). Grinding stones especially lower grinders were not collected during the survey and excavation due to their size and weight.

7.2.2.2 Stone pounders

This assemblage consisted of 14 round stones, most of which were larger than a golf ball, but much smaller than a bowling ball. The stones were either roughly roundish or spheroid in shape. Most of these stones were recovered from different levels and at different contexts during the excavation except for the six stones recovered from level 60cm at Jagindi site. These stones were found 'arranged' in an almost pyramid form with four stones forming the base and two smaller stones on top of them (see Figure 7.14 & Appendix V, SF/No. 25 to 28 & 30 to 31). Although similar in colouring and texture, they appeared to be different from all the other stones recovered from this test pit, with the exception of one recovered from level 3, which had the same colouring (Appendix V, SF/No. 15).

Figure 7.14: Some stone tools from Jagindi site (SF/No. 25 to 28 & 30 to 31).

7.2.2.3 Microlith

A single flaked artefact, identified as a possible microlith tool (Didier N'Dah - Université D'abomey-Calavi (UAC), pers. comm. 2013) was recovered from the Jar Kuka during excavation (Figure 7.15). The tool measured 10cm in length and weighed 6.7g.

Figure 7.15: A microlith from Shira.

7.2.3 Metal objects

A large quantity of the metal objects recovered were highly corroded and fragmented, making it difficult to reliably identify them as specific types of tools or items of personal adornment. A total of 33 objects, including 2 blade knives, 3 scrapers, 1 copper needle/pin, 4 arrowheads, 7 metal rods, 5 bracelets, 1 possible copper wire (Figure 7.16; centre), fragments of a pin, pieces of metal scraps as well as 4 items which on morphological grounds, bear a strong similarity to horse regalia Appendix W, SF/No. 30 & 32) and agricultural implements (Appendix W, SF./No. 31 & 33), and several pieces of metal scraps and objects were collected during the fieldwork (see Appendix W for analysis of these finds).

Figure 7.16: Some metal remains from excavation.

7.2.3.1 Arrowheads

Arrowheads were recovered during the fieldwork in Shira from the surface survey and at 50cm at Jagindi. They ranged in size from 51mm to 33mm, with the average size being 40mm. The shapes of the arrows were irregular, but clearly showing signs of flat blades with protruding tangs, even in the rusted arrows. The surface samples, were better preserved, showing clearly the three numbers of leaves, blades or wings on them. The excavated ones were of poor quality and badly corroded, for example, Figure 7.17 below shows where the edges of the lower blade sample, which is from the excavation, is rough with almost no spikes and yet one can see the tail at its base is similar to the well-formed arrows from the surface. While these arrowheads have not been dated yet, they are much more likely to have parallels, at least in function if not in age, with those found in the contexts of other sites within the vicinity. For example, the presence of such arrows has been discussed in the finds at Daima (Connah, 1981) as well as in the Kaduna valley (Aiyedun and Shaw, 1989).

Figure 7.17: Some of the arrowheads from Shira (SF/Nos., 1-4).

There is as yet no direct evidence found for these types of arrows in contemporary Shira but they are likely to be associated with warfare and hunting. Similar metal arrows (*baka)* hafted on wooden sticks are used along with wooden bows (*kwari)* by hunters. In Shira as in other parts of *kasar* Hausa, the use of arrows for hunting led to the emergence of the title *sarkin baka*, bestowed on those showing exceptional skill in the use of bow and

arrow. However, the existence of the title is traced to 15th century Hausaland, when it was bestowed on those individuals who showed extraordinary military skill during warfare (Bala, 1987).

Figure 7.18: Remains of agricultural tools.

7.2.3.2 Remains of agricultural implements

This group of metal objects was identified as the remains of implements that could have been used for cultivation. It consisted of 2 fragments of, what is believed to be the tail end of hoes recovered from the surface during clearing, as well as at 10cm during the excavation at Gandu Shira (Appendix W, SF/No., 31 & 33). The items classified as hoes were typical and consistent in pattern and materials to the contemporary short handle hoes (*fartanya)* used in agricultural activities, suggesting that the recovered sample were likely to be modern. The local inhabitants cultivate the abandoned site where the samples were recovered and this might explain the presence of the tool on the site. Broadly, the tools are solid-edged metal weighing between 15-46g with dimensions of 17.9cm & 15.6cm in body length, width 2.2cm, thickness 4.0cm at the thickest end (Figure 7.18).

Figure 7.19: Iron scrapers from Gandu Shira site.

7.2.3.3 Remains of scrapers or sickle

Many of the tools with a curved cutting edge that had a similar shape were categorised as "scrapers" or likely sickles having curved cutting edges of similar shape (Figure 7.19 below & see Appendix W, SF/No., 30, 60 & 40). There were three plausible explanations as to the use of these items, drawn from related contemporary tools. One is that these

objects might have been used for scraping, most likely a calabash scraping tool, used for shaving or scooping the inside of a calabash. It may also have been fragment of an agricultural tool used most probably for cutting grass. The curved blades or cutting edges are typically like sickles, used for harvesting crops and cutting grasses. The object is similar to a sickle-like tool used by local barbers' (*wanzamai)* for uvulectomy. The *wanzami* (*sing.)* in *kasar* Hausa is not only a barber who shaves heads, he also performs minor surgical operations such as circumcision, tattooing (tribal marks), tooth extractions, drainage of abscesses, blood cupping as well as uvulectomy (Last, 2004, Cañizares-Esguerra et al., 2013, Satatima, 2012). Lastly, the tool was interpreted as a barber's tool. A common noteworthy feature of both contemporary sickles and calabash scrapers is the curved blade edges but while the sickle is usually bigger and has thinner blades, these samples, though eroded, are thick with a shorter curved region.

7.2.3.4 Blades/knives

Two possible domestic knives with clear cutting edges were also recovered (Figure 7.20). The first sample was identified as a possible modern domestic knife (*wuka)* probably used to work the hides of animals. The second was a blunt edged metal object with a sharp cutting end and a rounded back which could fit into the palm. This item was also interpreted Appendix W, SF/No, 30, 60 & 40) as a possible fragment of a local knife (*aska)*, used by the local barbers' (*wanzamai)* for shaving (*aski)*. These finds were from the surface of Gandu Shira and excavation at the Jagindi sites (70-80 cm) (Appendix W, SF. No. 29).

Figure 7.20: The knives from survey (top) and excavation (bottom).

7.2.3.5 Rods and pins

This category is composed of metal and copper objects. The metal or rods, varying in length from 4.4 to 6cm (Figure 7.21 & Appendix W, SF/Nos. 5, 6, 9, 19, 20, 26 and 27), were collected from the Gandu Shira and Jagindi sites. The metal rods were basically thick metal rods with pointed tips. Some of these rods are likely the remains of arrowheads. The second category was the copper pins or needles with spiked ends and two lower ring holes. It should be noted that the identification of this object as 'copper' was made following visual observation and will need to be substantiated. The pin was slightly bent with greenish-brown spots and flecks on the surface (Appendix W, SF/No. 26). The edge/tip was sharp while the lower end was separated into two wings with holes. Height was measured at 9.7cm and less than 1mm at the tip. Based on current knowledge of this sample, no definitive interpretation has been given as to the function of the object but it has been suggested it might have been a needle used for sewing or an ornament used within the household. This object was recovered from Gandu Shira during the excavation at the spit level which has been dated to 15th century AD.

Figure 7.21: Metal rods and the copper needle from Gandu Shira (right).

7.2.3.6 Bracelets and anklets

Also recovered during the excavation (Gandu Shira 150-160 cm; 160-170 cm and 190-200 cm) were the remains of badly corroded metal objects identified as possible bracelets or anklets. These metal remains were badly corroded and most could not be identified due to the fragmentary condition in which they were found. Among the collection, there was one object identified as a copper ring or earring recovered from the excavation at Jar kuka (Figure 7.22). However, despite their poor condition, much was learnt from their shape and thickness and the objects were grouped together as they had the same shape. The only complete sample recovered was the bracelet from the excavation in Jagindi. The samples all had distinctive rounded or circular profiles that could fit easily around the wrist. All the identified samples had concave regions that appeared to have been worked to a shape that would fit the human wrist or leg. Perhaps these objects were used as ornamental objects as they are still used today. The samples measure 3cm and 7cm in diameter (Appendix W, SF/No., 10 - 13).

Figure 7.22: Some of the bracelet remains from Shira.

7.2.3.7 Unidentified metal objects and scraps

Other than the metal scraps, items recovered from Shira were artefacts interpreted as ornaments used for horse decoration during the annual durbar (see Appendix W, SF/No., 30 & 32 for measurements and Figure 7.23 below). Adornment of horses with leather and metal objects is very still common during durbar in today's northern Nigeria.

Figure 7.23: Some of the metal objects from survey (left) and excavation (right) interpreted as horse decorative ornaments.

7.2.4 Glass beads and other objects

A total of 18 pieces of glass and stone beads were recovered from the two main excavations on the abandoned plains site in Shira (Figure 7.24 and Appendix X). Included in the collection were some powdery glass bangles, which were extremely fragile. In contrast, the glass beads were very sturdy and in good condition at the time they were collected. With regard to the beads sample, a preliminary assessment was made by Sonja Magnavita (Deutsches Archäologisches Institute). All the beads had different characteristics; there were either shiny or dense with the exception of Appendix X, SF/No., 6, which had a white film placed over a transparent core, in an intended imitation of a pearl as suggested by Magnavita (pers. comm. 2013). Two other beads in the collection were probably constructed using the winding method, which involved the coiling of a hot molten rod of glass, or a strand of molten glass, around a metal wire. Three of the beads recovered from Gandu Shira (60cm, 50cm and 80cm) were identified as glass (Appendix X, SF/No. 2, 4 and 5). The shapes of the beads were either disc-shaped, square or rectangular and cylindrical beads with colours ranging from green, black, blue and red. All are perforated in the centre.

The importance of beads in West Africa has been well established and there appear to have been various glass bead manufacturing centres such as in Ile-Ife in the southern region of Nigeria (Connah, 1981:194-195, McIntosh and McIntosh, 1980:162). Glass beads are said to have found their way to west Africa prior to the 15th century via trans-Saharan trade with north Africa (DeCorse, 1989:41). Archaeologically, evidence of beads has been discovered in 13th century deposits in Iloyi, Ilare District in Ijesaland, the Olokun Grove, Ile Ife beads dated between the 11th and 15th centuries (Ogundiran, 2000), Ogundiran (2002b:433-434), (Ogundiran, 2003), the very large collection of glass and

carnelian beads excavated by Shaw (1970) at Igbo-Ukwu are considered to have been obtained via trans-Saharan trade in the late first millennium AD (Insoll and Shaw, 1997:12).

Figure 7.24: Some of the glass fragments interpreted as remains of bracelets from Gandu Shira.

It is well recognised that beads have served a range of purposes over time and there is a large body of literature on customs and practices of bead wearing. In contemporary society, bead use is limited to decorative ornaments worn by women around the neck, wrist and waist and, unlike beads from west Africa, where they are associated with religious activities (Ogundiran, 2002b, Stahl, 2008). Beads in Shira are simply objects of personal adornment that are used to convey the flamboyance of the wearer. Although there are instances where beads mixed with amulets (*laya),* worn around the waist of babies are believed to ward off evil intent and disease. Generally, beads are worn in this region by women, to accentuate their femininity or beauty. However, across the rest of Nigeria, beads take on a completely new meaning and are worn for a variety of purposes. For example, in Igalaland, Kogi State beads mixed with charms are alleged to prevent unwanted pregnancy. These beads, when worn around women's waists are considered to possess the power to attract and evoke deep emotional responses, as noted in a variety of Yoruba songs and sayings (Drewal, 1998:20).

Figure 7.25: The ivory (top) and bone object (bottom) from Shira.

7.2.5 Bones, ivory and cowries

These objects were discovered in the Jagindi test pits during excavation. The first image, is a fragment of worked ivory (Figure 7.25 and Appendix X, SF/No., 11), which was identified with the assistance of Mariam Rosser-Owen (pers. comm. November 2013). The object, a fragment of bangle was carved from an animal tusk, probably an elephant which is traditionally assumed to be the source of ivory. However, it should be noted that animal tusks such as that of a hippo may have been used, even though it is considered extremely hard to work (Burack, 1984). In an archaeological context, such ivory has been discovered in Gao from a 9th century context (Insoll and Shaw, 1997). It is assumed that this object may have travelled hundreds of kilometres from the Bornu Empire to reach Shira as one of the exchange goods from the Bornu region to another region of Hausaland (Nachtigal, 1971, Marion, 1976:109, White and Quenum, 2004). However, it is possible that elephants may also have existed in Shira in the past (no elephant presence have been documented recently in the region) and these objects were probably carved in Shira. Traditionally, objects such as these are considered to be an elite item.

Figure 7.26: A perfume bottle stopper and possible glass object.

The second object was recovered from a depth of 160cm at Jagindi (Figure 7.25; bottom). It was an incomplete bone pin and its function is unclear. It was a thin polished bone with a tapered end terminating in a point. The fragment was well polished, with tool marks visible on the stem and broken on one end. Its length was 52mm, its weight was 0.3g.

A third object was found at Jagindi and when it was recovered at a depth of 20cm during the sectioning of a feature on the northwestern wall of the trench at Jagindi, no one was sure what it was. In this analysis, it is now interpreted as a possible plug or stopper for a perfume bottle (*kwalbar turare)* made of either bone or ivory. The object, which is complete, had a wider top end and narrowed sharply at the 'stopper' end. On both the top and base were three or more incised grooved lines going around the circumference (Figure 7.26; left). Another object identified possibly as glass material was also discovered in Jarkuka Test Pit ‘B’. This object is flat and seems to be coated with a whitish substance (see Figure 7.26; right).

Only three cowrie shells were recovered during the fieldwork in Shira (Figure 7.27). Two were found together in the same context during the excavation at Gandu Shira while the third was recovered from the surface at Faula (a rock shelter) during the archaeological

survey of the abandoned sites in Shira. This latter shell was no more than a narrow ring of the shell and the entire dorsal surface of the shell had been broken when it was found. The two shells from the excavation that were complete were identified as probably 'money' cowrie shells (*Cypraea Moneta)* based on the evidence of their well-marked and often less rounded margins and smaller "teeth" (David, 2013:20). Generally, there are numerous species of cowrie but the most popular shells for the west African exchange system have been almost exclusively of two kinds: the shells of *Cypraea moneta* and *Cypraea annulus*, originating from the Indian Ocean, the Maldives Islands and the East African coast and islands (Johnson, 1970, Hopkins, 2014). Ethnographically as well as archaeologically, cowries are a common feature in many parts of West Africa, as well as in Nigerian excavations (Ogundiran, 2002b, Boachie-Ansah, 2000, Connah, 1975, Ajayi and Crowder, 1985, Sule Sani and Haour, 2014).

Figure 7.27: One of the cowries from Shira.

In the neighbouring Shira region, cowrie shells together with cotton strips were alleged to have been the medium of exchange in the pre-Jihad period (Low, 1972:107). This continued, on a limited scale in many parts of the Katagum region (formerly Shira) up to Europeans arriving in the region, with Denham et al., (1828; Vol 2:220) observing that trade in the region was accomplished using cowrie shells for currency. This was the first documented evidence of the presence of cowrie shells, especially that of the *Cypraea moneta*, it was observed that travelling from Bornu to Kano, cowries were in circulation and could be used for exchange, whereas hitherto native cloth, or some other such commodity of a standard price, had been the common medium of exchange to the east of Katagum where the Bornu empire lies (Bovill, 1966:631, Johnson, 1970:33).

Also identified before the preliminary analysis of the faunal remains from Shira was a unique object, a polished bone, possibly a bone harpoon, measuring 13.2cm, 3mm at the tip which was recovered at 40cm at Gandu Shira. A bone harpoon, possibly of a similar style has also been found in an archaeological context from Daima (Connah, 1981:117).

7.3 The other finds from Shira

These consisted of the remains of bones, industrial and structural remains. The discussion includes the types and amount of cultural materials recovered from the Shira excavation. Generally, these remains are similar in several aspects in all the sites excavated with the main difference simply being the quantity of material recovered Gandu and Jagindi. This is probably owing to the larger scale of the excavation at these two plains site that provided the investigation with more than 50% of the remains recovered. In addition, no structural remains such as daub or hearths were not found in the excavation on the hills.

7.3.1 Faunal remains

A large quantity of bones were recovered from two test pits excavated in the Shira's abandoned plain sites. Bone fragments particularly dominated the many layers in the Jagindi trench, indeed more bone fragments were recovered than pottery finds from those levels. Virtually all the faunal remains were recovered from the excavations on the plain sites; only 7 pieces of bone were recovered from the hilltop excavations.

The faunal assemblage, which included over 5,552 fragments of bone were recovered by hand, and fine-screening of the soil sediments during excavation (see Figure 7.28) for some of the bone fragments recovered during the excavation). Although a detailed analysis of the faunal remains is yet to be done, a preliminary examination provided us with a reasonably good impression of the nature of the assemblage. Generally, the state of preservation was poor, producing only about 10-20 % identifiable pieces in total (Linseel pers. comm. 2014). Despite this however, it was still possible to identify the large concentration of cattle (*Bos taurus*), sheep and goat bones within the faunal assemblage.

Figure 7.28: Some of the faunal remains recovered from the excavation.

The analysis further revealed that the sheep/goat category included some small (dwarf?) species. Also noted was the presence of burnt bones in the collection. Other data that came to light during this analysis was the total absence of any wild animal bones, not

even that of intrusive animals was present, prompting suggestions that there was limited, or no, wild animal exploitation carried out in the past around this region.

Fish remains with several bird bones, which presumably belonged to chicken, were also identified in the assemblage. A greater proportion of the fish bones identified from Shira belong to catfish of the family of *Clariidea* and *Synodontis*, with the Nile perch (Lates niloticus) predominant in the assemblage. These fish are variously found in shallow (flood like plains) and deep water (e.g., main channel of a river or deeper lake). The assemblage also included a few pieces of teeth, as well as the remains of soft-shell, turtle carapace/plastron fragments. A slightly polished bone, possibly worked bone, measuring 16mm by 3mm was recovered at 40cm at Gandu Shira (Linseel, January 2014).

Other than these identified remains of cattle, goat, sheep, fish and birds, the investigation also recovered a single fragment of ivory and worked bones (see Figure 7.25 & Figure 7.29 below).

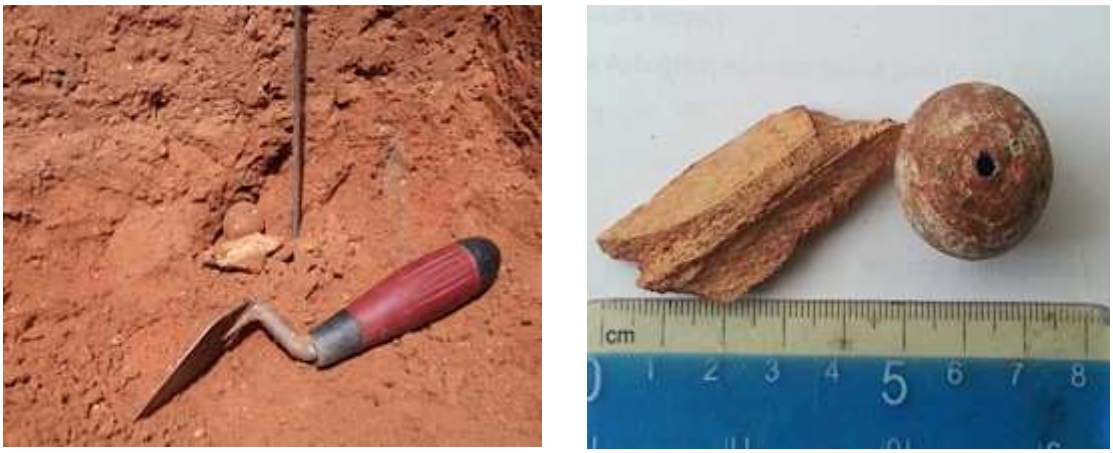


Figure 7.29: One of the worked bones found with a spindle whorl at Jagindi site.

