ARCHAEOLOGICAL COLLECTIONS AS A PRIME RESEARCH ASSET: OBJECTS AND GREAT ZIMBABWE'S PAST.

Thesis presented for the

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by

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Dedication

To my mother, who was taken too early to witness the completion of this work.

Abstract

This thesis sought to explore the lifeways of second-millennium AD inhabitants of Great Zimbabwe through the analyses of material objects housed in museums. Great Zimbabwe comprises walled stone enclosures and non-walled settlements covering approximately 720ha. A number of data acquisition techniques, such as desktop survey, analyses of museum collections, supplementary field survey and excavations, were employed to collect relevant datasets to address the research questions. The sampling strategy adapted for this research enabled the study of material objects from different components making up Great Zimbabwe. The main conclusions drawn from this study are as follows: (i) Within varying temporal scales, the nature and distribution of local and imported objects are largely similar across the site; (ii) chronologically and typologically speaking, there is evidence that different parts of the site were occupied and abandoned at different times; and (iii) based on the similarities in material objects and associated production debris and infrastructure, it is likely that different components were self-sufficient units. This study has underscored the significance of existing collections in developing new interpretations of Great Zimbabwe's past lifeways, thereby motivating for the need for similar work to understand the hundreds of similar settlements scattered across southern Africa.

Key words: Great Zimbabwe; Material objects; past lifeways

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Table of Contents

List of illustrations

Figures

Tables

Appendices

CHAPTER ONE: INTRODUCTION

1.1 Introduction

Objects are central to human activities, past and present. They allow us a glimpse of a lost society. Anthropological studies illustrate that objects in some societies take on the personalities of people or have lives that are seen as similar to persons hence making it possible to write the biographies of objects just as we write the biographies of people by following objects lives from birth to life and lastly death (Hoskins 1998). Gosden and Marshall (1999) therefore argue that if objects accumulate histories over time, it should be possible to reveal relationships between people and objects by unravelling objects histories. When excavated from archaeological sites, objects become collections that are stored in archives such as museums. Because collections, even for individual sites, accumulate from different periods, their study provides an unrivalled understanding of the societies and cultures that produced the objects and used them. They also tell us a lot about collection and curation practices. As stressed by Hodder (2012), ancient and modern buildings and artefacts, and other intended and unintended residues of human activity, give alternative insights into the ways which people perceived and fashioned their lives. Often, objects are the only clues to past lifeways in non-literate societies. However, the study of objects is important even in literate societies, because objects bring out clearly the unintended activities which humans might fail to realise, document or even narrate. The power of objects in exposing how past societies lived is demonstrated by the fact that globally we know much about civilisations such as the Maya, Aztec and Inca from the analyses of artefacts found in their multiple contexts. This material evidence-based approach to the past minimises uncontrolled speculation.

As seen elsewhere, objects have also been at the centre of archaeological enquiries in Africa although their study, especially in southern Africa, has been limited in scope. Despite being a literate community, we know so much more about ancient Egyptian lifeways through analysis of remnant objects. For example, objects excavated from the Egyptian pyramids were central to understanding the formative period of Egyptian civilisation, power relations and the socio-economic relations of the pyramid builders and occupants (Wilkinson 2002; Allan and Manuelian 2005; Romer 2007; Bard 2015; Habashi 2015). With new analytical techniques and field methods, archaeologists have constantly revisited and refined the Egyptian

civilisation history. For example, Romer's (2007) metallurgical studies have revealed that although the pyramid makers lived in what is popularly known as the Bronze Age, the tools that have survived from ancient Egypt are not for the most part made from that useful copper tin alloy but from soft copper, with traces of other metals.

In southern Africa, the presence of Great Zimbabwe and related sites, known as the Zimbabwe culture, attracted from very early on interest in the development of social complexity and early civilisations (Mauch 1871; Bent 1892; Randall-McIver 1906; Hall 1905; Caton-Thompson 1931). However, reading through the literature, it becomes clear that in most cases, the voice of material culture excavated from these sites is either silent or was selectively applied to support the grand theories of the day. Great Zimbabwe (Fig 1) is one such site whose initial interpretation was based on a selective comparison with what, in the view of the writers, were similar objects and structures in areas such as the Middle East (Bent 1893; Hall 1905). Thus the whole foreign authorship hypothesis was based on a selective and problematic interpretation of finds from Great Zimbabwe (e.g. Bent 1893). When the local origins thinking was generally accepted, ethnographic records (Huffman 1977, 1981, 1996, 2007; Garlake 1998) and Portuguese documents were used to produce additional interpretive flavour.

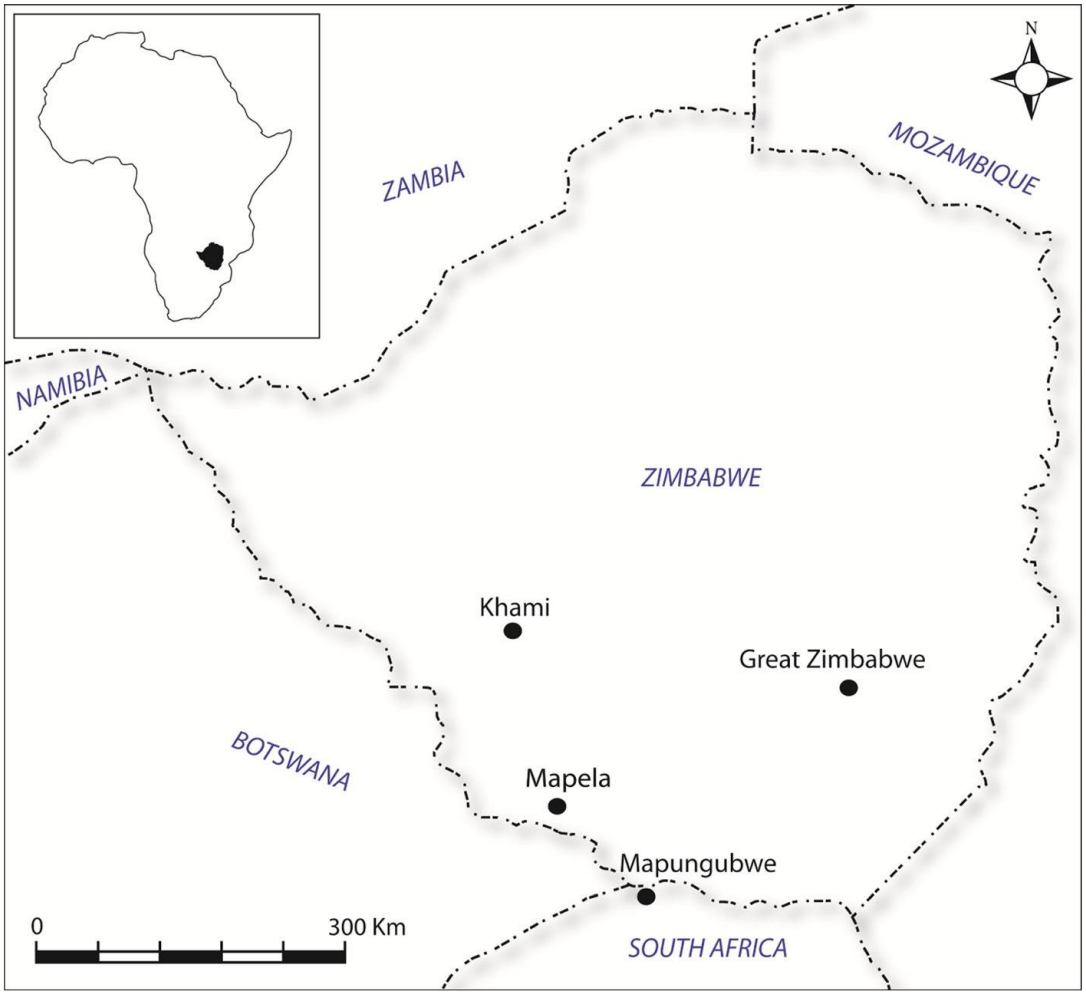

Figure 1.1 Map showing the location of Great Zimbabwe in relationship to other Zimbabwe Culture sites (After Chirikure et al. 2016)

The research at Great Zimbabwe was broadly undertaken within the context of the Zimbabwe Culture. Zimbabwe Culture sites are remains of cities and towns of pre-colonial Shona states that existed between AD 1220 and AD 1900 (Pikirayi 1993; Huffman 2000; 2007). Impressive drystone-walled enclosures and terraced platforms are some of the main characteristics of the Zimbabwe Culture sites. The raw materials of the drystone walls differ from area to area although granite seems to have been the most preferred rock type, presumably due to its widespread availability on the Zimbabwe plateau and its surroundings (Garlake 1970). These Zimbabwe Culture sites ranged from large centres to very small ones. Chirikure *et al.* (2012) are of the opinion that the variations in spatial extent might indicate the different political and socio-economic roles that the various places played locally and regionally.

The Zimbabwe Culture has for long been viewed as evolving in three distinct but successive phases. The Mapungubwe state (AD1220-AD1290), whose capital was situated near the confluence of the Shashi and Limpopo Rivers on Mapungubwe Hill, was generally assumed to be the precursor to all Zimbabwe Culture states (Huffman 2000). It is argued that a number of factors resulted in the decline of Mapungubwe and the rise of Great Zimbabwe. Early records indicate settlement in the Great Zimbabwe landscape pre-1300AD possibly linked to the movement of people from adjacent regions triggered by increasingly drier climatic conditions (Huffman 2000). The traditional view has been that Great Zimbabwe went into decline around AD 1450, giving rise to two separate successor states, the Mutapa in the north and Torwa in the southwest (Pikirayi and Chirikure 2008). The Mutapa state occupied the northern Zimbabwe plateau and adjacent Zambezi Valley lowlands while the sphere of influence of the Torwa state covered south-western Zimbabwe, eastern Botswana and the Shashi-Limpopo basin in South Africa (Caton Thompson 1931; van Waarden 1996, Pikirayi 2002). The decline of Great Zimbabwe has also been explained in terms of loss of control of trading activities. It is believed that during the 15th Century, the demand for gold decreased in favour of copper thus merchants focused their attention to Ingombe Ilede on the middle Zambezi (Pwiti 1996). Pikirayi (2013) also considered that the fluorescence of Ingombe Ilede coincides with the loosening of Great Zimbabwe's hold over the gold trade to the Swahili coast and the rise of the Zambezi as the most important trade route in south-central and eastern Africa.

However, recent works (Pikirayi and Chirikure 2011; Chirikure *et al.*, 2012; Chirikure *et al.*, 2013; Chirikure *et al.*, 2014) indicate that the development of the Zimbabwe Culture was multi-linear, with the evolution of various centres following different trajectories. For example, Chirikure *et al.'s* (2012) Bayesian model revealed that the hilltop occupation at Mapungubwe associated with the dates AD1220-AD1290 overlaps with places such as Mapela as well as the formative stages of Great Zimbabwe and Tsindi. It also shows that the period of occupation of Leopards Kopje, K2, Mapungubwe, Mapela and Taba zika Mambo (Fig 1.2) overlap, showing that the establishment of these places was coeval (Chirikure *et al.* 2014) (see also Van Waarden 2011).

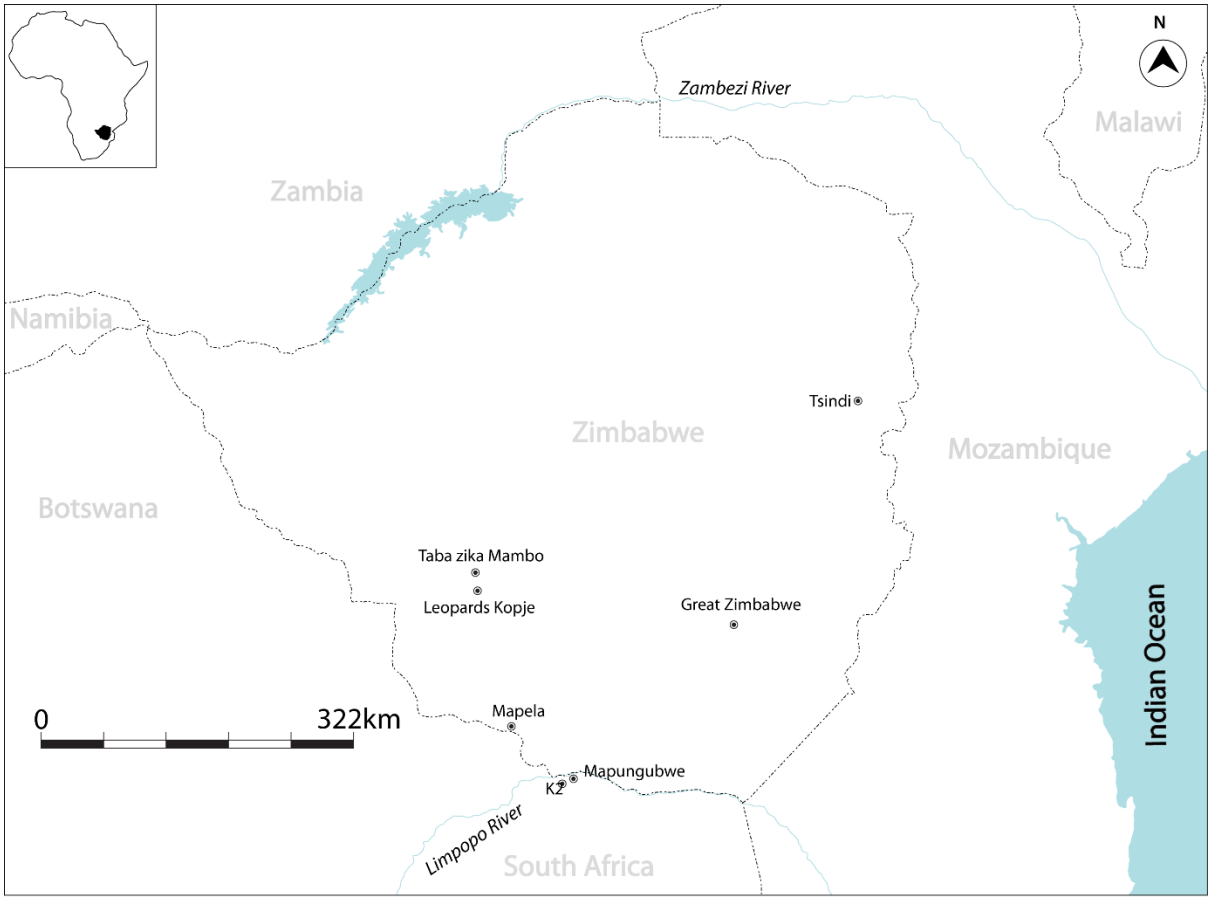

Figure 1. 2: Map showing the Leopard's Kopje and Zimbabwe Culture sites. Drawn by Robert Nyamushosho

Leaving the issue of origins aside, Garlake (1982) once commented that although Great Zimbabwe has a good claim to be sub-Saharan Africa's largest and most dramatic site, historical evidence on its origins and purpose is fragmentary and much of it appears confused and contradictory, thereby urging researchers to make the origins and purpose of the stone structures an archaeological problem. In response to this, Huffman (1996) developed a cognitive structuralist interpretation of the use of space at Great Zimbabwe. While interesting, the theory has been criticised (Collett *et al.* 1991; Chirikure and Pikirayi 2008; Pikirayi and Chirikure 2011) for placing more weight on symbolic use of space which is not supported by an appropriate interpretation of selected material culture retrieved from these spaces. More than three decades on, Garlake's sentiments are still relevant to Great Zimbabwe, such that more work is still required to explore lifeways during the flourishing of the site.

1.2 Statement of problem

The dominant story of Great Zimbabwe has been told mainly from secondary sources. Secondary sources in this research are oral interviews/accounts, Portuguese documents and ethnographic studies that were used without the actual analysis of objects excavated from Great Zimbabwe, for example Mauch (1874), Bent (1893) and Hall (1905). In cases where material culture was considered, it has either been largely misrepresented or selectively applied to the interpretation of this site, leading to the reconstruction of an imaginary Great Zimbabwe (Beach 1998). Moreover, most of the objects came from the walled enclosures, even though it is known that the open spaces were also occupied. Such an exclusion created an unbalanced interpretation of the site (see Chirikure and Pikirayi 2008). As such, it is firstly important to develop the story of Great Zimbabwe from objects left behind by its inhabitants, then, where necessary, supplement it with secondary sources. However, considering the high levels of vandalism that the site of Great Zimbabwe has suffered at the hands of antiquarians, treasure hunters, amateur and professional archaeologists, its archive (field notes, maps and archaeological collections) is the best available source of information. The importance of archaeological collections in the study of the prehistoric site of Great Zimbabwe had been foreseen by Garlake (1973) when he expressed the opinion that in future, the study of Great Zimbabwe and related sites has to depend largely on the re-examination and re-assessment of the works of earlier investigators who removed the most important finds from the ruins and stripped them of so much of their deposits.

1.3 Research objectives

The major objective of this study is to understand the lifeways of past inhabitants at Great Zimbabwe, using a sample of collections housed at the Great Zimbabwe Conservation Centre and the Zimbabwe Museum of Human Sciences. For the purpose of this thesis, the term lifeways defines the way people lived in the past. Examples include settlement pattern, population density, and technology, and economy, organization of domestic life, kinship, social stratification, ritual, art, and religion of a culture (Kipfer 2000).

This study seeks to explore the lifeways of the inhabitants of Great Zimbabwe through the following:

a. Analysing objects (pottery, faunal, beads, soapstone, stone walls, *dhaka* structures and any other remnants from industrial activities) left behind by the inhabitants. The functions of various components of the site need to be deduced from the material culture recovered from them. It remains unclear how the various components of the site were occupied and which activities were undertaken in these areas; and

b. Carrying out an excavation within the current car park which is one of the many open spaces of the site known to have been occupied during the time of Great Zimbabwe. The rationale was to generate information to understand the archaeology of the unwalled areas as well as obtain dateable material. Obtaining dates from both open settlements and walled enclosures helps in understanding the development of the site. Chronological and spatial control is essential for making intra-site comparisons of the distribution of objects recovered from walled and unwalled settlements.

The fulfilment of these objectives is crucial as it leads to a better understanding of the site of Great Zimbabwe in terms of its growth and past interactions of its inhabitants.

1.4 Physiographic Setting

Great Zimbabwe is located 30km southeast of the modern town of Masvingo and is approximately 720ha in spatial extent (Ndoro 2005). Within the 720ha, the area with evidence of occupation comprises the drystone-walled structures on the Hill and the valley. The major walled areas are the Hill Complex, which has freestanding walls and terraces, the Great Enclosure (freestanding walls) and the Valley Enclosures (Ndoro 2005). There are also some smaller walled areas around this main cluster; these include Chenga, South East Ruins, Nemanwa and Mtuzu. These walled areas are surrounded by unwalled spaces with concentrations of middens, house foundations and varying degrees of material culture concentration. Architectural evidence shows that stone building began on the hill before spreading to the valley below (Summers *et al.* 1961; Chipunza 1994). The summit of the Hill Complex consists of the Western and Eastern enclosures whose functions are believed to have been different (Fig 1.2). The Eastern Enclosure is believed to have primarily functioned as a religious centre, while the Western Enclosure has been interpreted as the residence of the ruler (Huffman 1984). The terraces on the hill may have housed political elites of Great Zimbabwe (Garlake 1980; Pikirayi 2001).

Figure 1.3: Image of the Hill Complex

The Great Enclosure (Fig 1.3) situated across the valley is perhaps the most spectacular and substantial structure at Great Zimbabwe. Ndoro (2005) points out that with its outer wall of approximately 252 metres in length and a maximum height of 11 metres, it is by far the largest single prehistoric structure in Sub-Saharan Africa. Inside the Great Enclosure there are a number of internal stone enclosures, *dhaka* platforms and other architectural features, including the impressive Conical Tower. Some sections of the walls are decorated with stone monoliths and the chevron pattern. Over the years, the Great Enclosure has been interpreted in many different ways. Early observers who did not imagine that Africans were capable of such architecture linked the site with Arab and Phoenician invaders and thought that it functioned as a temple (Bent 1893, MacIver 1904).

Figure 1.4: Image of the Great Enclosure

The Valley Enclosures located between the Hill Complex and the Great Enclosure contain most of the architectural features similar to the Great Enclosure, except that the Valley Ruins comprise individual enclosures (Fig 1.4). One of the striking features is the parallel passages which connect individual enclosures in the valley. The longest passage connects the valley enclosures to the Great Enclosure.

Figure 1.5 Image of the Valley Enclosures

Apart from the aforementioned areas commonly referred to as the main components of Great Zimbabwe, which Ndoro (2005) strongly believes to be about ten percent of the whole estate declared a monument, there are also the 'peripheral settlements' such as Mtuzu, Nemanwa, and Chenga. These are situated around the ring of hills that encircle 'central Great Zimbabwe'. These areas have stonewalling, terraces, *dhaka* structures and various features of archaeological importance although they have been generally neglected as far as research is concerned. In addition to these walled structures, there are also unwalled settlements on the western and eastern side of the site which have been allocated to commoners. Similar to peripheral settlements, the unwalled areas have received very little attention despite their relevance in understanding the site of Great Zimbabwe. Chirawu (1988) and Mahachi (1991) once expressed that any serious attempt to understand or present the monument should take into consideration these peripheral areas where most of the population lived, as is evident from the numerous house floors around the hills surrounding the core structures.

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1.4.1 Climate

Great Zimbabwe falls under Masvingo district in the province of Masvingo, but it enjoys a micro climate when compared to other areas found in the same province. At an altitude of 1100m above sea level (Sinclair 1987), its climatic conditions fit in Natural Region 3 under the farming regions classification by Vincent *et al.* (1959) (Table 1.1). Mean annual rainfall for Great Zimbabwe and its immediate surroundings ranges between 560 to 800mm (Sinclair 1987; Chenje *et al.* 1998). The Great Zimbabwe landscape receives orogenic rainfall in the form of heavy mists. Mean monthly maximum temperature ranges from 18 to 21 degrees Celsius. Basing on the habitat reconstructions by Thorp (1995) through the study of faunal remains, it can be seen that the current Great Zimbabwe's climatic conditions does not differ much from prehistoric climatic conditions.

Natural Region	Rainfall (mm/annum)	Mean annual temp ^{o}C	Topography	Vegetation	Farming system
I/1	> 1050	18	Mountains of eastern highlands	Mountain forest	Specialised and diversified
II/2	750-1050	18-19	Subdued relief	Miombo woodland	Intensive
III/3	560- 800	18-21	Undulated granite	Mixed woodland	Semi-intensive
IV/4	460-600	19-21	Broken/*dwalas*	Deciduous woodland	Semi-extensive
V/5	<500	21-29	Broken/flat	Mopane	Extensive

Table 1. 1: Agro ecological zones of Zimbabwe and the recommended farming activities (compiled from Vincent et al 1959; Sinclair 1987)

1.4.2 Vegetation

The type of vegetation around Great Zimbabwe today is largely *Miombo* woodland which stretches from Tanzania in the north to Zimbabwe in the south and spans the continent from Angola to Mozambique (Nyathi and Campbell 1993). *Miombo* woodlands are dominated by the trees of the genera *Brachystegia* and *Julbernadia*. *Brachystegia* and varieties of acacia vegetation cover the hillside and adjoining valleys at Great Zimbabwe. A recent study of archaeological charcoal assemblage from Great Zimbabwe by Chikumbirike (2014) shows a *Miombo* vegetation similar to the one present today, thereby suggesting some degree of ecosystem stability over time, though a slight rise in temperature and a drop in precipitation

have been recorded. The drop in rainfall has been explained in terms of the clearance of the *miombo* woodland for agriculture and settlement expansion (Gambiza and Nyama 2006; Simba *et al.* 2012) and as a site management strategy (Hall 1905).

1.4.3 Geology

Great Zimbabwe lies in the southern section of the Zimbabwe escarpment which falls within the African crystalline basement complex with predominant granites and important aquifers (Carruthers and Smith 1989; Titus *et al.* 2009). Garlake (1973) and Pikirayi (2001) trace the exploitation of the granite rocks for construction purposes by farmers to the early second millennium AD. The topography comprises mountain ranges, hills and kopjes. The Save, Runde, Mwenezi and Mutirikwi river systems dominate the drainage system in the province of Masvingo (Gambiza and Nyama 2006; Simba *et al.* 2012). Moreover, the Great Zimbabwe landscape offers other sources of water such as marshes, swamps and shallow seasonal or intermittent wetlands (Pikirayi *et al.* 2016). Phimister (1974, 1976) recorded the presence of greenstone schists approximately 10km west of Great Zimbabwe where pre-European gold working has been recorded.

The soils around Great Zimbabwe are largely derived from granitic/gneissic parent material and are thus sandy-textured. Two main soil types, mainly red coarse to medium sandy/clayey loam and dark brown fine sandy-silty loam, have been noted (Verheye and De la Rosa 2005; Titus *et al.* 2009).

The current physiographic setting of Great Zimbabwe, when projected back in time, points to much wetter conditions which could have sustained agriculture and cattle herding while the geology provided a ready source of building material. Environmental factors of topography, soils and rainfall have been cited as attracting settlement in the Great Zimbabwe landscape (Sinclair 1987; Huffman 2005, 2008; Smith *et al.* 2007). Sinclair *et al.*'s (2001) site catchment analysis revealed that proximity to suitable agricultural and grazing land, permanent water sources and granite for building were also presumably important factors in determining settlement areas of Great Zimbabwe tradition sites. Pikirayi *et al.* (2016) are of the view that riverine agriculture, cattle herding and diversified trading networks led to the growth of Great Zimbabwe as an urban capital.

1.5 Theoretical Framework

This work is based on the understanding that archaeological collections are central to the interpretation of past societies. Caple (2006) argues that objects are reluctant witnesses to the past which have to be questioned carefully and closely in order for them to provide useful information. This means that by studying these objects we can understand the society that produced the objects and their values, beliefs, technology and religion, among other things, since it is known that society produces objects to meet a number of utilitarian and non-utilitarian needs. The study is also based on the acknowledgement that objects are not just a product of society but are fundamental to it. Therefore, studying the material culture of Great Zimbabwe should enable the reconstruction of past economic activities, settlement and socio-political organisations. Because this thesis grouped different objects into ceramics, fauna, beads and metallurgical objects, more theoretical information is provided in the individual chapters that deal with various categories. There are however some limitations that need to be acknowledged before embarking on the analysis of archaeological collections. It should be clearly understood that although by their nature, archaeological collections are important in reconstructing past societies, their potential is sometimes compromised during excavation, recording, cataloguing and even analysis. While carrying out an inventory of southern African Stone Age material in the British museum, Mitchell (1998) noted that even though the museum holds approximately six thousand stone artefacts from South Africa, few of them have the potential to inform us about southern African prehistory. This is because most stone tools either have little or no stratigraphic information or are products of highly selected and biased components of much larger assemblages. Voss (2012) also points out that the research potential of archaeological collections is often perceived as compromised by passage of time since the original moment of excavation and by all too common separation of artefacts from field records and other documents that might provide contextual information. Furthermore, it should be remembered that the archaeological record is not a faithful record of the site's history. Organic remains are particularly vulnerable to alteration by site formation processes thus our reconstructions are based on fragmentary, incomplete and altered evidence (Baird and McFadyen 2014). While acknowledging these limitations, the value of collections in enhancing our understanding of the past cannot be contested (see Caple 2006). As such, this thesis uses the collections from Great Zimbabwe to highlight lifeways of its inhabitants. This

is crucial because so far, the utility of such an archive as a source of information has never been exploited.

1.6 Organisation of this study

Chapter Two focuses on the importance of archaeological collections and their contribution to understanding past societies. It reviews how the study of archaeological collections has helped in understanding aspects such as trade and exchange, religion, socio-economic and political organisation and the rise of complex societies. Chapter Three provides a review of past research studies carried out at Great Zimbabwe. Emphasis was placed on highlighting how archaeological collections have been used to understand the origins, rise and development, chronology and sequence and settlement organisation of the prehistoric site of Great Zimbabwe. It is hoped that the review of literature focusing on these themes will help shape this research. Chapter Four is dedicated to discussing methodology. It discusses the rationale behind working with existing collections and the excavations from which the material under investigation came. Chapter Five is concerned with presenting ceramics. The ceramic theory and methods of analysis adapted for this study are discussed, followed by the presentation the results. The results obtained from different sections were presented separately so as to allow them to reveal each site component's trends and then cumulatively for comparative purposes. The chapter ends by discussing the implications of the results presented. Results from beads analysis will be presented in Chapter Six. This chapter also provides a background to beads analysis in southern Africa, moving on to discuss the classification methods adapted for this study. Chapter Seven is dedicated to discussing faunal material. It begins by discussing the value of faunal material in the archaeological record by highlighting the type of information that can be obtained from the analysis of faunal remains. Approaches adapted for the study of this research's faunal assemblage as well as bone quantification methods are discussed in this chapter before presenting the results of the analysis and discussing information derived from them. Spindle whorls, metals, soapstone objects, *dhaka* structures and walls are presented in Chapter Eight. It is hoped that their presentation will reveal their distribution patterns and help answer questions pertaining to their value at Great Zimbabwe. Chapter Nine presents an overall discussion. It is in this chapter that an effort was made to reconstruct the lifeways at Great Zimbabwe as represented by all forms of material culture.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Archaeological collections play an important role in the discipline of archaeology. This is so mainly because in their quest for existence, human beings interact with the world around them to produce artefacts that are used for a variety of purposes (Miller 1987; Caple 2006) thus making objects central to investigating and understanding both past and contemporary societies. Berger (2016) stressed this centrality of objects by highlighting that things humankind makes and uses at any particular time and place are probably the truest representation we have of values and meaning within a society, thus making material culture essential for social constructs. Prown (1982) adds that human beings indirectly reproduce themselves during the production and/or consumption of the material objects hence the study of these objects be it in the past or present enlighten about their producers and consumers. Because excavation is destruction, collections, particularly those in museums are often the surviving evidence from sites that can easily be accessed and studied. Dibble *et al* (2005) are also of the view that old collections play a valuable role in allowing archaeologists to address a variety of research questions and are particularly useful for developing new understandings of sites that have been destroyed as well as sites that are inaccessible to researchers for many reasons. Voss (2012) supports the idea that archaeological archives should represent a prime research asset. For example, Cornelli *et al.* (2016) studied collections from the Egyptian pyramids and observed that Tutankhamun's dagger blade was made of meteoric iron, almost a hundred years since its discovery through excavation. The dagger was found in 1925 by Carter in the wrapping of the mummy on the right thigh. Cornelli *et al.* (2016) ended up suggesting that ancient Egyptians attributed great value to meteoritic iron for the production of fine ornamental or ceremonial objects up until the 14th C. BCE. Guasch-Jane *et al.*'s (2006) analysis, using the Liquid Chromatography Coupled to Mass Spectrometry technique (LC/MS/MS), of 26 two-handled amphorae recovered from the burial chamber of King Tutankhamun (1332-1322BC) in the Valley of Kings put to rest the speculation of white wine production in Dynastic Egypt. The study revealed the production of both white and red wines in ancient Egypt. Since only the best products were offered for the afterlife of the Pharaohs, Guasch-Jane *et al.* (2006) suggested that white wine played a role as important as red wine which symbolised rebirth.

Another example which demonstrates the importance of engaging with museum collections is Hart *et al.'s* (2007) analysis of phytolith assemblages recovered from charred food remains which were stuck in the interior of archived pottery shards. The analysis brought an end to the speculation of crops and their histories in eastern North America. The phytolith assemblage came from 12 sites that span a period of 2500 years, from among the earliest assemblages of pottery in the New York state until the last centuries before massive changes in Native American lifeways that resulted from interaction with Europeans. The results indicated that maize and squash, two of the crops that dominated Native American agriculture throughout much of eastern North America late in prehistory, were being grown and consumed in New York for at least two millennia before the advent of written history in the region with the European *entrada*. It appeared that maize and squash were being used in New York by 2270BP and 2945BP respectively (Hart *et al.* 2007). The presence of maize in New York at earlier times was just speculated on, with no direct evidence for its presence.

Wadley and Harper's (1989) analysis of stone implements from Rose Cottage Cave housed in the Natural Museum in Bloemfontein in the Free State, South Africa, revealed the presence of both pre- and post-Howieson's Poort industries. The cave had been excavated by Malan between 1943 and 1946, who – without a detailed study of the artefacts – had intuitively believed the entire cave sequence was Magosian, an intermediate phase between the Middle Stone Age (MSA) and LSA (Late Stone Age). The pre-Howeison's Poort assemblage was dominated by points and had a higher proportion of flakes larger than 26mm while the Howeison's Poort industry had a higher frequency of backed tools. The post-Howeison's Poort levels were dominated by scrapers. The pair also realised that MSA occupation may span a longer period than previously suspected.

By analysing archaeological material excavated from the site of Oke Ora near Ile-Ife in Nigeria, Eluyemi (1980) managed to shed more light on the socio-economic and ideological history of the Yoruba people. The Yoruba history had for a long time been in a disorganised state because of the use of irreconcilable sources by various writers which led to contradictory conclusions. Eluyemi (1980)'s analysis revealed a shared similarity between the material culture of the Ife people-the aborigines of the Yoruba and the contemporary Ife thereby suggesting some form of continuity.

Through the study of archaeological charcoal assemblage housed at the Royal Museum for Central Africa, Habau *et al.* (2014) were able to reconstruct firewood preferences and vegetation composition during the Late Holocene in the southern Mayumbe of the Democratic Republic of Congo (DRC). The charcoal assemblage was recovered from an excavation that was conducted near the present Lukula community, situated at the edge of the Mayumbe forest, Bas-Congo, DRC. Charcoal fragments were first analysed using reflected-light microscopy (RLM) before being mounted on a stub for scanning electron microscopy (SEM). Charcoal types were identified applying a semiautomatic four-step protocol for central African charcoal identification. Thirty taxa used as firewood between 1200 and 700 cal BP were identified from the analysis. The presence of mature rainforest, pioneer forest, regenerating forest or woodland savannah and taxa with a large ecological tolerance was interpreted as indicating that no particular forest type was preferred for firewood gathering (Habau *et al.* 2014). As there seems to have been a lack of species preferences, Habau *et al.* (2014) concluded that the charcoal assemblage was representative of the composition of the vegetation surrounding the Lukula community between 1200 and 700 cal. BP. The presence of different vegetation types was interpreted as suggesting a rather fragmented landscape.

Mukwende's (2016) analysis of Khami's archaeological collections housed at the Museum of Human Sciences and the Natural History Museum in Harare and Bulawayo, Zimbabwe respectively revealed that the Zimbabwe Culture Capital of Khami represent a continuity with the Woolandale chiefdoms that settled in the south-western parts of the country and in the adjacent areas of Botswana. For a very long time, Khami was regarded as an offshoot of Great Zimbabwe (Robinson 1959, Huffman 1984, Pikiriayi 2001). However, a consolidated analysis of pottery, faunal remains, beads, stone architecture and metallurgical objects revealed that other than drystone walling, the material objects from the two sites lacked any traits that could suggest that they were successor states. Instead, the study showed that Khami began as a fully developed cultural unit and that the site was constructed over a long period, with construction being motivated by a number of expansionary factors (Mukwende 2016).

At Great Zimbabwe, Chikumbirike (2014) conducted a detailed study of both modern and archaeological charcoal remains. The archaeological plant remains came from previous excavations. The study revealed the presence of different types of vegetation taxa associated with high moisture or water content. The results are consistent with the current climatic

conditions, thus pointing to a stable environment. Overall, these widely dispersed examples suggest that archaeological collections host a significant amount of information with potential to illuminate various activities that took place in the past.

On the other hand, it should be stressed that in as much as existing archaeological collections hold great potential for archaeologists who seek to study the past, it should be remembered that these objects that have survived for us to study are not the full range of objects that were created, nor are they a representative sub-sample (Caple 2006). Inorganic materials are robust and survive well hence are consequently over- represented in museum collections while organic materials which decay quite quickly are underrepresented. For example, in general African oral historical accounts mention local trade in foodstuffs, textile/cloth, hut poles and salt which have not survived in the archaeological record. Cloth for instance, is only preserved in the archaeological record under exceptional circumstances and while it was certainly one of the most important Later Iron Age trade items, almost nothing is known about its distribution (Bisson 1982). The collector's bias also affect the archaeological knowledge generated from museum collections. Caple (2006) clearly highlight that in most cases, the everyday, cheap and ephemeral are rarely collected and consequently under-studied even though they are more representative of what is being used by the vast majority of the people. For example, excavators of the Chalcolithic period and later sites in the Near East frequently discarded all but the very 'nicest' lithic since they were considered to have less value with respect to research questions about early complexity (Rosen 1997). Shipman (2006) also stress that many archaeological sites have been incompletely collected. At Great Zimbabwe, Hall (1905) discarded a lot of material culture he recovered from the Great Enclosure without proper recording and/or analysis done. This material was later collected and is currently stored at the Museum of Human Sciences as 'Hall's dump'. Although this material is crucial in reconstructing the events and activities that took place in the Great Enclosures, it is yet to be studied because of the difficulties in re-establishing contextual information.

Shipman (2006) argued that even as our knowledge of how to interpret the past has expanded, its application to museum collections has remained a challenge because of the great changes in excavation and documentation techniques over the past century. He further argued that many archaeological sites have been incompletely collected citing that many a time, piles of poor specimens or indeterminate objects and fragments which in reality could be identified if

sufficient time and expertise were available were often left at the site or hurriedly stuffed into bags to be dumped in some inconvenienced location and forgotten. Shipman (2006) stress that this too common occurrence means that there is twofold sampling of the original assemblage first by taphonomic events and second by the selection process of excavators.

Barker (2003) stress that in as much as in-situ materials from the past are regarded as a fragile and shrinking resource, while curated collections are taken to represent a growing resource whose long term integrity and utility is enhanced rather than diminished by responsible use, the ideal of untapped research potential waiting to be unleashed quickly fades against the reality of conducting research on existing collections. Many a time, the attempt to analyse museum collections is met with frustration because of the difficulties of re-establishing provenance and quantitative control for artefacts long separated from their original context (Voss 2012). Thus Barker (2003) is of the view the research potential of archaeological collections is often perceived as compromised by the passage of time since the original moment of excavation and also by the separation of artefacts from records and other documents that might provide contextual information. As such, time lapse between field recovery and analysis and frequently the loss of field records and other contextual documentation pose monumental challenges in archaeological interpretation (Voss 2012). Baird and McFadyen (2014) are of the view that beyond the archive as a source for archaeology's own history, the form of the archive itself for instance how it is organised, labelled and accessed is something that has a direct relationship to the creation, form and possibilities of archaeological knowledge. This means that poor excavation and curation standards lower the archaeological potential of museum collections.

For the reasons mentioned above, some archaeologists refuse to work with museum collections preferring to conduct their own surveys and excavations. Dibble *et al* (2005) argued that while this is understandable and in some cases justified, existing collections constitute an important resource for archaeological research. They argue that a collection deficient in some aspects does not translate to a useless and worthless collection and that the real solution is not to discard collections but rather to determine the ways and the extent to which the collections have been biased (Dibble *et al* 2005). This allows one to determine their potential for addressing particular questions and in some cases to correct or control for biases. As in the case of the Great Zimbabwe collections analysed in this research, it was decided that even though some collections lacked contextual information which would have

made it possible to perform some statistical analysis, they were till useful in reconstructing activities that were engaged in in various sections of the site making up the site of Great Zimbabwe.

2.2 The contribution of archaeological collections to understanding past societies

Material finds are one of the main sources of archaeological knowledge. The scientific analysis of archaeological objects can help to interpret many aspects of archaeological interest, such as production and manufacturing processes or provenance of raw materials and artefacts. The provenance studies involve characterization and locating the natural sources of the raw materials used to make artefacts thereby contributing to the establishment of patterns of raw material procurement, trade contacts and economic systems. Such insights can often be used in further historical interpretation. For instance, Wilmsen *et al.*'s (2009) petrographic study of pottery from 28 sites dated between AD200 and AD1855 revealed the transportation of pots from the Okavango Delta to Bosutswe in the Eastern hardveld as early as AD900. They were also able to show the levels of interaction that was taking place among the sites studied. For example, the Toutswe and Lose sandstone fabric with accessory quartz-feldspar-basalt shards and the possible Mapungubwe fabric shards with accessory basalt at Bosutswe point to interaction with the Shashe-Limpopo region beginning AD900 and accelerating around AD1300. The petrographic study provided the first robust evidence that waterveld Tsodilo commerce with the East Coast was independent of, and began earlier than did such connections in the hardveld.

The study of archaeological collections has also unearthed various forms of interactions in past societies. Calabrese's (2000) analysis of ceramics excavated at Leokwe in the Northern Province of South Africa enabled him to challenge the longstanding model of relations between Zhizo and Leopard's Kopje ceramics, using groups in northern South Africa, south-western Zimbabwe and eastern Botswana between AD1000 to 1300. These relations have been viewed as essentially hostile (Huffman 1996) by Leopard's Kopje groups or limited to the exchange of wives (Denbow 1982). Ceramics recovered at Leokwe constituted vessels of the Zhizo as well as some with characteristics of both Zhizo and Leopard's Kopje assemblages. Through combining radiocarbon dates with ceramic analysis, Calabrese (2000) managed to show that the Zhizo and Leopard's Kopje users were living together at Leokwe Hill, as opposed to Huffman (1996)'s view that the Zhizo ceramic users were driven into

eastern Botswana with the introduction of Leopard's Kopje ceramics. Zhizo wares were also found in association with K2 wares at K2. These vessels were recovered from original excavations in 1934 which included four juvenile burials (Calabrese 2000). One of the internments at K2, burial 2, had both Zhizo and K2 wares securely associated with the grave assemblage. According to Calabrese (2000), this showed that Zhizo and Leopard's Kopje groups interacted in a number of ways, among them exchange of pottery. Though Calabrese (2000) could not point out all the levels of interactions, he managed to demonstrate that a complex relationship existed between Zhizo and Leopard's Kopje groups other than the dominant model of hostility and intermarriages.

Tourtellot and Sabloff's (1972) reconstruction of the exchange systems among the Ancient Maya revealed that subsistence artefacts and goods were mainly exchanged within communities while prestige goods were exchanged between communities. Out of thirty-three different types of materials and objects at Barton Ramie and other nearby sites, Tourtellot and Sabloff (1972) realised that utilitarian materials (granite, schists and quartzite rocks) and objects (ceramics) came from a radius of 20km. An examination of ceramics at the site of Altar de Sacrificios revealed that all other ceramics were local except for the exotic polychromes with figural or glyphic designs. These Late Classic fine polychromes were found exclusively in burials located in elite statures such as temples and palaces. Tourtellot and Sabloff (1972) explained the presence of these ceramics as a result of gift exchange among the elite who were contributing to the funerals of their kinsmen in different political units.

Trade and exchange patterns in prehistoric societies have also been reconstructed through the study of archaeological collections. Trade relations and routes that connected southern Africa and the outside world were established through the analysis of glass beads, porcelain ceramics and fine ware and cloth (items collectively known as exotic goods). Saitowitz's (1996) analysis of glass beads from 21 southern African archaeological sites dated between 900-1250AD and from 12 potential source areas indicated connections between southern Africa and Egypt, Palestine and South-East Asia. She also observed that the rise of the Fatimid Caliphate in Egypt and the accompanying development of Islamic dominated trade into Indian Ocean and South China Sea coincided with the increased numbers of glass beads found on southern African Iron Age sites. On the basis of historical background together with the results from the chemical analysis, Saitowitz (1996) argued for an Islamic origin of the

glass beads rather than the Indian one that had been proposed by Beck (1931). The participation of southern African Iron Age communities in the Indian Ocean trade was confirmed through the analysis of glass beads (Wood 200, 2005, 2011; Robertshaw *et al* 2011; Prinsloo *et al* 2012; Daggett *et al* 2016) (explained in details in chapter 6) and ceramics (Collett *et al* 1991). The long distance trade hypothesis popularised by Davidson (1969) has been viewed as a primary cause of state formation and growth in central Africa (Summers 1969, Huffman 1970, Wilson 1972). These scholars saw long distance trade as first, a direct stimulus of state formation by requiring the development of centralised authority for administrative purposes, second, a mechanism through which foreign ideas of hierarchical political organisation were transmitted into previously isolated African interior and third a stimulus towards territorial expansion in order to both control sources of trade items and protect trade routes. From this perspective, long distance trading activities not only were the chief cause of central African state formation but also exerted a strong influence on the particular organisation of African states and their territorial goals (Bisson 1982).

Power and/or status in past societies has also been understood through the study of archaeological collections. This is so because power and status are thought to both manifest in the archaeological record through the use of symbols including those that are part of the built environment (Chase and Chase 2011). These symbols can be massive or small; large scale public architectural constructions or alternatively attributes of personal dress and access to foreign goods. For example, cremation is constant with high status internment at Teotihuacan.

Based on archaeological evidence, Loubser (1989) managed to cement the local origin hypothesis for the Venda people. Two schools of thought had dominated interpretations of Venda history. On one hand, scholars who base their arguements on ethnographic evidence had insisted that the Singo people traced back to either Congo or the Great Lakes were the true Venda (Van Warmelo 1956; 1974; Wilson 1969) while on the other school has pushed for a local origin hypothesis. Loubser (1989) decided to study the Venda material objects so as to trace their origins. He came to the realisation that the Venda identity came out of the interaction that occurred between the Shona speaking people who had migrated from Zimbabwe settling in the Northern Transvaal and the Sotho inhabitants. Dated ceramic styles and settlement patterns revealed that the Shona speaking people had ruled north of the

Soutpasberg at least since the 12th Century while the Sotho speakers probably lived in the Soutpansberg since the early 14th Century (Loubser 1989).

Through the study of a variety of archaeological objects coupled with paleoanthropological and ethno historic research, Emery (2003) realised that the Maya society of Mesoamerica was undoubtedly more flexible and complex, comprising multiple tiers of status and rank. These included the ruling family, the noble aristocracy (generals, administrators and elite craft specialists), the gentry (lacking noble rank but maintaining blood ties through hereditary to the nobility), and a tiered middle class of land owners, merchants and artisans and at least two ranks of commoners with different occupations as well as serfs and slaves. Previously, it had been postulated that the Maya society was essentially two tiered (see Chase and Chase 1992).

Mindzie *et al*'s (2001) analysis of archaeological remains among them potsherds, polished stone tools, iron slag, charred phytoliths and animal bones from Nkang site in central Cameroon provided the first strong support to several ethnographic indications for earlier long distance contacts between South East Asia and Africa. The phytoliths found in the inner parts of vessels recovered from the refuse pits excavated at Nkang and dated to ca 2500BP were identified as derived from *Musa*, the cultivated banana whose origins were traced to south-east Asia. Mindzie *et al*'s (2001) therefore concluded that since the bananas were traced back to Asia, they present the first concrete evidence of contacts across the Indian Ocean a millennium earlier than had been accepted. Furthermore, the discovery provided archaeologists with undisputed proof of early agriculture in Central Africa.

Through the study of architecture and artefact distribution, Lesure and Blake (2002) refined the interpretation of large platform buildings of Paso de la Amada in the Mazatan area in Mexico. Previously, these buildings had been described firstly by Adler (1989) as high-level facilities and then by Marcus and Flannery (1996) as public spaces that were used for ceremonies, special rituals, meetings and other gatherings. However, a study of the pattern of artefact distribution within these building led Lesure and Blake (2002) to reject the idea that platform buildings at Paso were high-level integrative facilities. Based on the presence of artefacts and features indicative of domestic activities in and around the buildings, they proposed that the large buildings were low-level facilities occupied by groups such as lineages.

Chase *et al.* (2014) explored the pastoral land use at the site of Bagasra in the Indian state of Gujarat through faunal and biogenic isotope analysis of domestic animals that were consumed. They managed to obtain new information regarding the ways in which the domestic animals consumed at Bagasra were raised and obtained, while establishing an empirical baseline necessary for further exploitation of the land use changes that may have accompanied the emergence and decline of south Asia's first urban civilisation. The study revealed that small stock such as goat and sheep were raised locally and grazed on a seasonally variable diet of both wild and agricultural food. On the other hand, large stock (cattle and buffalo) were either raised far afield or foddered with agricultural products grown in these areas. This meant, therefore, that the residents of Bagasra depended on regular interaction with a network of pastoral producers throughout the wider region for a large portion of their subsistence needs primarily associated with the acquisition of cattle and/or the fodder necessary for their maintenance (Chase *et al.* 2014).

A variety of scientific methods have been relied upon by archaeologists in provenance studies. Bishop (1994) used the Instrumental Neutron Activation Analysis (INAA) to study pottery from the major civic-ceremonial centre of Palenque and from sites in the surrounding region up to distances of about 70km, spanning the period from the Early to Late Classic (150-800 AD). The aim of the project was to define the pattern of pottery production, consumption and exchange at an intraregional level as well as contributing to the documentation of the ceremonial and economic development of Palenque, and of its changing relationship with its satellite sites. The results indicated that, during the Early Classic period (150-500 AD), there was a change from predominantly local production of pottery at Palenque to a situation where some of the pottery was imported from the southern Usumacinta zone, which was outside the region of Palenquea's subsequent influence. This change was consistent with the evolution of Palenque from a locally oriented village on the Maya periphery toward a more hierarchically organised society (Bishop 1994). It was noted that during the Middle Classic period (500-600 AD), pottery was imported from a larger number of sources. Finally, during the Late Classic period (600-800 AD), when there was very extensive building activity and Palenque became a major civic-ceremonial centre, a complex and changing pattern of pottery import and export between Palenque and its satellites was observed. Thus, Bishop (1994) has argued that locally produced Palenque pottery with a ritual function served to reinforce the individual status or power of the ruling

elite. Further, the export of such ritual pottery from Palenque to nearby localities reflected an interest in integrating different regions into the Palenque polity – a linkage that was reinforced by the export to Palenque of certain types of utilitarian pottery from particular satellite sites.

Barca *et al.*'s (2013) chemical analysis of glass shards using scanning electron microscopy coupled with X-ray spectrometry (SEM-EDS) and Laser Ablation-Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) led to the identification of the source of rhyolitic glass shards used as an aggregate for plasters from the central courtyard of Teopancazco dating to the Xolalpan phase (350-550AD). Teopancazco was located in Teotihuacan, the most important city in ancient Mesoamerica during the Classic Period (200-600AD). It was gathered from the analysis that the Altotanga magmatic system located 180km east of Teotihuacan was the source of the glass shards. Barca *et al.* (2013) suggested that inhabitants of Teopancazco might have been aware of the fact that plaster mixtures made with glass shards were of good quality, hence the sacrifice to source it from far away. Since isotopic studies of human skeletons excavated in the compound showed the presence of people coming from the Gulf area from sites located along the corridor running from Teotihuacan to the coast, Barca *et al.* (2013) also thought that the use of glass shards might have been symbolic. They proposed that the inhabitants of Teopancazco may have built their compound with material sourced from the route they followed from the Gulf coast of Mexico, perhaps to trace their identity to that distant land.

By analysing varied forms of material objects among them macro botanical remains of numerous domestic plant species and ceramics, Rosenswig's (2006) managed to establish the relationship that existed between increasing plant use, sedentism and political complexity among societies on the Pacific coast of southern Mexico during the Early and Middle Formative period (1600-800BCE). He came to the realisation that the ceramic using horticultural villagers developed political rank prior to the adoption of agriculture and evidence of the first stratified political organisation in the region. Agriculture emerged only during the Conchas phase but politically competitive villagers had already inhabited the region for over half a millennium. Previous researchers had placed the origins of agriculture at the beginning of the Formative/ Neolithic era but Rosenswig's study revealed that the economic base of Soconusco society was transformed 700 years later during the Conchas phase. Cuellar's (2013) analysis of macro botanical remains of numerous domestic plant

species, faunal remains and ceramics gave insight of early food production in the Zana Valley in Peru. The study revealed that cultivation started in the Zana Valley by 8000BC. A squash seed dated to 8300BC indicated that food production started at a time when hunting and gathering predominated.

Through ceramic lipid analysis and the re-analysis of zoo-archaeological data from the central Balkans of south-eastern Europe, Greenfield and Arnold (2015) managed to trace the origins of secondary products exploitation for domestic livestock in particular milking. Their study revealed that the earliest intensive milking in this region probably occurred through the exploitation of goat and not cattle or sheep as previously assumed. Ceramic lipid analysis demonstrated that the goat assemblage from south-eastern Europe displayed exploitation patterns characteristic of secondary products already during the Early Neolithic while the exploitation of sheep and cattle for their secondary production began much later during the Final Neolithic/ Eneolithic. The analysis also revealed a change in cattle and sheep exploitation patterns beginning during the Late Neolithic which Greenfield and Arnold (2015) interpreted as an increased scale of secondary products exploitation.

The study of archaeological objects has also aided in reconstructing various forms of interactions that occurred in the past. The presence of material commodities in an archaeological context whose natural distribution is limited, has been viewed as an indication of interaction. Interaction occurred on a number of levels, for example trade and exchange and gifts. Trade can be an indicator of contact: it is proof that at least the transportation of goods from one region to another was taking place. Renfrew (1969) explained that in most cases trade goods are recognised mostly by their material more than by their style. With this in mind, a number of archaeologists have undertaken provenance studies of various materials such as glass and ceramics to establish their place of origins. For example, making use of Laser-Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS), Robertshaw *et al.* (2010) managed to trace the source of glass used to make 1st-millennium and later farming communities' beads found in southern Africa to Iran and Asia respectively. With the aim of understanding both regional and international interactions, through the identification of trade networks through which beads reached southern Africa, Wood (2000, 2005, 2011) developed a southern African bead series (discussed in detail in Chapter 5). Sinclair's (1982) analysis of a number of material objects (ceramics, glass, beads, metal, botanical and geological remains) from Chibuene enabled him reconstruct contact with other parts of the

world. The analysis revealed that southern Mozambique came within the early trade networks. The analysed objects bear out the suggestion that the coastal settlements south of Save River maintained links to the north. Finds of the 9th Century Persian glazed pottery appears to be the earliest archaeological evidence to suggest contact between Madagascar and Mozambique. The finds from Chibuene further suggested a possible point entry for commodities that affected the Early Iron Age societies and those of the Kutama tradition of the Zimbabwe plateau and the Limpopo Valley (Sinclair 1982).

Social power relations have also been identified in the archaeological record. Hodder (2003); Walker and Schiffer (2006) defined social power as the capacity to control and manage labour and activities of a group to gain access to the benefits of social action. Mann (1996) has identified four sources of power, namely: economic, political, military and ideological. Hodder (1982) has expressed the opinion that objects are necessary for social constructs, arguing that artefacts are produced to transform materially, socially and ideologically. He went on to stress that it is the exchange of artefacts themselves that construct social relationships; it is the style of the spear that creates a feeling of common identity, and it is the badge of authority that itself confers authority. This means that social inequalities can be identified from an archaeological record. For example, the transformation of the Njanja chiefdom into a stratified entity by the late 19th Century is intimately associated with the economic and ideological power derived from the expansion of their iron production industry (Chirikure 2007). The rise of specialist Njanja iron workers correlates with amassing wealth which reconfigured existing power relationships in society. With time, knowledge and skill in iron working became important ideological roots that gave successive Njanja leaders the authority to rule.

The study of material remains from archaeological sites has revealed socio-economic inequalities that existed in past societies. Differences in socio-economic status are sometimes reflected in differential access to food resources (Crabtree 1990). However, for a more informed interpretation, studies of social status based on faunal remains should be correlated with other indicators of socio-economic status, such as ceramics or monumental structures. As noted by Crabtree (1990), in complex societies, the access to certain food or other animal resources may be limited to members of the upper classes. For example, in Medieval England, historical sources indicate that deer hunting was the prerogative of the upper classes

(Grant 1998). The king was deemed to own all the deer in the forest, but the aristocracy purchased licences from the king to construct parks where the deer could be confined. The analysis of faunal remains from a large number of Medieval castles, palaces, towns and village sites in England indicated the presence of deer bones in huge qualities at the castle and palaces more than in towns and villages. The deer bones found in the towns and villages were thought to have accumulated as a result of poaching activities. Within the Zimbabwe Culture sites, Thorp (1995) assigned young and tender meat to elites and old and mature stock to the commoners. Schmidt (1977) and Fatherly (2009) devised meat allocation models where specific parts such as femur, scapula, humerus, radius and ulna, tibia and fibula were considered as elite portions, while the metapodials and phalanges were commoner portions. As such, it is hoped that the analysis of Great Zimbabwe faunal material will reveal the consumption style of inhabitants housed in different areas.

2.3 Discussion

The review in this chapter has shown that archaeological collections are a window to the past and that our failure to engage with them only impoverishes our understanding of the past. Excavation destroys material evidence in the ground and makes it anew on paper (as texts and drawings), on photographs and in objects. The construction of paper and objects archives forms an archaeological knowledge of the past. Old collections play a valuable role in allowing archaeologists to address a variety of research questions. Baird and McFayden (2014) however argued that beyond the archive as a source for archaeology's own history, the form of the archive itself for example how it is organised, labelled and accessed is something that has a direct relationship to the creation, form and possibilities of archaeological knowledge. As such, it is the duty of the archaeologists to carefully document the associations and stratigraphic relationships between finds, architectural remains, soil deposits, and other features as such associations are disrupted and destroyed through excavation. Archaeologists use the term "context" when they refer to such associations, and Faniel *et al.* (2001) argued that contextual information is critical to documentation and interpretation.The review has also revealed that objects are rich in intangible values which do not leave trace in the archaeological record hence the need to substantiate archaeological analyses with ethnographic studies where possible. It has also come to light that each site is unique and that its material objects should be given a chance to unravel its past because same objects may

mean different things in different. For example, the review has shown that signatures of power and status differed from culture to culture.

While a collection may be deficient in some aspects, it is not worthless. The real solution is not to discard collections but rather to determine the ways and extent to which the collections have been biased. Dibble *et al* (2005) are of the view that an understanding of the extent of the bias allows ones to determine their potential for addressing particular questions and in some cases to correct or control for biases. By detecting and mitigating the bias in old collections or simply understanding the potential sources of biases, it is possible to tap the valuable resources that lie within museums. As such, any study of collections must be aware of the limitations of any given collection, and where possible aim to understand potential sources of biases.

2.4 Conclusion

In conclusion, archaeological collections occupy an important space in the discipline of archaeology. Because excavation is destruction, often collections are the only record that is left for some sites. Therefore, researchers can also study the past to access various information based on collections, especially given the fact that methods of analyses keep improving. However, it is essential for one to fully understand the limitations associated with any given collection. Having fully demonstrated the importance of archaeological collections in unravelling various aspects of prehistoric societies, the next chapter highlights the history of Great Zimbabwe so far as reconstructed from studying archaeological collections. The potential of archaeological collections is however compromised by methods of data recovery, documentation and curation hence the need to record and/or collect all the critical information.

CHAPTER THREE: PAST ENCOUNTERS WITH GREAT ZIMBABWE'S COLLECTIONS

3.1 Introduction

A great deal of research work has been undertaken at Great Zimbabwe since the time it was made known to the outside world. The research work that took place at Great Zimbabwe can be discussed under two broad time categories, namely colonial (before 1980) and post-colonial (1980 to present). The colonial period can be further divided into the speculative and scientific phases. The speculative phase was characterised by treasure hunting and looting by amateur archaeologists, antiquarians, hunters and explorers. Most of the scientific research in the colonial period was mainly concerned with solving the 'Zimbabwe controversy'. Having resolved the debate on the origins of Great Zimbabwe, most archaeologists (up to the end of the 1970s) devoted most of their research to excavation, dating, classification of imported goods and local ceramics, the establishment of sequences of wall construction and deduction of economic systems through environmental analysis (Summer *et al.* 1961; Garlake 1970, 1978; Sinclair 1987). The post-colonial period saw a shift of emphasis from scientific research to conservation and heritage management since it was felt that the site had been subjected to a lot of vandalism, hence it was time to conserve it. With the suspension of excavations, a number of researchers (Chirikure and Pikirayi 2008; Pikirayi and Chirikure 2011; Matenga 1993, 2011; Chirikure *et al.* 2012, 2015; Bandama *et al.* 2016) redirected their attention to archival literature and/or material collections to further investigate the site. Within most of the research phases outlined above, archaeological objects recovered from various excavations conducted at the site have been at the centre of inquiry. However, the investigations were confined to limited areas and in some cases to specific forms of material culture. Great Zimbabwe lacks a comprehensive discussion built from all forms of material objects recovered from the site.

3.2 Collections and the origin and development of Great Zimbabwe

Early investigations at Great Zimbabwe were entirely concerned with identifying the race of the people who were responsible for the construction of the stone-walled enclosure as well as determining the period of construction of the buildings. Guided only by their instincts, early investigators quickly ruled out the possibility of the stone builders being of local origin. As a

result, their excavations were mainly concerned with searching for foreign objects. A good example is the excavations of Theodore Bent, a distinguished English traveller and antiquarian who was one of the early investigators sponsored to solve the origins controversy. He excavated in the Great Enclosure, round the Conical Tower and in the Eastern Enclosure of the Hill Complex (Fig 2.1). Although he recovered huge quantities of objects (pottery, spindle whorls, metal objects and metal production infrastructure such as tuyeres and crucibles), which indicated occupation by local people, he focused his attention on soapstone birds, imported ceramics and beads, stone structures, iron implements which he felt were of foreign origin such that if their origin were determined, their dates of manufacture known, then a date would be assigned to Great Zimbabwe. Based on these, Bent (1893) concluded that the ruins and the objects inside them were of foreign origin, thereby further popularising the exotic origin hypothesis. The local objects recovered by Bent were probably not collected because they do not feature in the current Great Zimbabwe collections. On the other hand, the 'foreign' objects he collected were deposited at the South African Museum in Cape Town. Matenga (2011) reports having encountered about 90 entries of Great Zimbabwe objects at the South African Museum. Among these entries were soapstone bowls and pendants, a soapstone pillar, iron gongs, imported glass beads, porcelain and many gold objects. A lot of objects from Great Zimbabwe have been dispersed very widely with other collections existing outside southern Africa. These also offer potential for analysis.

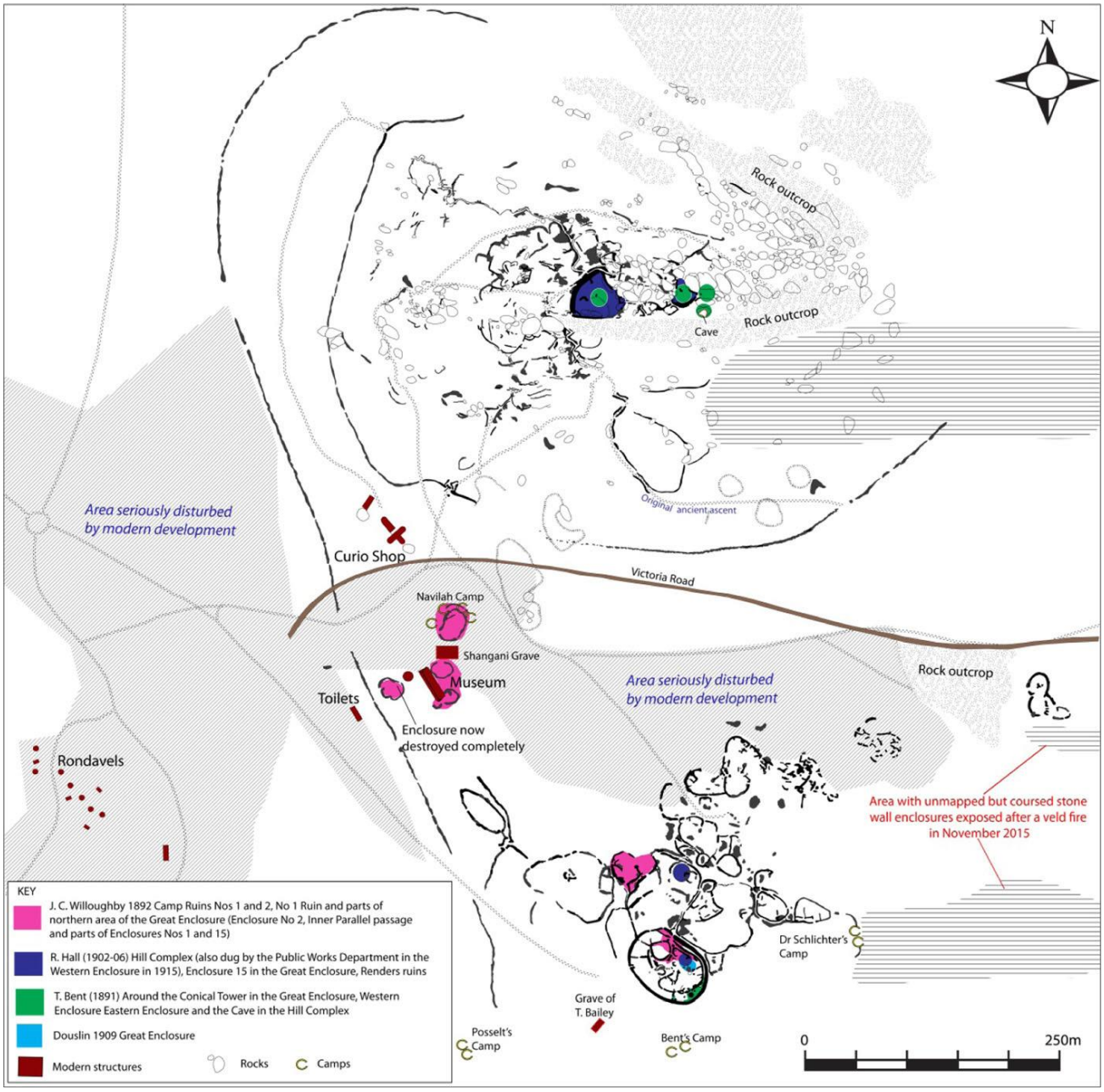


Figure 3.1: Map showing amateur excavations at Great Zimbabwe (After Chirikure et al. 2016). These are areas where some of the most important collections were recovered, but these were also not documented given poor standards of recovery at the time.

A decade later after Bent, Richard Hall was put in charge of the site as curator. He performed a number of unsystematic excavations at Great Zimbabwe, throwing away local objects which he believed to be secondary accumulations. Hall (1905) reports on his unsystematic excavations, where he removed a lot of material belonging to local inhabitants in a bid to reveal the remains of the ancient builders. He held the view that the local people represented by those objects were not the builders of Great Zimbabwe but had settled there later when the

builders left the site. Hall (1905) also supported the foreign origin theory based on the supposed or alleged similarities of the stone walls, mural decorations and objects (gold ornaments and soapstone bowls) found at Great Zimbabwe and those found at Marib, the capital of Sheba which was also the residence of a Sabean queen, Biltas. Just like Bent, Hall also deposited another assemblage of cultural objects at the South African Museum in Cape Town. The export of Great Zimbabwe and other related sites' collections continued into the 1970s, greatly compromising the integrity of these collections. At Great Zimbabwe, for example, approximately 200 figurines are reported as having been collected from various excavations. However, an inventory of these figurines by Matenga (1993) revealed that only 63 figurines are present in the collections.

Since these early investigators had preconceived ideas about the origins of Great Zimbabwe, they paid little or no attention to local material objects. Their failure to collect and study local objects led to a loss of important information that could have helped in understanding the history of the site. A lot of material culture pointing to local origins was either thrown away or simply disregarded as it was believed that the Africans occupied the site at a later stage when the actual builders had already left the place.

In his quest to settle the origins question, Randall-Maclver excavated Great Zimbabwe and explored both local and exotic objects. Randall-Maclver's work marks the beginning of a period of scientific investigations at Great Zimbabwe, setting ground for further quality work which largely discredited the 'exotic origin' hypothesis. Randall-MacIver (1906) sank eight trenches in the Great Enclosure (Fig 2.2) and found objects similar to those of the people residing close to Great Zimbabwe at the time of his research. Based on the similarities of pottery found in the lowest level of one of his trenches in the Great Enclosure to those which were used by the locals, Randall-Maclver (1906) established that the people who inhabited the Great Enclosure when it was built belonged to the tribes whose arts and manufactures were indistinguishable from those of the people who were settled around Great Zimbabwe at the time of his research. Having solved the origins controversy, he then dated Great Zimbabwe to the medieval period by establishing the stratigraphic relationship of the stone walls with 14th and 16th Century AD imports from the Near East and China (Randall-Maclver 1906). His late-medieval dating completely contradicted the 'exotic hypothesis' and helped to form part of the foundation of the essentially African interpretation. Randall-MacIver's interpretation was strenuously rejected by the then 'Rhodesian' public. Although Randal-

Maclver made the first attempt to consider material objects of local origin, his work was limited to only establishing links between the excavated material and the local people, which was a step in the right direction.

Two decades later, the British Association for the Advancement of Science (BAAS) tasked Gertrude Caton-Thompson to further investigate the character, date and source of the culture of the builders of Great Zimbabwe and any other monument of the same kind in Zimbabwe (Caton-Thompson 1931). Her careful work during the dry season of 1929 for a long time formed the basis on which researchers who came after her relied. The work by Caton-Thompson has remained the standard reference on Great Zimbabwe. Caton-Thompson sank a total of 10 trenches: three on the terraces in the Hill Complex, two in the valley enclosures and five in the Great Enclosure (Fig 2.2). Her excavations yielded local pottery fragments, glass beads, faunal remains, spindle whorls, metal objects (hoe blades and heads, arrowheads) and metal production debris (tuyeres, iron slag pieces). Caton-Thompson's analysis encompassed material objects of both local and foreign origins. She even sent her beads to Beck for further analysis. Excavations on the terraces yielded exotic ceramics which she then used to date the buildings. Caton-Thompson (1931) cemented the local origin hypothesis and gave her earliest date for the whole complex as the 9th Century or possibly a little earlier, and also considered the possibility of a pre-ruin culture.