All the charred seed remains were recovered in situ from Gandu Shira during excavation as the soil was loosened and visibility was good. Analysis of the seeds is still pending but included in the collection were a small number of charred nutshells and cereal (due to the fragile nature of the materials, the samples were not counted). Also included among the above samples were floated sediments from each of the excavated strata across the sites which will be analysed in future.

The analysis of the faunal remains from Shira indicates that domestic livestock and locally caught fish were the major significant contribution to the people's diet. Generally,

there is no significant difference in the consumption pattern between the Gandu Shira site, which had the longest sequence with the faunal finds from the Jagindi site levels, suggesting perhaps limited food resources, food procurement strategies and consumption patterns.

7.3.2 Structural and building remains

Fragments of samples associated with structural or building remains were recovered from test pits during the excavation, the majority of which came from the Gandu Shira and Jagindi trenches. Very few of these remains were found in the hilltop excavation with most of them from the Jarkuka test pits, especially the layers associated with the stone pavement at Pit 'A' which have been dated to 12th century. Very little in the way of structural remains was encountered on the surface during survey. This may be as a result of the architectural techniques for building construction and materials, which are very fragile. It is assumed that stones, mud, stalks and grasses were used to construct the structures at the site and structures constructed of these materials are short lived, especially when exposed to harsh climatic conditions which lead to a rapid decay of organic materials. Nonetheless, a range of collapsed buildings and several kinds of stone circles assumed to be the remains of building were documented in Shira during the archaeological survey of hill top abandoned sites. No structural remains were discovered in situ during the rock shelter excavation in Rumfar Bango but remains of old mud walls as well as a collapsed building were recorded on the surface during the archaeological survey of hill abandoned sites in Shira (see Chapter 4 for discussion of these sites).

In general, there is very limited knowledge of past structures in the archaeological records in the Hausa region and investigation into past domestic structures has remained virtually undocumented in the region. There is however a growing body of evidence and literature on ethnographic and archaeological studies presenting construction and mud wall decay, for example, McIntosh (1974) and (1977) sheds light on potential methods of tracing former mud wall structures at archaeological sites and the processes affecting building materials or structural decay. In McIntosh (1974), where he documented the construction and depositional history of solid mud walls, he observed that rain water splashing and accumulating at wall bases weakened the lower part of mud walls leading to 'visible' wall collapse. He also noted that, as the wall decays, brick material (especially the heavier

debris and sherds) accumulated on both sides of the degrading walls, sometimes form thin films of sediment and that the lighter materials and finer particles were carried further away from the wall by running water.

Pioneering ethnographic studies in *kasar* Hausa as well as those undertaken by the author indicate that past buildings were only constructed with grasses and mud with thatched roofs and clay lined flooring (Dmochowski, 1990, Moughtin, 1964, Moughtin, 1985, Muhammad-Oumar, 1997, Agboola and Zango, 2014, Aiyedun and Oyerinde, 1998). Similarly, several such constructions were documented during the ethnographic survey in Shira and archaeologically, remains of buildings have been documented during the survey of the abandoned sites in the area (see Chapter 3 on ethnography and Chapter 4 for archaeological survey). It was noted the houses were built with the same local materials and in the same style as those in other Hausa societies.

Figure 7.30: Some unidentified earth objects from the Shira site.

Through the information gathered from the archaeological survey and ethnography, several patterns can be discerned in the structure and form of settlements in Shira. Most present towns and villages show a distinctively systematic ‘chess board’ pattern where houses are built on parallel and vertical lanes with roads or paths separating group of compounds. Compounds in today communities for their part are square in shape, which is

in shape constrast to the past settlements which were circular. One of the biggest difference between the present and past settlments is that of ‘location of town or site. While the people who established the sites favoured the hills and the sites located near hills, presently many villages in Shira local government are located along major roads leading to bigger towns or cities for example though Shira town is located between hills, there is a major roads leading the town to a bigger town, Azare, from where a person can travel to other northern cities like Kano and the Lake Chad areas.

All the fragments recovered in the Shira excavation were from layers which might have accumulated during or after the abandonment of the sites. The identification of some the pieces identified as daub or burnt earth (Figure 7.30 & Figure 7.31) is not conclusive and no definitive statement can be given at this point regarding function or meaning for this unique specimen. It should be emphasised here that the samples were collected as the excavation progressed, on the basis of similar shared features with clay pipes but, because they were associated with mostly daub as discussed below, the samples were in fact originally identified as structural remains. However, subsequent discussions indicated that similarly shaped materials recovered from archaeological context might be naturally formed earth (Haour pers. comm. 2015).

Yet, the fact remains that the objects have not been established to be manmade objects, nor discussed in ethnographic and archaeological literature, and the survey in Shira did not yield any artefact of similar morphology. This opens up the opportunity for further discussion, to consider the possibility that the objects may have been manufactured. It should be noted that these samples from Shira were found in residual layers associated with materials identified as structural remains, making it possible that the materials were part of the structural construction or independently, unfinished objects like the daub remains. If the objects were not articles of building material, two other functional interpretations could be considered: One is that the samples were unfinished clay pipes, or a mould/cast for manufacturing certain kinds of objects, as some had perforations/groove lines running across the two ends. The artefacts were mostly recovered from the Gandu site, in layers associated with some identified daub. The objects were short cylindrical stems with an average thickness of about 7mm. The morphology of the finds closely resembled a typical clay pipe. However, the perforations did not connect and the cavities/holes were considerably smaller in size than in average

clay pipe. The other hypothesis is that the objects may have been baked termites mound or probably objects employed to cast or mould other objects. Of course, if that had been its purpose, the objects being created might have been long removed. In the end, no definitive conclusion could be drawn about these material finds.

Figure 7.31: Some of the daub and other structural remains from Shira.

The daub samples varied from 12g to over 40g were recovered from the Gandu Shira and Jagindi excavation as well as in Jarkuka site (Figure 7.31). These samples were interpreted on the basis of the presence of temper inclusions, creating a wattle impression,

air bubbles and the general rough finish on the surface. As indicated above, both archaeological and ethnographic studies have associated daub with structural remains.

7.3.3 Industrial remains

The industrial waste recovered was mainly metallurgical waste, of both iron and possibly copper slag and fragments of tuyères. The presence of these indicate that iron was worked on the site and the people were certainly involved in the processing of ores to produce finished household products. Unfortunately, only a few iron artefacts, with some fairly well-preserved, were recovered from the sites and at least six iron smelting sites have been documented in Shira (the sites were discovered during the archaeological survey in Shira and have been discussed in Chapter 4). These smelting sites are generally characterised by the presence of smelting slag and every now and then, the presence of bits and pieces of tuyère remains.

Figure 7.32: The fragments of tuyère from Jarkuka site.

Besides the many pieces of iron slag, some of which were big, and the fragments and eroded metal objects, large blocks of iron slag as well other likely metalworking debris were documented at the site at Jarkuka. This is the only area in Shira where large

collection of slags were noted and the hilltop, which is an archaeological site, had been excavated and dated to Cal. 990+/- 30 BP, 1015 to 1150 AD (Beta Lab No. 378251). Thus giving a possible contextual association and possible date for these slag and furnace remains from the site. However, more research and evidence are needed.

Figure 7.33: The different types of slag from Shira.

Unfortunately, the research did not document any large heaps of slag throughout the investigation, nor did it recover any in situ furnaces during the excavation of the

abandoned sites area. However, remains of furnace walls and approximately four to five furnace bases were visible on a road side, 84º south of *sarki na dutse,* in Mallam Kosau's farm. The remains of these furnaces did not indicate the type of furnace used for iron smelting during the occupation of the site, but closely resembled furnace description in terms of both the arrangements and dimensions, given by Bross and Baba (1994:70) in *Construction of a furnace among the Guddiriwa: Description and linguistic.* The remains were little more than oval lined rims in the ground, of about 40-50cm in diameter. The rims of these lined walls were smooth and even. A further search for undisturbed furnaces at the other abandoned sites was undertaken with no success. There was no evidence of any great, free standing structure found throughout the abandoned sites in Shira.

The other finds documented included industrial waste that was divided into ferrous and tuyères remains. For the latter, most of the documented pieces were either too small or poorly fired, crumbly at the slightest touch. However, two pieces of tuyère fragments were collected from Jarkuka for analysis purposes. The fragments measured 45 - 48mm in length with a width of between 33-43mm (Figure 7.32). The overall weight falls between 38.6 to 42g. Among the ferrous remains were metal slag, of which some was identified as copper slag. The amount of copper slag however, was very low and not sufficient to prove that copper was smelted on the site. In fact, all the slag identified as possible remains of copper objects were collected only from the site at Jarkuka, which historical accounts indicate was the first settled site in Shira. These slag were primarily thin and glassy, and were recovered both on the surface, where they were found in small heap clusters in the Jarkuka the plains, as well as four or five samples which were also recovered from the excavations (Figure 3.33 top right).

As a whole, the presence of iron slag across the site was high. It was found in most spit levels during the excavations and scatters were documented on the surface across all the abandoned sites. However, a much larger part of the assemblage, both from the surface and excavation were collected at the Jarkuka site. The oral tradition of the Shira people credit the Karai-karai tribe, who lived in the region in the distant past but are now split between Katagum, Misau and Fika emirates (Darling, 2004, Patton Jr, 1981) with the remains of the smelting and forging documented around the Jarkuka site (Yakubu Yarka pers. comm. 2013). The latter absence may well be connected with the way furnaces and forges were designed in the past. Bross and Baba (1994:66 - 72) observed that the

furnaces used in the region were of low-shaft, non-slag tapping furnaces with three or more tuyères-inlets, which were fired for 30 hours before having to be entirely dismantled. The assembled furnaces were good for approximately five or more smelting processes before the structure would break down completely. The ethnographic account of iron smelting in the region indicates that these traditional furnaces remained in use well into the 20th Century, where it is established that the most contemporary furnace in the region was last fired in 1947 (ibid :65). Low shaft furnaces are found distributed widely over Sub-Saharan Africa and some contemporaneous furnaces which may share similar structures to those found in Shira have been documented at Opi, on the ore-rich Nsukka-Udi area as well as Taruga, an iron working site belonging to the Nok culture (Okafor, 1993, Fagg, 1969).

Among the metal finds recovered were some miscellaneous objects with unknown function (Figure 7.34). The scraps of metal are easily recognisable and usually point to production workshops on the site. These remains were interpreted as likely remains of metal working.

Figure 7.34: Some of the unidentified metal scraps.

7.4 Conclusion

This chapter set out to examine the artefacts recovered during the archaeological fieldwork in Shira. The artefacts were analysed based on their type, form and function. Generally, the assemblage provided evidence of a range of activities which offered insight into the social and economic practices of the people that occupied this region. The excavation at Shira recovered numerous artefacts which relate to household and industrial activities that have persisted over the centuries in the landscape. Although no fibre was recovered, evidence for the manufacturing of textile is indirectly inferred from the presence of the spindle whorls, the wooden spindle sample as well as stone weights associated with the spinning process. The large stone implements and lithic artefacts especially of the ground stone, suggested that people were involved in food processing and preparation. The presence of sickles and fragmented hoes is indicative of agricultural activities. Evidence of likely trade goods such as the ivory, glass beads and bracelets, suggest that the people had access to exotic artefacts. Some objects suspected to have been used in warfare such as the arrowheads, knives etc. were also evident in the assemblage.

With regard to the faunal remains excavated at the site and the preliminary analysis conducted by Linseele (pers. comm. 2014), it can be assumed that some sort of mixed economy (cattle, birds, fish and small mammals) existed in the Shira region. Overall, the fish bones and turtle remains indicate the exploitation of a variety of marine environments. The mammalian bone indicates a similarly diverse range of domesticated species that were exploited at the site including cattle, sheep and the dwarf goats. One unique finding of this analysis was the absence of wild animal bones in the faunal assemblage, indicating that perhaps the arrows from the assemblage are not linked to hunting. However, it must be noted that many of the explanations or interpretations offered in the analysis are speculative and a more extensive faunal analysis will be needed in order to provide us with more detailed subsistence practices for these people.

Chapter Eight : Summary and Conclusions

The thesis has presented archaeological research on sites from Shira, Nigeria, an area known from historical sources to have existed on the border of Kanem-Borno Empire and the Hausa kingdoms in the early 19th century. As pointed out in Chapter 1, there exist obvious gaps in the study of archaeology in Nigeria. Particular regions and sites known from written historical sources (such as thise linked to Kanem-Borno and some of the Hausa kingdoms, e.g. Zaria and Kano) have been a focus of attention, while very little is known concerning the diversity of cultural traditions in their border areas. Yet, the historical Shira region, according to oral tradition as well as written historical records, is one of the earliest settled areas in the northern Bauchi region.

The Shira region lies between the Hausa kingdoms and Kanem-Borno Empire, but its present society is characterised by different small autochthonous population groups, of which nothing beyond their supposed antiquity is known. From documentary sources (Falconer, 1911a, Fremantle, 1911, Low, 1972, Johnson, 1967, Sutton, 2010), the history of these population groups had been noted to be that of continual accommodation of foreign groups. It is gathered that at one period in their history, the region was under the dominant Bornu Empire, whose incursions into Shira are said to have begun during the Sayfawa Dynasty in the 15th century. The political structure of the region changed in the 19th century when the area became incorporated into the Sokoto caliphate. In essence, the region saw abundant changes over the centuries. It has apparently been settled by several population groups, of whom nothing beyond a vague history now exists. Shira separated the Kanuri Empire of Bornu from the Hausa areas but its traditions claim it to be nothing like that of the Hausa-kingdoms, nor the Bornu Empire, as many of the historic villages in the area (notably Shira, Auyo and Teshena) arose in an almost wholly non-Muslim and non-Hausa cultural context.

Even though Shira's later history, especially that since the Jihad, has been well documented, the genesis and growth of its major sites have gone unexamined (Low, 1972). The present research thus fills an important gap, generating novel archaeological evidence from Shira to shed light on the nature of the past society, including six radiocarbon dates, the first for this area. This study was motivated by a curiosity to understand the socioeconomic and political contexts which may have affected the archaeological record. But alongside conventional archaeological methods such as survey and excavation, the historical accounts relating to the region were also discussed and an ethno-archaeological approach was applied, involving a discussion of the present-day environmental and cultural setting. The defined sets of knowledge from each of these sources allow for a broader multi-faceted interpretation of the cultural landscape.

Throughout this work, the inputs from the various sets of data hve been presented in separate chapters, and the strength of each type of evidence was exploited as it contributes a particular set of knowledge towards a representation of the Shira landscape. This concluding chapter will tie together these various strands of data and offer an overview of the work carried out, linking it into the theoretical questions outlined at the start of the research, and reflecting on avenues for future work.

Most of the previously held information on the region of Shira was contained in 19th and 20th century European sources (although a much earlier, but brief, mention had also been made, in the 16th century, by the traveler D'Anania). Among these were Barth (1857) and Clapperton and Lander (1829), and later colonial officers, all of whom wrote on the subject of the history, language and ethnography of the people inhabiting this region. Much of what was known of the early history of Shira area was written by Fremantle (1911) and recounted and refined by Low (1972). However, a major shortcoming of many of these texts is their lack of time depth. Also, the accounts are often vague and repeated, and often disconnected and lacking much spatial or temporal dimension of historical events. For example, Fremantle's (1911) account was more concerned with the wars and intricacies of the 19th century eastern borders of Hausaland. Low's (1972) main contribution was on the government institutions of the newly created Fulani kingdoms of Gombe, Hadejia and Katagum in the eastern border of Hausa region after the Jihad of 1804, while Johnson (1967) concentrated on the emergence of the Fulani in the western wetlands of the Kanem-Borno Empire. One of the major contributions of the present

thesis, therefore, is bringing all these data together into a comprehensive framework. In order to do this most clearly, a division into stages, describing the arrival of different population groups into the region, was followed, which is also in keeping with the local style of periodization of history (see Chapter 2).

This doctoral research has also incorporated extensive ethnographic fieldwork, discussed in Chapter 3, which detailed the socio-cultural and socio-economic background and traditional craft industries. The aim was to investigate the dynamics of the present society to aid our understanding of the material cultures documented during the archaeological survey and excavation. Interviews were conducted in seven different settlements; the fact that most of the traditional crafts are in decline means these data are doubly important. These enquiries established the socio-cultural framework of the society, noting its similarities with its western Hausa neighbours. The resulting picture is of a society which appears as one, even as we know that the region has been at a crossroads populations such as Karai-karai, Kanuri and Fulani of Bornu and Hausaland. In terms of economic practices, it was noted that many of the traditional crafts such as pottery, blacksmithing, cotton spinning and weaving, as observed by Barth (1857), are still practised in some of the rural settlements, while other crafts such as textile dyeing and iron smelting have been abandoned.

It is the archaeological fieldwork, however, which has occupied the bulk of this thesis. This was presented into four chapters. Chapter 4 dealt with the results of the archaeological survey. Chapter 5 provided an account of the excavations, the site stratigraphies and radiocarbon dates from the test pits excavated. Chapter 6 presented the analysis of the potsherds recovered during the survey and excavation, whilst Chapter 7 dealt with the interpretation and comparative analysis of the other finds and features recovered. This chapter will now briefly review these archaeological data.

The archaeological investigation in Shira began with a surface survey in the form of field-walking. The area had never been surveyed before the present research, and thus it became necessary for the investigation team to become acquainted with the landscape in order to answer the basic research questions about its peculiarities. The Shira survey was designed to systematically recover and inspect a 16km^2 landscape. Many of the sites surveyed were already known to the local inhabitants and had earlier been mentioned by

other scholars (Fagg, 1956, Baba, 1997, Seidensticker, 1997, Anderson, 1994). However, the 2013 archaeological survey in Shira which build on these previous researches, provided a much fuller understanding of the cultural materials in the abandoned sites. These sites which were systematically documented for the first time allows for more holistic interpretations of landscape.

As indicated by many scholars, the hills/plains pattern of settlement is typical for many parts of Hausaland (Sutton, 1979, Sutton, 1976a, Sutton, 1977, Haour, 2003a, Haour, 2000, Griffeth, 2000, Mortimore, 1970, Moughtin, 1985, Moughtin, 1964, Effah-Gyamfi, 1986). According to Andah (2002:10-11) the origin of settlements among the Hausa appear to have commenced from hill tops and hill bases, which were favoured for fertile lands together with offering security advantages especially later on against slave raiders. It can be said that the Shira archaeological dates agree with the above observations: over half of the sites documented are rock shelters. The hill sites where most of the shelters are located are found in the southern and eastern side of the area surveyed, whilst the plain sites are located in the northern and the easternmost part of the landscape.

Following the survey, nine test pits were excavated in five abandoned sites to shed light on their chronology and characteristics. These were Gandu Shira, Jagindi, Jarkuka, Rumfar Bango and Rumfar Tukwane. The test pits measured 2m x 2m with the exception of the four test pits in excavated in Rumfar Bango rock shelter, which measured 1m x 1m. Owing to limited data from some of these excavated test pits, the post-excavation analysis focused on the assemblage of three of the test pits: Jagindi rock painting site, Gandu Shira (also known as Gandu Sarki) abandoned settlement, and the Jarkuka hill site.

As far as the radiocarbon dating results are concerned, six samples were dated – two from Gandu Shira, two from Jagindi and two from Jarkuka. Five of the dates fell in the 15th – 17th centuries; the sixth, from the hilltop site of Jarkuka, was much earlier (Table 5-3 and Table 6.6).