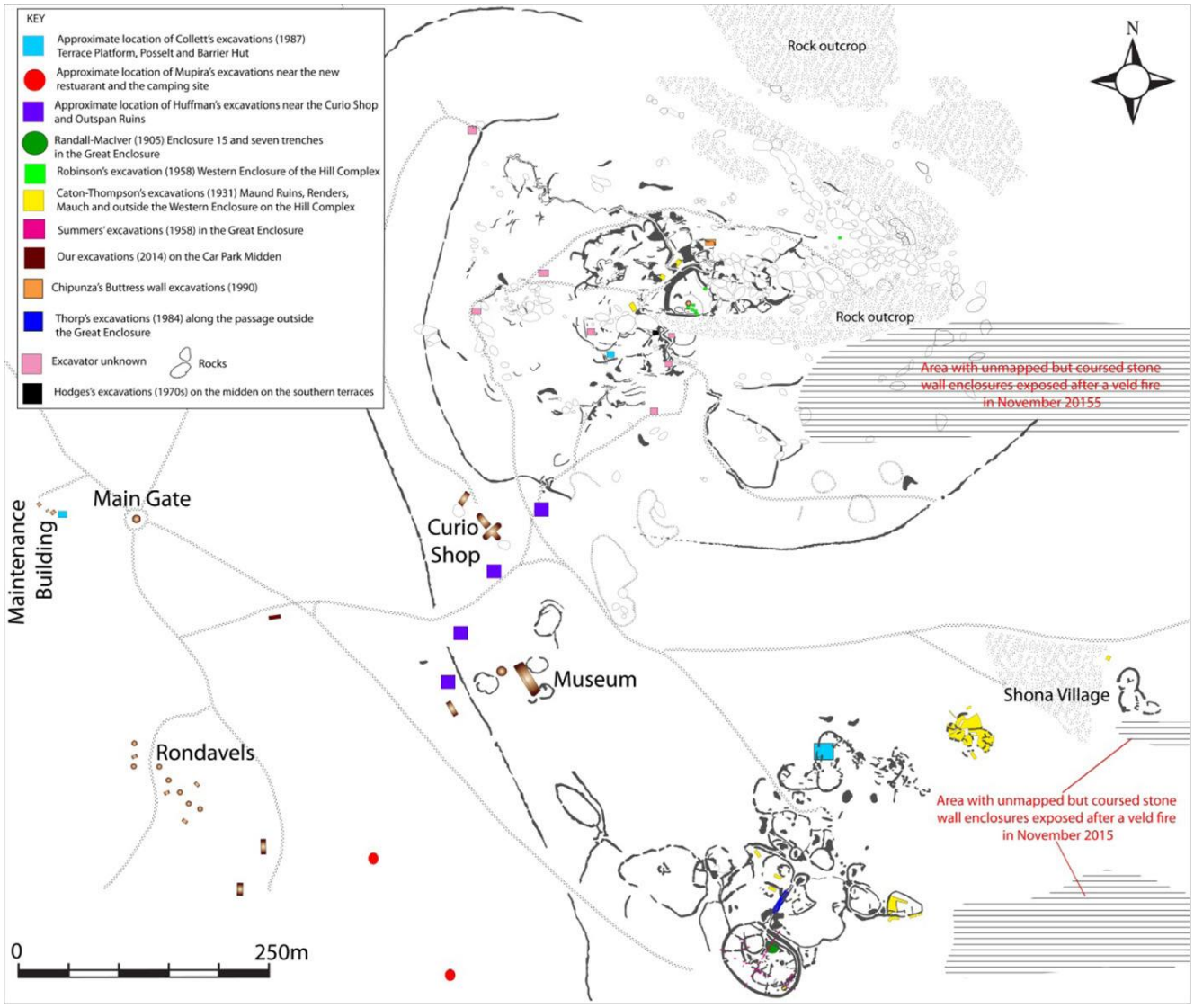


Figure 3.2: Map showing professional excavations at Great Zimbabwe. (After Chirikure et al. 2016.)

Caton-Thompson (1931) also attempted a reconstruction of the culture history of Great Zimbabwe through the analysis of locally handmade pottery which was previously discarded in favour of imported ceramics, such as Chinese blue on white porcelain and celadon. She performed a classification of all pottery from her excavations and came up with four main pottery classes which she named alphabetically. Caton-Thompson divided the pottery of Great Zimbabwe into a number of classes which were defined informally on the basis of colour, technique and decoration. Class A was made up of badly fired, rough red-brown to dark grey ware with quartz particles. The rims had a flat overturned lip, and were sometimes decorated with diagonal or other arrangements of shallow squares or round impressions. Class B consisted of well-fired, undecorated reddish-grey pots with a finer texture. The rims

are bevelled and slightly flared. Class B pottery has a bright metallic and very effective sheen produced by a graphite polish. Class C consisted of thicker and coarser ware than Class B, with thickened rims and brown polish. Class D was made up of polychrome ware, red incised bands on discoloured black ground. Her adherence to standard procedures of pottery classification using colour, texture and decoration has been commended as heralding a systematic approach in Zimbabwe (Pikirayi 1997; Mtetwa *et al.* 2013). Caton-Thompson's classification of Zimbabwe pottery formed the basis for Robinson's (1961) ceramic analysis.

Summers and Robinson also excavated at Great Zimbabwe in 1958 and recovered a range of objects such as local pottery, imported ceramics, glass beads, spindle whorls, varied soapstone and metal objects and metal production debris (Summers *et al.* 1961). They then classified the pottery (Table 2.1), walling types and their dating and provided an interpretation of these in terms of cultural or population change.

Period of occupation	**Pottery class**	**Type**	**Form**	**Fabric**	**Decoration**
1 (AD300-500) Early Iron Age Gokomere settlement (AD600 – 900) Early Iron Age Zhizo settlement	I	Pots Bowls	- Globular with a short flared or vertical neck, thickened rim - Narrow necks; short vertical neck without thickened rim, - Mostly thick and few thin hard ware - Thickened and flattened rim; hemispherical	Clay free from quartz grits, fine and evenly fired	Stamps and channel grooves; bangle decoration
2 (AD900-1000) - Late Iron Age Gumanye settlement	II	Pots Bowls Beaker -bowls	- Gourd-shaped, flattened rim, small circular hollow in the base of vessels, neck poorly developed though in some instances it was tapered (occasionally decorated) or conical Hemispherical/deep bowls	Coarse, contain quartz grits, erratic firing	Rare and poor
3 (AD1000 to 1200) Late Iron Age	III	Pots	Shouldered pots - bevelled and faceted rim Vertical necked pots, gourd-shaped, made in finer fabric	Better worked clay, quartz grits rare, even and	Rare-narrow bands of incised triangles or

settlement		Bowls	Rare deep bowls	thorough firing	similar motifs Undecorated
4 (AD1200-1700) Late Iron Age settlement (flourishing of Great Zimbabwe)	IV	Pots	Spherical bodies - short necks and beaded rims Spherical/globular bodies - tall necks, beaded rims, outwardly flared rims Spherical pots with short necks, heavily rolled rims Spherical pots without necks and rolled rims Thin small pots, thick large pots	Both fine and coarse clay with graded quartz grits	Scarce
5 (AD1700 - 1900) Late Iron Age settlement)	V	Pots	Open-necked		Cross-hatching

Table 3. 1: Pottery classification (after Robinson 1961; modified by Chirikure et al 2016)

Robinson came up with a five-phase sequence of occupation with corresponding pottery classes (Table 2.1; 2.2). This sequence of occupation has since been modified by Chirikure *et al.* (2016) but the essence is still the same. Period I/1 (AD 100–300), characterised by the associated Class 1 pottery was the earliest occupation by an African population. It was followed by Period II/2 (AD 300–1085). Radiocarbon dates from the upper levels of periods II and III indicated that Period III/3 associated with class 3 pottery lasted from about AD 1085 to about AD 1450, while the end of Period IV/4 was dated by oral tradition to AD 1830 (Summers *et al.* 1961). Period 4 was related to its predecessor but had a pottery type labelled Class 4. Period V/5 (AD 1833–1900) represented the last phase of occupation and was associated with the Mugabe people. Of these, Periods 3, 4 and 5 are associated with the stone buildings.

Period	Focus	Pottery	Architecture	Date
I and Ia	Hill Complex	Class 1 – Gokomere/Ziwa/ Zhizo pottery	no stone walling	5th-8th centuries
	----------	**Abandoned**	----------	9th-12th centuries
II	Hill Complex	Class 2 – Gumanye pottery	no stone walling; *dhaka* house floors	mid 12th-early 13th centuries
III	Hill Complex, Western and Eastern Enclosures	Class 3 pottery, Class 3 influenced by Class 4a pottery	P stone walling; substantial *dhaka* houses	early-late 13th centuries
IVa	Hill Complex; Great Enclosure; Upper Valley Enclosures	Class 3 influenced by Class 4a pottery; Class 4 pottery	P and PQ walling	late 13th-early 14th centuries
IVb	Great Enclosure; Lower Valley Enclosures	Class 4b graphite burnished ware	PQ, Q and R walling	early 14th-mid 15th centuries
IVc	Lower Valley Enclosures	Class 4c graphite burnished ware	Q and R walling	mid 15th-mid 16th centuries
	----------	**Abandoned**	----------	mid 16th-19th centuries
V	Lower Valley Enclosures	Class 5 – Karanga pottery	R walling	19th century

Table 3. 2: Great Zimbabwe's main periods of occupation modified from Summers et al (1961) modified by Chirikure et al (2013)

The main indication that came out of Robinson's pottery classification was that Great Zimbabwe was continuously occupied and used by Shona people from the 11th to the 19th Century AD. However, Garlake (1968), relying mainly on imported ceramics (blue-on-white porcelain), provided a shortened chronology of Great Zimbabwe. He argued that the scarcity of the blue-on-white porcelain suggested that the site was abandoned before the arrival of the Portuguese on the East African littoral. Huffman's (1987) radiocarbon dates also placed the beginning of Period 3 at about AD 1250 continuing until the start of Period 4 in about AD 1325 and finally placed the end of the occupation of the site around AD 1450.

Much at the same time as Robinson was excavating in the Hill Complex, Anthony Whitty was carrying out an architectural study of the stone walling with the aim of understanding the development of the site. Whitty established the existence of four historical stylistic variations in wall-facing technique which he termed the P, PQ, Q and R (Fig 2.3). He classified the P walling class as being made up of structures in which blocks forming the wall face are irregular in shape and size. The majority of the building stones show no signs of systematic dressing to shape. PQ walling is the intermediate between P and Q with characteristics of

each. The Q walling, recognised as the better class and neat, had walls built of approximately rectangular blocks laid in relatively even and level courses. The last class, R walling is composed of a mixture of blocks typical of P and Q together with triangular and other irregularly shaped lumps of stones. Whitty's (1961) conclusion was that the earliest building work was class P followed by Q and then lastly R. Whitty (1961) therefore argued that the Hill which is dominated by P stone walling was earlier, followed by the Great Enclosure with few P and majority Q style walls and the Q style only, Valley Enclosures, were the last to be built. R walls were common in general outlying or peripheral positions. Whitty's (1961) classification system has been widely accepted and its principles are still relevant in conservation issues.

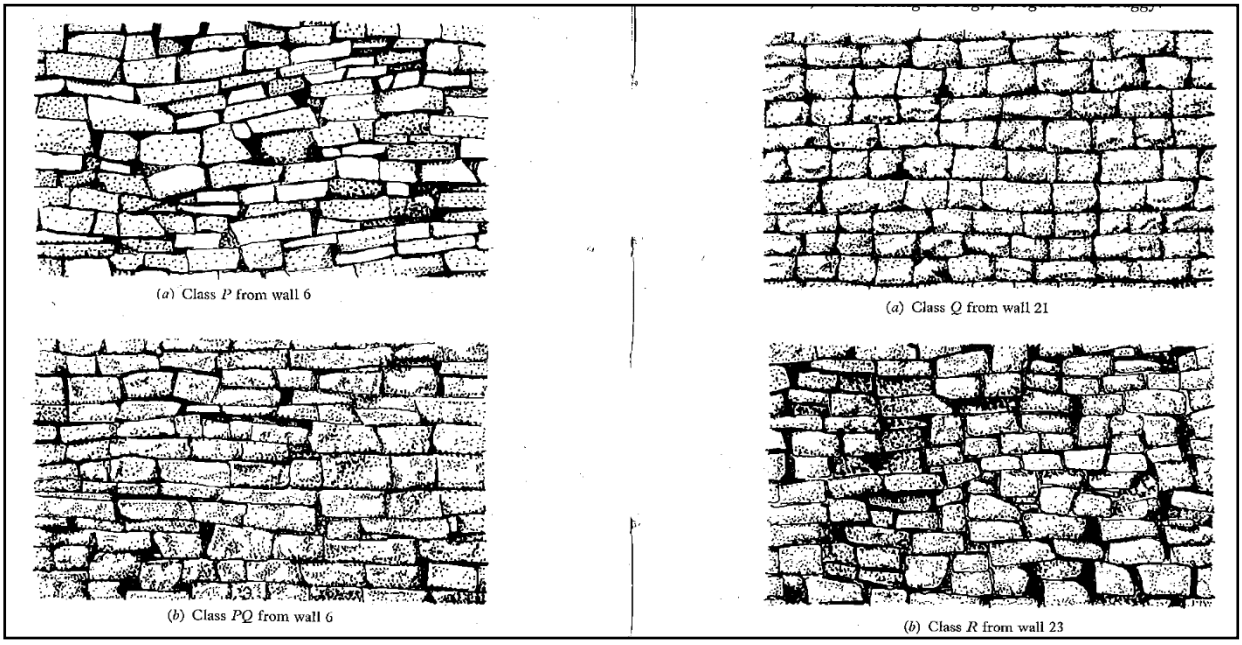


Figure 3 3: Walling styles developed by Anthony Whitty (Summers et al. 1961: 292-293)

Through the analysis of material objects, Summers *et al.* (1961) developed a sequence that has remained the point of reference of almost all researchers that came after them. It gave insights on how the site expanded. However, it has to be noted that their research focused on the stone-walled enclosures even though it is well known that there were settlements in open spaces. Without encompassing events that took place in open settlements, the interpretation of Great Zimbabwe will remain incomplete. Even the radiocarbon dating used to explain the development of the sites came from the stone-walled structures, with the exception of Z1 to Z4 settlements excavated by Huffman in the 1970s. Huffman and Vogel (1991) compiled a

series of 21 dates for the site of Great Zimbabwe which they argued as having the potential of providing precise chronological criteria for interpreting the sequence of occupation at this site (Appendix 1). They relied on samples from Robinson's 1958 excavation and Huffman's 1971 to 1976 Z1 to Z5 excavations (Fig 2.4 to 2.6). The chronology developed by Huffman and Vogel was however criticised by Beach (1998) for promoting the impression that all components of Great Zimbabwe were occupied and abandoned at the same time.

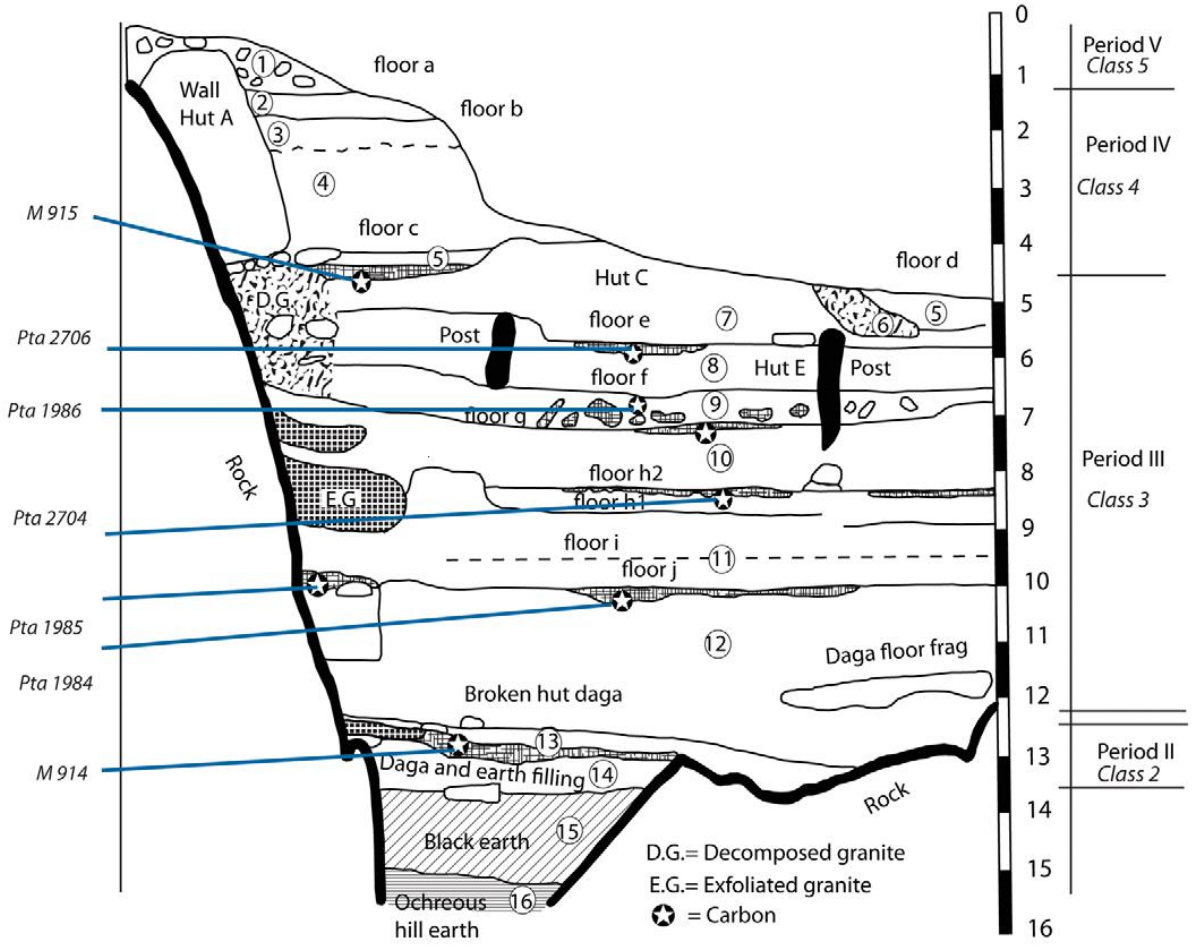


Figure 3.4: A section showing where samples for dating were taken from Robinson's Western enclosure Test Pit 1 excavations (After Chirikure et al. 2013: 860)

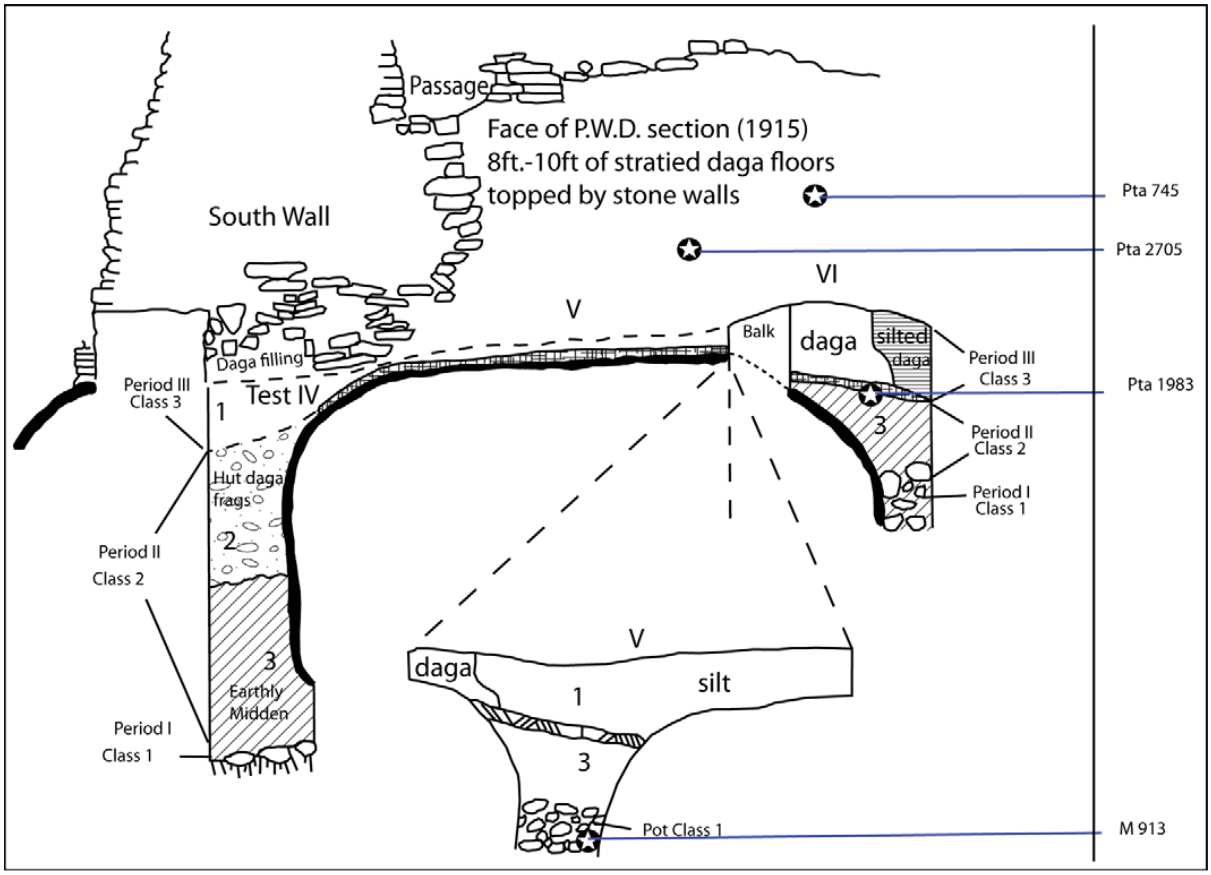


Figure 3.5: A section showing where samples for dating were taken from Robinson's Western enclosure Test Pits 4-6 excavations, (After Chirikure et al. 2013: 862)

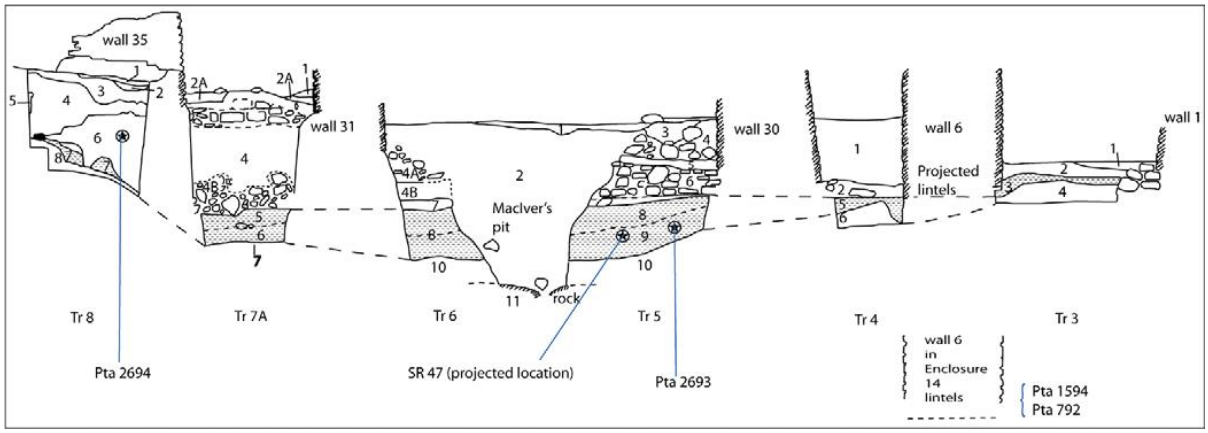


Figure 3.6: A section showing where samples for dating were taken from Great Enclosure excavations. (After Chirikure et al. 2013: 863)

A remarkable revelation that came out of the above presentation is the unbalanced nature of research at Great Zimbabwe. The site's history has been constructed based on radiocarbon dating from limited sections (the Hill Complex, Great Enclosure, Nemanwa Hill, Z1 and Z4)

(Appendix 1). Other parts such as the Valley Enclosures were relatively dated on the basis of imported ceramics (Caton Thomson 1931; Collett *et al.* 1992). Furthermore, no reconstructions have been made from the material objects recovered in open areas. As such, literature discussing the open settlements contains nothing but speculations. Only recently Chirikure *et al.* (*2016*) provided us with a date for an unwalled section of the site. Furthermore, much work was focused on developing the cultural sequence of Great Zimbabwe which was solely developed based on excavation in the walled enclosures. Again the unwalled sections were ignored in understanding the settlement sequence of the site. Having developed such a sequence, it was now easy for research work to expand to open settlements to see how these fit into the settlement sequence. Collett *et al.* and Huffman excavated the Barrier Hut and Z1 to Z4 respectively, but their excavations remain unpublished.

3.3 Collections and Great Zimbabwe's settlement organisation

The use of space at Great Zimbabwe is still a contested issue. Whitty (1959) and Garlake (1970) shared the sentiment that the stone-walled enclosures at Great Zimbabwe and other related sites served a clearly domestic purpose, screening and sheltering groups of clay-walled thatched huts. Judging from the material objects excavated from Great Zimbabwe by Robinson and Summers (Summers *et al.* 1961), Caton-Thompson (1931) and collections by early investigators (Mauch, Posselt, Bent, Hall), Whitty (1959) came to the conclusion that the stone enclosures were residences of a small elite, probably the ruling class. Inquiries of how space was utilised at the site gained momentum from the 1980s onwards. Huffman (1981) attempted a structuralist analysis of the Great Zimbabwe settlement based on a combination of data derived from archaeology, early Portuguese records and the ethnography of Shona-speakers and cognate groups. The analysis culminated in the identification of two series of binary oppositions. The first series encoded concepts of social status while the second series of binary oppositions encoded concepts of the sacred and the profane. Huffman's structuralist analysis was based on the widely held view that the use of space is a cultural variable and human societies everywhere divide their spatial environment into a system of distinct locations where limited ranges of culturally related activities are permitted. As such, the formal arrangement of structures within a settlement encodes information about social structure. Based on oral histories which associate important Shona chiefs and kings with the hill and designate the hill as the symbol of their royalty, Huffman identified the Hill

Complex as the residence of the king. Huffman (1981) cemented his idea of the Hill Complex serving as the king's residence with material culture recovered by Bent in 1896. Bent (1896) found a bronze spearhead like a lance point in the Western Enclosure of the Hill Complex. Within the Mutapa state, a spear with a gold lance-like point had been recorded by De Barros and Dos Santos as royal insignia hence Huffman's belief that the bronze spearhead which he argued to have been too elaborate for normal use must have been one of the Great Zimbabwe's royal insignia. Bent had also come across three iron gongs in the Western Enclosure which throughout Central Africa were associated with centralised chieftainship. Huffman (1981) thus claimed that these artefacts support the ethnographic evidence for an association between the hills and political power. He also claimed that the Eastern Enclosure as the area used for major state rituals that linked the rulers and his ancestors with the fertility of the land. Having gathered through ethnographic data, that throughout southern Africa, space is organised in such a way that the right hand side is commonly associated with men while the left side is for women, Huffman therefore interpreted the Valley Enclosures as the residences of the wives of the king. He further supported this view with information gathered from oral tradition which claimed that amongst the Shona people, a chief's hut normally faces the west and his wives should be to his left meaning that the wives will end up being south of the chief hence the Valley Enclosures were south of the Hill Complex. The Great Enclosure was identified as having been used as an initiation school (Huffman 1981, 1984). Having gathered from ethnographic records that the Bemba and Pedi used figurines in female initiation schools, Huffman (1984) suggested that the figurines that were recovered at the *dhaka* structure in front of the Conical Tower were also used for female initiation. He therefore concluded that even though the initiation school was for both sexes, there was a slightly greater emphasis on the female side.

However, Beach (1998) questioned the credibility of Huffman's interpretation arguing that he does not adequately understand the dynamics of Shona worldview and associated role palying. Chirikure *et al* (2016) also doubted Huffman's interpretation arguing that it is the king that makes the place and not the other way round. They cite an example of the capital of the founding Mutapa, Nyatsimba Mutota known as Mutota's Zimbabwe which although located on flat land was an elite residence. Although not in agreement with the structuralist model, Chirikure *et al* (2016) supported the importance of the Hill Complex arguing that it deserves a special mention as the seat of power of the founders of the kingdom. Their

argument is that in Shona worldview, the residences of founding chiefs were and are still powerful shrines where his mediums ask for rain hence the view that the Hill Complex would have served this purpose even after the seat of power had moved to other parts of the site. Collett *et al.* (1992) questioned Huffman's structuralist interpretation, arguing that although Huffman's theory might be used to describe the Hill Complex and the Great Enclosure, the same could not be said about the Valley Enclosures which are constructed solely in the Q style. This means that they were built as a later addition when other parts of the site had been constructed, thus raising doubts as to the credibility of Huffman's claim that they were residences of the wives of the king, as one is inclined to ask where the wives were located before their supposed move to the Valley Enclosures.

Collett *et al.* (1992) argued that the structural history of the Western and Central Valley Enclosures illustrates the complex changes in the meaning of space that could occur during the life of an individual stone-walled settlement unit, something which Huffman's structuralist model did not incorporate. Collett *et al.* (1992) also argued that the blue-on-white porcelain recovered from one of the buildings in the Western Valley Enclosure indicates that this was an area that continued to be occupied after most of the settlement was abandoned, fitting well in the chronology built by Summers *et al.* (1961). The dating demonstrates that the Valley Enclosures cannot be incorporated into a synchronic settlement interpretation of the whole site. The continued occupation of the Valley suggests that the size of the town might have declined in the 16th Century, fitting well into the accounts of the Portuguese merchants who claim that when they arrived at Mutapa, there were people still residing at Great Zimbabwe.

Garlake (1985), however, argued that if our aim is to understand the social use of space in ancestral Shona-speaking societies, we must recognise that analytical procedures should never be divorced from chronological considerations. It is all too easy for interpretations to be dominated by the grandeur of the stone walls to the exclusion of the chronological information that may be derived from the architecture of these structures. It is also easy to forget that these walls were boundaries that surround and divided up the space in which people lived and that it is the enclosed areas that provide the context for interpreting the stone walls.

Ignoring context is an important feature of many analyses of the symbolism of the stone walls. Specific features are interpreted as though they have a single meaning, for example, V-slots are female (Huffman 1981, 1984, 1986) or towers symbolize grain bins (Garlake 1973, 1985). This contrasts with anthropological interpretations where material objects are seen as having more than a single interpretation and where meaning is context-dependent (Turner 1967).

The structuralist model was further criticised by Sinclair (1987) and Beach (1998) as presenting a society in stasis for 200 years. Beach (1998) argues that Huffman relied heavily on misunderstood documents (especially the Portuguese documents), dubious oral traditions and inappropriate comparisons. Through the use of Shona ethnography and history of political succession, Beach (1998) argued that both the Great Enclosure and the Valley Enclosures were likely centres adapted by successive rulers. He is of the opinion that the first ruler might have occupied the Hill Complex while the royal sons and daughters settled along the terraces and later expanded into the valleys as they married and started their own families. The death of the ruler meant that power moved from one place to another, making these centres alternating residences of the rulers. Beach (1998) then identified Chenga, Mutuzu and Nemanwa as settlements of outlying members of the dynasty and their associates. Chirikure and Pikirayi (2008) later tested Beach's hypothesis with archaeological evidence since Beach had come to such a conclusion without engaging with the material culture excavated from these places. Based on the similarities of material culture collected from the Hill Complex, Great Enclosure and Western Valleys, Chirikure and Pikirayi (2008) concluded that these enclosures might be the work of successive rulers, each founding a new residence and power centre in accord with the Shona practice.

Having argued that one of the characteristics of a rainmaking shrine was the burning down of grain bins which would have been built on hilltops for the ceremony, Huffman (2009) claims that the Hill Complex at Great Zimbabwe was first a rainmaking shrine before being residences. He claims that the first two periods of occupation and the beginning of Period 3 at Great Zimbabwe were nothing more than rainmaking shrines, arguing that the deposits lay on a steep slope where space was too restricted to allow a normal settlement. Huffman (2009) argues that the burnt pole-impressed *dhaka* and dark ashy soil recovered by Robinson during the 1958 excavation in Periods 1, 2 and 3 correspond to rainmaking activities. Robinson's section drawing of Test pit 1 shows that Periods 1, 2 and 3 were approximately 3,1metres

deep, thereby raising questions whether such a huge amount of deposit accumulated as a result of a ceremony which was not conducted on a regular basis. If indeed these periods of occupation were for rainmaking ceremonies, how is it that we continue to find the same material objects in the upper levels which he claims to have been residences?

Generally, it can be argued that in prehistory, ideology contributed to the centralisation and consolidation of political power. However, for ideology to become an effective source of power, Blanton *et al.* (1996) and DeMarrais *et al.* (1996) stress that it has to be materialised. They argue that materialisation makes it possible to extend an ideology beyond the local group and to communicate the power of a central authority to a broader population. DeMarrais *et al.* (1996) explain materialisation as the transformation of ideas, values, stories and myths into a physical reality such as a ceremonial event, a symbolic object, a monument, or a writing system.

3.4 Collections and socio-economic organisation at Great Zimbabwe

A number of attempts (Garlake 1982; Connah 1987; Thorp 1995; Pwiti 1996) have been made to understand the socio-economic organisation of Great Zimbabwe. The growth of Great Zimbabwe has been explained by Garlake (1982) as a result of an increase in local wealth in the form of large cattle herds based on both archaeological and ethno-historical evidence. Sinclair (1987) is of the view that archaeologically, the proportion of cattle in faunal remains at Great Zimbabwe and similar sites and the slaughter pattern they reflect, especially at Great Zimbabwe, has left little doubt of the importance of cattle herding under some form of centralised control within the state. Great Zimbabwe's economy was in a substantial manner based on large-scale herding of cattle explained in detail by Garlake (1982). Garlake (1982) came up with the transhumance hypothesis explaining the importance of cattle at Great Zimbabwe. Garlake (1982)'s hypothesis was later supported by Connah's (1987) view that the considerable range in altitude between the Zimbabwe plateau and the coastal plain offered the possibility of transhumant pastoralism for overcoming seasonal variations in pasture and other conditions. Cattle have been viewed as an important source of wealth (Garlake 1982; Sinclair 1987) which saw people with more cattle exerting their influence on those without cattle through the loaning system known as '*kuronzera*'. Thorp (1995) can be applauded for her efforts to understand Great Zimbabwe's meat economy based on excavated faunal remains. Her analysis focused on faunal material recovered from

the Hill midden excavated by Hodges in 1972 and Huffman's Z1 to Z5 excavations. Thorp came to the conclusion that the elites consumed young prime and tender beef while the commoners' meat came from old stock. Generally, the populations of southern African complex societies have been divided into elites and commoners. The elites are regarded as the privileged group from which the ruler came. These elites enjoyed high status and had access and control of foreign trade, lived in houses enclosed by stone walls and enjoyed the consumption of prime meat (Connah 1987; Hall 1987; Thorp 1995; Pwiti 1996; Huffman 2000; Pwiti *et al.* 2013). On the other hand, the commoners lived in cramped conditions outside the stone walls, had no access to trade goods and consumed meat from old stock (Thorp 1995). This division had to some extent assumed the absence of any social relationship between the elites and the commoners apart from that of dominator and the dominated. Pwiti *et al.* (2013) hold the view that the pattern realised by Thorp in the Hill Complex might be a reflection of consumption patterns associated with ceremonial activities thus cannot be used as evidence of social stratification. A point to note here is that Thorp's (1995) conclusions have been taken to represent the whole site when in actual fact the sample is not a true reflection of the whole site. As such, this research moves a step further to analyse faunal remains from sections, compare the results and then come up with meaningful explanations.

Great Zimbabwe's past trading routes were reconstructed through the analysis of foreign objects, mainly glass beads and ceramics. Using the LA-ICP-MS technique, Robertshaw *et al.* (2010) studied glass beads from Great Zimbabwe and 18 other southern African Iron Age sites with the aim of determining the chemistry and source of glass used to manufacture these glass beads. It was gathered that Great Zimbabwe beads were made from plant ash glass whose origin was traced to South Asia or South-East Asia (Robertshaw *et al.* 2010). It remains unclear what Great Zimbabwe inhabitants gave in exchange, although natural products such as ivory, animal skins, gold and rhino horns have been named. Glass beads are believed to have been quickly adapted as an alternative expression of wealth and power (Pwiti 1991; Robertshaw *et al.* 2010). Matenga (2011) is of the view that controlled access to exotic goods such as items of personal adornment (beads) and household ware (China ware) was a means of accentuating the social differentiation between ordinary subjects and the ruling elites. Thus exotic goods were symbols of power and privilege. As a result, areas that produced glass beads at Great Zimbabwe were regarded as elite settlements. Imported

ceramics have also been used in determining trade patterns. For example, the presence of Chinese celadon dishes and stoneware, Persian wares, Near-Eastern glassware discovered by Bent in 1891 was taken as proof of medieval Arabian trade contacts. On the contrary, the absence of blue-and-white porcelain, an absolute proof of Portuguese presence was used as an indicator of the absence of Portuguese merchants at Great Zimbabwe (Garlake 1968). Portuguese merchants were the major suppliers of blue and white porcelain hence its absence at Great Zimbabwe is an indication that its inhabitants were not in contact with the Portuguese.