With respect to the plain sites, considering, first, the site of Gandu Shira, the charcoal samples were recovered from upper and lower parts of an ashy deposit at 330cm (associated with fish bones, daub, burnt bones and charred seeds) and from 340cm (considered to be the earliest infilling of the feature). These returned dates of 290 ± 30 bp,

Cal AD 1500-1660 (Beta 378252) and 310 ± 30 bp, Cal. AD 1485-1650 (Beta 378253) respectively. The charcoal samples from the Jagindi site gave radiocarbon dates of 300 ± 30 bp (Beta 378254), Cal AD 1490-1655, from a charcoal sample collected at 80cm, and 280 ± 30 bp (Beta 378255), Cal AD 1520-1665, from a charcoal sample recovered from 170cm. These dates are in broad agreement with the oral historical chronology collected in Shira (see Chapter 2).

The third site considered was a hilltop site, Jarkuka, which oral tradition claimed was very old. Interestingly, one charcoal sample returned a date of 980 ± 30 bp (Beta 378251), Cal. AD 1015 to 1150. The second one was in line with the dates from the other Shira sites: 300 ± 30 bp (Beta 378250), Cal AD 1490-1655, from a charcoal sample associated with a stone pavement. This discrepancy is discussed in more detail below.

The finds assemblage was organised into categories based on materials and forms. A total of 11,686 items of material evidence including daub and unidentified objects make up the assemblage from the surface surveys and excavations. Generally, the Shira assemblage provided evidence of a range of activities, which offered insight into the social and economic practices of the people that occupied this region. All the sites share similar assemblages from the standpoint of range of material. Pottery was the largest single class of artefact recovered in all the excavated test pits. Generally, the quantity and range of archaeological material recovered from the hilltop sites were few and low, contributing less than 10% to the total assemblage. There was a general absence of decoration, with some sites such as Rumfar Tukwane producing not a single potsherd with decoration. It is suggested, from the low quantity of the cultural material, that these sites may have been short-lived while the widespread distribution of potsherds in all the sites indicate that it was a commonly used commodity in the past. When it came to analysis, surface finishing, the type of fabric or temper used, slip and decorative style were recorded. A total of 750 potsherds, which included the surface collections and excavated materials, were analysed. The rim forms were also identified and classed into three major forms with 10 subsidiary groups (Table 6.5 in Chapter 6).

A remarkably high quantity of bones and a few bone artefacts were recovered from the excavations on the plain sites excavation (Gandu Shira and Jagindi sites, see Chapter 7). On the hills, on the other hand, only the test pits at the Rumfar Bango rock shelter

produced about 6-7 pieces of bone. The assemblage consisted only of domesticated animals such as cattle, sheep and other small mammals, such as the African dwarf goat. The collection also featured the remains of birds, turtle and fish which are variously found in shallow (flood-like plains) and deep water (e.g., main channel of a river or deeper lake) (Veerle Linseele, pers. comm.). Generally, the assemblage gave a glimpse into Shira's past, revealing in the process how much the environment may have changed, for example, the remains of deep lake or water species in the assemblage indicate a possibility of a much cooler and wetter environment, which might have favoured the exploitation of a variety of resources. Presently, there is no permanent water source in Shira as the whole region drains into the Hadejia-Jama'are-Nguru River Basin and the Misau River, which obtains its water from the Komadugu Gana. However, the presence of these deep water fish may also indicate trade with a wetter region.

The faunal collections also displayed a total lack of wild animal species: not even invasive animals such as rats and porcupine were present. This general absence of wild animals from site faunal assemblages marked a sharp contrast with the contemporary economy, which exploits a diversified range of domesticated and wild species. The ethnographic record indicates that the people's diet includes both domesticated and wild animals which are used not only as dietary supplements but are also medicinal. Specifically, most of the communities in Shira engaged in hunting (*farauta*) expeditions where a group of men set out in search of wild animals. Overall, the data appear to suggest this trend may have been introduced into the society much later. A more extensive faunal analysis will be needed in order to provide us with a more detailed account of the subsistence practices of these people.

Other material culture and features uncovered during the work at Shira include spindle whorls and dye pits which indicate textile manufacturing. Exotic evidence such as ivory pieces, cowries and glass beads recovered from Jagindi and Gandu Shira respecitively are elite items which probably are indicator of the extent of the participation of the past society in long-distance trade.

It is well-known that identifying population groups in the archaeological record is difficult (see David and Kramer, 2001 for discussion of these issues). The aim of this work has not been to link particular sites with particular groups. However, it has been

possible to characterise the evidence recovered at various sites, linked by oral tradition to various groups and time periods, and to compare this evidence, assessing the degree of similarity or difference. Thought it is not possible to say which group of people were responsible for a given set of archaeological evidence, similarities in material culture between sites may tentatively be taken as indication of some sort of connections. Oral histories indicate that groups from the Bornu region migrated into the Shira region at different periods. Additionally, Shira lies, as indicated in some documentary sources, on the trade route that linked the Bornu empire, the Hausa kingdoms and the Adamawa area (Denham et al., 1826; Appendix V). Other groups that were active during the early 19th century include the Kanuri, Hausas, Karai-karai and the Fulani whom historical accounts state ventured into the wider region. As mentioned above, the question is whether the outcome in these circumstances of interaction between several cultures may be visible archaeologically.

As already pointed out in Chapter 2, the available evidence from historical records indicates that there were different waves of migration into Shira. Oral histories placed the arrival of the Shira people to be at a much later period than the occupant of the hills. Based on examination of the archaeological features and finds recovered during the survey and excavation from these sites (Chapters 5 and 6), general similarities were noted between sites, even though their function may have been different.

The Gandu Shira stratigraphy, for example suggested that it was the longest occupied site, with 5 layers reaching a depth of almost 4m. Some evidence at the site, namely the defensive walls and mound, gives the impression of being a stratified society. According to the oral traditions, this site housed the ancient rulers of Shira until the early 19th century when it was abandoned and the rulers and their population moved to the area where modern Shira is located. The excavation produced such trade items as cowries, beads and large assemblage of faunal. The archaeology broadly seems to confirm this identification and date.

The archaeological features and data recovered from the site of Jagindi are similar to that recovered from other sites, particularly the site of Gandu Shira. It should be recollected that, unlike the case of Gandu Shira, very little was known about the site of Jagindi before this research; our only information comes from the material evidence recovered during

the archaeological investigation. Remarkable features at this site include an abandoned dyeing site as well as a rock art site which lies few metres from the test pit excavated by the research team. In addition, there exists a dry river bed which may have been the main water source for the settlement in the past as well as provided water for craftsmanship. This site featured the highest number of spindle whorls and clay beads recovered, and it lies next to a rock painting site.On these grouds it is suggested that the site is probably a past industrial site. However, although circumstancial evidence connects the excavated locus and the adjacent rock painting site through the recovery of a stone fragment with reddish brown paint in the exacavtion (JAG'13, 50-60cm), it is still not certain whether the excavated site, the rock painting site, and the past industrial site belong to the same occupation. Further study may one day allow the characterisation of the paint used, and thus connect the two contexts.

The third site considered was a hilltop site, Jarkuka, one of three sites excavated on the hills, that yielded a relatively full but smaller assemblage than the plain sites. This question of the chronological relationship between the hills and the plains sites is an important one, and it is noteworthy that Jarkuka is attributed great antiquity by oral tradition. Due to this fact, as well as to the absence of certain finds such as clay pipes, it was supposed that Jarkuka may be an earlier site, perhaps not contemporary with the plain sites. Interestingly, as was noted above, one of the charcoal samples from this site yielded a much earlier date than the rest: eleventh-twelfth century AD. In theory this could indicate that this site would have been settled earlier than those sites located on the plain. However, examination of the material culture issued from the feature from which this early date was taken indicates a broad similarity with the pottery from the later layer, as well as with the material from the other sites. The matter is thus rather inconclusive. All in all, we must conclude that the peculiarity of the hilltop sites is just coming to light and there is still limited knowledge about the nature of these sites due to the low number of sites that have been excavated and dated.

The settlement pattern of the Shira region, therefore, evidences considerable complexity. As was outlined in Chapter One, this work has drawn on Igor Kopytoff's 'Internal African Frontier theory', and the 'migratory model' which seeks to explain processes by which historical events and political change lead to the emergence of new polities and societies. The data assembled in the course of this doctoral research show that by and

large, past Shira can, based on Igor Kopytoff's (1987) distinction of frontiers, be considered to fit the definition of a frontier state. According to Kopytoff, two basic types of frontier exist: external and internal. An external frontier is one formed when metropolitan cultures expand and attempt to extend their political authority beyond their borders; whereas internal frontiers emerge in politically neutral areas, where intruding settlers act and create new societies. Such internal frontiers are mostly to be found in the less populated fringes between two or more organised societies. Thus, Shira in this case best fits the model of an internal frontier, an interstitial area that apparently developed between two similar cultures: Bornu Empire to the east and the Hausa city-states to the west.

Much of the current population of Shira retains traditions of migration, tracing their origins to areas in the Bornu region. Moreover, it is suggested in historical records that migrations into the Shira region occurred throughout history and that the foundation of the principal settlement can be credited to a small group of individuals who settled in a frontier or peripheral region, among indigenous inhabitants who maintained first-comer status. This is precisely as is postulated in the internal frontier theory; migration is a central theme in the West African past, according to Kopytoff's model. Crucially, the inhabitants of many settlements in internal frontier landscapes are said to be in a constant state of aggregating, fissioning, collapsing, migrating, and reforming (DeCorse 2012, Kopytoff 1987). In Shira, it is said that when the new group arrived, they engaged the indigenous people in war and forced them out of the hills to the plain. This fission was said to have led to a splitting of indigenous groups and homogenous unit, under single leadership. Shira, as we have noted in the histories collected, is a region set against a backdrop of trade routes, networks and warfare, all of which will likely have caused groups from different linguistic origins to move repeatedly in and out of the area. The 'pull' factor into this new frontier may lie in Shira's unique geology, specifically granite hills, which may have provided a good refuge for the population caught at the interstices of neighbouring states. The argument is that such an environment encourages safety and is most likely to provide inhabitants with the basic necessities for life.

The material culture documented at Shira reveals several examples of fusion. For example, the rock art complex in Shira represents the fusion of two distinct cultures. One corpus (the animal including cattle and calves) has been associated with the Geji, Bauchi

and Birnin Kudu site in Hausaland, while the second tradition has been linked to the Marghi region around Uba in south-eastern Bornu. Seidensticker (1997) points out that there is no doubt that the Shira rock art complex forms a cultural continuum with the Marghi sites which lie about 400km to the east. This conclusion is drawn from the similarity in the nature of the subject matter, style, technique, location and association of these sites with rock gongs. Historical texts also connect the two societies, as shown in Chapter 2. In summary, the interpretation for the presence of this art is a reaffirmation of the relationships that exist for the people with their place of origin as well as a continuation of a cultural expression which has been carried from the 'mother' site to the 'migrant' society.

No oral histories collected in Shira indicate that the sites relate to any of the Hausa kingdoms, at least until the 19th century when the new political map included Shira in this region (Denham et al., 1828). However, Shira was mentioned in D'Anania (1573-1582) as one of the sites on the eastern fringes of the Hausa kingdoms while it was mentioned in the Kano chronicles as one of the kingdoms with which Kano tried to forge a relationship through marriage. With regard to cultural remains in Shira, some of the features, such as the presence of extensive defensive walls, point to the presence or influence of this group in the region. The presence of walls surrounding the sites had been viewed as a reflection of the level of insecurity in the society. Several written works on past socio-political situations in Hausaland (Johnson, 1967, Last, 1967, Adelẹyẹ, 1971) offered much-needed data to understand the archaeological data from Shira. Adelẹyẹ (1971) noted that the political situation during the 15th and 16th century in *kasar* Hausa was such that there were conflicts and wars which led to intense competition among the Hausa states, notably Kano, Katsina and Zaria. The situation forced people to migrate, to inhabit hills and rock shelters, and to fortify their settlements against external aggression (Ozigi and Ocho, 1981). Tijani (2010) also noted in his study of Gamergu that these inhabitants of the hills to the south and east of Shira survived assaults and slave raids by relying on the rigours of the terrain to protect them against the arms and cavalry of their foes. To a larger extent, the construction of defensive walls and ditches around plains sites, and the settlement of hills, are associated with the incursion of external aggressors.

The survey and mapping have also demonstrated changes in the structures of settlement patterns, evident from the remains of circular house foundations or stones circles, rock-

shelters and defensive enclosures around open-air sites. The past inhabitants of Shira region are believed to have settled in rock-shelters and used defensive enclosures to protect their settlement and people from external attacks and, although it is not known when these wall enclosures were built (as they have not been dated yet), the past Shira region resembled an organised centre with a central administration. There are also indications of external trade through some of the small finds recovered, such as the beads and cowries. Shira region is by no means a major urban centre like the Hausa city-states of Kano, Zaria, Katsina, but its existence and character, determined by a range of socio-cultural and economic pursuits discovered during the survey and mapping, provide insight on how urban centres in Hausa land must have developed.

This archaeological investigation at Shira has thus provided new perspective on the nature of the cultural materials in the study area. Various features have been identified, pottery and other artefacts quantified and analysed and the sequence of events has been elucidated from the historical documentation. In the end, this investigation not only makes new substantive contributions to our understanding of the Shira sites and, to a larger extent, provides answers to the archaeological questions concerning the material cultures of this frontier state, but it also, within the realms of Hausa archaeology, provides the first insight into the material cultures of a well documented historic satellite site that lies on the border of the Hausa kingdoms and the Kanem-Borno Empire. Yet despite the contributions of this research, the archaeological record of Shira is still incomplete, and there still remains much to be done in order to fully understand the activities surrounding social, political and economic institutions and how they may have shaped the daily lives of the inhabitants that occupy this region. Further work to be done includes:

- Some of cultural material recovered requires further analysis: for example XRF analysis of the pottery remains recovered during the investigation would be beneficial to show elemental chemical composition that could help reconstruct past cultural exchanges.

- In addition, the stone objects will require geological identification and the faunal collection will require an in-depth analysis. This is in order to add further knowledge to the subsistence economy: for example, it would be interesting to

know more about domestic economies, document the dietary patterns (according to class status, preparation and consumption changes) and show how these were organised. At present, it is known that the past society practiced mixed economy, as indicated by the charred seeds recovered from Shira as well as the large quantity of domesticated animal, bird and fish bones.

- This research has attempted to create the first ceramic tradition for the region that lies between the Hausa kingdoms and the Kanem-Borno region, by presenting the differences in artefact quantities and type as well as providing details on the nature and distribution of traits found on the ceramics, such as the various surface treatments, finishing, vessel shapes and forms. However, it would be beneficial if future research could examine the functional attributes that this research was unable to do.

- Lastly, this archaeological investigation on the abandoned Shira sites has provided information about the cultural finds and features found in the sites, but much more work will be necessary in both Shira and other nearby sites which have been historically linked such as Auyo and Teshena, to understand the relationship between these abandoned sites, as well their role in the wider region.

This doctoral work has aimed to improve our knowledge of an unjustly-neglected region, which played a key part in the landscape of northern Nigeria in the second millennium AD. The hope is that the present thesis will foster further studies of Shira's past.

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Appendices

Appendix A: Key informants

S/No	Names	Sex (M/F)	Age	Occupation
1	Baba Wakili Shira	M	72	The emir's representative in Shira.
2	Ali Bage	M	40	Secretary to the Emir
3	Ibrahim Bako	M	55	Security at the emir's palace
4	Malam	M	65	Sarkin Kyawawa
5	Ali Kyawawa	M	47	Farmer
6	Modibbo Kwala	M	49	Header/Farmer
7	Mannir Shira	M	38	Local Guide
8	Tala Gwadan-gwadan	M	39	Hunter
9	Alhaji Koshen Kofar kudu	M	57	Farmer
10	Sagir Malam Mai Tumatir	M	29	Meshing/builder
11	Malam Kanki	M	76	Farmer
12	Malam Mohammadu Kawaga	M	63	Farmer
13	Adama Hamisu Faggo	F	58	Potter (retired)
14	Mariya Faggo	F	32	Potter
15	Zilai Bappa (Babannan)	F	29	Potter
16	Saratu Bappa	F	27	Potter
17	Sale Faggo	M	42	Farmer
18	Isma'il or Sama'ila Faggo	M	19	Student
19	Salisu Malori	M	23	Farmer/Islamic scholar
20	Muhammadu Malori	M	25	Junior Islamic scholar (Gardi)
21	Oboh Kansi	M	42	Businessman/Teacher
22	Baba Kaza	M	72	Court messenger (retired)
23	Matar Baba Kaza	F	55	Housewife
24	Adda Amina	F	60	Housewife
25	Uma Sumaiye	F	71	Housewife
26	Haruna Malori	M	36	Businessman/Farmer
27	Yau Danladi Sambuwal	M	45	Messenger in the emir's palace (sambuwal) & retired potter
28	Kaka Adama Malori	F	69	Potter
29	Nasiru Tafisu	M	26	Trader
30	Shehu Wainabe	M	49	Farmer
31	Malam Bello Kyawawa	M	68	Farmer (retired) & trader
32	Sarkin Yakasai	M	55	Emir of Yakaisa
33	Sarkin ruwan Yakasai	M	57	Fisherman
34	Sale Salisu Sambuwal	M	53	Potter (retired)
35	Malam Ibrahim SambuwaL.	M	47	Potter (retired)
36	Rabiu Muhammad	M	38	Farmer.
37	Usman Nogoggo	M	32	Farmer and Header.
38	Usman Shehu Babaleliya	M	24	Trader.
39	Yakubu Babba	M	31	Farmer.
40	Musa Ibrahim (Oga)	M	21	Student.
41	Muhammad Malam Hassan	M	27	Farmer.
42	Alhaji Shira	M	32	Trader and Farmer.

Appendix B: Potters' tools documented during the ethnographic fieldwork in Shira

S/No.	Object	Local Name
1		*Diddinge* in Yakasai. This object is made from clay. It is used when building the body of the vessels.
2		*Gwargwami* from Yakasai. These are burnishing seeds made from Baobab seeds.
3		*Mamari* from Malori. This is a wooden mallet used in conjunction with SF/No. 1 to smooth the surface of a wet vessel.
4		*Kibiya*. This is a sharp metal object with wooden handle used for decoration.

S/No.	Object	Local Name
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4		*Kibiya*. This is a sharp metal object with wooden handle used for decoration.

S/No.	Object	Local Name
5		*Jangargari* or *jar kasa*. Light brown gravels used with water as slip to burnish. In Malori village, vegetable oil is added to the mixture to achieve a polished surface.
6		*Alkasa*. This is a green coloured substance used for decorating vessels.
7		*Garura*. This is a red coloured solution used for decorating pottery vessels.

S/No.	Object	Local Name
8		*Koya*. This is a light brown clay used for decorating pottery vessels.
9		*Alli*, *Ballo* or *farar kasa*. This is a white clay mixed with water to paint the body of a vessel.
10		*Kashin kaza*. These are bird feathers used for decorating vessels.

S/No.	Object	Local Name
11		*Gwargwami* from Malori. Burnishing seeds from Baobab tree.
12		Another *diddinge* from Malori. See SF/No. 1
13		Another *diddinge* from Malori. See above.
14		*Mamari* in Malori. See SF/No. 3

S/No.	Object	Local Name
15		*Bendir.* This is a piece of carton used for smoothing rims.
16		*Makankari.* A shell used to smooth and scrapped a vessel in its leatherhard stage.
17		*Wuka* in Malori. This is a knife used to make incisions or grooves on pottery vessels
18		*Mazauni* from Yakasai. This is a wooden stool used when making the water vessel *tulu.*

S/No.	Object	Local Name
19		*Mamari* in Faggo. See SF/No. 3.
20		*Diddige* in Faggo. See SF/No. 1, 12 and 13.
21		*Gwargwami* in Faggo. See SF/No. 2 and 11.
22		*Aska* or *wuka* in Faggo. This is a metal object used for decorating the body of a clay vessel.

S/No.	Object	Local Name
23		*Makankari* in Faggo. See SF/No. 16

Appendix C: Blacksmith's tools from Shira

S/No.	Object	Local Name
1		*Auretake*. Used to cool metal objects.
2		*Guduma*. A hammer.
3		*Guduma*. Another kind of hammer.
4		*Masaba*. A metal object.
5		A plier

S/No.	Object	Local Name
6		*Uwar Makera.*

Appendix D: Some roulettes recovered during the ethnographic survey in Shira

S/No.	Tools & impressions	Local name	Type	Remarks
1		*Bayan Kifi* meaning fish scales.	twisted cord roulette	
2		*Bagyara or 'yar jarawa* the daughter of Jarawa.	Double twisted cord roulette.	The word 'Jarawa' is an indigenous group in southern Bauchi.
3		*Kafar tsuntsu* bird's leg.	Double twisted cord roulette?	

S/No.	Tools & impressions	Local name	Type	Remarks
		*Bakanuwa* 'from Kano'	Twisted cord roulette.	This means 'the one from Kano.
5		*Juyayyiya* the reversed one?'	Twisted cord roulette?	

Appendix E: Gandu Shira grid figures

S/No.	A	B	C	D	E	F	G
Meridian	330°	340°	350°	0°	10°	20°	30°
1	A1-37	B1-37	C1-37	D1-37	E1-37	F1-35	G1-37
2	A2-67	B2-78	C2-71	D2-67	E2-78	F2-78	G2-78
3	A3-115	B3-122	C3-177	D3-135	E3-122	F3-122	G3-112
4	A4-142	B4-152	C4-144	D4-164	E4-159	F4-161	G4-161
5	A5-167	B5-177	C5-179	D5-176	E5-193	F5-182	G5-199
6	A6-215	B6- 230	C6-199	D6-208	E6-212	F6-206	G6-220
7	A7-256	B7-239	C7-222	D7-231	E7-232	F7-228	G7-238
8	A8-287	B8-277	C8-264	D8-248	E8-242	F8-242	G8-253
9	A9-310	B9-309	C9-302	D9-276	E9-253	F9-262	G9-270
10	A10-324	B10-335	C10-323	D10-324	E10-290	F10-265	G10-281
11	A11-330	B11-343	C11-354	D11-350	E11-331	F11-293	G11-294
12	A12-327	B12-344	C12-361	D12-374	E12-374	F12-324	G12-324
13	A13-351	B13-345	C13-377	D13-383	E13-391	F13-367	G13-345
14	A14-363	B14-379	C14-410	D14-405	E14-414	F14-390	G14-374
15	A15-362	B15-400	C15-424	D15-425	E15-429	F15-427	G15-399

Appendix F: General inventory of finds from Gandu Shira

Level (cm)	Pottery	Lithic	Daub	Cowry	Beads	Slag	Metal	Bones	Spherical Objects	Clay Pipes	Plant Seeds	Utilised Sherds	Unidentified Objects	**Total**
Top Soil-10	94													**94**
10 – 20	225		7			1	1	8						**242**
20 – 30	220		22			1		70		1				**314**
30 – 40	150		7					45	1	3	+			**206**
40 – 50	122						1	69					2	**194**
50 – 60	277		13		1	1		202	1				2	**497**
60 – 70	197		2		2			284	1	2				**488**
70 – 80	107							105						**212**
80 – 90	88						1	80				1	1	**171**

Level (cm)	Pottery	Lithic	Daub	Cowry	Beads	Slag	Metal	Bones	Spherical Objects	Clay Pipes	Plant Seeds	Utilised Sherds	Unidentified Objects	**Total**
90 – 100	71						1	3	1					**76**
100 – 110	61	3	2				1	61					2	**130**
110 – 120	94	1	2					110		1	+			**208**
120 – 130	73	2	1	2				32	1	1		1		**113**
130 – 140	71		4					64						**139**
140 – 150	52				1	1	1	71				1		**127**
150 – 160	139			1	4	2	4	330	3	3	+	1	1	**488**
169 – 170	149				1			160	1		+		2	**313**
170 – 180	143		8			2	3	180		6	+	2	1	**345**
180 – 190	75		1			2		700		1	+			**779**

Level (cm)	Pottery	Lithic	Daub	Cowry	Beads	Slag	Metal	Bones	Spherical Objects	Clay Pipes	Plant Seeds	Utilised Sherds	Unidentified Objects	**Total**
190 – 200	53					5	1	61		1	+			**121**
200 – 210	51		5			2					+		1	**59**
210 – 220	75		5			3		46			+	1	1	**131**
220 – 230	59							22			+	1		**82**
230 – 240	49		12			1		93				2	2	**159**
240 – 250	28	1	7		2	2	1	68	1		+			**110**
250 – 260	10		4					27			+			**41**
260 – 270	10		9					29			+			**48**
270 – 280	9	1				1	1	20		1	+			**33**
280 – 290	4		1			2					+			**7**

Level (cm)	Pottery	Lithic	Daub	Cowry	Beads	Slag	Metal	Bones	Spherical Objects	Clay Pipes	Plant Seeds	Utilised Sherds	Unidentified Objects	**Total**
290 – 300	11					1		13			+		1	**26**
300 – 310	12													**12**
310 – 320	13		8					17			+			**38**
320 – 330	21		5				1	57			+		4	**88**
330 – 340	15							18			+		10	**43**
340 – 350	19							21		3	+		4	**47**
Total	**2847**	**8**	**125**	**3**	**11**	**27**	**17**	**3066**	**10**	**23**		**10**	**34**	**6181**

+ = presence (due to fragile nature of seeds, they were not counted).

Appendix G: General inventory of finds from Jagindi rock painting site

Level (cm)	Pottery	Lithic	Beads	Metal	Slag	Bones	Clay Pipes	Spherical Objects	Utilised Sherds	Daub	Unidentified Objects	**Total**
Top soil - 10	64											**64**
10 – 20	367			3	2	4		4	2	3		**385**
20 – 30	187			2		34				1		**224**
30 – 40	218	4		2		36				1		**261**
40 – 50	81	2		2		157		3				**245**
50 – 60	39	6			3	140					1	**189**
60 – 70	56	7	1	3		200	1	2	1	1	1	**273**
70 – 80	144			3		207		1	1	2	1	**359**
80 – 90	186		1		3	728		3	3		1	**925**

Level (cm)	Pottery	Lithic	Beads	Metal	Slag	Bones	Clay Pipes	Spherical Objects	Utilised Sherds	Daub	Unidentified Objects	**Total**
90 – 100	104					307		1		2	1	**415**
100 – 110	182			2		537		3	4	1		**729**
110-120	156				1	24		7		2	1	**191**
120 – 130	44					140		1	1			**186**
130 – 140	26					99		3				**128**
140 – 150	19				1			3				**23**
150 – 160	70					2						**72**
160 – 170	51				2	81						**134**

Level (cm)	Pottery	Lithic	Beads	Metal	Slag	Bones	Clay Pipes	Spherical Objects	Utilised Sherds	Daub	Unidentified Objects	**Total**
170 – 180	39			1		57						**97**
180 – 190	140			6		130					1	**277**
190 – 200	67				2	1			1		2	**73**
200 – 210	3			2		5						**10**
Total	**2243**	**19**	**2**	**26**	**14**	**2889**	**1**	**31**	**13**	**13**	**9**	**5260**

Appendix H: General inventory of finds from Jarkuka Test Pits

Unit	Level (cm)	Pottery	Utilised Sherds	Eroded Sherds	Daub	Slag	Metal	Unidentified Objects	**Total**
JKE PIT 'A'	Top soil - 10	6							**6**
	10--20								
	20 - 30	24			1				**25**
	30 - 40	4							**4**
	40 - 50	18	2						**20**
	50 - 60	7							**7**
	60 - 70	26				1		1	**28**
	70 - 80	3							**3**
	80 - 90								
	90 - 100								
Total		88	2		1	1		1	**93**
JKE PIT 'B'	Top soil - 10	9							**9**
	10--20	12				8			**20**
	20 - 30	2	1			16			**19**
	30 - 40	86		4		2	4		**96**
	40 - 50	24		Chapter Nine			2		**26**
	50 - 60	39		4		3	4		**50**
	60 - 70	7				1		1	**9**
	70 - 80								
	80 - 90								
Total		**179**	**1**	**8**		**30**	**10**	**1**	**229**

Appendix I: General inventory of finds from Rumfar Tukwane/Kuka

Level (cm)	Pottery	Eroded Sherds	Daub	Unidentified Objects	**Total**
Top soil – 10	95	8	1	1	**105**
10—20	35	8	1		**44**
20 – 30	29	6	1		**36**
30 – 40	Sterile	Sterile	Sterile		
Total	**159**	**22**	**3**	**1**	**185**

Appendix J: General inventory of Rumfar Bango Test Pits

Unit	Level (cm)	Pottery	Eroded	Bones	Lithic	Clay Pipes	**Total**
RFB PIT 'A'							
	Top soil – 10						
	10 – 20	2					**2**
	20 – 30	1					**1**
	30 – 40						
Total		**3**					**3**
RFB PIT 'B'							
	Top soil – 10	21					**21**
	10—20	6					**6**
	20 -30						
Total		**27**					**27**
RFB PIT 'C'							
	Top Soil - 10	6					**6**
	10 - 20	4	1				**5**

Unit	Level (cm)	Pottery	Eroded	Bones	Lithic	Clay Pipes	**Total**
	20 - 30	2					**2**
	30 - 40						
	40 - 50						
Total		**12**	**1**				**13**
RFB PIT 'D'							
	Top Soil - 10	2				2	**4**
	10 - 20	9					**9**
	20 - 30	1		5	1		**7**
	30 - 40						
Total		**12**		**5**	**1**	**2**	**20**

Appendix K: Gandu Shira - Analysis of surface treatments of diagnostic potsherds

Sherd No.	Context/Level (cm)	Sherd size	Thickness (mm)	Temper (veg./grit)	Polishing (int/ext)	Slip (int/ext)	Decoration 1	Decoration 2	Observations
1	Top soil – 10	2 x 2	7	Grit	int & ext	int.	Twisted cord roulette		
2	10 -- 20	3 x 2	7	Grit	ext	ext	Twisted cord roulette	Groove	
3	10 -- 20	3 x 2	11	Grit	int & ext	int & ext	Groove		A rim.
4	10 -- 20	4 x 2	7	Grit	int & ext	int & ext	Twisted cord roulette	Groove	
5	10 -- 20	3 x 2	7	Grit	int & ext	ext	Twisted cord roulette	Groove	Potsherd with reddish brown slip.
6	10 -- 20	4 x 2	11	Grit	ext	ext	Groove		
7	20 – 30	4 x 2	11	Grit	ext	int & ext	Twisted cord roulette	Groove	Twisted cord roulette with banded horizontal groove.
8	20 – 30	3 x 2	10	Grit	ext	ext	Groove		
9	20 – 30	4 x 3	9	Grit	ext	ext	Twisted cord roulette	Groove	Twisted cord roulette with single horizontal groove.
10	20 – 30	4 x 2	8	Grit	int & ext	int & ext	Groove		A rim.
11	20 – 30	4 x 3	11	Grit	int & ext	int & ext	Groove		A wide and shallow groove.
12	20 – 30	7 x 4	13	Grit	ext	ext	Groove		
13	20 – 30	2 x 3	12	Grit	int & ext	int & ext	Groove		A thick groove measuring 7mm.
14	20 – 30	3 x 2	8	Grit	ext	ext	Groove		
15	20 – 30	6 x 4	15	Grit	int & ext	int & ext	Groove		

Sherd No.	Context/Level (cm)	Sherd size	Thickness (mm)	Temper (veg./grit)	Polishing (int/ext)	Slip (int/ext)	Decoration 1	Decoration 2	Observations
16	20 – 30	3 x 2	8	Grit	int & ext	int & ext	Groove		A rim.
17	20 - 30	2 x 2	5	Grit	ext	ext	Groove		Potsherd with wavy groove.
18	20 - 30	2 x 2	8	Grit	int	int & ext	Twisted cord roulette		
19	30 - 40	4 x 2	11	Grit	int & ext	int & ext	Groove		Potter's tool mark on the interior of the potsherd.
20	30 - 40	3 x 2	7	Grit	int & ext	ext	Groove		A rim.
21	30 - 40	9 x 8	8	Veg	int	int & ext	Twisted strip roulette		
22	30 - 40	2 x 1	5	Grit	int	ext	Folded strip roulette		
23	30 - 40	5 x 4	10	Grit	ext	ext	Groove		
24	30 - 40	7 x 5	5	Grit	ext	int & ext	Groove		A light brown potsherd.
25	30 - 40	7 x 6	7	Grit	ext	ext	Twisted cord roulette	Groove	Twisted cord roulette with banded horizontal groove. Potsherd had several striation marks, probably made from a potter's tool.
26	30 - 40	4 x 2	10	Grit	int & ext	int & ext	Groove		A rim.
27	40 - 50	5 x 3	14	Veg	int	ext	Folded strip roulette		
28	40 - 50	5 x 4	11	Grit	int & ext	int & ext	Groove		

29	40 - 50	4 x 2	7	Grit	int	int & ext	Cord wrapped roulette		Potsherd with cord-wrapped roulette and some potter's striation marks on the exterior.
30	40 - 50	15x13	21	Grit	int & ext	int & ext	Groove	Stabbing/punctuates	A grey heavy sherd measuring 17g.
31	50 - 60	8 x 5	10	Grit	ext	ext	Groove	Groove	With single horizontal and wavy groove measuring 9mm.
32	50 - 60	4 x 2	12	Grit	ext	ext	Groove		
33	50 - 60	6 x 3	15	Grit	int & ext	int & ext	Groove		
34	50 - 60	9 x 4	14	Grit	int & ext	int & ext	Groove	Groove	With banded horizontal groove.
35	50 - 60	2 x 2	8	Grit	unburnished	ext	Folded strip roulette		
36	50 - 60	8 x 4	14	Grit	int & ext	int & ext	Groove		A rim.
37	50 - 60	5 x 2	15	Grit	ext	int & ext	Groove		
38	50 - 60	2 x 2	16	Grit	int & ext	int & ext	Groove		A rim.
39	70 - 80	3 x 4	9	Grit	ext	ext	Groove		
40	70 - 80	6 x 2	18	Grit	int	int & ext	Groove		A rim.
41	70 - 80	3 x 5	9	Grit	ext	ext	Twisted cord roulette	Groove	
42	80 - 90	6 x 8	13	Grit	int & ext	int & ext	Groove		
43	80 - 90	6 x 4	7	Grit	ext	ext	Twisted strip roulette	Groove	Twisted strip roulette with banded horizontal groove.
44	80 - 90	2 x 4	10	Grit	ext	ext	Folded strip roulette		Loosely folded strip roulette, brownish black interior.

45	80 - 90	10 x 6	10	Grit	int & ext	ext	Groove		A rim with banded horizontal groove.
46	90 - 100	7 x 5	8	Grit	int & ext	int & ext	Groove		
47	90 - 100	10 x 7	10	Grit	int & ext	int & ext	Groove		
48	90 - 100	3 x 2	13	Grit	ext	ext	Groove		
49	90 - 100	9 x 8	14	Grit	int & ext	int & ext	Groove	Groove	A rim with banded horizontal groove.
50	90 - 100	4 x 2	10	Grit	ext	ext	Indeterminate		A brownish black sherd.
51	100 - 110	7 x 2	15	Grit	ext	int & ext	Groove	Groove	Banded horizontal Groove achieved probably by shaving down the wet clay while the vessel is in the leather hard stage.
52	100 - 110	7 x 8	13	Grit	int & ext	int & ext	Groove	Stabbing/punctuates	The stabbing/punctuate is banded by horizontal groove.
53	100 - 110	6 x 4	15	Grit	ext	int & ext	Groove		
54	100 - 110	4 x 3	8	Grit	ext	ext	Groove		Eroded interior surface.
55	100 - 110	2 x 2	13	Grit	ext	ext	Groove		
56	110 - 120	4 x 3	11	Grit	ext	int & ext	Groove		A rim with eroded lip.
57	110 - 120	6 x 4	4	Grit	int & ext	int & ext	Groove		A rim.
58	110 - 120	5 x 4	10	Grit	int & ext	ext	Groove	Groove	Banded horizontal groove.
59	120 - 130	6 x 4	15	Grit	int & ext	ext	Groove		Groove measuring 11mm.

Sherd No.	Context/Level (cm)	Sherd size	Thickness (mm)	Temper (veg./grit)	Polishing (int/ext)	Slip (int/ext)	Decoration 1	Decoration 2	Observations
60	120 - 130	5 x 2	7	Grit	ext	ext	Groove	Groove	Banded horizontal groove.
61	120 - 130	5 x 2	6	Grit	ext	ext	Twisted cord roulette		
62	130 - 140	5 x 2	10	Grit	unburnished	ext	Folded strip roulette	Groove	Folded strip roulette mixed with wide shallow groove.
63	130 - 140	4 x 3	10	Grit	ext	ext	Groove		A rim.
64	130 - 140	9 x 7	12	Grit	ext	int & ext	Groove		Groove probably achieved by shaving wet clay from the rim towards the body.
65	130 - 140	6 x 2	10	Grit	ext	ext	Groove		
66	130 - 140	6 x 3	10	Grit	ext	int & ext	Groove		
67	140 - 150	10 x 7	12	Grit	ext	ext	Groove	Groove	
68	140 - 150	7 x 6	8	Grit	ext	int & ext	Groove		
69	140 - 150	8 x 4	16	Grit	ext	ext	Groove		
70	150 - 160	9 x 6	18	Grit	int & ext	int & ext	Groove		A rim.
71	150 - 160	4 x 2	6	Grit	ext	ext	Applique		Achieved probably by adding additional wet clay to the vessel.

Sherd No.	Context/Level (cm)	Sherd size	Thickness (mm)	Temper (veg./grit)	Polishing (int/ext)	Slip (int/ext)	Decoration 1	Decoration 2	Observations
72	150 - 160	2 x 2	12	Veg	unburnished	int.	Folded strip roulette		
73	150 - 160	11 x 9	11	Grit	int & ext	int & ext	Groove	Groove	Banded horizontal groove.
74	150 - 160	10 x 8	10	Grit	int & ext	int & ext	Groove	Groove	Single and wavy horizontal groove.
75	150 - 160	5 x 2	7	Grit	int & ext	int & ext	Groove		
76	150 - 160	8 x 5	10	Grit	ext	int & ext	Twisted cord roulette		
77	160 - 170	6 x 4	12	Grit	ext	ext	Groove	Groove	Wide banded horizontal groove - 0.7mm.
78	160 - 170	5 x 4	11	Grit	int & ext	ext	Groove		
79	160 - 170	5 x 4	15	Grit	ext	int & ext	Groove	Groove	A rim with wide banded horizontal groove (0.8 x 5mm wide).
80	160 - 170	5 x 3	16	Grit	Ext	ext	Groove	Groove	
81	160 - 170	9 x 4	9	Grit	int & ext	ext	Groove	Groove	
82	160 - 170	4 x 2	11	Grit	Int	ext	folded strip roulette		
83	160 - 170	5 x 3	11	Grit	int & ext	ext	Groove		
84	160 - 170	2 x 4	10	Grit	int & ext	ext	Groove		
85	160 - 170	3 x 2	11	Grit	int & ext	ext	Groove		

Sherd No.	Context/Level (cm)	Sherd size	Thickness (mm)	Temper (veg./grit)	Polishing (int/ext)	Slip (int/ext)	Decoration 1	Decoration 2	Observations
86	160 - 170	9 x 8	13	Grit	int & ext	int & ext	Groove	Groove	Banded Groove with potter's striation marks in the interior.
87	170 - 180	14 x 9	8	Grit	int & ext	ext	Groove	wavy Groove	Single horizontal groove with a wavy groove.
88	170 - 180	13 x 9	10	Grit	int & ext	int & ext	Groove	Groove	
89	170 - 180	8 x 2	6	Grit	int & ext	int & ext	Groove		
90	170 - 180	6 x 4	14	Grit	int & ext	int & ext	Groove	a rim	
91	170 - 180	3 x 2	13	Grit	int & ext	ext	Groove		
92	170 - 180	4 x 3	7	Grit	unburnished	unpolished	Twisted cord roulette		
93	170 - 180	5 x 4	10	Grit	int & ext	int & ext	Groove	Groove	Banded horizontal groove.
94	170 - 180	7 x 5	12	Grit	ext	int & ext	Groove		A rim.
95	180 - 190	21 x 7	9	Grit	int & ext	int & ext	Groove		A rim.
96	180 - 190	4 x 3	8	Grit	unburnished	unpolished	Folded strip roulette		Black sherd probably resulting from burning after breakage.
97	180 - 190	5 x 3	12	Grit	unburnished	unpolished	Groove		
98	190 - 200	5 x 4	6	Grit	int & ext	int & ext	Twisted cord roulette		Fine twisted cord roulette.