Matenga (1993) analysed the archaeological figurines from Great Zimbabwe and other Zimbabwe type sites. The assemblage consisted of clay figurines of cattle and conical objects and soapstone figurines (Zimbabwe birds, miniature representations of birds and animals, and human and phallic figurines). He came to the conclusion that figurines operated as fertility symbols. He is also of the belief that the Shona conception of fertility and procreation was probably an urge behind the making of certain types of human and animal figurines. Matenga (1993) is of the view that the failure to recall the manufacture and use of figurines in oral traditions may be due to the fact that the process may not have been connected to any institution. Matenga (1998) attempted a reconstruction of the meaning of soapstone birds found at Great Zimbabwe. He suggested that the birds were sacred representations constituting an integral part of the spiritual image of Great Zimbabwe. In coming up with the meaning of the soapstone birds, Matenga (1998) was also guided by the physical context of the birds (imposing stone-walled enclosures), which he argued clearly tells the story that the birds were intended for more than mere aesthetic contentment.

Borrowing from the field of statistics, Chirikure *et al.* (2013) used the Bayesian modelling approach to develop a new chronology. The Bayesian modelling suggested that the Hill Complex was occupied from AD 1100 to 1281, while the settlement of the Great Enclosure spanned from AD1226 to 1383. The dates also indicate that the occupation of the Hill was earlier than the Great Enclosure and by extension, the Valley Enclosure, thereby endorsing Whitty's architectural analysis conclusions.

Through revisiting published accounts of metals from Great Zimbabwe, Herbert (1996) came to the conclusion that the site had a vibrant metallurgical industry based on smelting and

smithing of both ferrous and non-ferrous metals. She is strongly convinced that iron and copper objects at Great Zimbabwe represent the materialization of elite power, and suggest a close and intertwined relationship between metalworkers and political leadership. Making use of existing archaeological collections, Bandama *et al.* (2016) explored the metallurgy of Great Zimbabwe and identified iron, tin, copper, brass, bronze and gold as metals worked at Great Zimbabwe. Through recording the occurrence of metal objects across the Great Zimbabwe landscape, Bandama *et al.* (2016) observed remarkable similarities in the form and range of composition of objects. They therefore came to the conclusion that residents of various components of Great Zimbabwe worked and processed their own metals, thus pointing to homestead-level production and consumption. Bandama *et al*'s (2017) study of crucibles and moulds from Great Zimbabwe's century old archive using a number of scientific methods revealed the presence of two types of crucibles namely specialised and non-specialised crucibles. The non-specialised crucibles were made from common pottery fragments. It was gathered from the analysis that the crucibles' primary purpose was to hold melt and to form ingots during non-ferrous metallurgical operations throughout Great Zimbabwe's occupation history thus concluding that non-ferrous metallurgy formed an important component of socio-technical activities performed not only in different areas at Great Zimbabwe but also throughout its entire occupational duration (Bandama *et al* 2017).

3.5 Discussion

Much of what is known about the site of Great Zimbabwe comes from the analysis of material objects excavated from the stone-walled areas. The unwalled areas remain largely unexplored. Even though Huffman and Collett excavated within the open sections, the material has never been analysed, except for a few points presented by Huffman and Vogel (1991) as they were discussing the dating of various components of the site. Early works by Bent (1893); Hall and Neil (1903) and Hall (1905) focused only on exotic objects to address the Zimbabwe controversy. It was during this time that many local material objects were thrown away as they were thought to have accumulated after the abandonment of the site by its builders. Scientific research studies conducted thereafter were also limited to the walled enclosures, although this time around, effort was made to analyse the locally manufactured objects. For example, the widely referenced culture sequence developed by Robinson was built from the material objects that were recovered from the Hill Complex. Thorp's (1995)

subsistence pattern was reconstructed from the analysis of faunal remains from the walled areas of Great Zimbabwe. This shows that conclusions reached from the analysis of material from the walled areas later came to represent the whole site. Although most of the conclusions from these research studies cannot be taken to be a true reflection of the site, some useful insights were gained from some of the research, for example Great Zimbabwe's regional and international interactions. A crucial point to note is that past research studies were fragmented; no effort has be made to consolidate trends coming out of various analyses of material objects. Besides developing the culture sequence, researchers also focused on establishing the place of Great Zimbabwe in the development of complex societies in southern Africa and how its inhabitants related to either their precursors or successors. However, no effort was made to understand such issues at a site level.

Without disregarding past research at Great Zimbabwe, there is need for an integrated analysis of all forms of material objects from both the walled and open spaces of the site so as to understand the lifeways of the inhabitants within space and time. It is from such an examination of the remnants of the inhabitants that their economic activities, social organisation and past interaction can be explained.

3.6 Conclusion

This chapter has shown the useful insights that can be gained through the analysis of archaeological objects. A detailed study of these objects can reveal past socio-economic activities and interactions. The adoption of a number of scientific methods has also helped in revealing past interactions that could not be deduced merely from morphological studies. As such, an analysis of Great Zimbabwe material objects is expected to shed light on these aspects. It is essential firstly to gain an insight into each component's activities, be they economic, social or political, as such knowledge builds towards understanding the site as a whole.

CHAPTER FOUR: METHODOLOGY

4.1 Introduction

Material finds are the main source of archaeological knowledge. The analysis of material objects can help to interpret many aspects of archaeological interest, such as production and manufacturing processes or provenance. This is so because objects are a reflection of the society and the individuals who make, own and use them; a physical representation of our desire within the limitations imposed by technology, economic circumstances and social acceptability (Caple 2006). They form the material culture, the physical remains by which almost all ancient societies are defined. Tilley (1994) stressed that objects are crucial for culture and society because they are used for transforming, storing or preserving social information. Woodward (2007) argues that culture is created and lived through objects; hence the study of objects helps us to understand both social structure and larger systemic dimensions such as inequality and social differences and also human action, emotion and meaning. Due to a number of processes, these objects found their way into the archaeological record. Once excavated, that portion of the archaeological record is gone, except as curated collections and associated records.

These archaeological collections, as argued by Childs (2003), are a new frontier for the archaeological research of the 21st Century and beyond. The existing collections are adequate in addressing key questions of culture history and social process. Their study can inform about the individuals and/or societies that created and used them. Podany (2003) argues that it is the objects/artefacts that provide the context of the site, the crucial evidence that enables us to determine when the site was used, what happened there and who might have occupied it. Furthermore, shortages of storage space in museums world over and developed scientific methods have led to a sound interrogation of archaeological archives. In the developed parts of the world, archaeological collections have become a prime research asset. Normally it is said that destruction is the price we pay for knowledge through excavation (Childs 1994). However, in the case of Great Zimbabwe, the level of destruction does not match the information generated from the study of archaeological collections. Matenga (2011) lamented the lack of interest in Great Zimbabwe's archaeological collections when he commented that very little is known about the objects that have been found at the site despite the fact that

quite a lot of research has been carried out and public literature produced. As such, this study is largely collection-based as it is focused on the analysis of museum collections. The analysis was on two levels – that is, a reanalysis of previously analysed material as well as an analysis of archaeological collections excavated but never studied.

4.2 Methodology

In order to produce relevant datasets that address the research questions, a number of data acquisition techniques such as desktop survey, field survey, excavation and analyses of museum collections were employed.

4.2.1 Desktop survey

The survey encompassed consultation of both unpublished and published material. Unpublished material consulted included field notes, site maps and reports and accession registers housed at Great Zimbabwe's Conservation Centre (Masvingo) and the Museum of Human Sciences in Harare. Reference was also made to a wide range of literature from as early as the speculative phase (1850-1905) (Willoughby 1893; Hall and Neal 1902; Hall 1905) to current works (Chikumbirike 2014; Pikirayi 2014, Chirikure *et al*. 2016; Bandama *et al*. 2016). This exercise was instrumental in understanding the archaeology of Great Zimbabwe. It revealed previous researchers' engagement with the material culture of the site. Apart from shaping this research, desktop study helped in determining the sampling strategy adopted for this study.

4.2.2 Sample selection

Research areas focused on in this study were selected through stratified random sampling. Each section making up the site of Great Zimbabwe (Hill Complex, Great Enclosure, Valley Enclosures, outlying settlements and open areas) was treated as a stratum. As such, to obtain a fair representation of the aforementioned areas, it was decided to obtain samples from each stratum. This ensured that all the components of the site were represented. A balanced representation of the site also enabled an understanding of the distribution of activities across the Great Zimbabwe landscape. Within each stratum there were a number of sections. Areas to represent each stratum were then selected basing on the availability of material and its related information. The complex colonial history of Zimbabwe has resulted in the global

dispersal of collections which means that some areas making up the site of Great Zimbabwe have very few or no collections housed in Zimbabwean museums. One of the issues about working with existing collections relates to the degree to which material and its related records is preserved hence this study focused on better preserved collections with relevant data. As a result, the Western Enclosure, Northern Rock Shelter (NRS) and the Terraces were selected from the Hill Complex. The Great Enclosure and Western Valley Enclosures represented the Valley settlements. The Great Enclosure was treated as a single stratum which was repeatedly excavated by a number of researchers. As such, the material with at least minimal data was selected. Chenga ruins were selected to represent the peripheral settlements. Going through collections from open areas, it was noticed that they either lacked complementary records (field notebooks and excavation reports) or had missing collections, thus making it difficult to base data on them. As a result, a decision was made to undertake a field walk in search of an area to excavate.

4.2.3 Field survey

A pedestrian survey mainly focusing on open areas of the site was conducted with the aim of identifying possible middens and ultimately an area to excavate. Scatters of house floors and small middens were identified in and around the current carpark in a belt stretching from the maintenance workshop westwards towards the Great Zimbabwe Hotel (Fig 3.1). Within the carpark, a section of the midden was affected by tree roots while the other seemed undisturbed. It was then decided to sink a trench on the midden in late October and early November of 2014. It was subsequently named the Carpark Midden.

Figure 4 1: Images showing; right: position of trench; left: exposed hut floors

4.2.4 Excavation

The main objective of the excavation was to generate information to understand the archaeology of the unwalled areas. The Carpark Midden is situated inside the current visitor's carpark, just over 500m west of the outer perimeter wall, and at least 100m east of the Fees Gate (where visitors pay entrance fees) (Fig 3.2). The carpark is roughly 150 square metres in size. A 3m by 1m trench was excavated on the eastern side in an area without any visible tree roots. The excavation followed natural layers while the material for radiocarbon dating was taken from the trench after recording the XYZ position. In addition, GPS coordinates were also recorded. The final depth was just over 70cm in some parts (Fig 3.3). There is a possibility that the depth of the midden would have been more had the area not been exposed to natural and artificial denudation processes. Material objects recovered from the excavation were made up of potsherds, faunal remains, beads, carbonised seeds, charcoal, a copper ring, wound wire on fibre, wound wire pieces, crucibles, a bangle fragment, snail shell, upper grinding stone, rubbing stone and many metal pieces. It is housed at the Great Zimbabwe Conservation Centre.

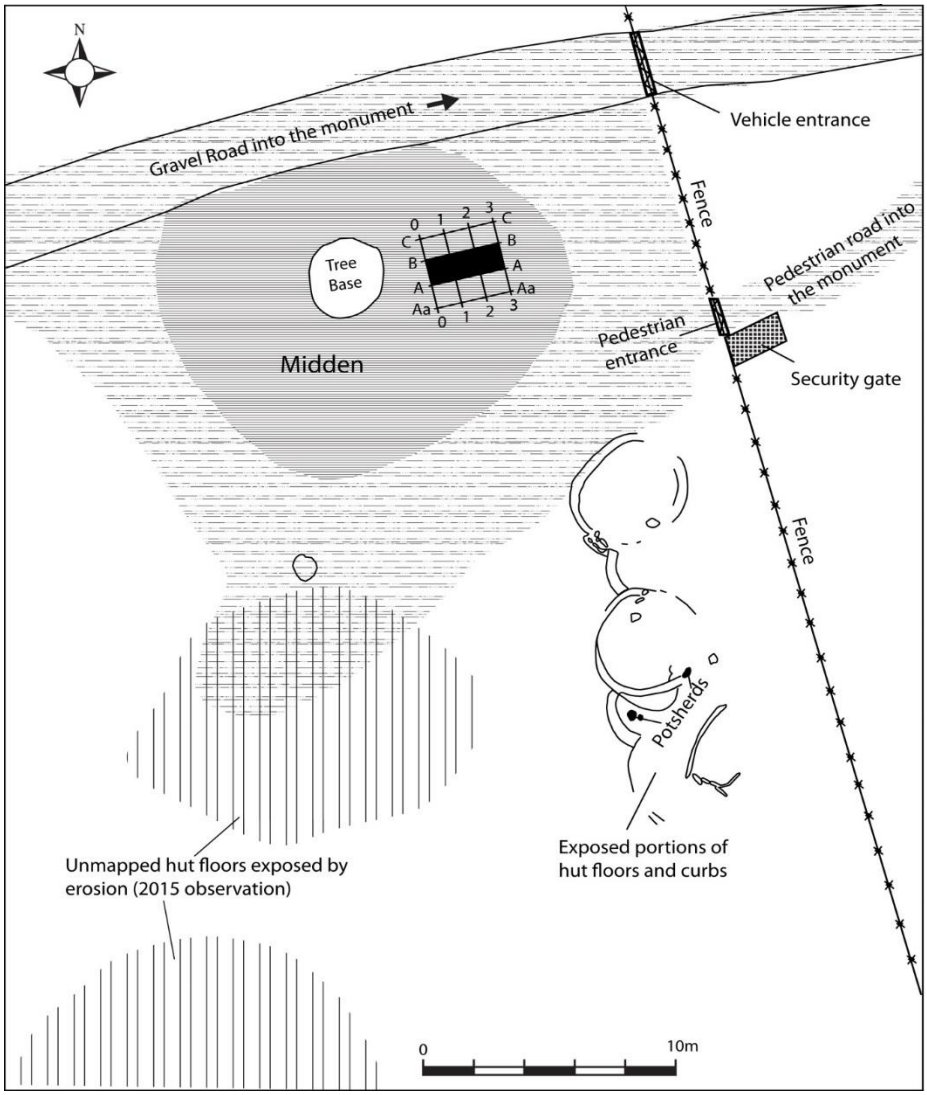


Figure 4.2: Plan of the Carpark Midden and its relationship with the nearby homesteads (Drawn by Foreman Bandama)

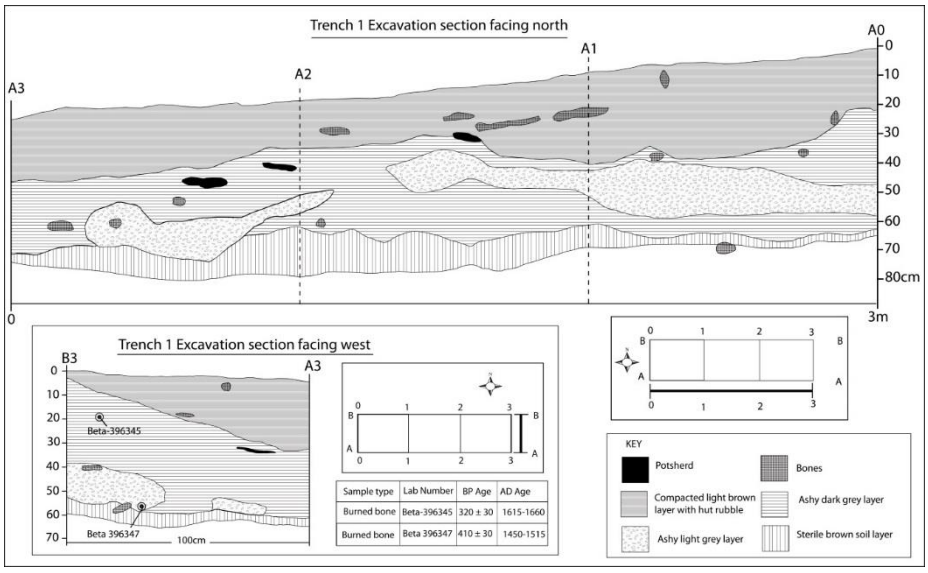


Figure 4.3: A section drawing of two sides of the excavated trench. (Drawn by Foreman Bandama.)

Three samples of burnt bone were submitted for radiocarbon dating but one had no extractable collagen. The resulting two dates when calibrated using the program OxCal at the 95% confidence interval using the Southern Hemisphere calibration curve (Hogg et al. 2013). This led to estimates of the age range of the excavated portion of the midden to be between AD1450 and 1660.

4.2.5 Museum collections analyses

Archival sources pointed to the existence of material objects from various parts of the site. Collections from the Hill Complex (Western Valley, Northern Rock shelter and Terrace Middens), Great Enclosure, Western Valley, Nemanwa Hill, Chenga ruins and the Carpark Midden were sampled for analysis (Table 3.1; Fig 3.4). The collections are currently housed at the National Museums of Human Sciences and Great Zimbabwe Conservation Centre. The Hill Complex, Great Enclosure and the Western Valley have received a great deal of attention from previous investigators. Even the current site maps and interpretation guides mostly focus on these components, giving the impression that this is all that Great Zimbabwe is. However, the objects from these areas have not received the same level of scholarly attention. As such, objects from these and other areas were selected as it was felt that these have the potential of revealing the real story of the stone enclosures.

AREA		**EXCAVATED BY**	**YEAR**	**SOURCE**
Hill Complex	Western Enclosure	Robinson	1958	Summers *et al.* 1961
	NRS	Matenga	1996	NMMZ Accession register
	Terrace Middens	Caton-Thompson	1929	Caton-Thompson 1931
Great Enclosure		Summers	1958	Summers *et al.* 1961
Western Valley		Collett	1989	Collett *et al.* 1992
Chenga Ruins		Collett	1989	NMMZ Accession register
Carpark Midden		Chirikure	2014	NMMZ Accession register

Table 4. 1: Table showing areas focused on in this study.

4.2.5.1 Western Enclosure

Specimens for this study came from excavations conducted by Keith R. Robinson, who was at that time employed as the Chief Inspector by the Historical Monuments Commission of Southern Rhodesia. The aims of the excavation were to investigate the ceramic sequence at Great Zimbabwe. All in all eight test pits were dug on the Hill Complex, with six being set in the Western Enclosure. Within the Western Enclosure, five test pits (referred to as Robinson Test Pits 2 to 6) were set in the area previously 'excavated' by the Public Works Department while the remainder (Test Pit 1) was marked out at right angles to the wall of rock bounding the north-western limits of the enclosure (Fig 3.5). Another trench was marked on the hill summit (Test Pit 8) where, according to Summers *et al.* (1961), Chief Mugabe is said to have lived for a time. The last trench (Test Pit 9) was sunk in the south-eastern corner of the Hill Complex. All these test pits produced a variety of material objects such as potsherds, glass beads, clay figurines, metal objects (spear blades, arrowheads, hoe heads, spearheads, copper and iron wire, bangles, gold pellet), slate and schist pendants, pole and *dhaka* fragments and kerbs, slag pieces and blowpipe. Robinson's collections are currently housed at the Museum of Human Sciences in Harare. Going through the collection boxes, it was discovered that crucibles were also recovered from the excavations but were not mentioned because Robinson identified them as model pots. Except for bone points, no other faunal material came from these test pits.

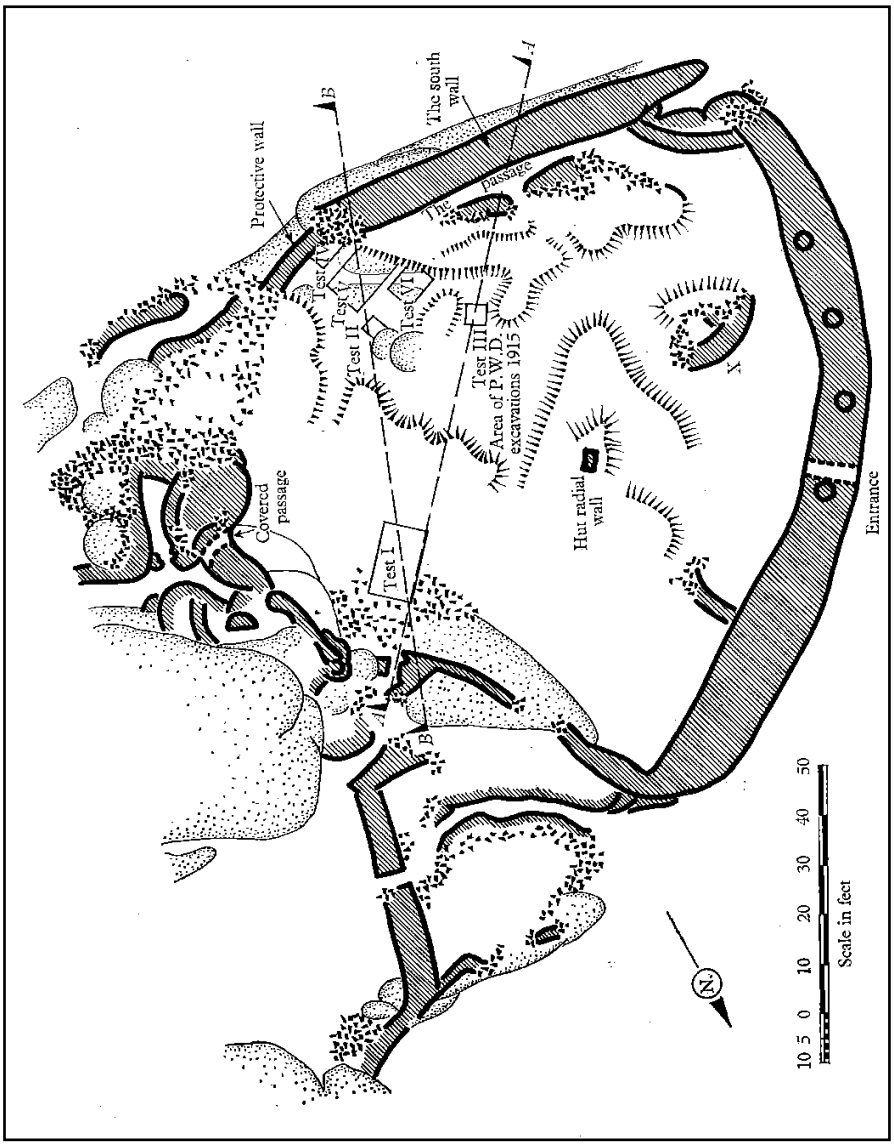


Figure 4.4: Map showing Western Enclosure and Robinson's trenches. (After Summers et al.:160)

4.2.5.2 Northern rock shelter (NRS)

NRS is behind the Eastern Enclosure (Hill Complex) on the northern side. It is made up of two big boulders. Three trenches were sunk in the NRS in 1996. The excavation team was led by Edward Matenga and supervised by Joseph Chikumbirike. Material objects that came out of the trenches included pottery fragments, faunal remains, spindle whorls, glass beads, soapstone, clay figurines, upper grinding stones, impressed *dhaka* fragments, rubbing stone, glass pieces, slag pieces, arrowheads, bangle, iron ore, many metal pieces and burnt seeds. The NRS collection is housed at the Great Zimbabwe Conservation Centre.

4.2.5.3 Terrace Middens

Three test pits (Table 3.2) were sunk on the north-west face of the terraced Hill Complex in 1929 by Caton-Thompson (1931). These are referred to as the Terrace Middens (Fig 3.6). The aim of the excavations was to recover objects which would help in establishing the dates of the buildings and its builders.

Test Pit	Length (m)	Width (m)	Bearing (degrees)
A1	5.8	5.2	310 from south turret or cone on the wall
A2	8.5	2.1	280 from the south turret on the wall
A3	11.3	3	355 from the last northern erect monolith on the wall

Table 4. 2: Caton-Thompson's Hill Complex excavations

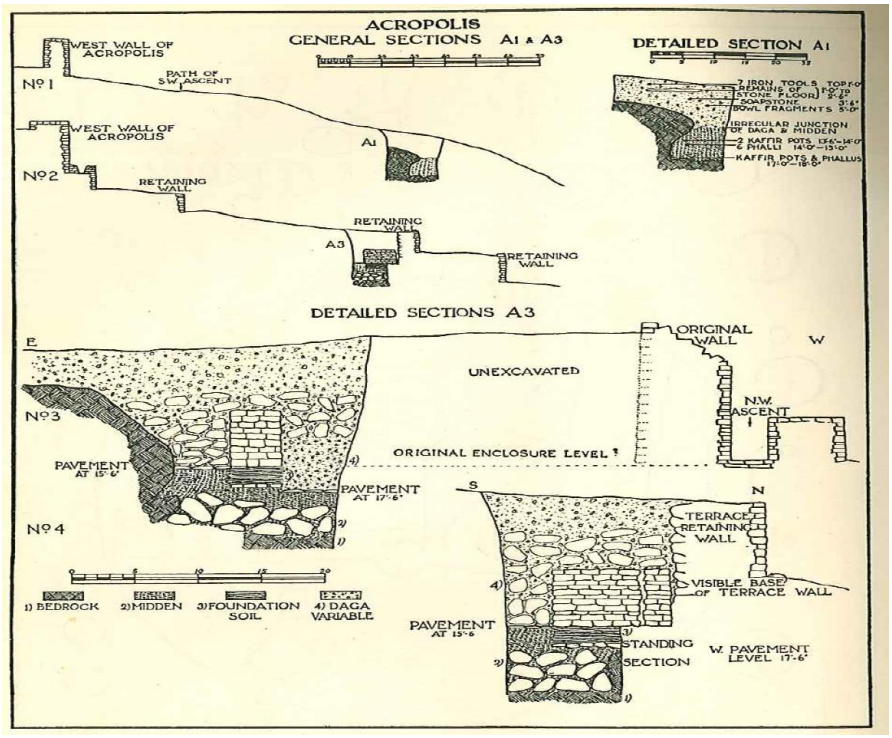


Figure 4.5: Cross-sections of Caton-Thompson's excavations. (After Caton Thompson 1931: 145)

Terrace Midden collections comprised pottery fragments, faunal remains, spindle whorls, iron slag, impressed *dhaka* fragments, hoe blade, a tuyere, a good deal of wound wire and metal pieces. A crucible was also recovered but was labelled as a fused pot. These collections are held at the Museum of Human Sciences in Harare.

4.2.5.4 Great Enclosure

The Great Enclosure is situated across the valley but adjacent to the Hill Complex. Material under consideration came from Roger Summers' excavations, which were undertaken with the objective of investigating the architectural history of the place by recording as much detail as possible about stone work, investigating the relative ages of various walls and *dhaka* structures and recovering from such few and undisturbed deposits as might still exist, any cultural material and charcoal samples (Summers *et al.* 1961). A total of 48 trenches were sunk in the Great Enclosure but due to the disturbed nature of the context, 14 trenches did not yield any material objects while the remaining trenches yielded very small numbers of objects (Fig 3.7). A great deal of deposit had been stripped off by previous researchers. This might be the reason why Summer's excavations recovered only small quantities of material culture.

The Great Enclosure material collection is composed of potsherds, faunal remains, worked bone, glass beads, glass pieces, clay and soapstone spindle whorls, a gold pellet, soapstone bowl fragments, soapstone slab, impressed *dhaka* fragments and kerbs, pebbles, crucible fragments and metal objects and debris (iron and copper bracelets, coiled copper wire, hoe heads, hoe blades, spearheads, crucible fragments and many metal pieces). This material collection is currently held at the Museum of Human Sciences.

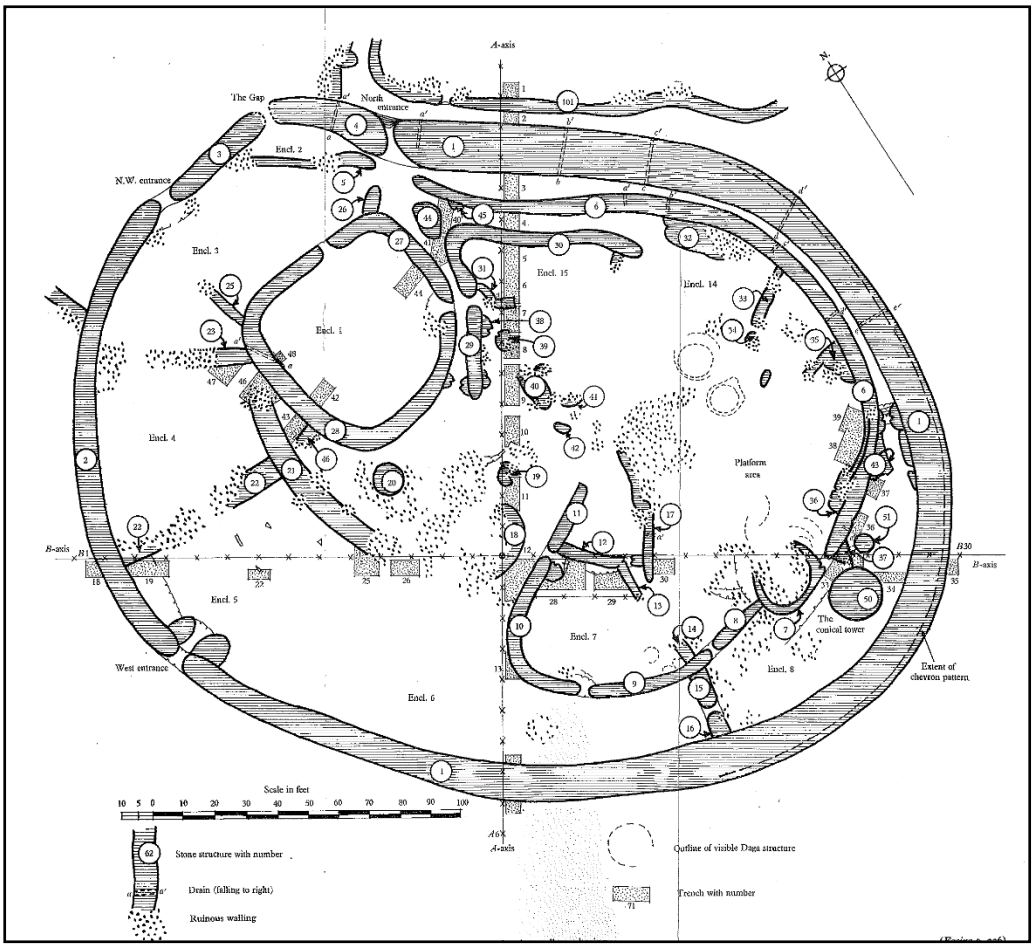


Figure 4 6: Detailed plan of the Great Enclosure showing trenches. (After Summers et al. 1961: 237)

4.2.5.5 Western Valley Enclosure

The Valley Ruins are located between the Hill Complex and the Great Enclosure. A detailed discussion of the Valley Ruins is provided by Ndoro (2005: 26-27). They have been divided into the Western and Eastern valleys. Material culture under study came from the Western valley, which was excavated by Collett, Vines and Hughes (Fig 3.8). The main aim of excavating was to provide the visiting public with the opportunity to see the remains of a Zimbabwe period building where the structural relationship between *dhaka* houses and stone walls could be seen (Collett *et al.* 1992). Excavation was confined to the inside of the building, except on the north-western side where a 0.5m trench was opened running parallel to the outside face of the clay building. This trench started from wall 21 and ended at a rubble pile located about 4m to the south. This procedure was adopted to minimise disturbance to the rest of the deposit in the enclosure. The deposits were excavated by natural levels (Fig 3.9). The Western Valley Enclosure's material collections, comprising pottery fragments,

imported ceramics, faunal remains, spindle whorls, soapstone slabs, figurines and metal objects and production debris (hoe blades, arrowheads, hoe pieces, slag pieces, copper bangles and wound wire), is kept at the Great Zimbabwe Conservation Centre.

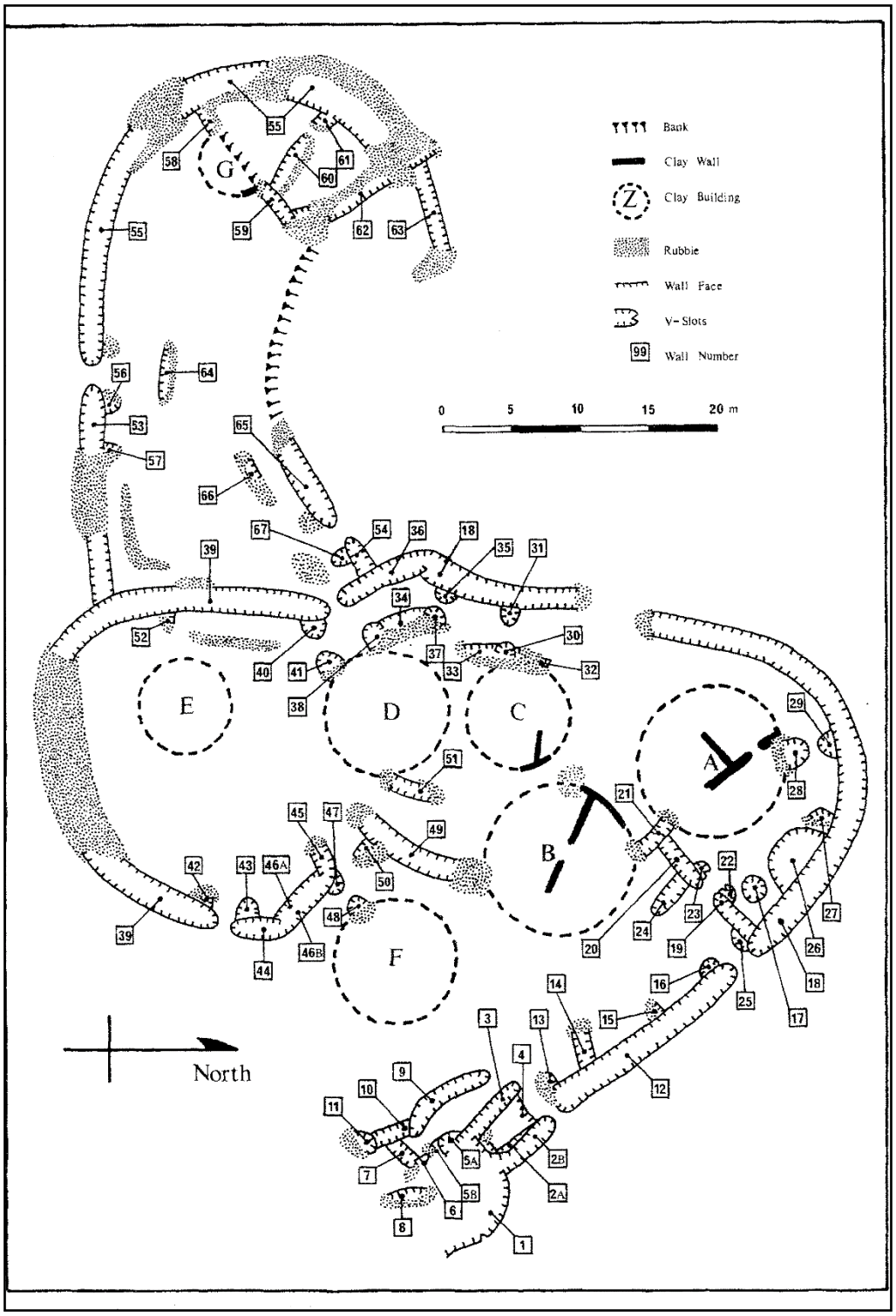


Figure 4.7: Detailed plan of the Western Valley Enclosure showing clay buildings and stone walls. (After Collett et al. (1992:145).) Note: building B produced material culture analysed in this research.