Sherd No.	Context/Level (cm)	Sherd size	Thickness (mm)	Temper (veg./grit)	Polishing (int/ext)	Slip (int/ext)	Decoration 1	Decoration 2	Observations
99	210 - 220	7 x 5	12	Grit	int & ext	ext	Groove		A rim. Broken at the tip.
100	220 - 230	4 x 3	11	veg.	int	ext	Folded strip roulette		Loosely folded strip with black interior.
101	220 - 230	3 x 4	8	Grit	int & ext	ext	Incisions		
102	220 - 230	3 x 2	7	Grit	int & ext	int & ext	Groove		
103	220 - 230	3 x 2	10	Grit	unburnished	ext	Groove	Groove	A single horizontal and wavy groove.
104	230 - 240	6 x 4	10	Grit	int & ext	ext	Groove		Wavy groove measuring 1.10mm.
105	240 - 250	10 x 4	6	Grit	unburnished	ext	Groove	Stabbing/punctuates	Wavy horizontal Groove with Stabbing/punctuates.
106	240 - 250	6 x 3	8	Grit	int	ext	Folded strip roulette		
107	250 260	7 x 2	13	Grit	int & ext	int & ext	Groove	Groove	Banded horizontal groove.
108	330 - 340	6 x 2	12	Grit	unburnished	unpolished	Groove		Banded wavy groove.

Appendix L: Jagindi - analysis of surface treatement on diagnostic potsherds

Sherd No.	Context/Level	Sherd size (mm)	Thickness (mm)	Temper (veg./grit)	Polishing (int /ext)	Slip (int /ext)	Decoration 1	Decoration 2	Observation
1	Top soil – 10	3	10	Grit	int	Int	Groove		A potsherd with single horizontal groove and had a black body.
2	10 - 20	6	11	Grit	int & ext	int & ext	Groove		A rim sherd with groove achieved by scraping the wet clay with a sharp implement.
3	10 - 20	4	12	Grit	int	int & ext	Twisted cord roulette	Groove	The groove are burnished in red pigment. The sherd is black on one side and white on the other parts. It is possible that it was made from white clay - Kaolin for instance.

Sherd No.	Context/Level	Sherd size (mm)	Thickness (mm)	Temper (veg./grit)	Polishing (int /ext)	Slip (int /ext)	Decoration 1	Decoration 2	Observation
4	10 – 20	5	15	Grit	ext	Ext	Groove		Groove achieved by scraping - body sherd.
5	10 – 20	4	9	Grit	unburnished	int & ext	Stabbing/punctuate		The decoration appeared deep and narrow. With bands forming a crescent moon shape.
6	10 – 20	4	8	Grit	int	Ext	Twisted cord roulette		A red slipped groove banded by empty panel.

Sherd No.	Context/Level	Sherd size (mm)	Thickness (mm)		Polishing (int /ext)	Slip (int /ext)	Decoration 1	Decoration 2	Observation
7	10 – 20	4	10	Grit	int	Indeterminate	Indeterminate		A potsherd is heavily weathered while exposed.
8	10 – 20	3	10	Grit	int & ext	int & ext	painting		A body sherd with painting
9	10 - 20	4	10		ext	int & ext	banded Groove	Twisted cord roulette	Sample was probably decorated prior to burnishing. This is evident from the edge of the groove, which were quite deep suggesting was made while the clay was quite soft.

Sherd No.	Context/Level	Sherd size (mm)	Thickness (mm)		Polishing (int /ext)	Slip (int /ext)	Decoration 1	Decoration 2	Observation
10	20 – 30	6	13	Grit	int	ext	Folded strip roulette		A black interior with dragged potter's tool impression on the inside. Vessels seem to have been burnished with light brown slip.
11	20 – 30	4	14	Grit	ext	ext	Indeterminate		Weathered surface but well-polished and burnished with red slip in the interior.
12	20 – 30	9	7	veg.	int	ext	Folded strip roulette	Groove	The strip impressions were divided by a shallow dragged stylus 0.7cm

Sherd No.	Context/Level	Sherd size (mm)	Thickness (mm)		Polishing (int /ext)	Slip (int /ext)	Decoration 1	Decoration 2	Observation
13	20 – 30	10	14	Grit	int & ext	int & ext	Groove	Groove	A rim decorated with shallow wide groove. The decoration is found just above the neck joint.
14	20 - 30	4	10	Grit	int	int & ext	loosely Folded strip roulette		The sherd has a thin line of black dividing the line it into three parts.

Sherd No.	Context/Level (cm)	Sherd size	Thickness (mm)	Temper (veg./grit)	Polishing (int/ext)	Slip (int/ext)	Decoration 1	Decoration 2	Observations
15	20 – 30	5	8	Grit	int	ext	Folded strip roulette	Groove	This sherd exhibits a black interior, a typical feature of most of the sherds from Shira. The impression were well executed with two different folded strip designs divided by a shallow dragged stylus – groove.
16	20 – 30	4	8	Grit	unburnished	int & ext	Folded strip roulette		A black interior.
17	20 – 30	4	12	Grit	int	int & ext	Folded strip roulette		A black interior.
18	20 – 30	9	15	Grit	unburnished	int & ext	Folded strip roulette		A black interior.

Sherd No.	Context/Level	Sherd size (mm)	Thickness (mm)		Polishing (int /ext)	Slip (int /ext)	Decoration 1	Decoration 2	Observation
19	20 – 30	5	14	Grit	int & ext	int & ext	Twisted cord roulette	Groove	A well-burnished sample with double decorations.
20	20 - 30	4	16	Grit	int & ext	int & ext	Groove		The potsherd is heavily tempered with sand. The quartz was visible to the naked eye.
21	20 – 30	3	12	Grit	int & ext	int & ext	Groove		

Sherd No.	Context/Level	Sherd size (mm)	Thickness (mm)		Polishing (int /ext)	Slip (int /ext)	Decoration 1	Decoration 2	Observation
22	20 – 30	2	8	Grit	int & ext	int & ext	wavy Groove		On the interior the sherd is decorated with a thin horizontal groove while the surface consists of composite decoration '6': Single horizontal groove underlined by band of wavy groove
23	20 – 30	2	7	Grit	int & ext	int & ext	Folded strip roulette		

24	30 - 40	9	13	Grit	int & ext	int & ext	Groove		The rim is decorated with a thin but deep horizontal groove in the middle.
25	30 – 40	3	8	Grit	unburnished	int & ext	Folded strip roulette		The interior of the potsherd is black. This seems to terminate just before the motif from the top.
26	30 – 40	8	10	veg.	int	ext	Folded strip roulette		A black on the interior with burnishing ripple lines criss-crossing inside.

27	30 – 40	6	7	veg.	int	int	Folded strip roulette		A black interior. There is a slight indention on the surface of motif, probably made while the vessel was still wet.
28	30 - 40	6	13	Grit	unburnished	int & ext	Folded strip roulette		A black interior with striation marks. White kaolin was used as slip/light brown slip.
29	30 – 40	5	10	Grit	unburnished	ext	Folded strip roulette		A black interior with striation marks possibly made by the edge of a clam shell.
30	30 – 40	4	10	Grit	int	int & ext	Folded strip roulette		A black interior.

31	30 – 40	7	13	veg.	int	int & ext	Folded strip roulette		A black interior with striation marks made by the edge of a clam shell. The motif on the exterior is rough.
32	30 – 40	5	8	Grit	int & ext	int & ext	Folded strip roulette		A black interior.
33	30 – 40	2	7	Grit	int	int & ext	Folded strip roulette		A black interior.
34	30 – 40	5	10	veg.	unburnished	ext	Folded strip roulette		The decoration is roughly made but well defined.
35	30 – 40	6	5	veg.	int	Indeterminate	Folded strip roulette		A black interior.
36	30 – 40	4	8	veg.	int	int & ext	Folded strip roulette		Sample is tempered with fibre. Black core interior
37	30 – 40	5 x 6	13	veg.	int	int & ext	Folded strip roulette		A black interior with striation

									marks possibly made by the edge of a clam shell.
38	30 – 40	4 x 2	8	Grit	int	int & ext	Groove		A light brown slip.
39	30 – 40	6 x 6	7	Grit	int & ext	int & ext	Groove	Burnished	A shell tempered rimsherd. Well-polished with light brown slip.
40	30 – 40	5 x 4	9	Grit	int & ext	int & ext	Groove		A rim sherd with shallow horizontal groove.
41	30 – 40	4 x 5	9	Grit	int	int & ext	Folded strip roulette		A brown black brown interior.
42	30 - 40	6 x 5	6	Grit	ext	ext	Groove		A rim sherd with shallow horizontal groove.
43	30 – 40	4 x 2	8	veg.	unburnished	int & ext	Folded strip roulette		A black interior.
44	30 – 40	4 x 2	9	Grit	int	int & ext	Folded strip roulette		A black interior.
45	30 – 40	4 x 2	12	Grit	unburnished	ext	Indeterminate		A black interior.
46	30 – 40	5 x 4	8	veg.	unburnished	int & ext	Folded strip roulette		A black interior with bump. Not

									well burnished.
47	30 – 40	6 x 5	9	Grit	unburnished	ext	Folded strip roulette		A black interior with bump. Not well burnished.
48	30 – 40	3 x 2	6	Grit	unburnished	Indeterminate	Folded strip roulette	Groove	
49	30 – 40	4 x 2	5	veg.	unburnished	ext	Folded strip roulette	Groove	A black exterior with wide and deep groove.
50	30 – 40	2 x 2	6	Grit	unburnished	int & ext	Folded strip roulette		Black interior
51	30 – 40	2 x 2	9	Grit	unburnished	ext	Folded strip roulette		Black interior.
52	30 – 40	3 x 4	9	Grit	unburnished	ext	Folded strip roulette		Black interior with rough surface.
53	30 – 40			Grit	unburnished	int & ext	Folded strip roulette		A black core interior. The slip applied is light brown.
54	30 – 40			veg.	unburnished	int & ext	Folded strip roulette		Black interior with rough surface.
55	30 – 40	2 x 2	6	Grit	unburnished	int & ext	Folded strip		Black

							roulette		interior.
56	40 – 50	4 x 2	9	Grit	unburnished	int & ext	Folded strip roulette	Groove	Black interior with single horizontal interior groove.
57	40 – 50	5 x 2	12	Grit	int	int & ext	Folded strip roulette	Groove	Potsherd with patches of red stains
58	40 – 50	3 x 4	12	Grit	int	int & ext	Folded strip roulette		A black core with light brown slip
59	40 – 50	3 x 4	8	Grit	int & ext	int & ext	Folded strip roulette	Groove	A rim.
60	50 – 60	5 x 3	9	veg.	int	int & ext	Folded strip roulette		A black core interior.
61	60 – 70	7 x 5	13	Grit	ext	int & ext	Groove		A single horizontal groove.
62	60 – 70	6 x 5	13	Grit	ext	int & ext	Groove		
63	60 – 70	3 x 2	8	Grit	int	int & ext	Folded strip roulette		Brown, black, interior.
64	60 – 70	7 x 6	12	Grit	int	int & ext	Folded strip roulette		Brownish black interior.
65	60 – 70	8 x 2	13	Grit	ext	int & ext	Groove	Groove	Banded horizontal groove with black interior.
66	70 – 80	4 x 6	4	Grit	ext	int & ext	Groove		Banded

									horizontal groove with black interior.
67	70 – 80	5 x 7	12	Grit	ext	int & ext	Folded strip roulette		
68	70 – 80	6 x 3	5	Grit	ext	ext	Cord wrapped roulette	Groove	
69	70 – 80	4 x 2	6	Grit	ext	ext	Cord wrapped roulette	Groove	Single horizontal groove.
70	70 – 80	3 x 2	5	Grit	ext	ext	Cord wrapped roulette	Groove	Banded with wavy groove.
71	70 – 80	7 x 5	6	Grit	ext	int & ext	Cord wrapped roulette	Groove	Cord wrapped roulette was banded with wavy groove.
72	70 – 80	3 x 2	6	Grit	ext	int & ext	Groove	Groove	Banded horizontal groove.

73	70 - 80	5 x 2	5	Grit	int	int & ext	Cord wrapped roulette	Groove	Banded with single and wavy horizontal groove.
74	70 – 80	5 x 3	5	Grit	int	int & ext	Cord wrapped roulette	Groove	Decorated with single and wavy horizontal groove.
75	70 – 80	5 x 3	5	Grit	int & ext	int & ext	Cord wrapped roulette	Groove	
76	70 – 80	8 x 6	6	Grit	ext	ext	Groove		This potsherd greyish, tempered with fine tempered grits/grog.
77	70 – 80	4 x 3	7	Grit	ext	ext	Groove		A potsherd with brownish black and brown core interior.
78	70 – 80	3 x 2	5	Grit	ext	int & ext	Cord wrapped roulette		
79	70 – 80	3 x 2	5	Grit	ext	int & ext	Cord wrapped roulette	Groove	

80	70 – 80	4 x 2	5	Grit	int & ext	int & ext	Cord wrapped roulette	Groove	Cord wrapped roulette with horizontal banded groove.
81	70 – 80	8 x 6	6	Grit	ext	int & ext	Cord wrapped roulette	Groove	
82	70 – 80	5 x 2	6	Grit	ext	int & ext	Cord wrapped roulette	Groove	
83	70 – 80	5 x 2	6	Grit	int & ext	int & ext	Groove	Groove	Banded horizontal groove.
84	70 – 80	3 x 4	5	Grit	int & ext	int & ext	Groove		A single horizontal groove.
85	70 – 80	4 x 2	6	Grit	int	int & ext	Cord wrapped roulette	Groove	A Cord wrapped potsherd with a single horizontal groove.
86	70 - 80	4 x 2	6	Grit	int & ext	int & ext	Cord wrapped roulette	Groove	Cord wrapped roulette with a single horizontal groove.
87	70 – 80	3 x 2	5	Grit	ext	int & ext	Cord wrapped roulette	Groove	Cord wrapped roulette with a horizontal groove.

88	70 – 80	2 x 2	6	Grit	int & ext	int & ext	Groove		Square shaped potsherd with multiple groove.
89	80 – 90	2 x 3	8	Grit	ext	int & ext	Folded strip roulette	Incision	A potsherd with folded strip roulette and a single horizontal incision.
90	80 – 90	3 x 4	5	Grit	int	int & ext	Cord wrapped roulette	Groove	
91	80 – 90	5 x 6	5	Grit	ext	int & ext	Groove		
92	80 - 90	7 x 4	7	Grit	int & ext	int & ext	Folded strip roulette	Incisions	This potsherd had a single horizontal incision on the interior.
93	100 - 110	6 x 4	10	Grit	ext	int & ext	Groove		
94	100 - 110	4 x 2	8	veg.	int	int & ext	Folded strip roulette		
95	100 - 110	5 x 2	7	veg.	int	int & ext	Folded strip roulette		
96	100 - 110	5 x 7	9	veg.	int	int & ext	Folded strip roulette	Groove	Wide and shallow groove measuring 11mm.
97	100 - 110	6 x 4	7	veg.	int	int & ext	Folded strip		

							roulette		
98	100 - 110	7 x 2	7	veg.	int	int & ext	Folded strip roulette	Groove	Shallow and wide groove.
99	100 - 110	4 x 2	13	Grit	unburnished	int & ext	Indeterminate		
100	100 - 110	6 x 2	6	veg.	int	int & ext	Folded strip roulette		Reddish spot marks on light brown interior.
101	100 - 110	6 x 4	7	veg.	int	int & ext	Folded strip roulette		A reddish spot on light brown interior
102	100 - 110	3 x 4	7	veg.	int	int & ext	Folded strip roulette		A reddish spot marks on light brown interior
103	100 - 110	6 x 2	6	veg.	int	int & ext	Folded strip roulette	Groove	Groove are wide and shallow.
104	100 - 110	5 x 3	11	Grit	ext	ext	Twisted cord roulette		Well burnished.
105	100 - 110	4 x 2	8	veg.	int	int & ext	Folded strip roulette		
106	100 - 110	4 x 2	7	Grit	unburnished	ext	Indeterminate		Black interior.
107	100 - 110	3 x 2	7	veg.	int	int & ext	Folded strip roulette		Potsherd had reddish spot marks. A light brown interior.