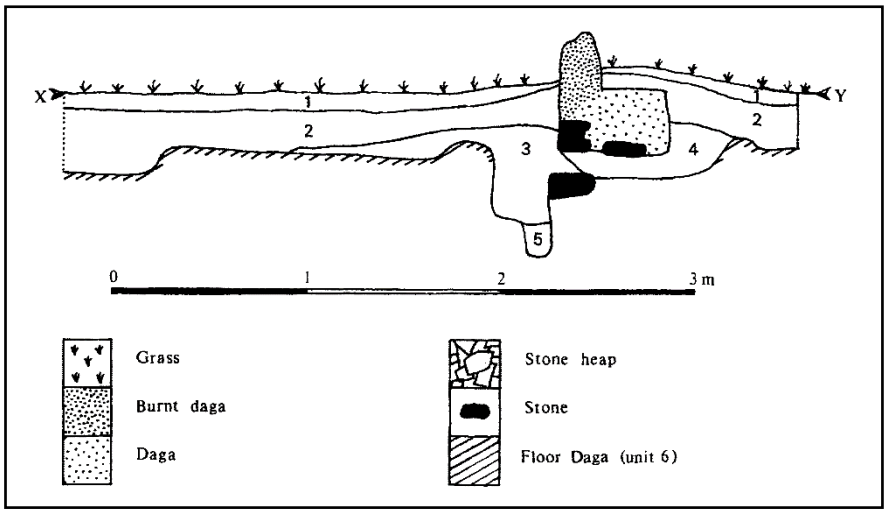


Figure 4.8: Section drawing of the trench. (After Collett et al., (1992:156.)

4.2.5.6 Chenga Ruins

Chenga Ruins are located about 2km from the main part of Great Zimbabwe and form part of the 720ha of the World Heritage Site, but their relationship to the 'main centre' is not well understood. Chenga ruins were regarded by Hall (1905) as not having any relationship with Great Zimbabwe. His accounts mainly derived from local informants who told him that the Chenga ruins were not built by the same people that built the rough walls of the minor ruins at Great Zimbabwe. The Chenga collection composed of pottery, faunal remains and many metal pieces which could not be identified to object level, is housed at the Great Zimbabwe Conservation Centre.

4.3 Limitations of the collections

Collections accumulate from different time periods. As a result, challenges are bound to be encountered. A number of problems were, however, faced in dealing with these museum collections. The main problem faced was absence of field notes for some excavations. It appears as if some researchers retained notes after an excavation. Field notes can reveal the picture of the whole excavation from the setting up of the trenches, orientation, recovery contexts and the bagging of the material. Caton-Thompson (1931), Summers *et al.* (1961) and Collett *et al.* (1992) provided information for their excavations while NMMZ Accession registers and labelled finds bags were consulted so as to reconstruct the other excavations. Some of the finds bags, especially from the Western Enclosure and Great Enclosure, once

had a label stuck on them but some of these labels have since fallen off. In cases where field notes were present, such as the Hill Complex and the Great Enclosure, it was noticed that some objects were missing. Such objects had either been looted by treasure hunters and antiquarians or taken by archaeologists for further research and never returned. A case in point is the absence of all material culture except fauna and few ceramics from Huffman's Z1 to Z5 1972 to 76 excavations. Furthermore, objects from Great Zimbabwe have been dispersed very widely. These collections could have been dispersed through gift and exchange, donation or through purging. Dibble *et al* (2005) highlighted that in the 19th Century, excavators in foreign countries sometimes split the finds with the country of origin or the sponsoring institution. Presently, the Museum of Archaeology and Anthropology in Cambridge hold beads from Great Zimbabwe that were donated by Gertrude Caton-Thompson, Elizabeth Goodall and Horace Beck. Lane's (2013) inventory of archaeological objects in the Pitt Rivers Museum revealed that the museum holds a lot of archaeological objects from approximately 22 countries with the largest collections being from Zimbabwe. Some collections were deliberately taken away to create cabinets of curiosities, for example collections housed at Groote Schuur, Rhodes's private museum in Cape Town, South Africa. As a result of different historical circumstances, many collections are split among the many repositories often in several countries, requiring considerable effort and luck to track them down.

Another limitation is that the assemblage was excavated by different people over a period of more than hundred years. This means that some left their excavation notes and others did not. For example, while Summers (1961) and Robinson (1961) fully published their excavations following stratigraphic information, no stratigraphic information is available for Chenga ruins and Huffman's excavations in the 1970s (see table 4.9). Also, the standards of excavation changed over the more than hundred years of encounters with Great Zimbabwe.

AREA		
Hill Complex	Western Enclosure	Stratigraphic information available
	NRS	Stratigraphic information available
	Terrace Middens	Stratigraphic information available
Great Enclosure		Stratigraphic information available
Western Valley		No stratigraphic information
Chenga Ruins		No stratigraphic information
Carpark Midden		Stratigraphic information available

Figure 4. 9: Table showing areas with stratigraphic information. These are the areas that were also studied for the purposes of this thesis. Note: stratigraphic information for NRS was reconstructed from finds backs while Summers et al (1961) served as field notes for the Western Enclosure and the Great Enclosure

Any comparison of the frequency of objects recovered from various areas of Great Zimbabwe must be alert to the differences in the excavated areas. For example, Robinson's (1961) Test 1 (Fig 2.4) was only a metre by metre while Collett excavated a whole hut floor following natural layers. Summers' excavated a very big area in the Great Enclosure in some instances following natural layers especially in the case of hut floors. In addition, Huffman excavated a very big area near the Camp Ruins while the Car Park Midden trench was only 3 X 1 metres in size. Consequently, the limitation of using archival data is that the levels of analysis possible, statistical and otherwise, are conditioned by what is in the archive. However, the most important goal was, for the first time, to present a picture of Great Zimbabwe based on objects from walled and unwalled areas in a single study.

The Great Zimbabwe collections have been moved more than once from one museum to the other. Before the construction of the Conservation Centre, Great Zimbabwe's collections were housed in either the Bulawayo Museum or the Museum of Human Sciences. The movement of these collections to the Conservation Centre led to the reaccessioning of objects. The new accessioning system made it difficult to reconstruct the context of the objects. The reaccessioning exercise might not have been captured or the notes were taken by the personnel that performed the exercise. This exercise made it difficult to relate field notes to collections especially in cases where the old accession numbers were not retained. For this reason, the analysis had to rely on accession numbers only to determine which areas certain objects had been recovered from.

4.4 Discussion

The main indication coming out of the inventory of material culture from the areas under study is that of the presence of almost all forms of material objects across the Great Zimbabwe landscape (Table 4.3).

Forms of material objects		Hill Complex			Valley settlements		Outlying settlements	Open areas
		Western Enclosure	NRS	Terraces	Great Enclosure	Western Valley Enclosure	Chenga	Carpark
Ceramics	Local	✓	✓	✓	✓	✓	✓	✓
	Exotic	✓	✓	✓	x	✓		
Faunal remains		✓	✓	✓	✓	✓	✓	✓
Beads	Glass	✓	✓		✓			✓
	Ivory	✓						
	Ostrich Eggshell	✓						✓
	Metal							✓
Metal groups	Adornment/Jewellery	✓	✓	✓	✓	✓	✓	✓
	Domestic utilitarian	✓	✓	✓	✓	✓	✓	✓
	Weaponry	✓	✓	✓	✓	✓	✓	✓
	Slag	✓	✓	✓	✓	✓	✓	
	Tuyeres		✓					
	Crucibles		✓		✓			✓
	Expressive objects	✓		✓		✓		
Spindle whorls		✓	✓	✓	✓	✓		
Stone-walling		✓		✓	✓	✓	✓	
Dhaka structures		✓		✓	✓	✓	✓	✓

Key:
✓ - present

Table 4. 3: Table showing the distribution of material objects

Utilitarian and non-utilitarian objects, weaponry, metal production debris and a wide range of objects of adornment are present in both walled enclosures and open settlements, giving the impression that there might have been no restricted access to these objects. The presence of tuyeres, slag and crucibles within the stone-walled enclosures and non-walled areas bears testimony to metal working in various places. A wide range of utilitarian objects (hoes, axes,

spears, arrows and chisels) are fairly distributed across the site. Apart from producing utilitarian objects, inhabitants of Great Zimbabwe also took time to adorn themselves with a range of objects such as bangles and rings. Local pottery and faunal remains are present in all research areas while exotic pottery was recovered in areas making up the Hill Complex and the Valley settlements. The Western Enclosure, NRS, Terrace midden, Great Enclosure and the Carpark midden are the areas that yielded glass beads. Settlement areas where glass beads, imported ceramics and faunal remains of young stock were found have been interpreted as residences of the elite (Pwiti 1991; Thorp 1995; Huffman 1996). Most of the aforementioned objects were found in the stone-walled enclosures. This led to defining all stone-walled areas as elite quarters while open settlements were regarded as commoner settlements. As can be seen from Table 4.3, the so-called 'elite objects' are present in the areas thought to have been occupied by the commoners, thus raising the need to reinvestigate Great Zimbabwe's social organisation or reappraise categorisation of certain objects as 'elite'. More recent studies are finding that in complex societies, social rankings can change, be manipulated and does not necessarily coincide in all elements of culture thus archaeologists need more flexible ways to examine social organisation (Keating 2000). For example, Turkon's (2004) study at La Quemada, Los Pilarillos and Juchipila Malpaso in the Malpaso Valley, Mexico revealed that the degree to which people are involved in the preparation of their food, the food that people choose to eat and the vessels in which food is served can vary due to both deliberate means of social expression and by reflections of social differences such as wealth. At Great Zimbabwe, there is need for a thorough investigation of the differential distribution of objects so as understand some these aspects. It should be noted, however, that some areas lack certain forms of material objects because these were either looted or taken away for further research and never brought back.

Even though it has been shown in the table above that the wide range of material objects being examined in this study are present across the Great Zimbabwe landscape, no concrete conclusion can be made before further quantitative analyses have been performed. This is so because quantitative analysis can reveal the presence or absence of control of certain objects and/or their production (Turkon 2004). Appadurai (1986) considered that in most cases, controlled objects and modes of production are manipulated by the powerful to become a marker of status. Hodder (1982) adds that people also actively use material goods to shape social relations hence an understanding of differential distribution of goods can provide

information about the strategies that people use to shape, exhibit and reinforce status differences.

4.5 Conclusion

Taking into consideration the remarkable similarities in the form and range of composition of objects, it can be argued that the 'elite-commoner' relationship at Great Zimbabwe was more complex than previously imagined. In the same way as it was thought that exotic goods were power symbols, it is possible that they were not as important to define class. Sound conclusions, however, cannot be made based on preliminary findings. As such, a detailed analysis of the samples selected is presented in the following chapters. It is only after a comprehensive analysis and comparison that conclusions can be drawn.

CHAPTER FIVE: CERAMICS FROM GREAT ZIMBABWE

5.1 Introduction

Globally, ceramics are one of the most important forms of material culture, especially from the standpoint of cultural interpretation. Gijanto and Ogundiran (2011) stress that ceramics' durability and pervasiveness give them a privileged place within the broader discussion of identity and its material traces. In southern Africa, ceramics are without doubt the most dominant artefact category found at sites dating to the last two thousand years. Evers *et al* (1988) and Lindahl and Pikirayi (2010) hold the view that the Iron Age communities relied heavily on ceramics to fulfil their daily routines and social organisational practices among them food preparation and serving, storage and brewing. This partly forms the reason why ceramics form the largest category of material evidence that is recovered from Iron Age settlements. As put forward by Pikirayi (2007) the shear volumes of pottery recovered from archaeological sites underline the importance of this artefact category in providing valuable information about the African past. Wheeler (1956) was of the opinion that ceramics had taken centre stage in cultural interpretation because archaeologists uphold the view that since ceramics are made by people, they constitute a component of that people's culture. By extension, excavating or recovering ceramic evidence is axiomatic to digging up the people who manufactured them. Kahl and Ramminger (2012) hold the view that the study of archaeological ceramic materials bears a cornucopia of insights into behaviour and environment of the people involved into both production and use of pottery. Charles (2005) believes that researchers have relied heavily on ceramics mainly because ceramics are one of the most tangible products of human culture and that even in shards, ceramics can last almost forever, providing important clues about past human behaviour. Swan (2008) feels that ceramics are a convenient medium for identifying a general chronology and regional association since at any particular site; ceramics are examined as a first step in assessing the site's place in both prehistory and historical times. According to Swan (2008), further information about political and economic organisation can then be achieved by placing an emphasis on other aspects of material culture.

Furthermore, ceramics have been studied as identity markers, as reflecting the movement of various groups, as defining cultural groups and as revealing different levels of interactions. The most widespread use by archaeologists lies in the formulation of typologies which form

the basis of chronologies (Willey and Sabloff 1980:143; Huffman 2007). In their simplest form, these chronologies are a temporal sequence type, but more importantly, they are believed to reflect culture historical relationships through time and are based on the similarities and differences between types, styles or attributes that are relatively contiguous in time and/or space (Arnold 1988:1). Archaeologists believe that ceramics can reflect the culture of a people to such a degree that the main forces of cultural change that affect a society are reflected in their ceramics.

5.2 Ceramic theory

Ceramics have played an important role in interpreting the prehistory of southern Africa. Southern African Iron Age archaeology has engaged with identity issues using ceramic evidence as the basis for culture group definition, chronology and determining origins and movement of people (Pikirayi 1999; Pikirayi 2007; Chirikure *et al.* 2013). The use of ceramics in identifying prehistoric societies with ceramic groupings is based on the realization that ceramics reflect the people who make them (Pikirayi 1997). Huffman (1989) is of the view that ceramics have been widely used to define groups of people mainly because they are stylistically variable and widespread, unlike, for instance, hoes, smelting furnaces and stone walls. As put forward by Cruz (2011), commonalities of ceramic forms and decorative grammars are often equated with cultural similarities, evidence of common experiences for groups of people, including assumptions of common ethnicities that can be observed across time and space. Whilst a number of weaknesses have been noted with equating typological classification of ceramics and archaeological cultures, the method still remains important in creating an understanding of the various archaeological cultures (Hall 1983; Pikirayi 2007; Chirikure *et al.* 2013) mainly because it is crucial to firstly develop culture history so as to provide a framework within which to study processes and events of the past (Huffman 1980). Pwiti (1996) and Pikirayi (1997) highlight that denoting identities from ceramic evidence in Zimbabwe dates back to the early 20th Century when several sites in the country were excavated in a bid to define the identity of the builders of the Zimbabwe culture.

The origins of farming and its spread to southern Africa have been traced through the analysis of ceramics. Phillipson (1975) developed the diffusion and migration models of ancestral Bantu populations based on ceramic analysis. His research has demonstrated that

even if people are to move and modify their material culture, they still retain some elements which enable us to trace them to their original source. Huffman (1970; 1978) used a combination of vessel shape, decoration layout, placement and technique to study past population movements and argued that ceramics expressed human group identities equivalent to modern ethnic entities. He believes that since the producers and users of a particular ceramic style belong to one group, it was possible to explain change in ceramic shape and decoration on the basis of past populations migrating from one region to another. With this in mind, this research seeks to compare ceramics of different sections of Great Zimbabwe among other material objects with the aim of understanding the relationship that existed between these areas. It is expected that the analysis will shed light on the issues of continuity and change in groups that occupied the site.

A framework for the identification of Iron Age groups in southern Africa was developed by Huffman (1980) through the analysis of ceramics. His rationale was that cultural groups can be distinguished from each other, based on variations of their material objects which create a particular stylistic identity unique to each cultural group. Huffman (1980), therefore, argued that since ceramics have stylistic variables (based on three aspects: vessel shape, decoration motif and design layout) that can be quantified, they can be used in identifying prehistoric groups. The ubiquitous nature of ceramics in southern African Iron Age settlements meant that ceramics were mostly produced locally within each individual community to meet their needs, thus promoting the development of a group-based style that could be used by archaeologists to correlate with archaeological cultures (Huffman 1980). By focusing on a number of variables, Huffman's (1980) framework became known as the multidimensional approach. Huffman firstly tested his framework with an ethnographic sample of ceramics from the Tonga of the Zambezi Valley, the Korekore of northern Zimbabwe, the Ndau of southeastern Zimbabwe and the Pedi and Venda of Soutpansberg in South Africa. He noted stylistic variations in among these groups which led him to conclude that ceramic style was important in defining group identities. Huffman (1980) has shown that, in south-western Zimbabwe, Mambo, a Leopard's Kopje variant, must have derived from K2 because there is a large discontinuity between Zhizo and Mambo in the area that is not present between Gokomere and Zhizo or Mambo and Woolandale. Relatively small change between stylistic differences, such as between Mambo and Woolandale or Gokomere and Zhizo, were said to be the result of local changes in the group and not necessarily the result of the migration of

people (Huffman 1980). In this regard, a number of factors have been offered to explain the changes that are noticed in ceramic styles. Migrations have been cited as one such factor.

The multidimensional approach has been used by Huffman and subsequent scholars to build a ceramic relationship that translates to cultural group relations. Huffman revealed a relationship between pottery of various regional groupings which followed a north-south trend from Uganda, Kenya, Tanzania, Zambia and Zimbabwe. He then came to the conclusion that farming communities originated from the north and migrated into southern Africa. Picking from Huffman's findings, Soper (1971) moved beyond identifying similarities to accounting for the differences which he attributed to a continuous movement that resulted in the adoption of new ideas and discarding of old ones. Phillipson (1977) further developed Soper's model by suggesting that the Bantu groups from the north entered southern Africa through the Western and Eastern streams as evidenced by similarities and differences within the ceramic groups in Kenya, Malawi, Tanzania, Zambia and Zimbabwe. Through the application of this approach to the study of southern African ceramics, Huffman (1980; 1989), Evers (1982), Maggs (1984) and Chirikure *et al* (2002) managed to build a ceramic relationship that translates to cultural group relations. Chirikure *et al* (2002) carried out a comparative study of pottery from the archaeological sites of Khami and Kasekete and discovered a correlation which was characterized by the dominance of polychrome band and panel ware. They then came to the conclusion that the sites Khami and Kasekete were extensions of the Zimbabwe Culture which stemmed from Great Zimbabwe. Although the multidimensional approach has been criticized (Hall 1984, Pikirayi 2007, Mtetwa *et al* 2013) for assuming that ceramic boundaries were all inclusive and subsuming other material evidence giving the impression that other material had no contribution to understanding identities of prehistoric groups, it remains the dominant method of establishing culture-historical sequences in the Iron Age of southern Africa. Hall (1983) argued that the methodology of ceramic typological classifications' main concern appeared to have been the definition of ethnic groups instead of the understanding of prehistoric lifeways and traditions of the regions' past. Pikirayi (1997) has also argued that ceramic studies needs to provide more information on the producers and users of objects, rather than focusing on their typological and material attributes.

Relying on local pottery, other sources of archaeological and historical evidence, Pikirayi (1993) established the identity of the Mutapa state in northern Zimbabwe. Through inferring on the relationship that existed between Great Zimbabwe and Baranda (a Mutapa site) pottery, Pikirayi (1993) established a typological continuity from Great Zimbabwe to Mutapa. He however realised that Baranda pottery had a high frequency of granite burnished pottery and open hemispherical bowls; changes which he attributed to a change in consumption patterns of pottery types. Pikirayi's (1993) research became the first to confirm the continuity of the Zimbabwe culture in the north. Previously, researchers (Huffman 1972; Connah 1987; Hall 1987) had just assumed that the Mutapa founders had come from Great Zimbabwe. Through a comparative analysis of pottery, Pwiti (1996) revealed cultural continuity and change in northern Zimbabwe from the advent of farming communities to the Second Millennium AD. He identified the Zambezi Valley as the earliest settlement location for the early farmers and proposed Kadzi pottery to be a typical of these societies. Pwiti (1996) viewed Kadzi as a regional variant of Gokomere/Ziwa tradition rather than a unique tradition. He then identified a gradual change in local pottery which was evidenced by the development of Musengezi tradition in the Second Millennium AD thus concluding that Musengezi was a local innovation which had distinct ceramics that were largely characterised by decorated pottery with wrapped fibre impressions. Local pottery also aided Machiridza (2012) to develop the archaeological identity of the Rozvi in Southern-western Zimbabwe. Using the multi-dimensional approach he carried out a comparative analysis of pottery assemblages from Khami and Danan'ombe. Having noted the diverse and complex polychrome band and panel ceramics at Khami and the simple and homogenous pottery at Danan'ombe, he came to the conclusion that production and distribution of polychrome wares was manipulated and controlled by Rozvi elites as a strategy of establishing their ideology and power structures.

Cruz (2011) argued that a focus on artefacts and their correlation with ethnicity is limiting and that material culture analysis is better served if it conveys ideas that distance it from the reification of ethnicities. This view is also shared by Gijanto and Ogundiran (2011) who stress that ceramics should neither be viewed as static markers of group affiliation nor as backdrops to culture making but rather as active material domain for cultural formation and transformation at multiple scales of quotidian lives. Cruz's (2011) study of ceramic production in 19th and 20th Century Banda of west central Ghana revealed that technological

and decorative styles did not necessarily reflected identity construction and/or population movements although they had an influence on the production and consumption of ceramics. The Banda Area is characterised by considerable ethnic and linguistic diversity with the dominating groups being the Nafana, Kuulo, Ligby, Mo and Ewe. Even though these ethnic groups arrived in the region at different times, they intermarry and mostly undertake the same economic activities. Among these groups, ethnic and cultural identity is actively constructed and shaped by power struggles and external influences. Ethnographic studies revealed that Banda ethnic identities were based on intangible cultural practices (for example initiation and marriage rites) that would not leave imprints in the archaeological record. Cruz (2011) noted that prestigious goods were the ones that were used to reify political alliances and reflect political elite ethnic styles while ceramics did not participate in either the material construction of identities or reflect historically well documented migration. Gijanto (2011) is of the view that whether or not commonalities, continuities and change in ceramics are accidental, there is need for researchers to drift away from simple analogies that correlates types of material culture with expressions of identity and address the socio-economic processes and cultural practices that shape community and communities' relations including the intentions of both producers and consumers beyond ethnic affiliation.

The widely referenced cultural sequence of Great Zimbabwe was developed by Robinson through the analysis of pottery excavated from the Hill Complex. Robinson came up with five occupational sequences and managed to show that the site was settled from the early Iron Age period up to coming of white settlers (Summers *et al.* 1961). He managed to identify the people who used ceramic characteristics of the Gokomere/Zhizo as the earliest occupants of the site, followed by the users of the Gumanye style pottery. Based on similarities of pottery form and fabric, Summers *et al.* (1961) concluded that the sites were settled by the same cultural group from the Gumanye phase to possibly the abandonment of the site.

Pikirayi and Lindahl (2010, 2013) are of the opinion that ceramic analysis can go beyond defining culture sequences and identifying human groups through engagement with ethno-historic and ethnographic record as well as the technology of ceramic production processes. They advocate that the ethno-historic record is awash with clues for understanding issues such as function of pottery and meaning within a given cultural landscape. It is only through ethnographic and ethno-historical studies that group relations and their mobility within social

spaces involving marriage alliances and lineage relationships, ritual and ceremony and trade and exchange are highlighted. Ceramic ethno-archaeological studies have revealed that contemporary societies connected to the archaeological record can aid archaeologists to understand the possible cultural and technological contexts that governed the use-life and symbolism of ceramics. For example Stark's study (2003) among the inhabitants of rural Raquira in Colombia revealed that ceramic style was an expression of the gender of the potter. Women maintained a style different from their male counterparts in the same community. This study has shown that a change in ceramic style does not necessarily translate to a change in ethnic identity. Ceramic ethno-archaeological studies in Africa have also helped in expanding knowledge about the possible secondary functions of clay pots in the archaeological record. David and Henning's (1972) research among the Bedik of West Africa revealed that clay pots when given a new lease of life even after breakage. This meant that as sherds, they gained a secondary value in which they could be used for carrying hot coals or other related tasks. This shows that function of pottery in the archaeological record was not necessarily rooted within its basic uses but rather gained secondary uses as need arose. Dietler and Herbich's (1994) ethnoarchaeological research among the Luo of Kenya revealed the micro-styles of ceramics that result from social networks and processes that operate within the context of different communities. They managed to bring out the differences between social context of production and consumption which aided in the understanding of ceramics. From this study, Dietler and Herbich (1994) realised that stability of a ceramic tradition should not literally be mistaken to indicate stability of an ethnic population in the archaeological record but rather the stability of the producing community of potters. While reconstructing the history and aspects of the culture of the Tiv of Central Nigeria, Ogundele (2006) gathered from ethnography that differences in vessel thickness were not necessarily a reflection of cultural traditions but errors of the potter. He then realised that many a time, archaeologists have misinterpreted unwanted particles that would have been mistakenly incorporated during pot making process as temper. Marufu (2008) determined relations between settlement and funerary contexts of the Musengezi tradition sites in northern Zimbabwe through the analysis of pottery and other forms of material culture. He carried out a comparative study of pottery paying particular attention to decoration and style and discovered that pottery and other material culture recovered from funerary context was much decorated and stylised than the settlement counterpart. To make sense of the results, Marufu (2008) turned to ethnography were it was revealed that funerary

pottery was intentionally selected from household assemblage mostly because of its potential in communicating social messages.

Gijanto (2011) explored the multi-faceted nature of ceramic production and use in the context of contact and interaction through a detailed examination of pottery manufacture immediately before, during and after the decline of the Atlantic trade at the trading site of Juffure on the Gambia River. The analysis of ceramics during each phase of the Atlantic trade revealed that the potter's choices were not exclusively expressions of communal ethnic identity of the producers and/or users. Additionally, she realised that the heightened production and eventual abandonment of this industry at Juffure failed to display a relationship between ceramics and personal identity. Rather, the study revealed that it is the broader socio-economic processes such as population fluctuations, consumer demand and socio-economic interactions as opposed to ethnic identity formation and maintenance that affected shifts in local ceramic production. Gijanto (2011) then concluded that the rapid change in manufacture observed over three centuries at Juffure suggests that akin to all other aspects of life, ceramic production was highly susceptible to changing socio-economic circumstances. Nearly all archaeological approaches attempt to position style as a communicator of identity and more specifically as ethnic affiliation. However, the attributes of pottery composition viewed as markers of ethnicity are often influenced by practices outside the production chain including changes in how status is expressed at intra-community levels as seen at Juffure, an Atlantic trade site on the Gambia River.

Ceramics have also been analysed to understand social relationships in past societies, the rationale being that the way people make or use pottery is an expression of social meanings, values and other activities such as social structure, use of space and ritual. Pikirayi (2007) used ceramic style to investigate patterns and mechanisms of communication among the Iron Age groups in southern Africa. He suggests that decorations communicate culturally specific messages to both the makers and the users, thereby concluding that ceramic style is in fact encoded messages unique to a group of people. The message is communicated either verbally or non-verbally and symbolically. Mapunda (1995) also stresses that variations in technology that produced material culture are vital towards understanding and appreciating innovative skills as well as choices and constraints that ancient communities encountered in the light of the ever-changing demands in both symbolic and utilitarian circles. Evers *et al.* (1988) had

previously tried to understand the rationale for decorating pottery. Based on previous researches and personal experience, they considered a number of reasons ranging from symbolism, group identity to expressions of aesthetic beauty. In terms of symbolism, Evers *et al* (1988) suggested the reasons to be enshrined within the philosophies and ideologies of different social systems that produce them. On the aspect of group identity, they are of the opinion that some decorations were an extension of designs on human bodies and other forms of material culture. as a result, Evers *et al* (1988) qualified decorations as useful in tracing group identity although they disputed the idea of differentiating the social systems that produced these using differences in decoration motifs and techniques arguing that changes in these aspects was not always an indication of culture change but rather changes in styles and decorations within similar time and space.

Despite the efforts by some archaeologists to understand social relationships in past societies, Mtetwa *et al.* (2013) stress the need for archaeologists to understand the history and intra- and inter-regional variations of ceramic technology and how these variations contributed to the development of socio-economic and political process in pre-1900 Zimbabwe. Their argument is that ceramic studies in much of Africa continue to lack scientific and multivariate approach, consequently failing to address social issues around production, consumption and distribution. Mapunda (1995) had previously argued that variations in technology that produced material culture are vital towards understanding and appreciating innovative skills as well as choices and constraints that ancient communities encountered in the light of the ever-changing demands in both symbolic and utilitarian circles.

Pottery has been used to understand regional interactions. Calabrese (2005) applied the frontier theory to understand regional interaction and ethnicity in the Shashi Limpopo basin. Based on the cumulative ceramic stylistic and radiocarbon evidence, he came to the conclusion that the presence of both Zhizo and Leopard's Kopje ceramics in the Shashi-Limpopo region between AD1000-AD1200 were expressions of two separate interacting ethnic groups.

Given the significance of ceramics in archaeology, a study of pottery from the various areas of Great Zimbabwe will no doubt help in the establishment of a tight chronology of the site, enhancing our understanding of the cultural groups that occupied the site as well as bringing to light any past interactions.

5.3 Analytical procedure

Huffman's (1980) multivariate approach, which is widely used in southern Africa, was adopted for this study. This approach focuses on the analysis of vessel form, design layout and motifs combinations to identify groups. Lindahl (1995) applauded Huffman's approach for highlighting stylistic differences previously not noticed. He is of the view that these stylistic differences may be an identity marker between different groups. A number of Iron Age archaeologists (Evers 1982; Maggs 1984; Huffman 1989; Chirikure and Pwiti 2002) have adopted this approach with success, thus instilling confidence in its adoption in this study. The assemblage was divided into diagnostic and non-diagnostic. Following Pikirayi (1993), diagnostic shards are those that could provide useful analytical information while non-diagnostic shards could not be assigned with certainty to any vessel part (mostly plain shards). Diagnostic vessels included all the shards by which we could identify the vessel body parts, particularly rim and decorated shards (Pikirayi 1993). A data capture sheet was designed to capture the most significant features of the diagnostic potsherds (Appendix 2). These include vessel shape, lip form, rim diameter, surface treatment, decoration motif, placement and technique as the attributes that were recorded. These attributes played a major role in the classification of these ceramics, identification of trends in the ceramic assemblage and making intra-site comparisons of the ceramics. Shepard (1956: 345) argues that these traits offer a useful avenue for comparing closely related ceramics and are effective in both inter-site and intra-site comparison of pottery. As such, since this study focuses on intra-site analysis, these traits were found useful.

5.4 Analysis and results

The presentation of results follows the sampling protocol adopted for this study. Thus the results from the Hill Complex areas (Western Enclosure, Northern Rock Shelter and Terrace middens) will be presented first, followed by the Valley Settlements (Great Enclosure and Western Valley enclosure) and then the 'peripheral' settlements of Chenga Ruins. Last to be presented are the results from the Carpark Midden (open settlement).

5.4.2 Western Enclosure

A total of 477 potsherds were recovered from the Western Enclosure of the Hill Complex. Of these, 162 (34%) were diagnostic shards while 256 (66%) constituted the non-diagnostic category.

5.4.2.1 Vessel shape

Necked pots dominated the assemblage (Fig 5.1). Shouldered pots with vertical necks accounted for 26.5% (43 potsherds) of the total assemblage, followed by short-necked pots with thickened rims which stood at 17.9% (29 potsherds). Short-necked pots with beaded rims constituted 14.3% (23 potsherds) while constricted pots with straight rims were 9.8% (16 potsherds) of the total assemblage. Fourteen potsherds (8.6%) had short flared to vertical necks while neckless pots with thickened rims and tall-necked pots with flared rims constituted 7.5% (12 potsherds) each. Shouldered pots with constricted rims accounted for 5.5% (9 potsherds) while gourd-shaped pots with flattened rims and open-necked pots were 1.2% (2 potsherds) each.

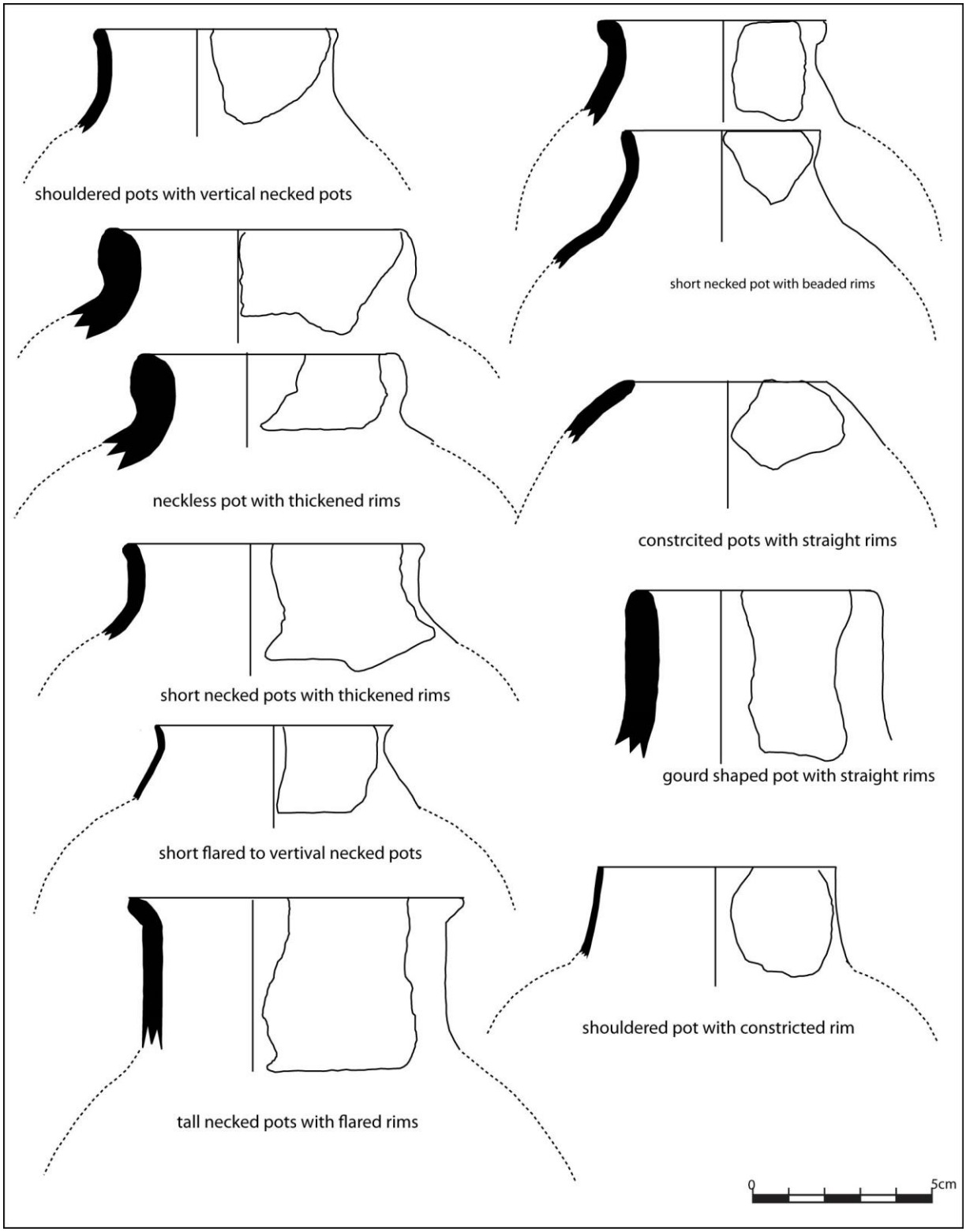


Figure 5.1: Western Enclosure vessel shapes

5.4.2.2 Decoration techniques, motifs and placement

0nly 54 potsherds were decorated (Fig 5.2). Incisions (fine line and broad line) were the most dominant decoration technique, accounting for 61.1% of the Hill Complex assemblage

followed by comb stamping, which accounted for 31.5%. Potsherds decorated with both incisions and punctuates and punctuates alone constituted 3.7% each. The analysis produced 18 decoration motifs (Fig 5.3). These motifs were then placed into three motif groups, namely incisions, incisions and stabs, and impressions. The dominant motifs are oblique/vertical incised bands, crosshatched bands and punctates.

There are many variations when it comes to decoration placement. Decorations were executed on the rim, neck, neck-shoulder, shoulder and body (Fig 5.4). The neck and the shoulder are the most decorated parts, accounting for 26% (14 potsherds) each. Nine potsherds (17%) had decorations executed on the body while seven potsherds (13%) had decorations on the neck, shoulder and body. Four potsherds (7%) of the Western Enclosure had decorations executed on the rim; five potsherds (9%) were decorated from the rim down to the body (see potsherds 1 and 2 in Fig 5.3).

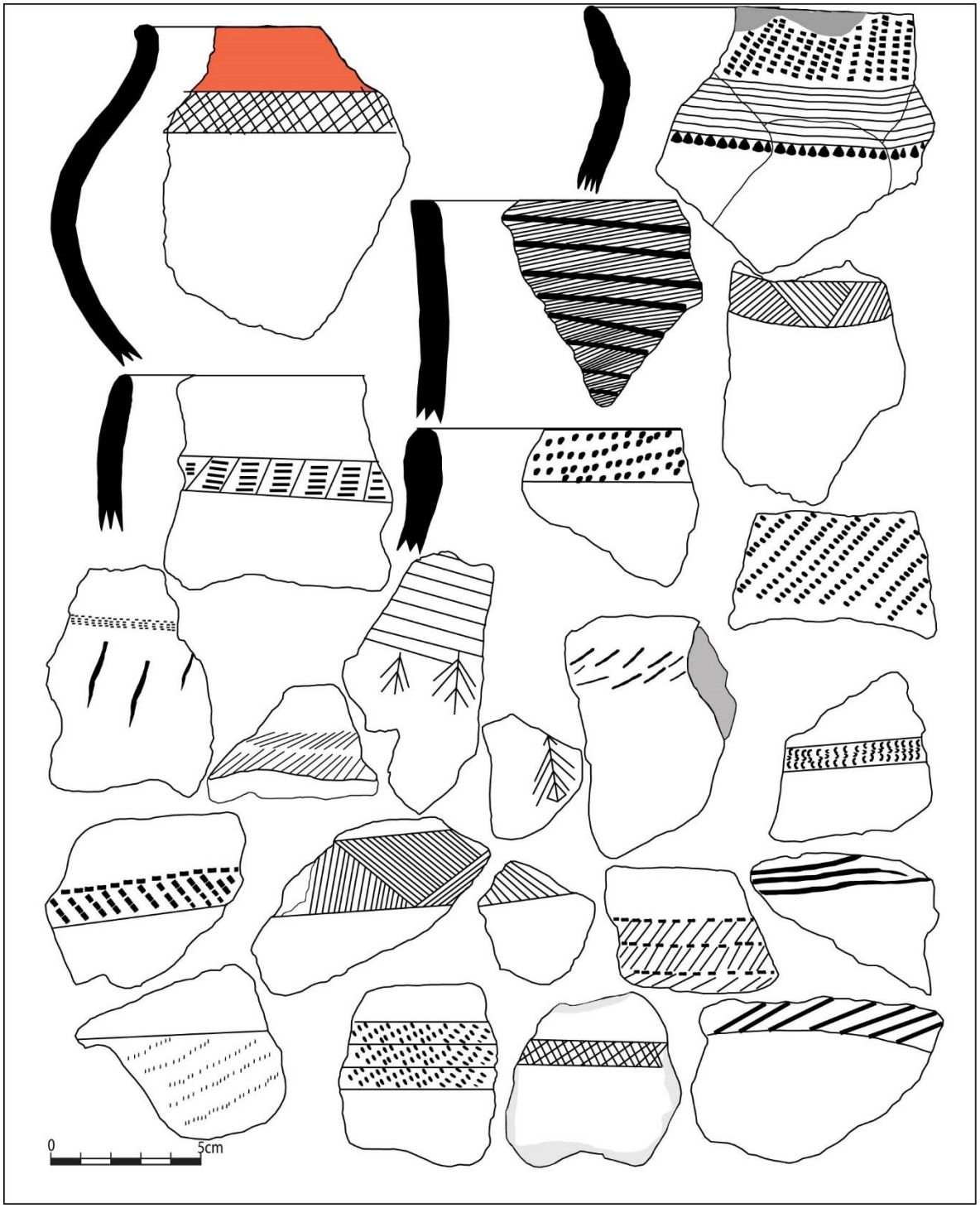


Figure 5.2: Decorated potsherds from the Western Enclosure

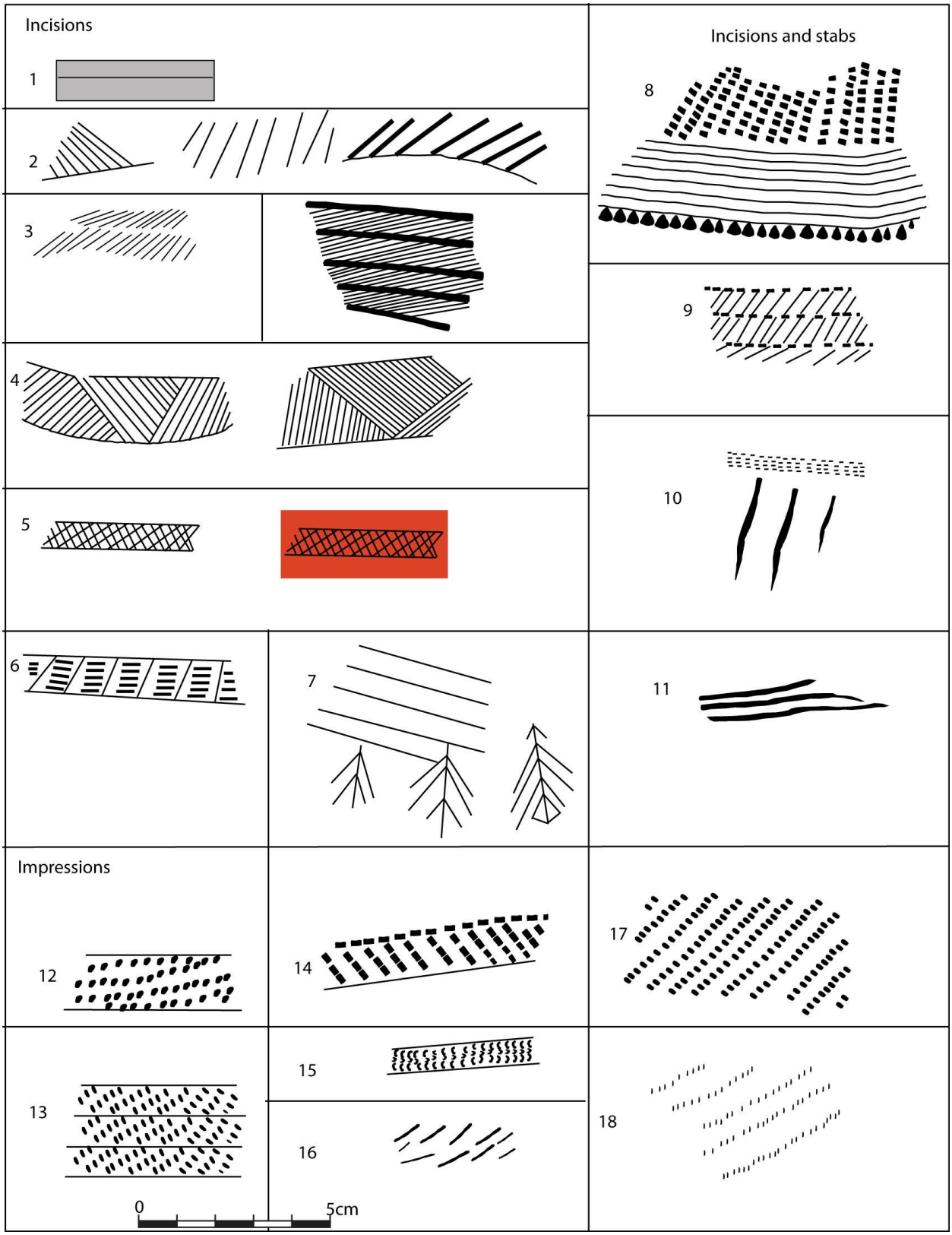


Figure 5.3: Western Enclosure motif groups

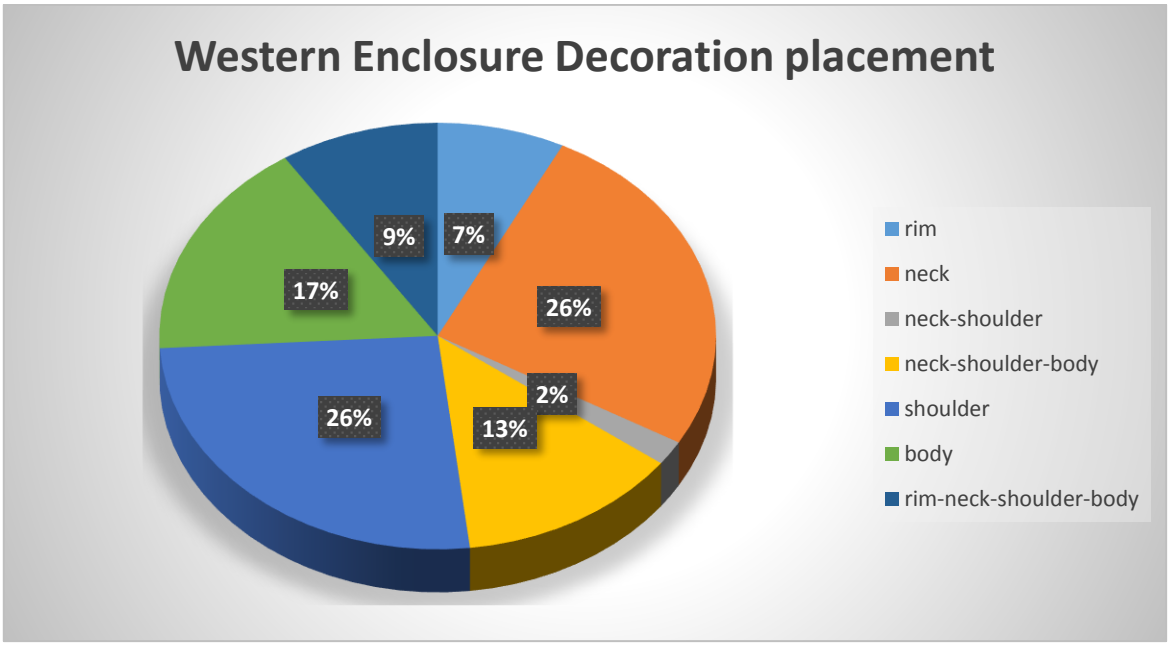


Figure 5 4: Pie chart showing Western Enclosure pottery decoration placement percentages

5.4.2.3 Other attributes

The fabric of Western Enclosure potsherds ranged from fine to coarse. Of the diagnostic potsherds, 75 were made of fine fabric, followed by 57 potsherds with medium fabric, then 30 potsherds made of coarse fabric. The majority of the potsherds were burnished, smoothed and graphited. Out of 162 diagnostic potsherds, only 124 had lips. These were recorded as follows:

Lip form	**Quantity**
Rounded	27
Flattened	80
Tapered	4
Rounded/externally thickened	6
Flattened/externally thickened	7
Total	**124**

Table 5. 1: Western Enclosure lip forms

Pottery class quantification has shown that occupation of the Western Enclosure was wide-spread between Periods 1 and 4, even though intensive use of the enclosure occurred in Periods 2 and 3. This means that there was continued occupation/use of the Hill Complex.

5.4.3 Northern Rock Shelter

A total of 5611 potsherds were recovered from the Northern Rock Shelter's trenches 1, 2 and 3. Of these, only 248 (4.4%) were classified as diagnostic shards while 5363 (95.6%) constituted the non-diagnostic category (Table 5.2). Trench 2 recorded the highest number of both diagnostic and non-diagnostic potsherds.

Trench Number	Diagnostic shards	Non-diagnostic shards	Total
1	97	798	895
2	105	3663	3768
3	46	902	948
Total	**248**	**5363**	**5611**

Table 5. 2: Northern Rock shelter ceramic quantification by trench

5.4.3.1 Vessel shape

Vessel shape is one of the most important attributes in any typological classification of pottery. In terms of their profiles, nine vessel shapes were delineated (Fig 5.5). These are short-necked pots with beaded rims accounting for 34.3% (70 potsherds), followed by 33 (16.2%) shouldered pots with vertical necks. Short flared to vertical-necked pots occupied the third position in terms of frequency with a total of 24 potsherds (11.8%). Also present in this assemblage are short-necked pots with thickened rims. These accounted for 10.8% (22 potsherds) of the total assemblage. Fifteen (7.4%) tall-necked pots with flared rims, 12 (5.8%) neckless pots with thickened rims, 10 (4.9%) shouldered pots with constricted rims, 9 (4.4%) gourd-shaped pots with flattened rims and 7 (3.4%) constricted pots with straight rims were also recorded from the NRS assemblage.

Vessel shape identification was then narrowed down to trench levels to obtain a picture of how they were spread out across time and space. It emerged that most of the vessel shapes recorded were represented in the three trenches. Of all the vessel shapes, only the shouldered pots with constricted rims were absent in trench 1 while shouldered pots with vertical necks were not recorded in trench 2. Trench 3 had no short flared to vertically necked pots or gourd-shaped pots with flattened rims (Table 5.3). The majority of NRS pottery was class 3 pottery with a few occurrences of class 4 pottery. The distribution of vessel shapes at trench level portrays a wide range of pottery shapes.

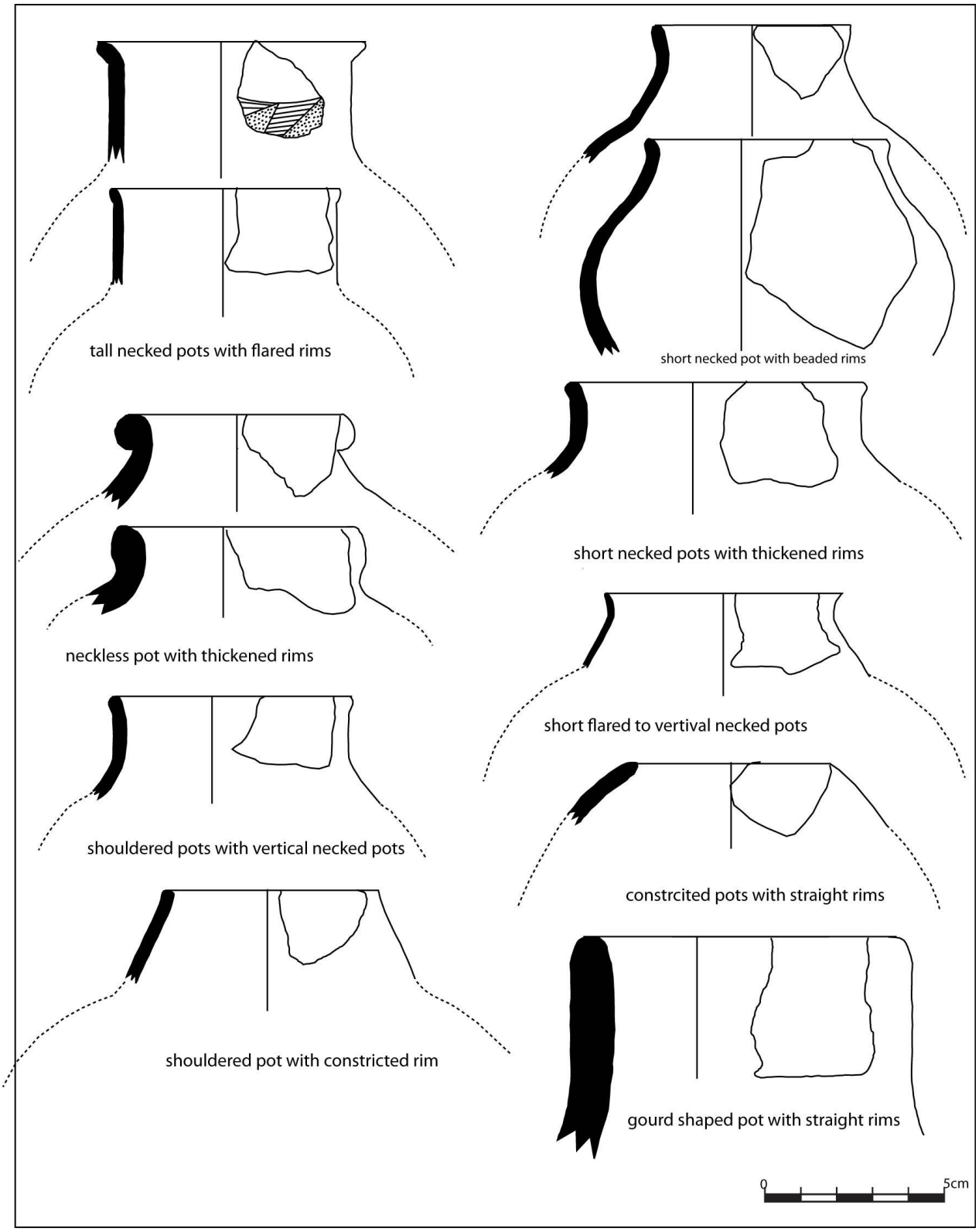


Figure 5.5: NRS vessel shapes

VESSEL SHAPE	TRENCH 1			TRENCH 2						TRENCH 3		TOTAL
	L1	**L4**	**L5**	**L1**	**L2**	**L3**	**L4**	**L5**	**L6**	**L1**	**L2**	
Tall-necked pots with flared rims		6	1			4			2	2		**15**
Short-necked pots with beaded rims	4	4	9	9	8	11	6	7	6	6		**70**
Short-necked pots with thickened rims	1	1	5	1	1	5	1	2		4	1	**22**
Neckless pots with thickened rims		2	1	2	1		2	1		3		**12**
Shouldered pots with constricted rims						2	4	2	2			**10**
Constricted pots with straight rims	2		1	1				1		2		**7**
Short flared to vertical-necked pots	2	2	2	3		9	4	2				**24**
Gourd-shaped pots with flattened rims		2				1	3	3				**9**
Shoulder pots with vertical necks	7	9	2							9	6	**33**
TOTAL	**16**	**26**	**21**	**16**	**10**	**32**	**20**	**18**	**10**	**26**	**7**	**202**

Table 5. 3: Vessel shapes per trench

5.4.3.2 Decoration technique and motif

Of the diagnostic shards, only 61 potsherds were decorated. Incisions (fine line and broad line) were the most dominant decoration technique, accounting for 80.3% (49 potsherds) of the NRS assemblage. Potsherds decorated by both incisions and punctates constituted 6.6% (four potsherds); punctates were 8.2% (five potsherds) and comb-stamping 4.9% (potsherds) (Fig 5.6). Decorations were executed on five positions, namely outside rim, neck, neck-shoulder, shoulder and body. The neck and the body were most decorated. A total of 26 potsherds had decorations executed on the body while 22 potsherds were decorated on the neck. Nine potsherds were decorated on the shoulder while three potsherds had decorations executed on the rim. Only a single shard had decorations on the neck-shoulder area.

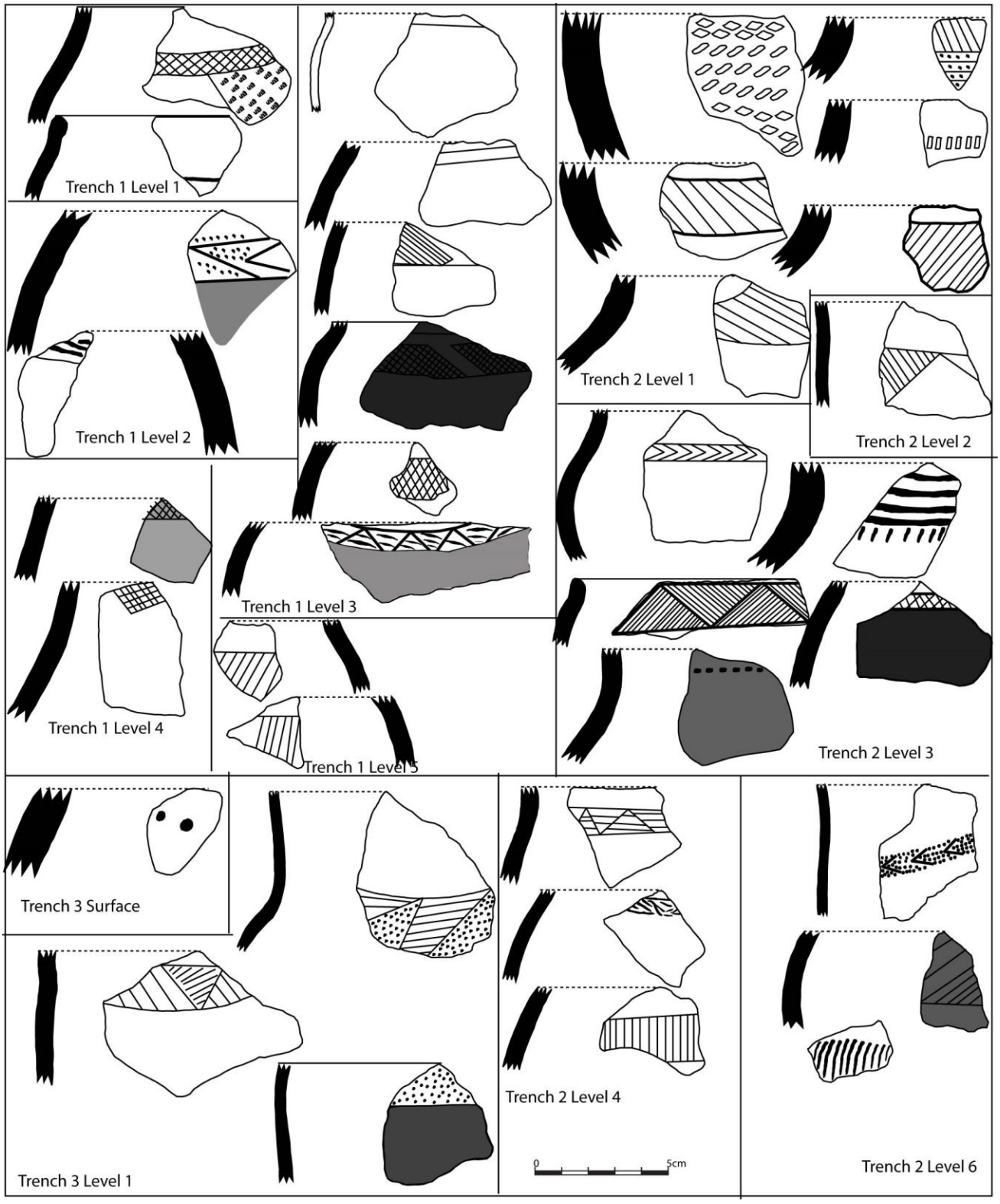


Figure 5 6: Decorated potsherds from the Northern Rock Shelter

The decoration techniques were placed into 20 motif groups made up of incisions, stabs and impressions, incisions and stabs, and lastly incisions and impressions (Fig 5.7). The dominant

motifs are oblique incised bands, crosshatched bands and punctuates. Only two shards exhibited herringbone decoration.

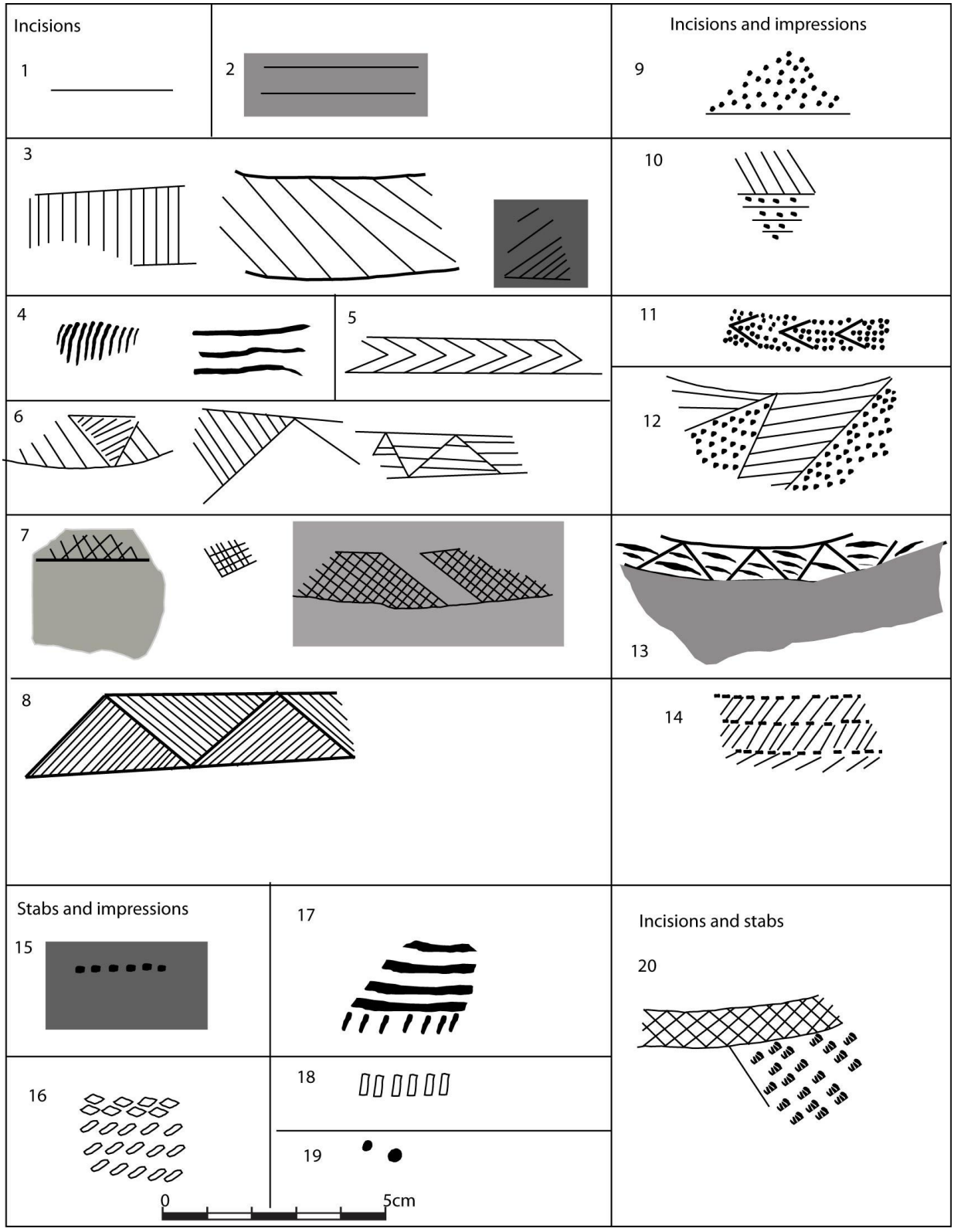


Figure 5 7: Northern Rock Shelter motif groups

5.4.3.3 Other attributes

Out of 248 diagnostic potsherds, 187 had lip forms which were recorded as rounded (49 shards); flattened (74 shards); tapered (23 shards); rounded/externally thickened (22 shards) and flattened/externally thickened (19 shards). The majority of the potsherds were burnished, smoothed and graphited (Appendix 3). 66.5% (165 potsherds) of the total assemblage were made from fine fabric, followed by 42 potsherds (17%) made from coarse soils with many inclusions, and lastly 41 potsherds (16.5%) were made from soils of medium texture.

Based on Robinson's (1961) pottery classification, NRS had all but class 5 pottery represented although classes 1 and 2 pottery were very few. This means that the users of this style that are believed to have settled at Great Zimbabwe at one point made use of the Northern Rock Shelter. What cannot be deduced at this moment is the kind of use. Its use can possibly be inferred once all of its material culture has been presented. Results from the analysis of the pottery assemblage show intense use of the shelter in Period 3 with a marked decline in Period 4.

5.4.4 Terrace Midden

The Terrace Midden assemblage produced a total of 2312 potsherds of which 2200 (95%) were non-diagnostic shards, while 112 (5%) were diagnostic potsherds.

5.4.4.1 Vessel shape

A minimum of eight vessel shapes were identified (Fig 5.8). The Terrace Midden assemblage revealed a domination of necked pots. Short-necked pots with beaded rims were the most abundant, constituting 36.4% (35 potsherds) of the total assemblage, followed by short-necked pots with thickened rims: 28.1% (27 potsherds). Neckless pots with thickened rims and shouldered pots with constricted rims constituted 10.4% (10 potsherds) each while five potsherds (5.3%) had tall necks pots with flared rims. 4.2% (4) of Terrace Midden potsherds were constricted pots with straight rims while short flared to vertical necked pots and shouldered pots with vertical necks accounted for 3.1% (three potsherds) each.

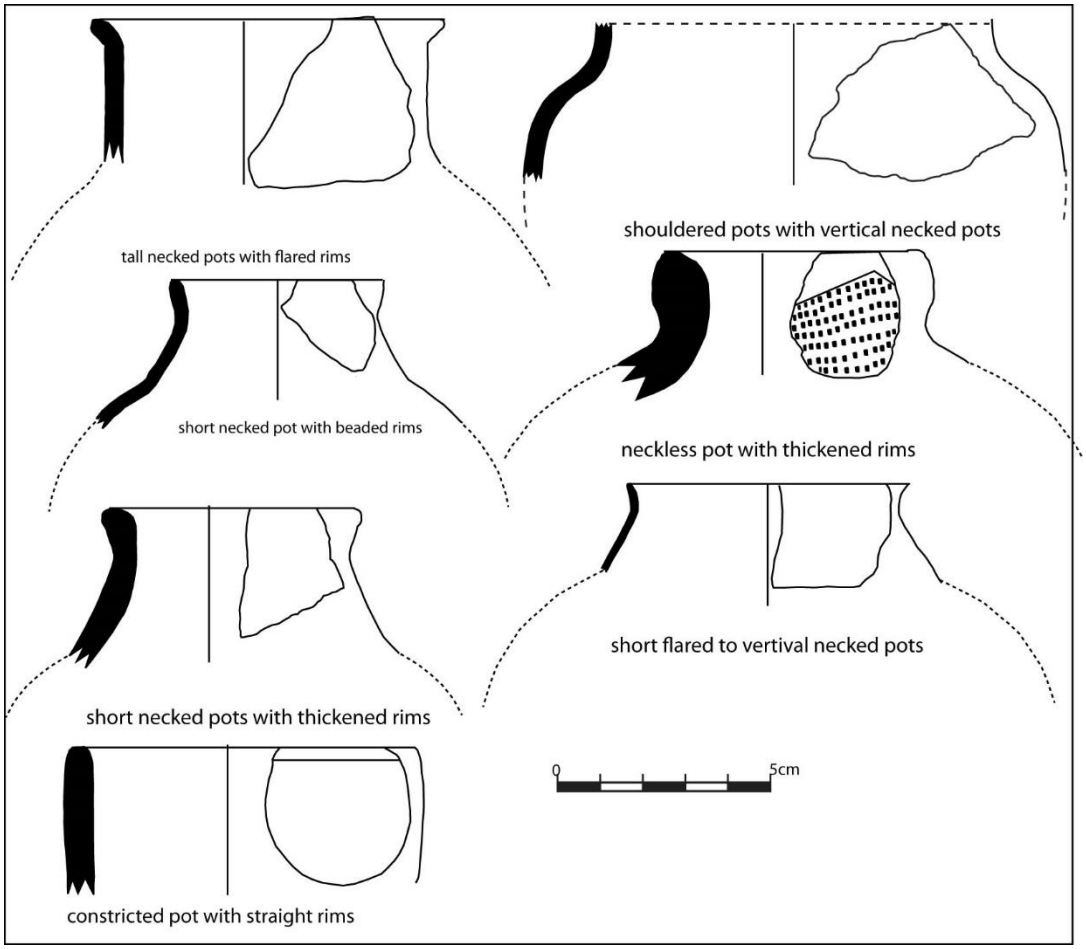


Figure 5 8: Terrace Midden vessel shapes

4.4.4.2 Decoration techniques, motifs and placement

Only 40 of the potsherds recovered from the Terrace Midden had decorations executed on them (Fig 5.9). Incisions were the most dominant technique, constituting 75% (30 potsherds), followed by 12.5% (5) shards that had both incisions and punctates. Four shards (10%) exhibited comb-stamping while a single shard (2.5%) had punctates. The analysis revealed 17 decoration motifs which were grouped into incisions, stabs and impressions and incisions and impressions (Fig 5.10). The oblique incised bands were the most dominant motif.

The rim, neck, neck-shoulder, shoulder and body were the areas decorated. The neck and the shoulder were the most decorated ceramic parts accounting for 30% (12 potsherds) each of the diagnostic assemblage. Ten potsherds (25%) had decorations executed on the body while 10% (four potsherds) were decorated on both the neck and shoulder. Two potsherds (5%) had decorations executed on the rim. Results from pottery analysis hint at the intensive use of the

terraces between Period 2 and 3. However, the settlement pattern can only be fully conceptualised after consideration of other forms of material objects.