108	100 - 110	4 x 2	8	veg.	int & ext	int & ext	Folded strip roulette		This potsherd was probably slipped with two different solutions. The interior colour is different from exterior. Well burnished with a polished exterior.
109	100 - 110	2 x 3	7	veg.	int	int & ext	Folded strip roulette		
110	100 - 110	2 x 5	8	veg.	int	int & ext	Folded strip roulette		
111	100 - 110	2 x 1	7	veg.	int	int & ext	Folded strip roulette		

Sherd No.	Context/Level (cm)	Sherd size (cm)	Thickness (mm)	Temper (veg./grit)	Polishing (int/ext)	Slip (int/ext)	Decoration 1	Decoration 2	Observations
112	110 - 120	7 x 5	8	veg.	int	int & ext	Folded strip roulette	Groove	A potsherd with brown, black interior and reddish spots. The interior is brownish and had some bumps.
113	110 - 120	9 x 2	7	veg.	int	int & ext	Folded strip roulette	Groove	This potsherd had a brown-black interior with some reddish spots on the brown interior. Potter's tool marks?
114	110 - 120	7,6	7	veg.	int & ext	int & ext	Folded strip roulette	plain	Potsherd with brown, black interior and reddish spot marks. Interior is showing some potter's tool marks

Sherd No.	Context/Level (cm)	Sherd size (cm)	Thickness (mm)	Temper (veg./grit)	Polishing (int/ext)	Slip (int/ext)	Decoration 1	Decoration 2	Observations
115	110 - 120	6 2	10	Grit	int & ext	int & ext	Twisted cord roulette	Groove	A rim with fine twisted cord and banded horizontal groove. The twisted cord roulette seemed to have been made first before 3 thick groove were cut across the body.
116	110 - 120	2,3	7	veg.	int	int & ext	Folded strip roulette	Groove	The interior is brownish with potter's tool marks.
117	110 - 120	7 x 4	7	veg.	int & ext	int & ext	Folded strip roulette		
118	110 - 120	6 x 4	8	veg.	int	int & ext	Folded strip roulette		
119	110 - 120	5 x 2	10	Grit	unburnished	int & ext	Twisted cord roulette	Groove	Irregular and badly made twisted cord roulette with shallow groove.
120	110 - 120	6 x 5	6	veg.	int	int & ext	Folded strip		Potsherds

							roulette		had a brownish black and brown core.
121	110 - 120	3 x 2	8	Grit	int & ext	Indeterminate	Groove		A potsherd with banded horizontal groove.
122	110 - 120	4 x 3	8	veg.	int & ext	int & ext	Folded strip roulette		Having a reddish slip with folded strip roulette. The sherds has reddish marks.
123	110 - 120	4 x 3	8	veg.	unburnished	Indeterminate	Folded strip roulette		A greyish potsherd with black interior.
124	110 - 120	8 x 7	7	veg.	int	int & ext	Folded strip roulette	Groove	Potsherd with potter's tool mark and reddish spot marks on light brown interior.
125	110 - 120	2 x 2	10	veg.	int	int & ext	Folded strip roulette		
126	110 - 120	2 x 1	10	veg.	int	int & ext	Folded strip roulette		
127	120 - 130	3 x 2	7	Grit	int & ext	int & ext	Twisted cord roulette	Groove	A potsherd with very fine twisted

									cord roulette.
128	120 - 130	3 x 2	10	veg.	int	int & ext	Folded strip roulette	Groove	
129	120 - 130	4 x 2	8	Grit	int	int & ext	Folded strip roulette		A brownish black and brown core interior potsherd.
130	120 - 130	3 x 4	6	veg.	int	int & ext	Folded strip roulette		A potsherd with some reddish spot marks on the interior.
131	130 - 140	3 x 1	6	veg.	int	int & ext	Folded strip roulette		A body sherd with potter's tool marks on the interior.
132	140 - 150	4 x 3	13	Grit	int & ext	int & ext	Groove		A rim sherd with vertical horizontal groove.
133	140 - 150	3 x 2	13	Grit	int & ext	int & ext	Stabbing/punctuate		
134	150 - 160	6 x 4	13	Grit	int	int & ext	Twisted cord roulette		Brown to brownish black interior.
135	150 - 160	4 x 2	11	Grit	int	Int	Folded strip roulette		
136	150 - 160	6 x 4	14	Grit	int	Indeterminate	Groove	Groove	Banded horizontal groove.
137	150 - 160	4 x 2	7	Grit	unburnished	Int	Indeterminate		

138	150 - 160	3 x 2	9	Grit	int	int & ext	Folded strip roulette		Incisions or probably a potter's tool mark on the interior.
139	160 - 170	5 x 3	6	veg.	int	int & ext	Folded strip roulette	Groove	Folded strip with single horizontal groove.
140	170 - 180	5 x 2	6	Grit	int	int & ext	Twisted knotted cord	Groove	Twisted knotted cord with single horizontal groove.
141	170 - 180	3 x 2	5	Grit	unburnished	Ext	Twisted cord roulette		Black interior with light brown slip on the exterior.
142	170 – 180	3 x 2	6	Grit	int	Ext	Twisted cord roulette		
143	180 - 190	3 x 2	5	Grit	ext	int & ext	Twisted cord roulette		
144	180 - 190	4 x 2	9	Grit	unburnished	int & ext	Twisted cord roulette		
145	190 - 200	4 x 2	8	Grit	ext	Ext	Stabbing/ Punctuates	Groove	Stabbing/ Punctuates made probably from blepharis ciliaris with single horizontal

									groove.
146	190 - 200	5 x 2	13	Grit	ext	Ext	Groove		
147	200 - 210	5 x 3	6	Grit	unburnished	Ext	Incisions		Potter's tool mark on the exterior.

Appendix M: Jarkuka and Rumfar Bango surface treatments on pottery

Sherd number	Context/Level (cm)	Sherd size (cm)	Thickness (mm)	Temper (veg./Grit)	Polishing (int. /ext.)	Slip (int /ext)	Decoration 1	Decoration 2	Observation
JKE '13 PIT 'A'									
1	Top soil - 10	3 x 2	10	Grit	int	int & ext	Twisted cord roulette		Fine twisted cord roulette with black core interior.
2	Top soil - 10	3 x 2	0.7	Grit	unburnished	eroded	Folded strip roulette	Groove	A potsherd is partially eroded but showing black interior.
3	10 --20	4	0.9			Indeterminate	Indeterminate	Indeterminate	
4	30 - 40	4 x 3	10	Grit	int	int & ext	Twisted cord roulette		Fine twisted cord roulette with black core interior white pottery.
5	30 - 40	6 x 5	15	Grit	int	int & ext	Folded strip roulette		Light brown pottery
6	30 - 40	6 x 5	14	Grit	int & ext	int & ext	Twisted cord roulette		A white clay potsherd Has a black core interior on white pottery.

7	30 - 40	3 x 2	0.8	Grit	unburnished	ext	Twisted cord roulette		Black interior.
8	30 - 40	6 x 3	15	Grit	int	int & ext	Twisted cord roulette		With black interior.
9	30 - 40	4 x 3	10	Grit	int	int & ext	Folded strip roulette		Slipped with white substance.
10	30 - 40	6 x 5	0.7	Grit	int	int & ext	Twisted cord roulette		A slim potsherd, with slight fire cloud on the surface.
11	30 - 40	4 x 3	12	Grit	int	int & ext	Twisted cord roulette		Decorated with fine twisted cord roulette. Potsherd had fire cloud showing on the interior.
12	30 - 40	5 x 4	13	Grit	int	int & ext	Twisted cord roulette		Has a black core interior. Potsherd is decorated with twisted cord roulette.

13	30 - 40	7 x 5	12	Grit	int	int & ext	Folded strip roulette		Vertical and horizontal loosely folded strip. Black core interior.
14	30 - 40	6 x 4	15	Grit	int	int & ext	Twisted cord roulette		Black interior.
15	30 - 40	4	10	Grit	int & ext	int & ext	Twisted cord roulette	burnished	
16	30 - 40	4 x 3	14			int & ext	Indeterminate		Eroded surface, black core interior. Grits on surface.
17	30 - 40	8 x 5	13	Grit	int	int & ext	Twisted cord roulette		Fine twisted cord roulette with black interior.
18	30 - 40	4 x 3	0.8			int & ext	Twisted cord roulette?		Wavy twisted cord roulette?
19	30 - 40	4 x 2	0.8	Grit	int & ext	int & ext	Cord wrapped roulette		Twisted cord roulette Banded with internal groove.
20	30 - 40	5 x 4	0.8	Grit	int	int & ext	Twisted cord roulette		Fine twisted cord roulette.

21	30 - 40	5	12	Grit	int	int & ext	Twisted cord roulette		Fine twisted cord roulette. With black interior.
22	30 - 40	4 x 3	0.9	Grit	int	int & ext	Twisted cord roulette		
23	30 - 40	6 x 3	0.8	Grit.	int & ext	int & ext	Indeterminate	indeterminate	
24	30 - 40	4 x 3	0.7	Grit.	int	int & ext	Indeterminate	indeterminate	
25	30 - 40	5	0.6		Unburnished	int	Indeterminate	indeterminate	
26	30 - 40	4 x 3	0.9	Grit	int	int & ext	Twisted cord roulette		
27	30 - 40	4 x 3	0.9	Grit	int	int & ext	Twisted cord roulette		
28	40 - 50	4 x 3	11	Grit	int	int & ext	Twisted cord roulette		
29	40 - 50	5	14	Grit	int	int & ext	Folded strip roulette		Loosely folded strip.
30	40 - 50	6 x 5	10	Grit	int	int & ext	Folded strip roulette		Loosely folded strip roulette.
31	50 - 60	4 x 3	0.7	Grit	int	Indeterminate	Cord wrapped roulette		Cord wrapped roulette with braided strip roulette?
32	50 - 60	2	10	Grit	int	int & ext	Twisted cord roulette		fine twisted cord roulette
33	50 - 60	4	10	Grit	int	int & ext	Folded strip roulette		Black core interior.

34	50 - 60	3	11	Grit	int	int & ext	Twisted cord roulette		
35	60 - 70	2	11	Grit	int	int & ext	Groove		Black core interior.
JKE ’13 Pit 'B'									
1	Top soil - 10	6 x 5	15	Grit	int	int & ext	Folded strip roulette		Loosely folded strip. Fire cloud on the interior/at an angle.
2	20 - 30	3 x 2	10	Grit	int	int & ext	Folded strip roulette	Folded rolled strip	Tempered with sand? Grit is visible to the naked eye.
3	40 - 50	3 x 2	10	Grit	int	int & ext	Twisted cord roulette		Fine twisted cord roulette.
4	40 - 50	4 x 3	11	Grit	int	Indeterminate	Twisted strip		
5	60 - 70	4 x 3	0.9	Grit	int	int & ext	Folded strip roulette		Loosely folded strip with black core interior.
6	60 - 70	3	15	Grit	int	int & ext	Folded strip roulette		
7	70 - 80	4 x 3	0.9	Grit	int	int & ext	Twisted cord roulette		Black interior.

RFB Pit 'B'									
1	Top soil - 10	6	10	Grit	ext	ext	Groove		
2	Top soil - 10	4 x 3	0.7	Grit	ext	ext	Groove		
RFB Pit 'C'									
1	10 --20	7 x 6	0.8	Grit	int & ext	int & ext	Stabbing/punctuate	Groove	Burnished with a luster.
2	20 30	5	0.9	Grit	int & ext	Indeterminate	Groove		

Appendix N: Analysis of wall thickness by sites

Thickness (mm)	Surface collections (showing number of samples)		Excavated samples (showing number of samples)				**Total**
	Transects	Sites Surveyed	Gandu Shira	Jagindi	Jar Kuka	Rumfar Bango	
3		4					**4**
4		2	1				**3**
5	2	11	2	17			**32**
6	1	16	5	23	1		**46**
7	7	27	12	26	4	1	**77**
8	3	57	14	25	5	1	**105**
9	6	36	5	12	6	1	**66**
10	8	47	20	17	9	1	**102**
11	6	45	13	4	4		**72**
12	10	39	10	12	3		**74**
13	4	29	8	13	2		**56**
14	4	28	5	5	3		**45**
15	3	22	7	2	5		**39**
16	1	6	3	1			**11**
17		6					**6**
18	1	3	2				**6**
19							
20		2					**2**
21		1	1				**2**
22		2					**2**
Total	**56**	**383**	**108**	**157**	**42**	**4**	**750**

Appendix O: Gandu Shira rim analysis (showing only levels where rims were recovered)

Level (cm)	S1	S2	S3	S4	E1	E2	E3	E4	T1	T2	**Total**
Top soil - 10	1										**1**
10 – 20		1	1	1	2		2		1		**8**
20 – 30	1	1	3	1	1	2	1				**10**
30 – 40		1	1		1	1					**4**
40 – 50	1		1	1	1		1				**5**
50 – 60		1		1	1						**3**
70 – 80		2	1	2			1				**6**
80 – 90	2		1								**3**
90 - 100		3	1								**4**
100 - 110	1	1				1	1				**4**
110 - 120	1		1	2							**4**
120 - 130			1	1	1		1				**4**
130 - 140				1							**1**
140 - 150						1					**1**
150 - 160		1	1		1						**3**
160 - 170		2	3		2		1	1			**9**
170 - 180			1		1						**2**
180 - 190		1	2								**3**
190 - 200		1			2						**3**
200 - 210	1	1									**2**
210 - 220					1						**1**
230 - 240		1			1						**2**
240 - 250			1							1	**2**
250 - 260		1									**1**

Level (cm)	S1	S2	S3	S4	E1	E2	E3	E4	T1	T2	**Total**
260 - 270					1						**1**
270 - 280									1		**1**
280 - 290	1										**1**
310 - 320		1					1				**2**
320 - 330	1										**1**
330 - 340					1		1				**2**
Total	**10**	**19**	**19**	**10**	**17**	**5**	**10**	**1**	**2**	**1**	**94**

Appendix P: Jagindi rim analysis

Level (cm)	S1	S2	S3	S4	E1	E2	E3	E4	**Total**
Top soil – 10	1			1					**2**
10 – 20	1	2	1		2	1		1	**8**
20 – 30	1	1	1				3	2	**8**
30 – 40	1	3	2				1	5	**12**
40 – 50								1	**1**
50 – 60					1	2			**3**
60 – 70									
70 – 80		2	1		2	5			**10**
80 – 90	1	2	4				1		**8**
90 – 100		1							**1**
100 – 110		2			3			1	**6**
110 – 120	1		2		4	2	1	1	**11**
120 – 130	1		3			1		1	**6**
130 – 140									
140 – 150	1								**1**
150 – 160						1			**1**
160 – 170					1				**1**
170 – 180	1								**1**
180 – 200			3						**3**
Total	**9**	**13**	**17**	**1**	**13**	**12**	**6**	**12**	**83**

Appendix Q: Analysis of rims from the site of Jarkuka, Rumfar Bango and Rumfar Tukwane

Provenance	Level (cm)	S1	S2	S3	S4	E1	E2	E3	E4	T1	**Total**
RFB PIT 'B'	10 - 20		1								**1**
RFB PIT 'C'	10 - 20					1					**1**
RFB PIT 'D'	Top soil - 10					1					**1**
Total			**1**			**2**					**3**
JKE PIT 'A'	20 - 30				1	1					**2**
	40 - 50					1		1			**2**
	50 - 60			1							**1**
	60 - 70				1						**1**
Total				**1**	**2**	**2**		**1**			**6**
JKE '13 Pit 'B'	10 - 20					1					**1**
	30 - 40	1			1			1			**3**
	40 - 50						1				**1**
	50 - 60			1		1	1			1	**4**
	60 - 70							1			**1**
Total		**1**		**1**	**1**	**2**	**2**	**2**		**1**	**10**
RPK '13	10 - 20		1			1	1				**3**
	20 - 30						1				**1**
Total			**1**			**1**	**2**				**4**

Appendix R: Utilised sherds

S/No.	Levels (cm)	Shape	Length (mm)	Thickness (mm)	Weight (g)	Remark
Excavated Samples						
1	SHR 120 – 130	Half – circular			10.4	
2	SHR 170 - 180	Half-circular			16.9	
3	JAG 120 - 130	Half rectangle			6.9	
4	SHR 210-220	Half-rectangle			17.4	
5	SHR 170 - 180	Triangle			17.6	

S/No.	Levels (cm)	Shape	Length (mm)	Thickness (mm)	Weight (g)	Remark
6	SHR 150 – 160	Rectangle			16.3	
7	SHR 140 – 150	Rectangle		12	12.6	Black interior which extend somewhat a bit into the core, indicative that something might have been burnt on it inside. Contains fine sand grit.
8	SHR 220 130	Triangle		11	10	Contains fine sand grit.
9	JKE Pit 'B' 40 - 50	Triangle		0.8	24.6	Polished only on one side. Black core interior with brown slip.
Surface Collections						
10	Jagindi	Triangle		12	26.9	Made from light brown clay, almost white in colour. Well burnished with good surface finish.
11	Jagindi	Half-Circular		12	30.2	Well burnished on both interior and exterior.
12	Gandu Shira	Triangle		11	24.2	Black core interior. Well burnished on both sides.
13	Jagindi	Triangle		0.9	9.5	This utilised sherd was made from a broken rim.

S/No.	Levels (cm)	Shape	Length (mm)	Thickness (mm)	Weight (g)	Remark
14	Jagindi	Rectangle		0.7	22.8	Uneven worn edges.
15	Gandu Shira	Rectangle		0.8	9	Tempered with fibres. Burnt holes noted. Black interior surface.
16	Jagindi	Triangle		0.7	15.9	Good finishing.
17	Jagindi	Rectangle		0.8	33.1	Well burnished on both interior and exterior surface.
18	Gandu Shira	Rectangle		0.8	10.8	Black core interior.
19	Jagindi	Rectangle		10	53.1	Reddish brown finishing.
20	Jagindi	Rectangle		0.9	11.5	Decorated – cord-wrapped roulette. Black core interior. Tempered with fibre.
Excavated Samples Continued.						
21	SHR 230 - 230	Half circular	33	0.8	13.3	
22	SHR 230 – 240	Circular	35	10	14.1	

S/No.	Levels (cm)	Shape	Length (mm)	Thickness (mm)	Weight (g)	Remark
23	JAG 100 – 110	Triangle	40	14	25.4	
24	JAG 100 – 110	Triangle	40	10	17.7	
25	JAG 10 - 20	Circular	46	12	19.7	
26	JAG 10 - 20	Triangle	38	0.7	7.4	
27	JAG 80 – 90	Triangle	33	0.9	12.7	
28	JAG 60 - 70	Triangle	32	0.8	12.9	
29	JAG 100 – 110	Rectangle	47	0.8	24.4	

S/No.	Levels (cm)	Shape	Length (mm)	Thickness (mm)	Weight (g)	Remark
30	JAG 100 – 110	Triangle	58	11	33.4	
31	JAG 70 - 80	Triangle	58	11	20	
32	JAG 80 - 90	Rectangle	37	0.8	15.2	
33	SHR 80 - 90	Circular	28	0.8	7.2	
34	JAG 80 - 90	Oval		0.9	33.5	This is a spherical utilised sherd with the centre hole opening measuring 0.3mm.
35	JKE Pit A’	60 – 70cm	35	17	11.6	A twisted shaped terracotta object. Too fragmented to be defined.
36	Jarkuka Surface		45	33	42	This is a fragment of tuyere.
37	Jarkuka Surface		48	43	38.6	A piece of tuyeres from the surface collection at Jarkuka.

Appendix S: Spherical or near spherical clay objects

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
1		SHR '13	50 – 60	22	20	A	10.5	Eroded surface with signs of white slip.
2		SHR '13	120-130	24	24	A	14.7	Coated in white slip found in association with a piece of bone.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
3		SHR '13	150-160	22	17	A	9.1	Plain with a slight rim demarcation.
4		SHR '13	150-160	24	23	B	11.9	Broken lengthwise with white strip slip diameter.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
5		SHR '13	150-160	25	19	A	10.5	Flat-faced bead.
6		SHR '13	160-170	20 width	19	A	3.6	Fragmented.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
7		SHR '13	60-70	27	29	B	13.4	Eroded side showing potter's striation tool mark. Slipped with white.
8		SHR '13	30-40	22	33	B1	14.6	Recovered at 22cm at northeast angle of the test pit. Two white strips paint at the centre, one at the tip.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
9		SHR '13	90-100	26	24	B	15.3	White paint with fire cloud potter's striation tool marks.
10		SHR '13	240-250	22	19	A	9.1	Black core. Plain and burnished.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
11		JAG '13	40-50	22	24	B	11.8	Whole Black core speck of white paint groove at one tip ovoid.
12		JAG '13	40-50	24	14	A	6.4	Fragmented. Almost broken in half. Painted with white paint.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
13		JAG '13	40-50	16	5	B	1.6	Fragmented Based on the groove at the tip this broken fragment is the rear of the bead.
14		JAG '13	90-100	24	23	B	11.6	Whole with eroded surface. White strip of slip. Black core two white strip at the base.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
15		JAG '13	130-140	24	24	B	11.2	Whole Black cloud. Whole body paint. Groove at the base.
16		JAG '13	130-140	22	22	B	10.2	A conical shaped bead with stripped marks on the body. The beads has speck of white paint.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
17		JAG '13	130-140	23	10	D	2.4	Fragmented Flat faced clay bed with two strips of white paint and top white slip.
18		JAG '13	80-90	23	26	B	11.3	Strip of white paint, 3-2mm wide. Had white paint on the tip and bottom.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
19		JAG '13	60 - 70	24	22	A	11	Lip grooves and white strip paint on the body There are also some potter's tool marks on body.
20		JAG '13	60 - 70	22	12		4.5	A fragmented bead with incised lines on the lip surface. The whole body is painted with white substance

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
21		JAG '13	120-130	26	24	B	12.5	Fire cloud. White seriation paints on body.
22		JAG '13	70-80	27	12 W	B	4.5	A fragmented bead with black core interior. Painted with white substance and had incised lines.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
23		JAG '13	80-90	23	24	B	11.6	Whole black core with white body paint and lip groove.
24	SF/No 23 above (right)	JAG '13	80-90	24	25		11.7	Whole Light brown with fire cloud potter's seriation marks on body with paint in strip.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
25		JAG '13	110-120	25	22	B	11.2	The whole Body is painted. Bead has incision made prior to painting. The hole is on the top is larger than the bottom.
26		JAG '13	110-120	22	17	C	10.2	A flat faced disc with red and white. White are in strip with groove at the base.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
27		JAG '13	110-120	24	27	B	11.4	Painted top white with strip of white paint across body. The bottom of this bead is painted white.
28		JAG '13	110-120	27	28	B	13.5	Black core bead with faded white and red paint. Potter's marks.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
29		JAG '13	110-120	22	0.8	C	1.9	Fragmented, flat and small clay bead with white paint and groove at the base.
30		JAG '13	110-120	28	1.2	B	5.2	Fragmented with red and white incised paint. The bead is light brown.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
31		JAG '13	10-20	22	36	B1	17.6	An oblong shaped bead Broken at the tip.
32		JAG '13	10-20	26	31	B1	17.4	A large spindle whorl.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description	
33		JAG '13	10-20	24	20	A	10.1	SF/No.	Image
34		JAG '13	10-20	22Long	10	A	3.3	Fragmented and plain sample with fire cloud.	