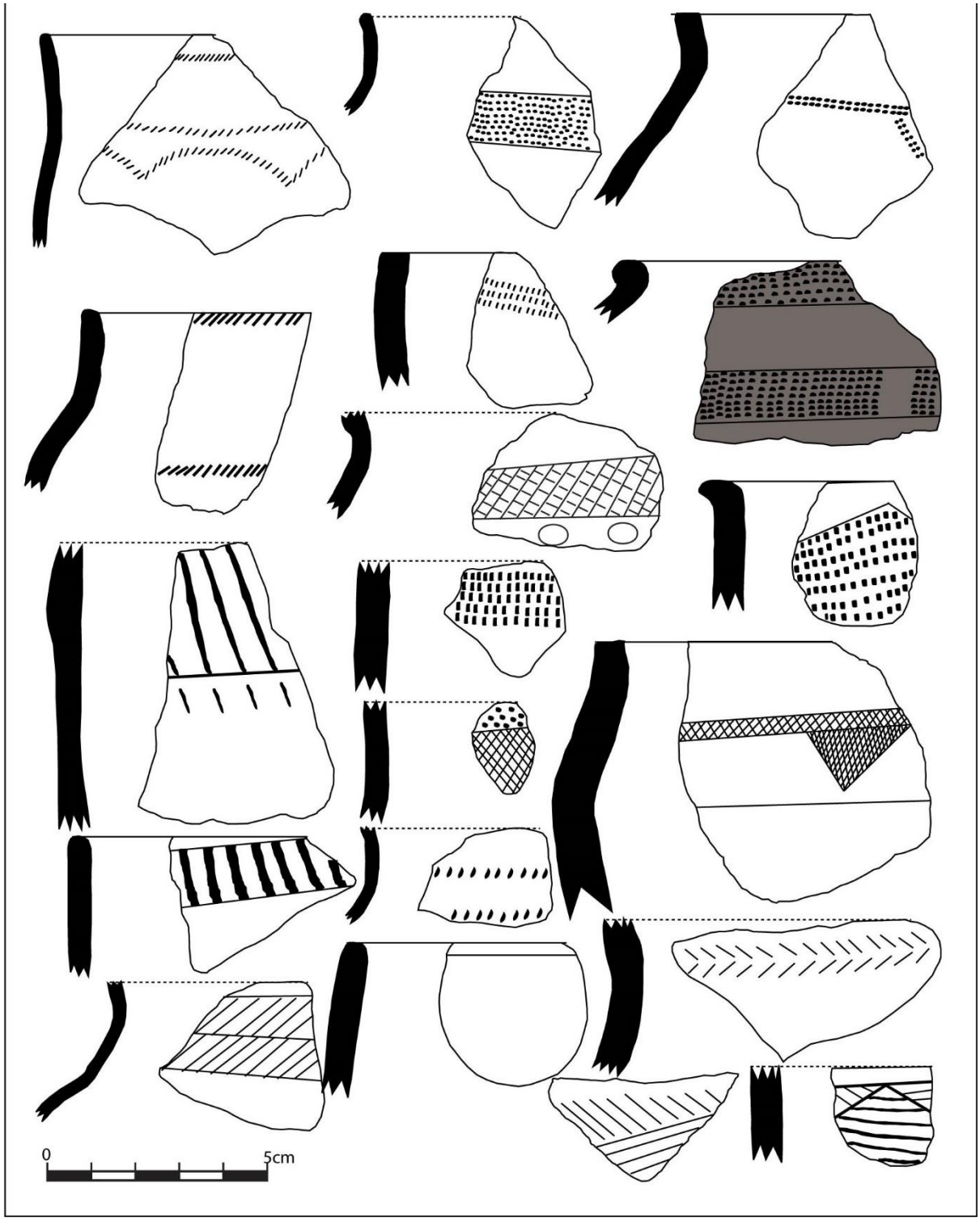


Figure 5 9: Decoration potsherds from the Terrace Midden

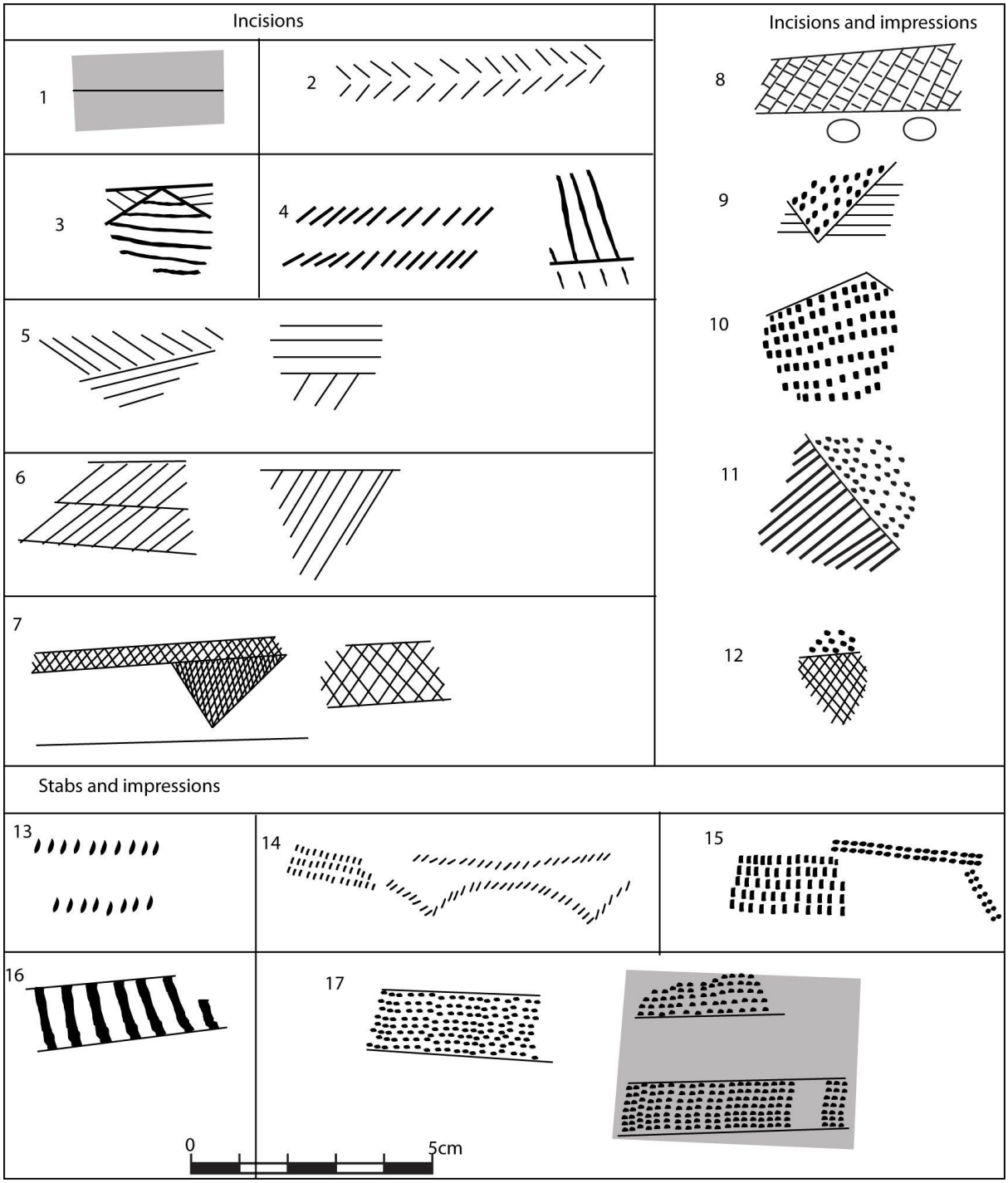


Figure 5.10: Terrace Midden motif groups

5.4.4.3 Other attributes

The Terrace Midden's pottery assemblage was made using fine, medium and coarse pastes. Just over half of the potsherds (59.8%) constituting the diagnostic assemblage were made from fine fabric. Out of 112 diagnostic sherds, only 24 had lips. Only three lip forms which are flattened (12 potsherds), rounded (seven potsherds) and tapered (five potsherds) were

recorded in this pottery assemblage. Most potsherds were either smoothed, burnished or polished.

5.4.5 Great Enclosure

A total of 701 potsherds were analysed from the Great Enclosure assemblage; of these 129 (22.6%) were diagnostic shards while 572 (77.4%) were non-diagnostic.

5.4.5.1 Vessel shape

Eight vessel shapes were identified from the Great Enclosure assemblage (Fig 5.11). Of these short-necked pots with thickened rims were the most abundant, constituting 48.8% (63 potsherds) of the total assemblage, followed by short-necked pots with beaded rims with 18.6% (24 potsherds). Tall-necked pots with flared rims constituted 9.3% (12 potsherds) while four potsherds (3.1%) were from neckless pots with thickened rims. Constricted pots with straight rims constituted 6.2% (eight potsherds), while shouldered pots with vertical necks accounted for 7% (nine potsherds) of the diagnostic assemblage. Short flared to vertical-necked pots and gourd-shaped pots with flattened rims totalled 3.9% (five potsherds) and 2.3% (three potsherds) respectively.

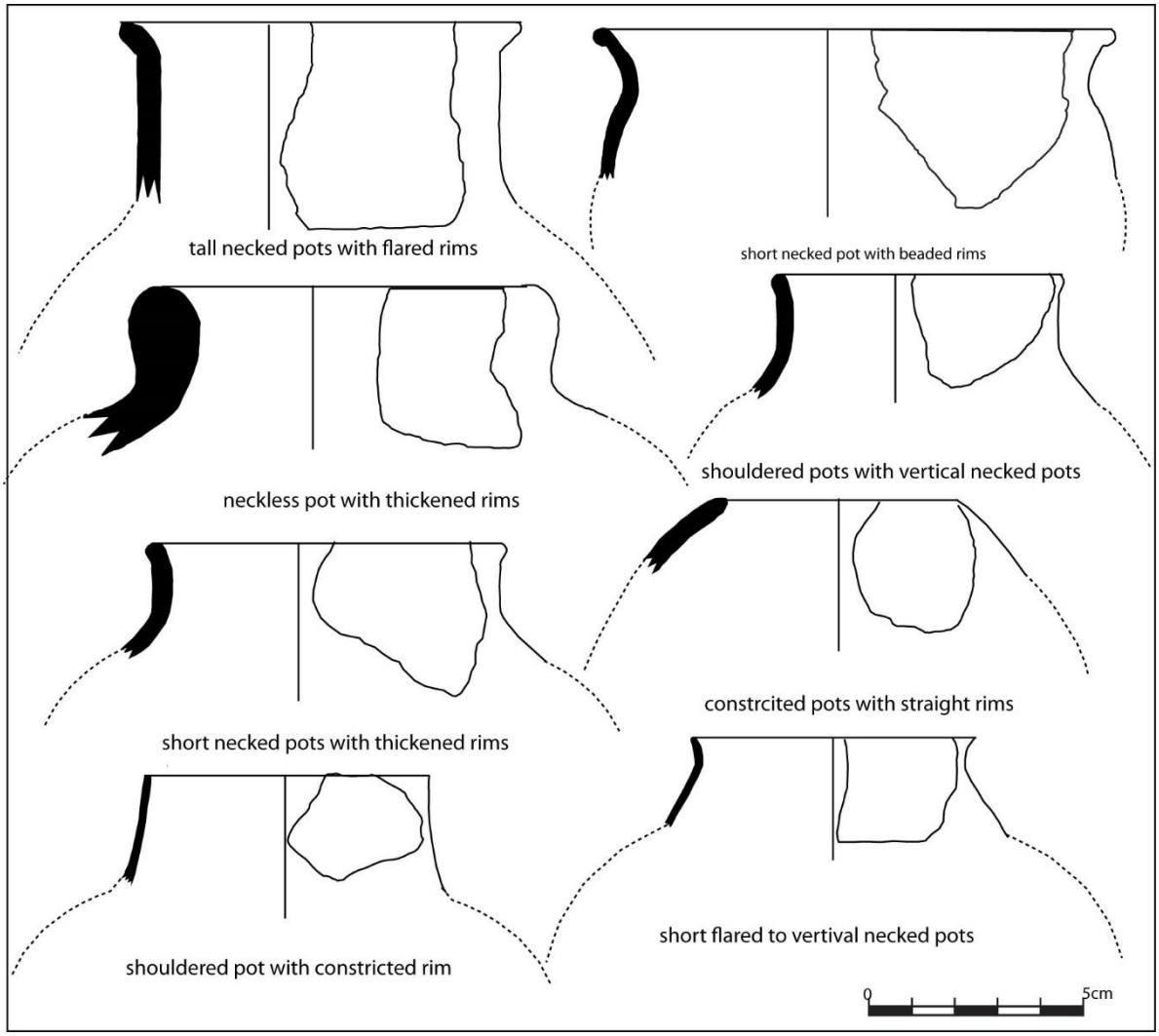


Figure 5 11: Great Enclosure vessel shapes

4.4.5.2 Decoration techniques, motifs and placement

Only 29 potsherds had decorations executed on them. Only 10 decoration techniques were recorded (Fig 5.12). Incisions were the dominant decoration technique accounting for 82.8% (24 shards) of the total assemblage. Apart from incisions, five (17.2%) shards had comb-stamping. Decoration techniques were grouped into two major motif groups, namely incisions and stabs (Fig 5.13). Decorations were executed on the neck, shoulder, body with some shards being decorated from the neck to the body. Fourteen potsherds had decorations executed on the shoulder, six were decorated on the body while four potsherds had decorations on the neck. Also recorded were five potsherds which had decorations from the neck to the body.

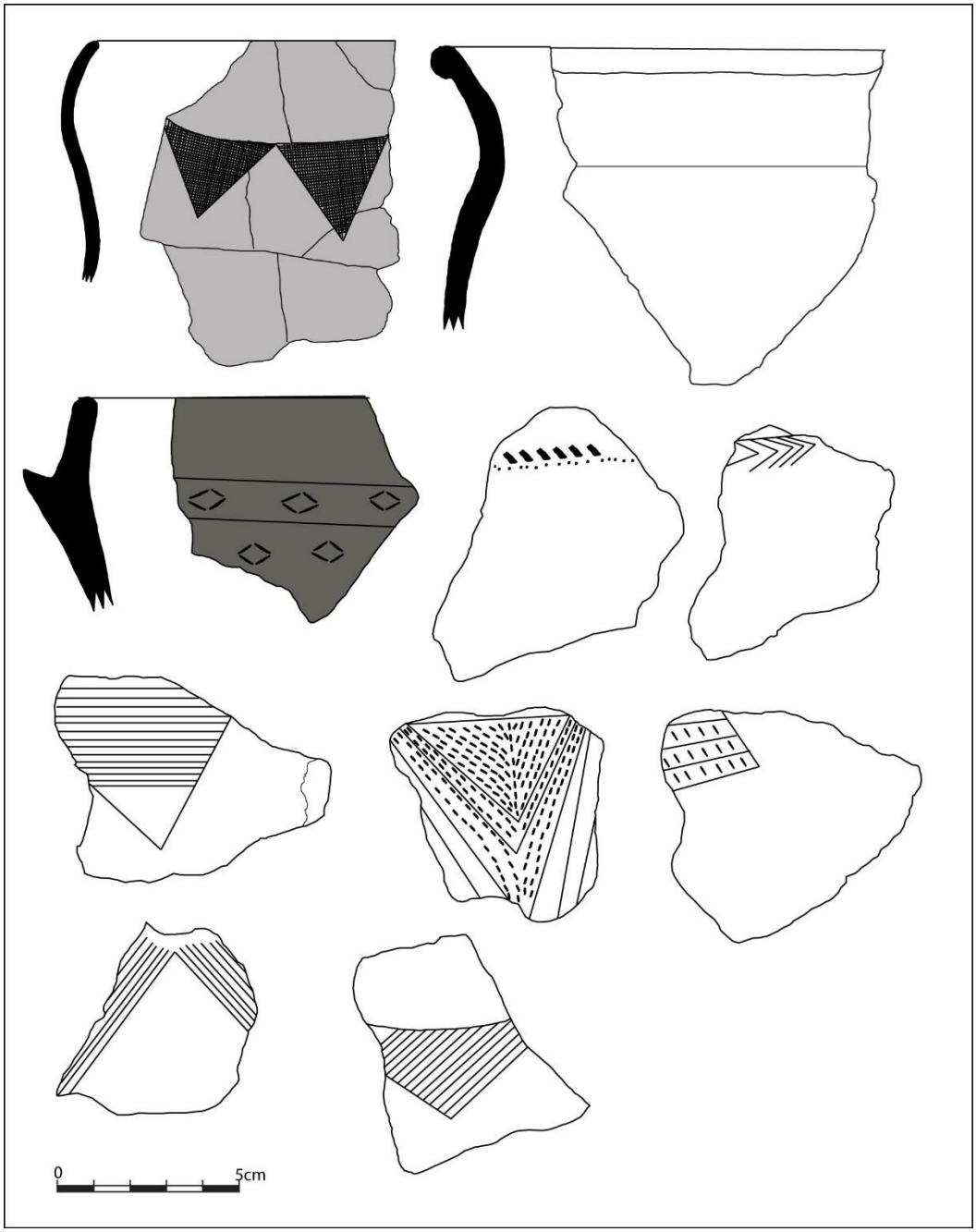


Figure 5 12: Great Enclosure decorated potsherds

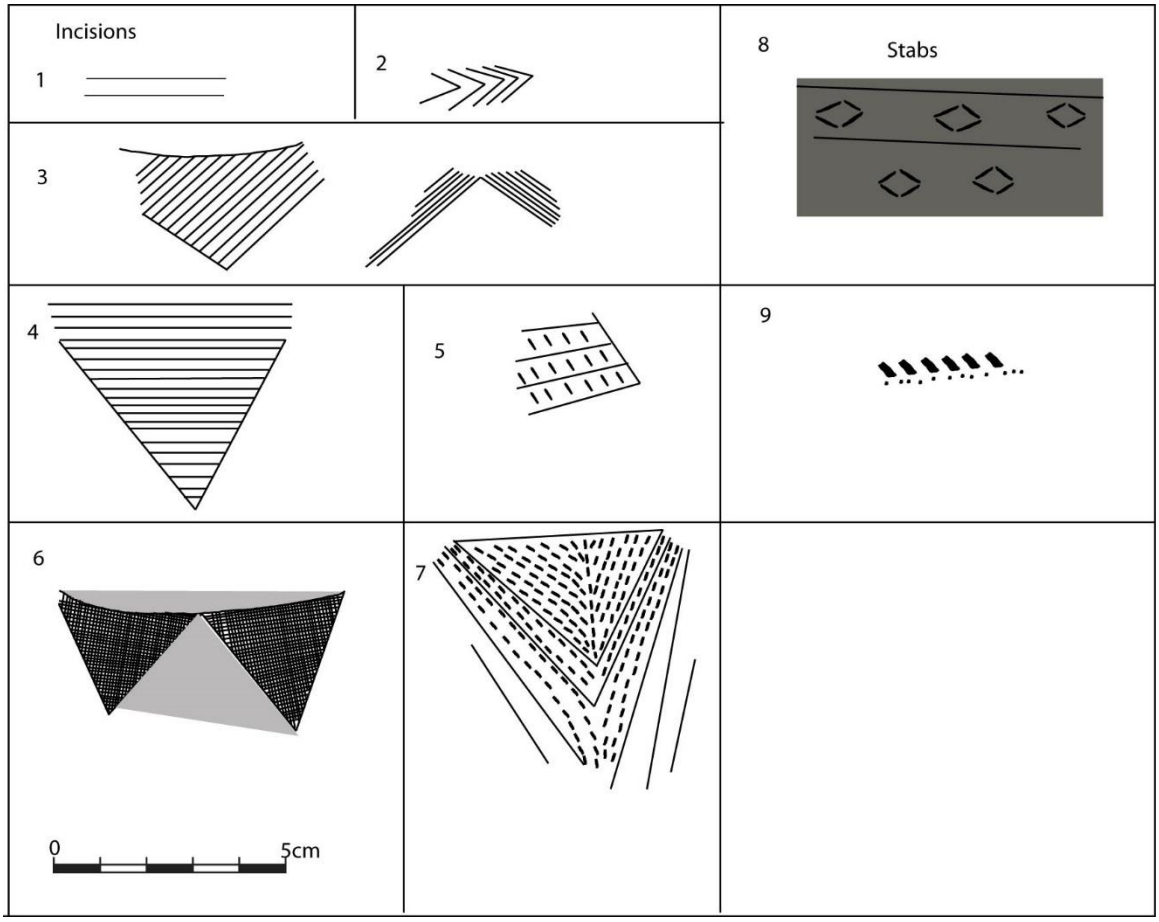


Figure 5.13: Great Enclosure motifs groups

4.4.5.3 Other attributes

Ninety-nine out of 129 diagnostic potsherds had lip forms which were recorded as rounded (67 potsherds), flattened (26 potsherds) and rounded/externally thickened (six potsherds). Burnished, polished, smoothed, rough and graphited were the surface treatments and finish recorded in this assemblage. Forty-five (35%) of the diagnostic potsherds were made from fine fabric while 49 potsherds (38%) were made from soils of medium texture. Potsherds with a coarse texture accounted for 27% (35) of the Great Enclosure diagnostic potsherds. By Robinson's pottery classification, Great Enclosure pottery belongs to classes 3 and 4.

4.4.6 Western Valley Enclosure

Only 477 potsherds came out of the Western Valley assemblage, of which 87.6% (418) were undiagnostic while 12.4% (59) accounted for the diagnostic shards. Potsherds from this assemblage could not be classified by vessel shape mainly because most of them were so small.

5.4.6.1 Decoration techniques, motifs and placement

The Western Valley pottery is rarely decorated. Only eight out of 59 diagnostic shards are decorated. Incisions and punctates were the only decoration techniques (Fig 5.14). The analysis produced decoration motifs. These were classified as either incisions or stabs and impressions (Fig 5.15).

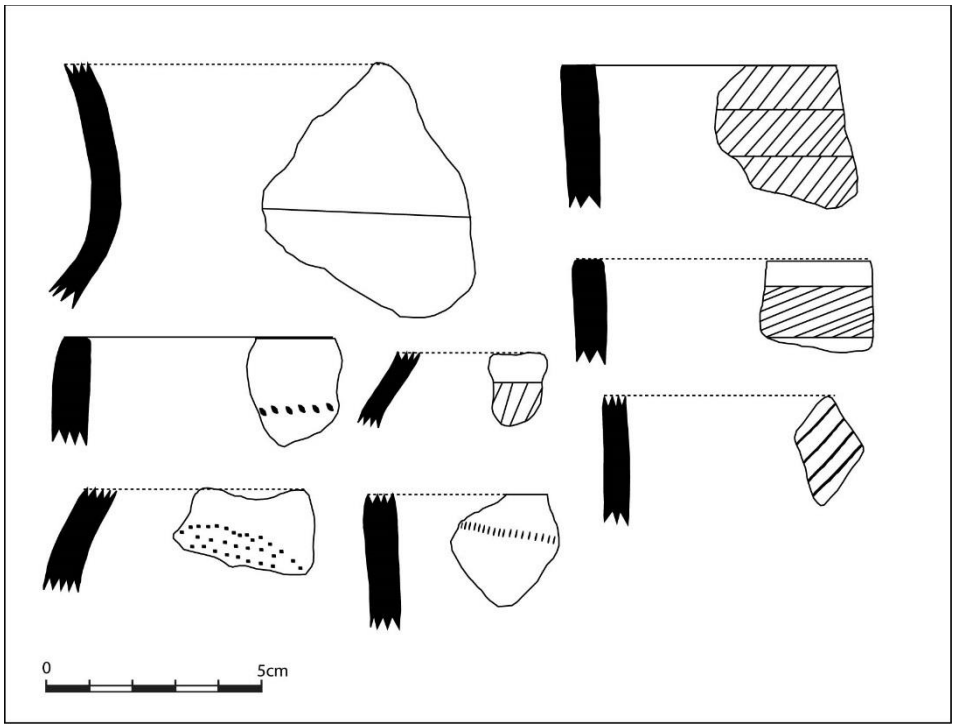


Figure 5.14: Decorated potsherds from Western Valley Enclosure

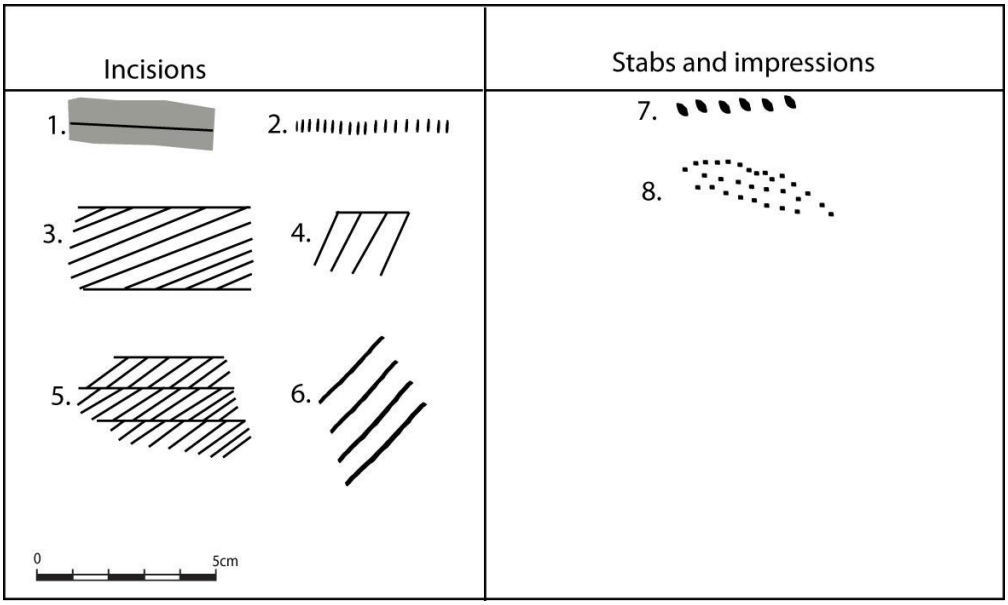


Figure 5.15: Western Valley Enclosure motif groups

The neck, neck-shoulder shoulders and body were the areas decorated. Four of the decorated potsherds had their decoration executed on the neck followed by two potsherds decorated on the shoulder and lastly a single shard each decorated on the neck/shoulder and body respectively. Results of pottery analysis show that the valley was mostly a Period 4 occupation site.

5.4.6.2 Other attributes

The Western Valley pottery assemblage was made using fine, medium and coarse pastes, though the most prevalent were medium to coarse potsherds. Of the diagnostics shards 64% were recorded as being of medium fabric. Out of 59 diagnostic shards, only nine had lips. Only four lip forms which are flattened (two potsherds), rounded (four potsherds), rounded/externally thickened (two) and tapered (one potsherd) were recorded in this pottery assemblage. Most of the shards were either graphite-burnished, smoothed or polished, with a few rough shards.

5.4.7 Chenga Ruins

This assemblage had a total of 1336 potsherds; 1228 shards (84.4%) constituted the non-diagnostic shards while 108 (15.6%) were diagnostic potsherds.

5.4.7.1 Vessel shape

The Chenga assemblage revealed a domination of necked pots in terms of vessel shape (Fig 5.16). Short- necked pots with thickened rims were the most abundant, constituting 57.4% (62 potsherds) of the total assemblage, followed by short-necked pots with beaded rims with 22.2% (24 sherds). Tall-necked pots with flared rims constituted 9.3% (10 potsherds) while neckless pots with thickened rims, shouldered pots with constricted rims and constricted pots with straight rims presented at 9.3% (four potsherds) each.

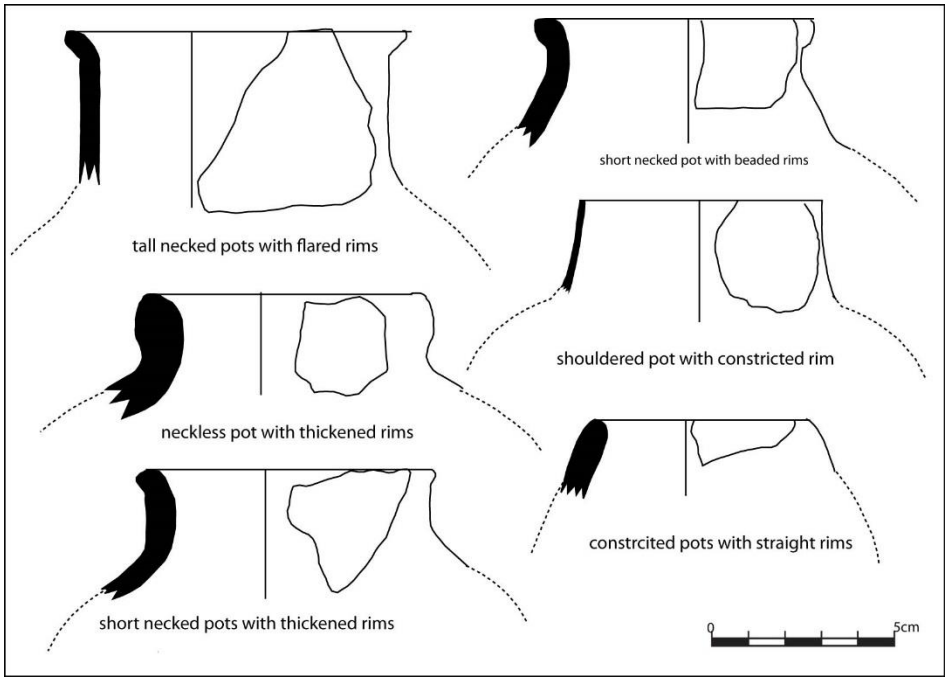


Figure 5.16: Chenga vessel shapes

5.4.7.2 Decoration techniques, motifs and placement

Potsherds recovered from the Chenga ruins were rarely decorated. Out of 108 diagnostic shards, only 11 had decorations executed on them. Incisions were the only decoration technique (Fig 5.17). Four decoration motifs were produced from the analysis and they were either oblique or horizontal incised bands (Fig 5.18).

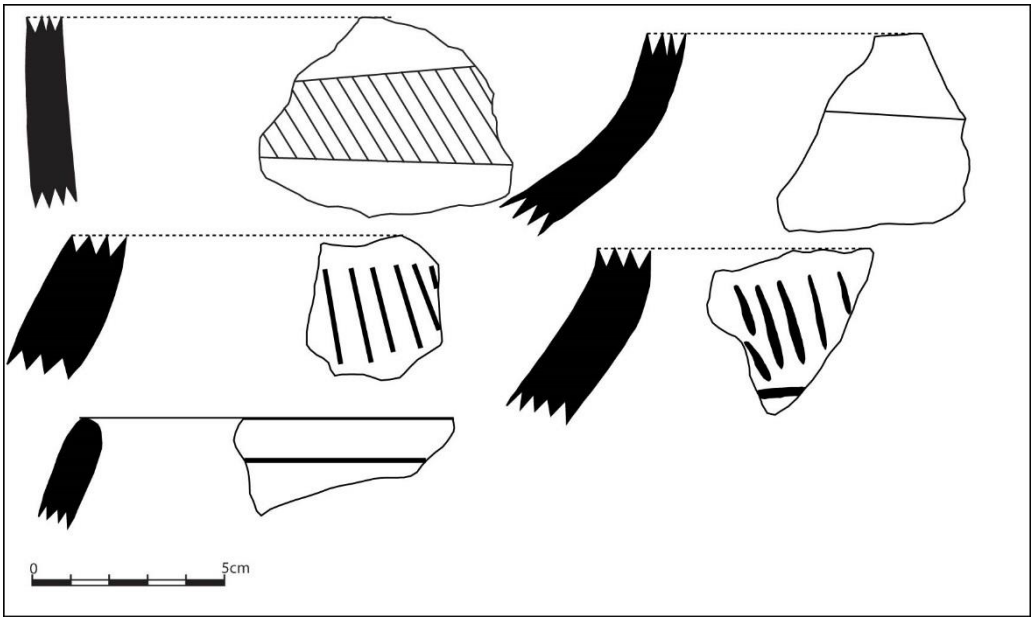


Figure 5 17: Decorated potsherds from Chenga Ruins

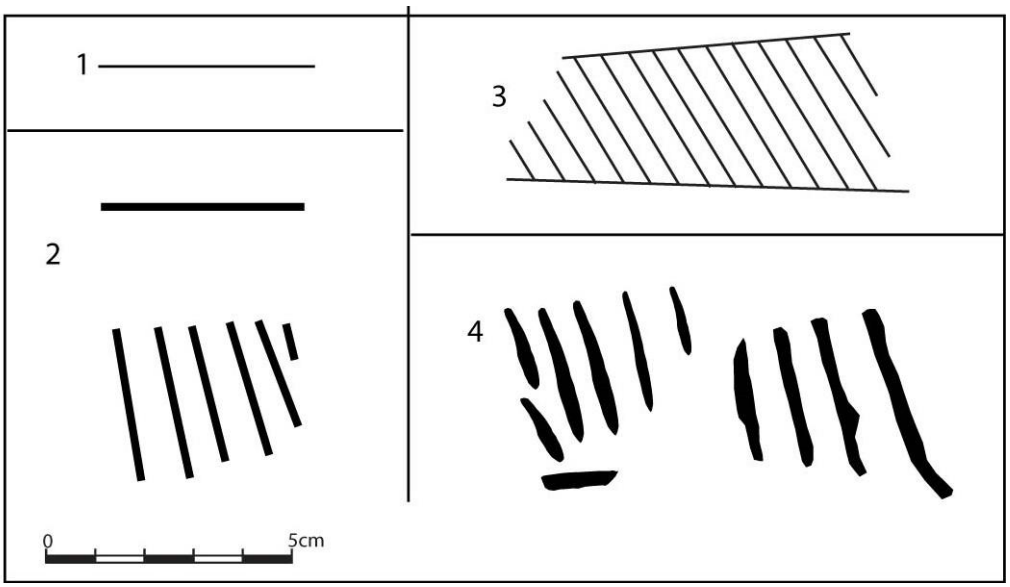


Figure 5.18: Chenga Ruins motif groups

The rim, neck and shoulders were the areas decorated. Five potsherds had decorations executed on the neck, with three potsherds each with decorations on the rim and body. The absence of decoration from the Chenga ruins assemblage is consistent with Robinson's (1961) observation that Period 4 pottery at Great Zimbabwe is hardly decorated.

5.4.7.3 Other attributes

Of the Chenga Ruins potsherds 81 were made from fine fabric while 15 were of medium fabric. The remaining 12 potsherds were of coarse fabric. Forty-nine out of 108 diagnostic potsherds had lips; five lip forms were recorded from the Chenga ruins pottery. Of the recorded lip forms, 22 were rounded lips, 14 were tapered, seven were flattened and five were rounded, externally thickened lips. Only one had a flattened though externally thickening lip. Most of the potsherds were graphite-burnished and polished, with a few rough sherds. The results from the analysis clearly show that Chenga Ruins pottery belonged to Period 4. However, four sherds with class 3 characteristics were noted in this assemblage.

5.4.8 Carpark Midden

A total number of 2270 potsherds were recovered from the Carpark Midden excavation. Only 201 sherds (8.9%) had diagnostic features while 2069 (91.1%) were non-diagnostic.

5.4.8.1 Vessel shape

Necked pots dominated this pottery assemblage. Short-necked pots with thickened rolled rims constituted 44.8% (90 potsherds) of the assemblage while short-necked pots with beaded rims formed 29.9% (60 potsherds) of the excavated pottery. Tall-necked pots with flared rims constituted 4% (eight shards), while the frequency of shouldered pots with constricted rims stood at 14.4% (29 sherds). Neckless pots with thickened rims constituted 6.5% (13 sherds) while a single shard (0.5%) came from a constricted pot with straight rim.

5.4.8.2 Decoration techniques, motifs and placement

The pottery recovered from the Carpark Midden is rarely decorated, with only eight out of 201 diagnostic shards. Incisions were the only decoration technique. The dominant motif consisted of fine-line and broad-line oblique incisions, followed by alternating oblique motifs, and lastly, diagonal incision motif.

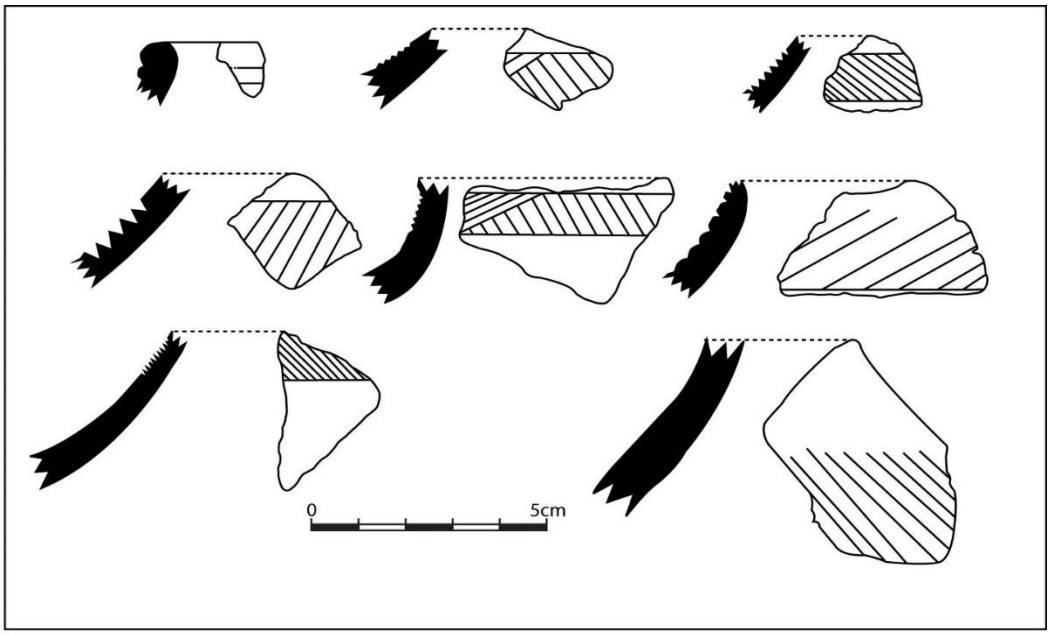


Figure 5.19: Decorated potsherds from the Carpark Midden

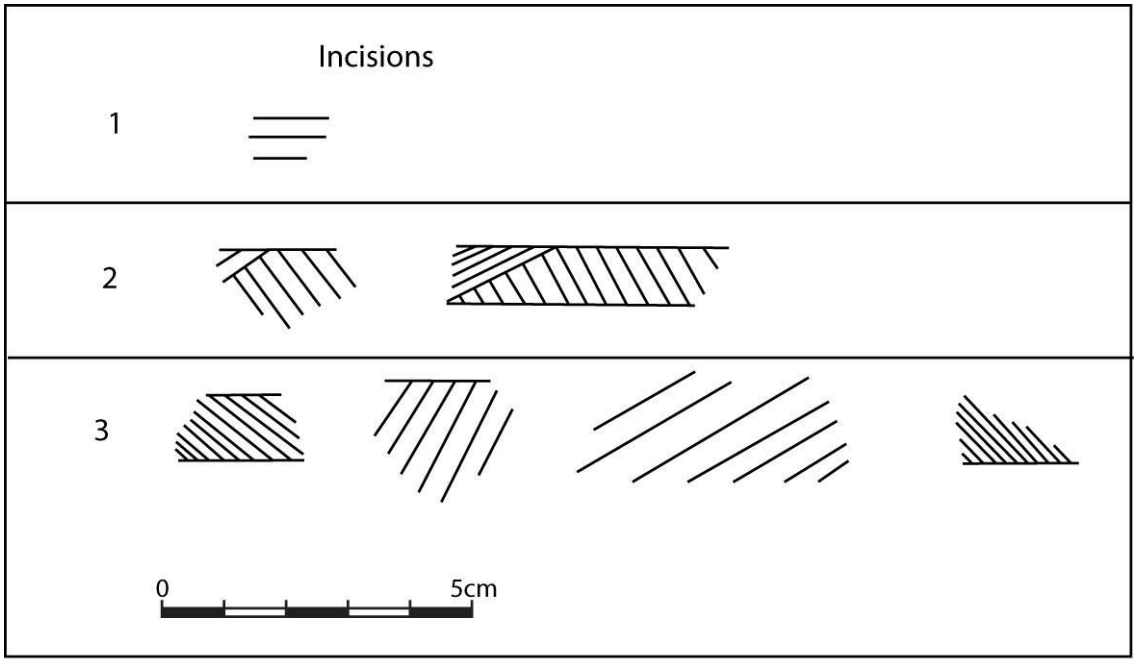


Figure 5.20: Carpark midden motif groups

Five of the decorated potsherds had decorations executed on the shoulder while two shards were decorated on the neck. A single shard was decorated on the rim. The absence of decoration from the Carpark Midden corresponds with Robinson's (1961:204-205) observation that Period 4 pottery at Great Zimbabwe is hardly decorated.