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
35		JAG '13	100-120	24	22	B	11.5	Light brown sherd with white paint incision.
36		JAG '13	100-110	22L	11	C	2.6	Fragmented with light brown slip.

SF/No.	Image		Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
37			JAG '13	100-110	21 (in length)	0.8	B	2.4	Fragmented with fire cloud and painted with white substance.
Surface collections									
38		Surface	Jagindi		26	20	C	12.7	Groove vertical and short horizontal groove.
39		Surface	Jagindi		24	22	B	11.7	
40		Surface	Jagindi		22	21	B	9.6	

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
41		Surface	Jagindi	25	22	A	13.4	
42		Surface	Jagindi	22	22	B	9.2	
43		Surface	Jagindi	24	18	C	11.8	Flat bottom.
44		Surface	Jagindi	22	24	B	10.5	
45		Surface	Jagindi	22	20	A	10.8	
46		Surface	Jagindi	22	21	A	8.4	Chipped edged.
47		Surface	Jagindi	22	13	A	6.5	Fragment.

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
48		Surface	Jagindi	22	12	A	3.3	Fragment.
49		Surface	Jagindi	20L	10	A	3.5	Fragment.
50		Surface	Jagindi	24	25	B	13.0	
51		Surface	Jagindi	22	19	C	10.7	
52		Surface	Jagindi	22	20	A	10.1	
53		Surface	Jagindi	24	22	B	12.3	
54		Surface	Jagindi	23	20	B	10.1	

SF/No.	Image		Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
55		Surface	Jagindi		23	21	A	9.7	
56		Surface	Jagindi		24	25	A	9.1	
57		Surface	Jagindi		27	16	A	8.9	
58		Surface	Jagindi		22l	10	A	3.9	
59		Surface	Jagindi		25	20	C	9.3	
60		Surface	Jagindi		23	10	A	4.0	
61 70		Surface	Gandu		20	38	B1	17.9	
62		Surface	Gandu		22	27	B	10.8	

SF/No.	Image		Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
63		Surface	Gandu		23	22	B	9.5	
64		Surface	Gandu		20	22	A	8.4	
65		Surface	Gandu		24	25	A	12.8	
66		Surface	Gandu		26	27	B	16.1	
67		Surface	Gandu		25	27	B2	12.7	
68		Surface	Gandu		29l	10	B1	12.7	
69		Surface	Gandu		33l	13	B1	4.4	

SF/No.	Image	Site	Level (cm)	Diametre (mm)	Length (mm)	Type	Weight (g)	Description
70		Surface	Gandu	27d	15	A	8.1	
71		Surface	Gandu	22l	12	Fragmented.	8.2	
72		Surface	Gandu	23l	10	Fragmented.	3.8	
73		Surface	Gandu	25l	15	A	3.0	
74		Surface	Gandu	24d	14	A	3.0	5.3
75		Surface	Bango	23	20	A	7.9	

Appendix T: Clay pipes from the surface survey and excavations

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
1		14.5	34	15	Decorated.
2		7.2	35	25	A pipe bowl. Multiples decorations of crisscrossed incision with banded horizontal grooves.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
3			51	21	Decorated.
4			34	21	Plain pipe stem with red slip.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
5		19.0	30	22	Well burnished with red slip. Hole opening was measurement is 10mm.
6		19.3	15	21	The central hole opening on stem was measured at 11mm. It has multiple decorations of both horizontal and wavy grooves.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
7		8.8	27	13	Fragment of a stem. The hole measures 0.4mm. It is roughly finished and not well-burnished.
8		41.8	60	32	Measurement of hole opening is 14mm.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
9		12.2	35	13	This is lower end of the pipe recovered from the surface (top soil-10cm) at Rumfar Bango during excavation It is Decorated with vertical grooves.
10		8.2	35	16	Decorated.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
11		4.1	25	17	Decorated.
12		2.7	32	20	Decorated.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
13		1.7	25	23	Decorated.
14		3.3	30	24	Decorated.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
15		4.1	28	23	Probably a fragment of a bowl with crisscrossed incisions. There is a clear demarcation between the bowl and the likely rim junctions.
16		4.9	24 in diametre		Decorated bowl. Fragmented.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
17		21.6	35	26	Hole opening was measured to 12mm.
18		38.4	40	34	Hole opening measures 15mm.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
19		9.4	35	16	A stem that is either unfinished or eroded. Small central hole of 0.4mm.
20			38	17	Squared shaped pipe, decorated with roulette that goes round its edges.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
21			35	13	Plain.
22			52	15	Stem is decorated with multiple grooves.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
23			35	23	This is a dense stand or seat of a pipe. This was recovered at Jagindi during excavation.
24		3.5	32	10	This is a fragment of the rim of a pipe.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
25		3.5	25	19	Plain and fragmented.
26		5.3	20	21	Decorated.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
27			47	24	Decorated with grooves. Both ends of the stem are demarcated from the stand and rim.
28		35.4	57	29	Intact pipe bowl. Decorated.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
29		20.7	41	22	Decorated.
30		5.4	24	20	Plain.

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	Remarks
31		3.7	31	23	Decorated.
32		6.7	29	24	*Decorated*

S/No.	Image	Weight (g)	Length (mm)	Width (mm)	*Remarks*
33		6.7	27	20	Decorated.
34		2.6	21	13	Decorated.

Appendix U: Thin-walled clay pipes

SF/No.	Site	Levels (cm)	Length; width (mm)	Thickness (mm)	Weight (g)	Remarks
1	Gandu Shira	170 - 180	12; 10	0.4	0.8	
2	Gandu Shira	170 - 180	14; 12	0.5	0.8	A rim with deep horizontal grooves.
3	Gandu Shira	170 - 180	12; 8	0.2	0.3	
4	Gandu Shira	170 - 180	9; 7	0.3	0.4	
5	Gandu Shira	170 - 180	12; 7	0.3	0.5	A black rim. Well burnished.
6	Gandu Shira	170 - 180	22; 11	0.6	2.3	Has fire cloud on the surface, otherwise it is a light brown with shiny surface

SF/No.	Site	Levels (cm)	Length; width (mm)	Thickness (mm)	Weight (g)	Remarks
7	Gandu Shira	270 - 280	17; 13	0.3	1.3	Burnished on the exterior, with good exterior finishing.
8	Gandu Shira	110 - 120	14; 11	0.4	1.1	A rim with multiple vertical incision and grooves. Black interior and light brown exterior.
9	Gandu Shira	190 - 200	20;15	0.8	2.1	Fragmented bowl.
10	Gandu Shira	150 - 160	17;10	10	2.4	Thick pipe rim. Light brown with groove lip. A strip of black core interior.
11	Gandu Shira	150 - 160	23;12	5	1.8	Rim with multiple decorations- incision and twisted cord roulette.
12	Gandu Shira	150 - 160	25; 15	0.5	3.3	Well burnished with shiny exterior and dark interior.

SF/No.	Site	Levels (cm)	Length; width (mm)	Thickness (mm)	Weight (g)	Remarks
13	Gandu Shira	340 - 350	14; 12	0.2	0.7	A rim with dark brown burnished.
14	Gandu Shira	340 - 350	14; 13	0.3	0.9	
15	Gandu Shira	340 - 350	15; 12	0.3	1.2	A rim with good exterior finishing and black interior.
16	Gandu Shira	180 - 190	18; 15	0.9	2.9	This is a rim neck with multiple decoration of single groove and twisted cord roulette.
17	Jagindi	190 - 200	10; 8	0.7	1.0	A rim almost identical to no. 10 above, probably made from the same clay source but has two parallel grooves defining the lip region.
18	Gandu Shira	30 - 40	12; 12	0.4	0.7	Probably fragment of a bowl with noticeable uneven sides edges (thick 4mm and thin 2mm). Well smoothed exterior with rough interior.

SF/No.	Site	Levels (cm)	Length; width (mm)	Thickness (mm)	Weight (g)	Remarks
19	Gandu Shira	30 - 40	25; 13	0.6	2.4	A fragment of pipe stem. Light brown.
20	Gandu Shira	30 - 40	12; 6	0.4	0.5	A rim fragment with composite decorations of horizontal and vertical groove.
21	Gandu Shira	60 - 70	14;7	0.4	0.9	A rim fragment with banded horizontal groove. Both interior and exterior are well finished and slipped with reddish brown substance.
22	Gandu Shira	60 - 70	29; 18	0.5	2.5	This is also a rim fragment with multiple decorations (horizontal and vertical grooves and incisions) on the lip region. The rim region is defined and separated from the neck by a deep groove.
23	Gandu Shira	20 - 30	20	0.5	1.8	This is object is made from white clay. It is not a pipe but probably may have belong to a pottery.
24	Gandu Shira	120 - 130			2.8	A multiple decorated pipe bowl.

Appendix V: Stone objects from surface collections and excavations

SF/No.	Image	Location/Context (cm)	Dimension			Description
			Length (mm)	Width (mm)	Depth/diametre	
1		Barkono Rock shelter	120	65 midsection; 10 mm tip; 33 base	19	An arrow shaped stone, probably a stone tool. Flat at its widest angle. Tip was chipped and very thick. It has sort a cutting edge.

2		Barkono Rock shelter	88	48	22 x 5 (at its thickest and lowest point).	This stone is smooth with calcified surface. Interpreted as a potter's tool.
3		Lugu-Lugu Rock shelter	115	55	15 x 8 (at its lower end angle and tip).	The stone is quite similar in texture to SF. No. 4 but were found in two different shelters within the Lugu-lugu rock shelters.

4		Lugu-lugu Rock shelter	130	75	45 x 5 (at its thickest and on tip end).	

5		SHR 110 - 120	75	55	40	A pounding stone with back fire cloud on the surface. Both sides of the stone are flat rather than the usual round surface in pounding stones.

SF/No.	Image	Location/Context (cm)	Dimension			Description
			Length (mm)	Width (mm)	Depth/diametre	
6		SHR 100 - 120	160	70	50	A complete upper grinding stone with a bit of depression in the middle, probably caused by usage. Measurement at both ends 20mm and 10mm

SF/No.	Image	Location/Context (cm)	Dimension			Description
			Length (mm)	Width (mm)	Depth/diametre	
7		SHR 100 - 110	80	60	47	This is also an upper grinding stone. Showing wear and tear. Depressed in the middle.
8		SHR 100 - 110	76		43	A pounding stone broken, a bit on one end. The surface is smooth, signs of weathering due to usage.

9		SHR 120 - 130	134	93	25	A small lower grinding stone with black surface. 251.6g in weight
10		SHR 120 - 130	50	35	34	A small fragmented upper grinding stone.

SF/No.	Image	Location/Context (cm)	Dimension			Description
			Length (mm)	Width (mm)	Depth/diameter	
11		SHR 240 – 150	90	65	63	A brown coloured fragment of lower grinding stone? Broken on all edges but has smooth.

12		SHR 270 – 280	68	42	38	A broken piece of upper grinding stone with slight V projection at the top. Has darkish black exterior.
13	 	JAG 30 – 40	83	60	52.7	A broken end of an upper grinding stone.

14		JAG 30 – 40	70	45	32	A small fragment of lower grinding stone?
15		JAG 30 – 40	68	56	35	A flat bottom pounding stone. Ash coloured. One side smooth, the other chipped.

16		JAG 30 – 40	150	70	28 (at its thickest end).	A two textured stone tool. Ashy tone in coloured with gravel- like section. The bit of depression on the interior surface of the stone.
17		JAG 50 -60	160	90	28	A flat-faced, lower grinding stone with a reddish brown residue of what is believed to

						be remains of paint substance. The site is less than 100 feet from a rock painting site.
18		JAG 50 - 60	58			A complete round stone ball.
19		JAG 50 - 60	54	55		A potter’s tool?

20	 	JAG 50 - 60	72	45	40	A fragment of a lower grinding stone.
21	 	JAG 50 - 60	60	56	46	A fragment of a pounding stone.

SF/No.	Image	Location/Context (cm)	Dimension			Description
			Length (mm)	Width (mm)	Depth/diametre	
22	 	JAG 50 - 60	60	30	28	A broken pounding stone.
23	 	JAG 40 - 50	88	68	55	Upper grinding stone.

SF/No.	Image	Location/Context (cm)	Dimension			Description
			Length (mm)	Width (mm)	Depth/diametre	
24		JAG 40 - 50	50	40		A squared shaped pounding stone.
25		JAG 60 - 70	80	60		

26		JAG 60 - 70			60	
27		JAG 60 - 70	58	40	38	
28		JAG 60 - 70	60	56	38	

29	 	JAG 60 - 70	55	32	25	Potter's tool?
30		JAG 60 - 70	68	47	38	
31		JAG 60 - 70	55	52	48	

Appendix W: Metal objects from the surveys and excavations

S/No.	Site	Level (cm)	Object	Length & width (mm)	Thickness (mm)	Weight (g)	Remark
1	Gandu Shira	80 – 90	Arrow	28; 9	0.4	2.6	
2	Gandu Shira	270 – 280	Arrow	40; 6	0.4	3.5	
3	Transect	Surface	Arrow	58; 4	0.4	6.5	
4	Jagindi	50 – 60	Arrow	50; 5	0.4	3.6	
5	Jagindi	10 – 20	Pin	59; 5	0.3	5.4	
6	Jagindi	20 – 30	Pin	58; 3	0.3	3.5	
7	Jarkuka Pit B	40 – 50	Ring	25 in diametre	10	5.1	
8	Gandu Shira	320 -330	Ring	21; 11	0.8	3.4	
9	Gandu Shira	40 – 50	Pin	13	0.2	0	
10	Jagindi	160 – 170	Bangle	50	0.8	33.3	
11	Gandu Shira	150 – 160	Bangle	45	10	12	
12	Gandu	150 – 160	Bangle	50	12	15	

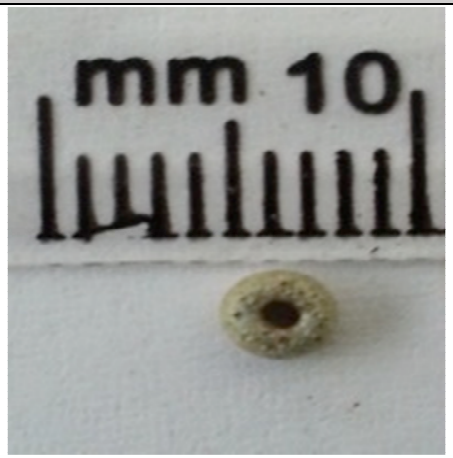
	Shira						
13	Gandu Shira	190 – 200	Bangle	55	15	40	
14	Jagindi	30 – 40	Scrapper	60	0.6	14.1	
15	Jagindi	60 -70	Scrapper	63	0.5	13.8	
16	Gandu Shira	140 – 150	Scrapper	60	0.9	26.4	
17	Jagindi	70 – 80	Flat-metal	40;43	0.3	19.5	
18	Gandu Shira	240 - 250	Metal Scraps	22		1.2	This metal object was whole when it was recovered but have broken into pieces due to it fragile nature.
19	Gandu Shira	150 - 160	Pin	25	0.3	0.5	
20	Gandu Shira	150 – 160	Rod	46	0.7	8.1	
21	Gandu Shira	170 – 180	Unidentified	13; 5	0.3	0.7	
23	Gandu Shira	90 – 100	Unidentified	24; 17	11	16.2	A thick metal remain.

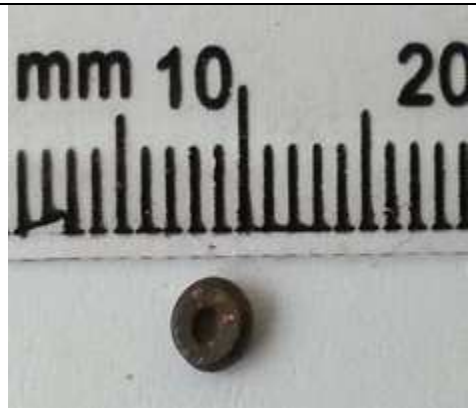
24	Gandu Shira	170 – 180	Unidentified	11;10	0.3	1.2	Flat metal.
25	Gandu Shira	170 - 180	Unidentified			1	A round metal noodle.
26	Gandu Shira	100 – 110	Pin	103; 4	0.2	3.6	A copper ornament interpreted as a pin or needle of sort.
27	Jarkuka Pit B	40 – 50	Rod	24	11	5	A looped iron wired.
28	Jagindi	160 – 170	Bracelet			31.3	
29	Gandu Shira	Surface	Knife			34.7	
30	Gandu Shira	Surface	A horse ornament.			46.4	
31	Gandu Shira	Surface	An agricultural item.			69.4	
32	North Transect	Surface	A horse ornament.			9.19	
33	Gandu Shira	10 – 20	An agricultural item.			15.7	

Appendix X: Glass beads from the sites of Gandu Shira and Jagindi

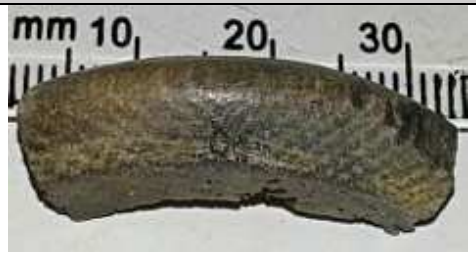
S/No.	Image	Site	Level (cm)	Depth (mm)	Width (mm)	Weight (g)	Observations
1		Jagindi	80	14	10	3.1	Hexagon Red bead – Carnelian?
2		Gandu Shira	80	7	10	0.8	Hexagonal white bead found in association with metal arrowhead and charcoal. Reworked to make it faceted.

S/No.	Image	Site	Level (cm)	Depth (mm)	Width (mm)	Weight (g)	Observations
3		Gandu Shira	160	5	5	0.0	Weathered off-white spherical glass bead with black spots. Found in association with a natural occurring quartz crystal.
4		Gandu Shira	50	0.4	0.4	0.0	Glass bead with weathering crust. Ash coloured bead with specks of white overlay.

S/No.	Image	Site	Level (cm)	Depth (mm)	Width (mm)	Weight (g)	Observations
5		Gandu Shira	60	2	3	0.0	Weathered glass beads with striation marks probably made by drawing the bead.
6		Jagindi	60	4	4	0.0	Weathered clear glass bead superimposed by a white layer. Imitates of pearl?

S/No.	Image	Site	Level (cm)	Depth (mm)	Width (mm)	Weight (g)	Observations
7		Gandu Shira	240	6	3	0.0	A possibly coated/glazed glass bead with a strange surface- very smooth and shiny.
8		Gandu Shira	150	3	2	0.0	A seed glass bead recovered at Gandu Shira excavation.

S/No.	Image	Site	Level (cm)	Depth (mm)	Width (mm)	Weight (g)	Observations
9		Gandu Shira	150	4	2	0.1	A black/dark blue glass bead recovered during dry sieving.
10		Gandu Shira	150	14	4	0.7	A polished cylindrical bead. Black/dark blue colour.

S/No.	Image	Site	Level (cm)	Depth (mm)	Width (mm)	Weight (g)	Observations
11		Jagindi	120	28	0.8	2.3	An Ivory bracelet.
12		Jagindi	160	52		0.3	A possible bone object.
13		Gandu Shira	90	20	0.4	1.0	A glass bangle

S/No.	Image	Site	Level (cm)	Depth (mm)	Width (mm)	Weight (g)	Observations
14		Gandu Shira	210	30	0.6	1.9	A glass bangle.
15		Gandu Shira	210	16	0.3	0.5	Remains of glass bangle.
16		Jarkuka 'pit B'	60	25;15	0.2	0.0	A delicate piece of glass panel.
17		Jagindi	20	12	0.6	1.0	A possible bone stopper.

S/No.	Image	Site	Level (cm)	Depth (mm)	Width (mm)	Weight (g)	Observations
18		Gandu Shira	90	31	0.1	1.1	Shell possibly remains of pottery manufacturing.
19		Gandu Shira	Surface				

Appendix Y: Catalogue of Sites surveyed and excavated in Shira.

S/No	Site	Latitude (N)	Longitude (E)
1	Ambara	N11 26.387	E10 02.104
2	Barkono	N11 27.184	E10 04.221
3	Birji 1	N11 26.431	E10 03.946
4	Birji 2	N11 26.452	E10 03.913
5	Fanisau	N11 27.810	E10 03.718
6	Gadaje	N11 28.086	E10 04.095
7	Gangau	N11 25.625	E10 02.318
10	Ililuna 1	N11 28.130	E10 03.857
11	Ililuna 2	N11 28.027	E10 03.863
12	Jagindi 1	N11 28.042	E10 03.883
13	Jagindi 2	N11 27.988	E10 03.967
14	Kanki	N11 28.324	E10 03.787
15	Kawaga	N11 25.894	E10 01.912
16	Kwarin Shinge	N11 25.901	E10 02.530
17	Lugulugu 1	N11 27.821	E10 03.045
18	Lugulugu 2	N11 27.834	E10 03.028
19	Lugulugu 21	N11 27.747	E10 03.104
20	Madangala 1	N11 26.204	E10 02.096
21	Madangala 2	N11 26.173	E10 02.148
22	Madangala North	N11 26.067	E10 01.837
23	Madangala west	N11 26.169	E10 01.844
24	Jagindi	11.46732	10.06478
25	Gandu Shira	11.27435	10.04447
26	Jarkuka	11.45887	10.07124
27	Rumfar Bango	11.45437	10.06544
28	Rumfar Tukwane	11.46098	10.05818

29	RUMFAR JIRGI	N11 26.708	E10 04.055
30	Rumfar Koli	N11 28.336	E10 03.826
31	Rumfar Maryo	N11 25.876	E10 02.141
32	Rumfar Shanu	N11 28.074	E10 03.681
33	Rumfar Tambari	N11 26.815	E10 03.587
34	Ruwan Kirci	N11 27.235	E10 03.572
35	Rock painting site 1	N11 28.338	E10 03.826
36	Rock painting site 2	N11 27.191	E10 03.810
37	Rock painting site 3	N11 27.238	E10 03.932
38	Rock painting site 4	N11 27.031	E10 03.597
39	Rock painting site 5	N11 28.325	E10 03.787
40	Shira town	N11 27.696	E10 02.719
41	Yarka	N11 27.835	E10 04.313
42	Yarka 2	N11 27.857	E10 04.297
43	Yarka 3	N11 27.846	E10 04.286
44	Isawa	N11 27.772	E10 03.656
45	Kanki	N11 28.324	E10 03.787
46	Karofi 1	N11 28.526	E10 03.827
47	Karofi 2	N11 28.361	E10 03.998
48	Karofi 3	N11 28.200	E10 03.940
49	Karofi 4	N11 28.063	E10 03.873
50	Karofi 5	N11 28.319	E10 04.011
51	Karofi 6	N11 28.207	E10 03.915
52	Kawaga	N11 25.894	E10 01.912
53	Kira 1	N11 28.291	E10 03.193
54	Kira 2	N11 28.291	E10 03.193
55	Kira 3	N11 27.817	E10 04.390
56	Kira 4	N11 28.295	E10 04.010

57	Kira 5	N11 27.595	E10 04.343
58	Kira 6	N11 27.670	E10 04.408
59	Kwala ta ci dubu	N11 27.907	E10 07.034
60	Kwarin Shinge	N11 25.901	E10 02.530
61	Plain settlement	N11 27.048	E10 03.758
62	Rock painting site 1	N11 28.338	E10 03.826
63	Rock painting site 2	N11 27.191	E10 03.810
64	Rock painting site 3	N11 27.238	E10 03.932

Appendix Z: Question Guide used during the ethnographic survey.

The lists of questions below are meant to direct the project to issues that may need answers during ethnographic fieldwork. They are simply key point topics and questions that need to be covered during ethnographic fieldwork. The interviews will be semi-structured in perspective, with the aim of getting representative samples of the various aspects of the cultural life of the people of the settlement under study. The material finds and features discovered during survey and excavation in this project will determine the questions asked.

- who are the inhabitants of Shira abandoned settlements?
- how did these different inhabitant interact with their environment?

The questions asked, coupled with observation of the material finds from the abandoned settlement sites will help us to determined the socioeconomic status of the different occupants of this region.

(A) TRADITION OF ORIGIN

(i) What is your name?

(ii) How old are you?

(iii) Are you an indigene of Shira?

(iv) Do you live here in Shira town/region?

(v) Who are the Shirawa?

(vi) Are you the original inhabitants of this area?

(vii) If yes? What led to the choice of Shira plain for the present inhabitants?

(viii) If no? Do you know the people who occupied this area before you?

(ix) Is this your first settlement?

(x) If yes, how long have you stayed here?

(xi) In no, where is your former settlement?

(xii) How long did they stay in the area they first settled?

(xiii) How did the new settlement emerge?

(xiv) What factors led to the change?

(xv) Did you meet any other group of people when you first came here?

(xvi) If yes, who are these people?

(xvii) How similar or dissimilar are you to this people?

(xviii) Are these people still living in the settlement?

(xix) What is the connection between irrigation systems and civilization?

(B) ECONOMY AND TECHNOLOGY

(i) What is the basic component of your economy?

(ii) What is the principal source of income for the residence of the present Shira region?

(iii) What type of crafts or technology is practice in your community today?

(iv) Does the present inhabitant practice pottery?, blacksmithing?, dyeing?

(v) Are these craft industries still part of the people's economy?

(vi) Do you have any other specialised skill?

(vii) What is the process and stages of making the above materials?

(viii) Do you practice division of labour?

(ix) How do you dispose the finished crafts?

(x) Do you have a market in your settlement?

(xi) What is the procedure for procurement of the raw material use?

(C) SETTLEMENT PATTERN

(i) Can you describe how your settlement developed?

(ii) What was the reason for the choice of this site settlement? Can you estimate the size of this settlement?

(iii) What is the nature of the occupation of this site- was it a permanent or seasonal settlement?

(iv) Have the inhabitants of Shira ever utilized caves or rock shelters?

(v) If yes, can you show them to me?

(vi) If no, do you if the caves and rock shelters in Shira have ever been inhabited and who did?

(viii) What led to the change in living quarters - from caves to house building?

(ix) Can you described the mode of your building in your settlement

(x) Does the mode of building differ from that of earliest inhabitants?

(xi) Do you have any space created for the dead in your settlement?

(xii) Do you bury the leader of your settlement in the same burial ground with the common people?

(D) RELIGION

(i) What is the belief system in your settlement?

(ii) Who do you worship as the Supreme Being?

(ii) What are the essential elements of your religious ?

(iii) What are the major regular festivals in your religion?

(iv) How many times perform- Annually, monthly, weekly of daily?

(v) Has this religious festival been observed since antiquity?

(vi) If no, what were the norms practiced by the ancient people?

(vii) Do you have any space created for these religious activities?

(viii) Do you have any significant religious activities associated with rites of passage- for example birth rites, rites of entry into adulthood, rites of death etc?

(ix) How do you bury your dead?

(x) Where do you bury the dead in this settlement?

(xi) Do you have any ritual or symbols used in communicating with the God?

(xii) What are the paths or ways to spiritual enlightments in your religious belief?

(E) POLITICS

(i) What type of political structure do you have in the Shira presently?

(ii) Do you have a leader?

(iii) Who is your leader?

(iv) How do you choose your leaders in this region?

(v) Does your leader have any judicial powers?

(vi) What is the structure of your political setup?

(vii) How many rulers did history indicate ruled this settlement?

(viii) Is it possible for a person with mental or medical problem to be elected a

leader?

(ix) How long does a leader rule?

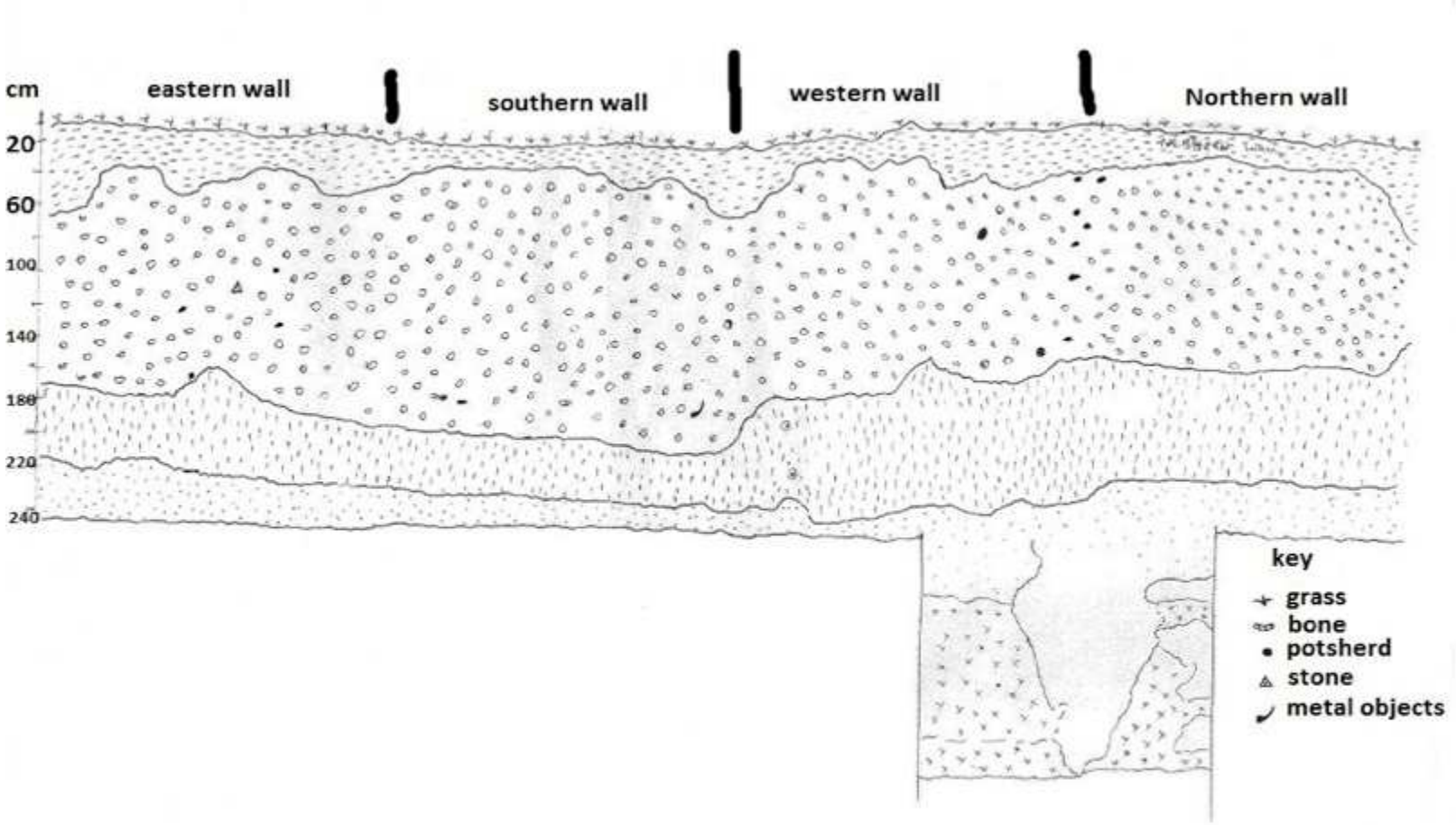
(x) How is your succession to rule?

(xi) Are women allowed to rule?

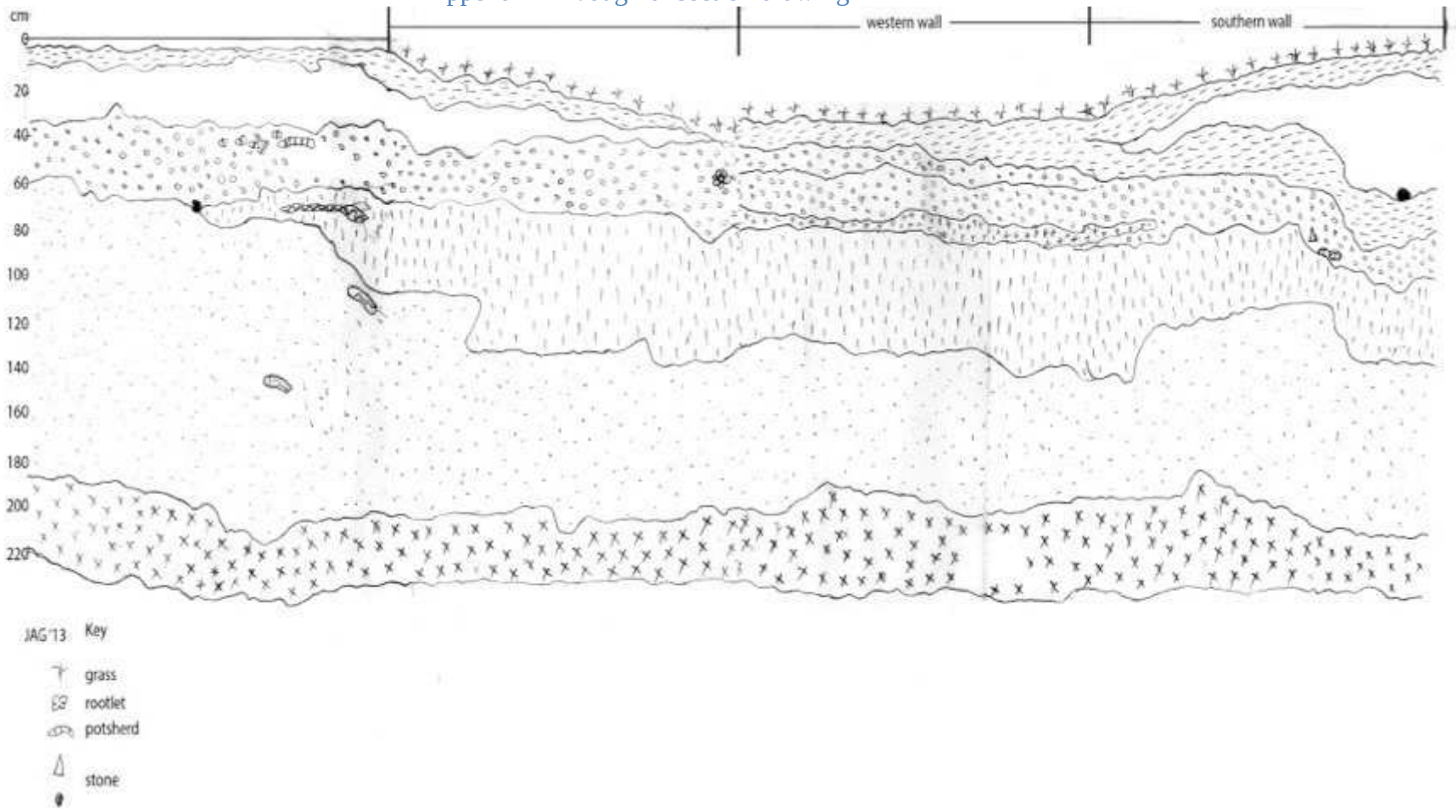
(xii) If yes, mention the name of those that have ruled?

(xiii) If no, can you give me a reason why?

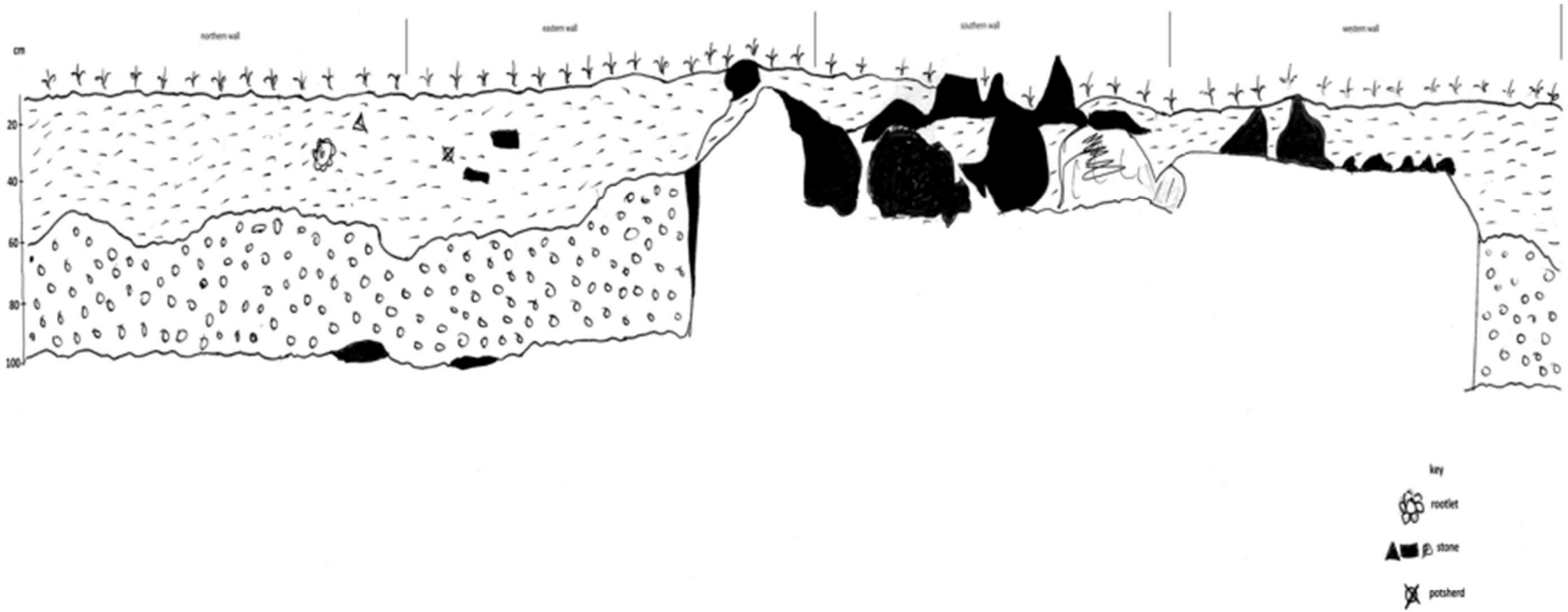
Appendix AA: Gandu Shira section drawing



Appendix BB: Jagindi section drawing



Appendix CC: Jarkuka ‘Pit A’ section drawing



Appendix DD: Rumfar Bango sections drawing.