5.4.8.3 Other attributes

Carpark Midden pottery was either graphite-burnished or polished. Out of 201 diagnostic potsherds, only 134 had lips. These were recorded as follows:

Lip form	**Quantity**
Rounded	7
Flattened	12
Tapered	21
Rounded/externally thickened	77
Flattened/externally thickened	17
Total	**134**

Table 5. 4: Carpark Midden lip forms

The fabric of Western Enclosure potsherds ranged from fine to coarse. Of the diagnostic potsherds, 114 were made of fine fabric, 19 potsherds with medium fabric and 68 potsherds made of coarse fabric. Just like the Chenga Ruins pottery assemblage, the results from the analysis clearly shows that the pottery from the midden belonged to Period 4.

5.5 Discussion

The Great Zimbabwe pottery assemblage produced nine vessel shapes (Fig 5.21; Appendix 3). Necked pots were the most dominant vessels. These necked pots varied from tall-necked pots with flared rims to short-necked pots with either beaded rims or rolled rims. In addition to the necked pots, the assemblage also produced shouldered pots with either constricted rims or vertical necks; neckless pots with thickened rims; gourd-shaped pots with flattened rims and constricted pots. The vessel shapes were compared to those known at the site developed by Robinson (Fig 5.22). Robinson's classification had limited certain vessel shapes to certain periods. For example, globular pots with variations in rims and necks were limited to Period 1 and 2 while hemispherical and deep bowls were thought to have disappeared in Period 3. The current research revealed the continued use of bowls in Period 4. The shallow bowls with internally bevelled rims and deep bowls with in turn rims attributed to Period 1 by Robinson were absent in the ceramic assemblage analysed.

The multidimensional approach adopted for this study revealed continuity in vessel shape, decoration motif and design layout from period 2 onwards. This means that probably a single cultural group was responsible for the production of ceramics from period 2 onwards. Resultantly, the appearance of similar vessel types from Period 2 upwards might translate to continual occupation of the site by the same people. Robinson's classification relied heavily on form as a variable separating pottery class. However, the results of this study have shown that fabric of pottery in the same class range from fine to coarse-grained regardless of vessel shape. Robinson's (1961) classification had depended mostly on fabric to differentiate pottery classes. For example, his class 2 differed from class 3 in the sense that class 2 pottery was rough while class 3 was of finer fabric. The limitation arising from the use of a single variable to infer about continuity and change among populations have been highlighted by Baxter (1992).

Robinson (1961:216) and Huffman and Vogel (1991:64) are of the opinion that Great Zimbabwe's Period 3 pottery was influenced by Mapungubwe pottery. However, there seems to be no external influence in the production of Period 3 pottery at Great Zimbabwe, mainly because what is being revealed from pottery analysis is simply a modification of already existing pottery styles. The same trend is being observed with each period of occupation at Great Zimbabwe in the sense that Period 2 pottery is found in Period 3, while Period 3 is also

found in Period 4. Huffman and Vogel (1991) commenting on Period 3 and 4 pottery also stressed an internal development which was not in any way influenced by new people. Robinson (1961: 206-208) once developed the 'Period 3 influenced by Period 4' category to classify those potsherds he thought showed the transition from Period 3 to 4. As such, it can be argued that the later Iron Age pottery of Great Zimbabwe was made by the same people whose pottery-making skills either improved or just changed with time with time. If needs be, we can even remove this periodisation and treat these people as a single unit.

Even though Robinson identified five pottery classes with Period 5 being assigned to the Mugabe people, the pottery from the areas considered in this research yielded classes 1 to 4 pottery. A study of the vessel fragment described by Robinson as Period 5 revealed its close resemblance to Period 4 pottery. Assuming that this is the case, it shows that Great Zimbabwe was continually occupied from mid-13th Century to AD1900 without any breaks in occupation. There is, however, need for further research in areas believed to have contained Period 5 settlements in order to make sound conclusions on this period of occupation. As it is, there is not much that can be said about Period 5 basing on a single pottery fragment.

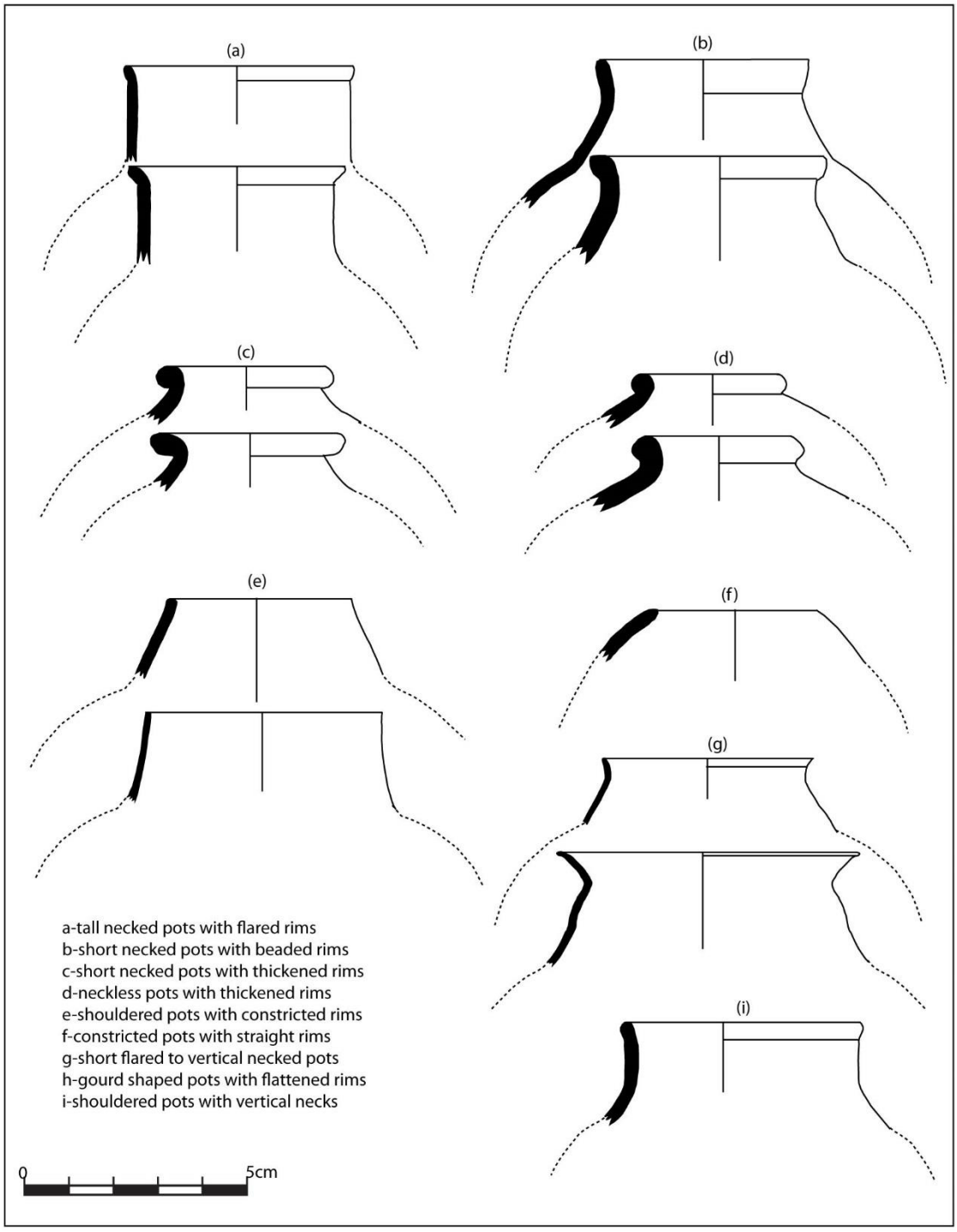


Figure 5.21: Great Zimbabwe pottery vessel shapes

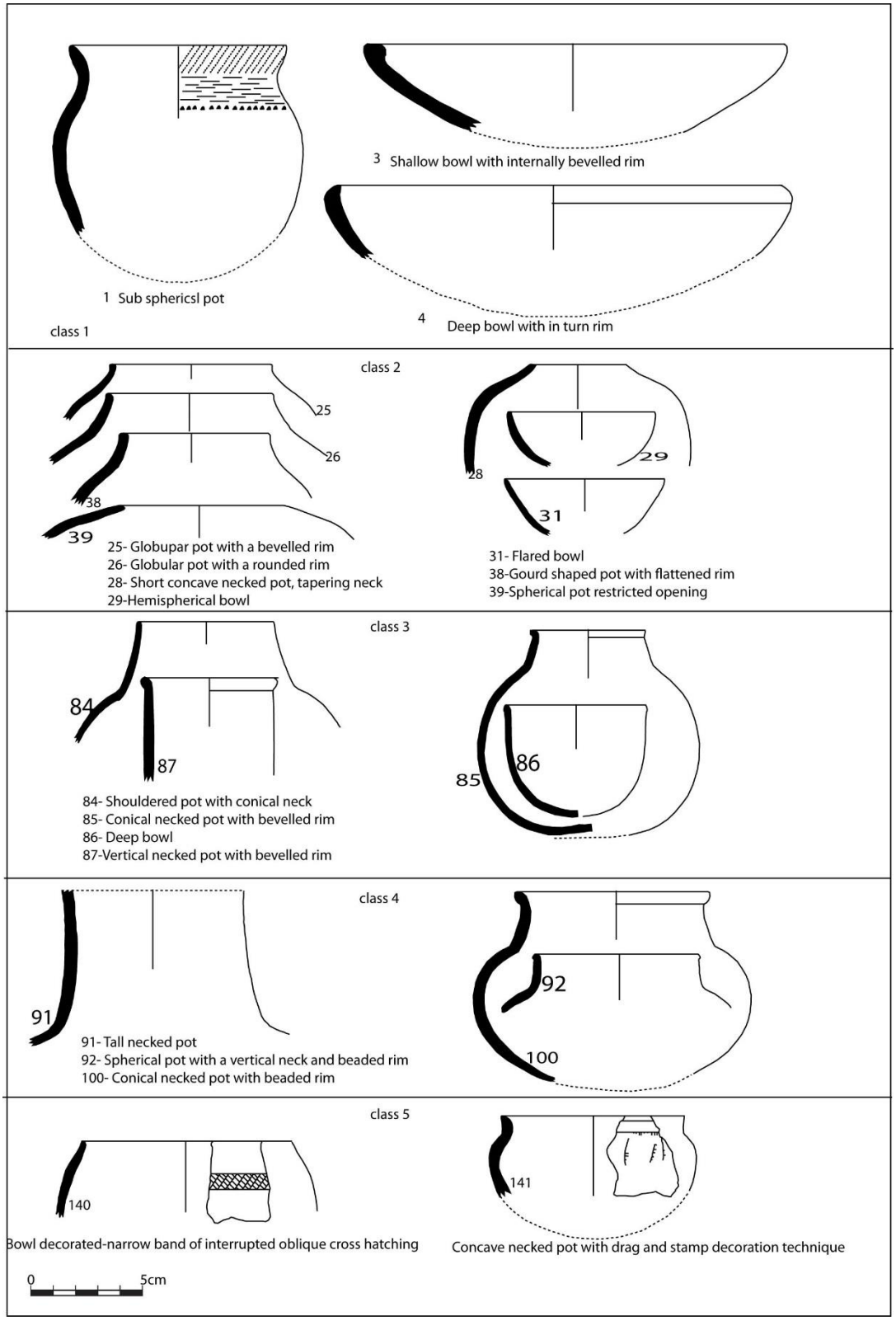


Figure 5.22: Pottery classification after Robinson (1961): numbering corresponds with Robinson's.

Pottery analysis has shown that the site of Great Zimbabwe was occupied in both the Early and Later Iron Age. Based on the results from the analysis of pottery, it is clear that the site's occupation and abandonment were gradual. The Hill Complex was the first to be occupied. Early settlements were also recorded in the Eastern alley enclosures (Caton-Thompson 1931). These areas yielded class 1 pottery (Gokomere/Zhizo). Within the Hill Complex, the Western enclosure has evidence of initial settlement before spreading to the Northern Rock Shelter and the terraces. Pottery from the Terrace middens belongs to Periods 2 and 3. Period 3 saw settlement expanding to the Great Enclosure and the valleys. The bulk of the Great Enclosure pottery belongs to Period 3 with a few belonging to Period 4. Based on the Western Valley's ceramic assemblage, it can be deduced that the valley was briefly occupied in Period 3 and more in Period 4. At the same time the valley was occupied in Period 4, settlement expanded to Chenga Ruins and the Carpark area. The Hill Complex also contained very few class 4 pottery remains, suggesting its continued use. Whatever its use, it can be argued that there was very little activity on the Hill during Period 4. Along the way, the Hill Complex and the Great Enclosure might have been completely abandoned. Chirikure *et al.* (*forthcoming*) after dating three charred bones from the Carpark Midden, estimate the duration of the area to be between AD1450 and 1660, given that most of the major parts of Great Zimbabwe such as the Hill Complex and the Great Enclosure had ceased to be occupied. Besides providing evidence for continued occupation of the site past AD1450, this dating indicates that a portion of the unwalled component of the site partly overlapped with the Valley Enclosures, and partly post-dated all the main wall clusters.

Judging by the nature of the Great Zimbabwe pottery assemblage, it can be suggested that the inhabitants did not at any point exchange received pots (apart from imported ceramics) from any other cultural groups that were spread out in the region. Regional trading patterns and intermarriages have been reconstructed from pottery analysis in the Shashi-Limpopo valley. However, in this case it is hard to tell.

5.6 Limitations

For reasons to do with the differences in the sizes of excavated areas, and the amount of materials that came out of the digs, it was impossible to perform advanced statistical calculations such as discriminant analyses, cluster analyses and even principal analyses. It is well known that variation in sample sizes can skew the results (Baxter 1991). As such, in future, there is need for such work on samples from well controlled areas. This limitation

does not negate the significance of the conclusions reached because at the level of absence or presence, it is clear which pots are represented in which area with the outcome that most vessel types are represented across the site, with the exception of Periods I and II which are only known from the hill.

5.7 Conclusion

Ceramic analysis has shown a gradual pattern in both occupation and the abandonment of the site of Great Zimbabwe much in contradiction of currently held assumptions. There seems to have been a continual occupation of the site by the same people from Period 2 up to its final abandonment. However, there is need to substantiate these trends with information obtained from the study of other forms of material culture. Pikirayi (2007) stresses that pottery remains are only meaningful within a given cultural context and that they relate to, and communicate with, other material culture. As such, patterns revealed from pottery analysis will be related to information being obtained from the beads, faunal, architectural analyses, and radio carbon dating.

CHAPTER SIX: GREAT ZIMBABWE BEADS

6.1 Introduction

Glass beads have been part of the indigenous southern African culture and tradition since they were first imported into the region. This occurred as a result of trade and exchange relationships between, on the one hand, southern and eastern Africa, and on another, eastern Africa and the Indian Ocean rim region. Glass beads that came into the region changed with time from their introduction around AD 700 to the 19th century. Most archaeologists consider them as reliable 'witnesses' that have the potential to illuminate the chronology and livelihood of precolonial societies that consumed them as ornaments or trade goods (Bvocho 2005). Basing on this rationale, a lot of glass bead studies have been undertaken in the last eight decades in southern African countries of Botswana, Zimbabwe, South Africa and Namibia (for example Beck 1928, Robinson 1959; Hanisch 1980; Kinahan 2000). However, it was only recently when Wood (2005), established a bead seriation that integrated all the bead classes from securely dated Iron Age sites in southern Zambezia. Wood's bead seriation which was later on refined and expanded by Robertshaw *et al* (2011) has become the reference point of later southern African bead studies. It has also been adopted by a number of archaeologists as a basis for cross dating Iron Age sites without radiocarbon dates.

Glass beads have been identified as the earliest evidence of trading relations between southern Africa and the outside world (Pwiti 1991). The site of Chibuene is believed to have been the main port of entry for trade goods (glass beads, glass and ceramics) to the interior between AD700 and AD1000 (Wood 2000; Sinclair *et al*. 2012). After AD1200, Kilwa is believed to have become the central distribution point for the beads that entered southern Africa (Wood 2000). In addition to the information the glass beads can provide about trade connections between southern African communities and the rest of the ancient world, they have the potential to inform understanding of social organisation and economic influence within southern African political spheres (Daggett *et al* 2016).

The dominant view has been that at some point in time, glass beads and other imports replaced cattle as a form of wealth (Friedman and Rowland 1977; Hall 1986; Huffman 2000, 2009; Mitchell 2002). Pwiti (1991) explained that the value of imported commodities lay in

their rarity and that they provided an avenue to power because they represented a form of wealth that could be stored and distributed differently from cattle. As a result, glass beads have been interpreted as a symbol of power and status in southern African archaeology. Imported glass beads and any other imports at Zimbabwe-type sites have been used to measure the status of the sites. At site level, such imports have been used to explain settlement organisation. At Great Zimbabwe, places that yielded glass beads were identified as elite residences (Whitty 1959; Garlake 1970; Pwiti 1991; Huffman 2000, 2009). However, a recent study by Wood (2012) has shown that glass beads were part of the social and symbolic fabric of society before the assumed transition to a socially ranked society at K2 and Mapungubwe. Such a conclusion was arrived at after Wood (2012) observed that commoners at Schroda had access to glass beads in considerable quantities and the beads were incorporated in both commoner and elite burials and rituals before and after the assumed transition.

6.2 Background to bead studies in southern Africa

In southern Africa, glass beads have been used for a number of purposes, among them dating and interpreting sites prior to the advent of scientific dating methods such as radiocarbon dating and providing clues about interaction between peoples locally, regionally and internationally (Beck 1931; Wood 2000; 2005, 2011; Bvocho 2005; Dussebiex *et al.* 2009; Robertshaw *et al.* 2010; Koleini *et al.* 2015). They have also provided clues about the interaction of people locally, regionally and internationally. Glass beads constitute the most abundant artefacts in the archaeological record that attest to international trade. Therefore, the earliest evidence for contact and the establishment of trading relations between southern Africa and the outside world has been recovered mostly in the form of glass beads of various types and colours which have been shown to have originated from sources outside southern Africa. Beck (1937) is one of the early researchers who tried to establish the origins of beads found in southern Africa. His study focused on K2 and Mapungubwe. Basing his analysis mainly of the comparing beads colour percentage, Beck (1937) came to the conclusion that many of the beads under study were of Indian origin. Beck also analysed glass beads from the bedrock levels at Great Zimbabwe with a view to understand the early date of the site. He noted that black, pale blue, pale green and yellow were the major colours in the bead assemblage with minor occurrences of orange, reds, white, dark blue, brown and transparent

green. Beck noted similarities between these beads from Great Zimbabwe with those from Mapungubwe. He also noted striking similarities with beads from India, which suggested they came from the same source. In this regard he suggested a date of between the 8th and 9th century based on similar beads from Tangal and Malay (Beck 1931). Later, Gardner (1963) developed a bead series for the Shashe-Limpopo region based on the beads recovered from the 1936 to 1940 excavations at K2 and Mapungubwe. He realised that the beads found at K2 and the lowest levels on Mapungubwe Hill were the oldest at the sites and formed a unitary group. He also recognised that the introduction of black beads in the middle levels at Mapungubwe Hill signalled a new series and that nearly all of the black beads at K2 were Mapungubwe intrusions, found only in graves associated with Mapungubwe pottery.

Wood (2000) described the main bead series in southern Africa. She identified four main bead series, namely Zhizo, K2, Mapungubwe oblate series and Indo-Pacific (Trade Wind) beads in the Shashi Limpopo region. Continued research led to the refining of the bead series by Wood (2005) and Robertshaw *et al.* (2010) (Table 5.1). The bead series were developed based on morphological characteristics which were confirmed by chemical analysis. Wood then dated sites in that region as well fine tuning site chronology. Based on her knowledge of bead types, Wood (2000: 83) managed to correct the dating of the site of K2. An infant burial discovered at K2 had initially been identified by the team from Pretoria University's Anatomy Department (Steyn *et al.* 1999) as a late-K2 period burial. However, on examining the beads found in the burial, it was seen that about 95 percent of the beads were black oblates, a characteristic feature of Mapungubwe oblates. This led Wood (2000) to conclude that the burial fits the classic Mapungubwe period burial pattern, indicating that this entombment was probably a Mapungubwe period intrusion.

Dussubiex *et al.* (2009), borrowing from the material sciences, used the LA-ICP-MS method to determine the composition of glass beads sampled from sites from Kenya, Tanzania, Botswana, South Africa and Zimbabwe. Glass composition reflects the type and source of the raw ingredients used by glassmakers, thereby reflecting the provenance of glass. Two glass types (soda alumina and plant ash) were revealed. Soda alumina, which was the most dominant, was traced to the west coast of India dating from the 8th to the 19th Century A.D.

Robertshaw *et al.* (2010) performed chemical analysis on 360 glass beads from a number of southern African sites and managed to create a bead series as well as demonstrating the likely origins of the glass used to make these beads (Fig 5.2). The Zhizo beads were realised to be either tubes or cylinders and are frequently transparent to translucent blue, yellow, blue-green and green (Robertshaw *et al.* 2010). Chemically they were made from a plant-ash glass from Persia. K2 beads whose colours ranges from blue-green to greenish-blue and green start to appear in the region from about 980 AD. The K2 and the subsequent Indo-Pacific, series were made from the soda-aluminium glass in south Asia. Robertshaw *et al.* (2010) sees the shift from Persian manufactured beads in Zhizo to Indian beads in K2 as a reorientation of the trade networks that saw southern Africa receiving more goods from south Asia than the Persian region. The mid-13th century saw the arrival of the Mapungubwe oblate series followed by the Zimbabwe series in the 14th century. All derived from south Asia and were made from a plant-ash glass. Mapungubwe bead series are small drawn oblate and are characterised by a general uniformity in terms of size (Wood 2005). Opaque black is the most dominant colour in the series. However other colours also include blue-green, light green, yellow and orange. They have been recorded at a number of sites in the region including the early levels of Khami (Garlake 1968). The Zimbabwe series looks similar to the Mapungubwe series but are slightly larger with fewer oblates than cylinders. The same colours of the Mapungubwe series continued to the Zimbabwe series. The Khami series makes an appearance in the 15th century and marks a return to the soda-alumina glass of the K2 and Indo-Pacific series. There is similarity chemically and morphologically between the Indo-Pacific and the Khami series. Khami beads were most likely manufactured in south Asia and are slightly larger than the Indo-Pacific series. Khami beads are distinguishable from the early Indo-Pacific by the presence of deep blue and off-white beads. Other colours include yellow, and blue-green.

Tracing the origins of glass trade beads excavated at archaeological sites can contribute significantly to dating a site and reconstructing prehistoric trade routes. However, it should be noted that determining the glass origin does not necessarily translate to determining the bead makers since there is a possibility that bulk glass may have been shipped from manufacturing sites to distant workshops (Wood 2000: 78).

Bead Series	Period	Colour	Diaphaneity	Shape	Possible Origin (glass)
Zhizo	AD700-950	Cobalt blue, yellow, blue-green, green	Translucent opaque	Tubular Cylinder	Middle East – Iran
K2	AD980-1200	Blue-green, light green	Transparent-translucent	Tubular, cylinders	South Asia – west coast of India
K2 Gardener Roller	AD980-1200	Blue-green, soft green	Transparent-translucent	Barrel	South Asia – west coast of India
Indo-Pacific	AD1000-1250	Black, brownish red Yellow, soft orange, green, blue-green	Opaque Translucent	Cylinder	South Asia – west coast of India
Mapungubuwe Oblates	AD1240-1300	Opaque black, blue-green, green, yellow, butterscotch orange	Translucent opaque	Oblates, cylinders	South/South-East Asia
Zimbabwe	AD1300-1430	Translucent lime - green, transparent dark green, opaque brownish-red	Transparent-translucent	Oblates, cylinders	South/South-East Asia
Khami	AD1430-1650	Black, brownish-red, blue, blue-green, yellow, dull orange, green	Opaque, translucent opaque	Cylinders	South Asia

Table 6. 1: Southern Africa bead series (after Wood 2005:39-56 and Robertshaw et al. 2010: 1903-1907)

Figure 6. 1: Examples of different bead series (after Robertshaw et al. 2011: 1900)

Recently, Koleini *et al.* (2015) have proposed a new methodology for the classification of glass beads from southern Africa. This classification comes after a number of experimental tests that were carried out on beads obtained from a number of sites in the Shashe-Limpopo valley (Prinsloo *et al.* 2008; 2011; Tournie 2012) and north-eastern Botswana (Koleini *et al.* 2015). Glass beads were classified using parameters from their Raman signature which are soda and soda lime glass (Prinsloo *et al.* 2012). This method offers the possibility to differentiate bead types where it is not possible to differentiate beads on morphological grounds. Additionally, the method has the ability to identify pigments used to colour beads. The new glass bead classification is based initially on a morphological classification as defined by Wood (2005; 2011). Selected representative beads are selected for Raman spectra analyses which captures features about the production process of the glass used in the manufacture of beads (Figure 6.1) (Prinsloo *et al.* 2008). Koleini *et al's* (2015) *c*lassification produced four beads groups with the first group being made made up of beads with *Fe-S* chromophore which belong to the East Coast Indo-Pacific series and Khami Indo-Pacific

series. XRF readings have also shown that black Khami Indo Pacific have a higher *Al* and *Ca* content than black K2 Indo Pacific. Group two includes soda glass based beads from the K2 Indo Pacific, East Coast Indo Pacific and Khami Indo Pacific bead series. Khami Indo Pacific beads in this group have higher *Al, Ca* and *Fe* contents than K2 Indo Pacific beads. The third group is made up of beads from soda-lime glass which include Mapungubwe oblates Zimbabwe and Khami Indo Pacific series beads. The iron content of the Mapungubwe oblates and Zimbabwe series is less than in the Khami Indo Pacific beads. SnO_2 is also present in the opaque Mapungubwe and Zimbabwe beads. The final group has beads with a higher lead/calcium content. These have not been assigned to any currently known bead series in southern Africa.

Glass beads found in archaeological contexts in southern Africa between the 8th and 16th centuries AD have been used to reconstruct trade relations and routes that interconnected southern Africa and the outside world. Noting that the majority of bead types that have been recovered from archaeological sites of early and later farming communities of southern Africa are of Indian and Persian origin, Pwiti's (2005) argument is that the agents responsible for the appearance of these exotic goods were the Arab and later Swahili traders. Wood's (2011) detailed study of glass beads has shown that between the 7th and 16th centuries the southern Africa interior was not a remote appendix of Indian Ocean trade to East Africa but was an active and independent participant that was fully integrated into the Eurasian-African world system. She also demonstrated that even though Kilwa was considered to have controlled the gold trade out of southern Africa, the Mapungubwe Oblate and Zimbabwe series beads – the only bead types found in the south while being rare in the north – demonstrate that Kilwa's control would have been confined to trade passing through the north, which seems to have not included beads. The beads strongly suggest that another trading circuit that linked the southern coast directly to the southern part of the Indian subcontinent and/or South-East Asia was also very active.

The analysis of glass beads excavated at Hlamba Mlonga, a 10th to 15th Century AD site in the Malilangwe Trust estate in eastern Zimbabwe, provides insights into trading links between its inhabitants and the greater Indian Ocean trade network (Wood 2009). Examination of Hlamba Mlonga's imported beads revealed a close relation to both the Shashe-Limpopo and Great Zimbabwe bead assemblages. Wood (2009) interpreted this as evidence that Hlamba Mlonga was articulated in the same trading systems that were active in

the Shashe-Limpopo area between the 10th and the late 13th Centuries and then in Zimbabwe culture region in the 14th to 15th Centuries. The rarity of K2 series beads at Hlamba Mlonga suggests that the main trade routes of that period from southern Mozambique ports to the hinterland did not pass through Hlamba Mlonga, a point that, according to Wood (2009), may appear obvious since Hlamba Mlonga lies north of the shortest probable routes that would have serviced the Shashe-Limpopo basin. Bvocho (2005) has shown that in the Shashe Limpopo valley, locals exchanged goods with Muslim traders from the Persian Gulf and ports of Oman. Katshuhiko and Gupta (2000) traced the origins of glass microbeads (commonly referred to as the Indo-Pacific beads) recovered from various countries (Yayoi cultural horizons in Japan, southern China and Luzon region of Philippines) in the Far East to south-southeast Asia. The absence of production facility in the Far East for making these microbeads and the discovery of numerous glass crafting centres in south and Southeast Asia led Katshuhiko and Gupta (2000) to single out south and south east Asia as the source of supply of microbeads to Japan and the Far East in the early mid first millennium AD. They then concluded that the earliest microbeads depositions in Japan indicated that maritime networks had become active between Southeast Asia and the Far East in the third Century BC. Daggett *et al*'s (2016) analysis of glass beads from the site of Thabamasego revealed the presence of Chibuene and Zhizo bead series. Thabamasego, dated to the ninth Century is one of several EIA sites that occupied the Mosu Escarpment overlooking Sowa Pan in north-eastern Botswana. Daggett *et al* (2016) therefore concluded that the presence of Chibuene series beads at Thabamasego suggests that an early phase of occupation may have occurred at the site than indicated by radiocarbon dates. They went on to stress that this assemblage of beads adds important new evidence of Indian Ocean Trade reaching the interior of southern Africa before the end of the first millennium A.D. Lastly, Daggett *et al* (2016) proposed that the presence of Zhizo beads along with the Chibuene series beads at the edge of the Sowa Pan suggests that a trade route originating from the port of Chibuene and reaching as far as Ngoma may have passed through Sowa Pan region. Manyanga *et al*'s (2000) analysis of beads from Malumba and Mwenezi Farm in the Mateke Hills, south-eastern Zimbabwe produced close resemblance with those recovered from Mapungubwe. They then came to a conclusion that these similarities point to a broad contemporaneity between Mateke Hills and those in the middle Limpopo Valley. They also deduced from the analysis that Malumba and Mwenenzi Farm appear to have been part of regional and international networks of trade and exchange that probably linked sites in the Mateke Hills with the coastal parts such as

Chibuene on the Indian Ocean coast which have been dated between 13th and 15th Century. Van der Sleen (1967) analysed beads originating from the tombs of Vohemar dated to the 13th-16th Century, on the north-eastern coast of Madagascar and identified them as small trade winds beads, the typical opaque beads of the Indian make.

Insoll and Shaw's (1997) analysis of glass beads from Igbo-Ukwu in southern Nigeria revealed close similarities with beads from Gao Ancien, which was located upon the River Niger in eastern Mali. Gao Ancien was one of the principal centres involved in trans-Saharan trade supplying commodities such as gold, slaves and ivory. Direct similarities include the presence of yellow, red, and green and dark blue monochrome glass beads in short and medium barrel and cylinder shapes. Having gathered that both hippopotamus and elephant ivory were important commodities of the trans-Saharan trade at Gao and that Igbo-Ukwu was ideally situated for obtaining elephant ivory within the West African Forest zone unlike Gao situated in the Sahel, Insoll and Shaw (1997) believed that Igbo-Ukwu might have supplied Gao with ivory and in return Gao provide Igbo-Ukwu with beads. The similarities between the two assemblages led Insoll and Shaw to suggest an interregional trade along the River Niger. As the likely source of many of the beads was Fustat in Egypt, Insoll and Shaw (1997) came to the conclusion that Gao may well have been the middleman between Igbo-Ukwu and Egypt. They are of the view that this route is more satisfactory than a direct east-west trade across Sudanic zone which has been argued for previously as a channel of international trade for Igbo-Ukwu.

Largely, glass beads have been studied as chronological indicators (Beck 1931; Wood 2000; Bvocho 2005). This has been within the context of pushing for an exotic theory (external trade) as the prime mover in the rise and decline of prehistoric states in southern Africa. Mapungubwe is seen as having risen to prominence because the Limpopo basin was the first area in the interior of southern Africa to be integrated into the Indian Ocean trade networks. The economic basis for Mapungubwe is argued to have been mainly external trade based on the export of ivory and the importation of glass beads and other exotic goods (Connah 1987; Hall 1987; Pwiti 1996). The decline and eventual collapse of Mapungubwe is also explained in terms of external trade as well as the depletion of grazing land. The decline in the demand for ivory on the external market and the increase in the demand for gold are argued to have shifted the focus of trade further north to the Zimbabwe plateau with its richer goldfields

(Connah 1987; Hall 1987; Pwiti 1996; Pwiti and Ndoro 2014). The direct result of this was the rise of Great Zimbabwe and the state of which it was a centre. Thus in the same way as Mapungubwe was primarily a product of external trade, so was Great Zimbabwe. Therefore, foreign trade glass beads have been used as chronological indicators.

A major task for archaeological and anthropological research has been to reconstruct and understand patterns of cultural exchange. Bellina (2015) examined the cultural exchanges that occurred in the early complex societies of India and South- East Asia through a formal and technological study of agate and carnelian beads and ornaments. For more than a century, the sequence of cultural exchanges between India and South- East Asia had been referred to as 'Indianisation' because it led to major transfers of India religious, political and artistic features of South East Asia, all of them closely connected with the process of state formation. A formal and technological analysis of agate and carnelian beads dating from the proto-historical period through the early historical period showed that cultural exchange was already underway in the proto-historical period and while Indianasation certainly took place, the transfer was not all one way (Bellina 2015). Instead, South-East Asia specified the form of the symbolic objects and India was itself affected by the exchanges. Belllina (2015) realised that the main motivation for the transfer of Indian cultural elements to South-East Asia was the need for legitimation by South-East Asian elites. Imported artefacts among them agate and cornelian ornaments were status markers representing most advanced technology and sophistication of the time. The transfer of Indian politico-religious features as well as of manufacturing techniques imply periods of close and lasting interaction between India and South-East Asia. Bellina (2015) strongly believes that it is likely that the South-East Asian elite not only wanted to possess the status markers but also the means to produce them such as craftsmen who would transfer their knowledge or the Brahmans who could provide legitimising rituals.

Glass beads have also been viewed as status markers at Zimbabwe-type sites. They have been regarded as prestige goods whose access was highly controlled by the elites/ruling class. The underlying economic logic is that political advantage is gained through control over access to prestige foreign goods that are non-essential and non-utilitarian. Ultimately they become essential in social transactions and for payment of social debts (Frankenstein and Rowlands 1978:76; Kipp and Schortman 1989). Hall (1986) is of the view that glass beads and cloth replaced cattle as a signification of power in complex societies. Generally, it has been

assumed that the elite received a large share of glass beads hence the belief that glass beads were found in large quantities in elite contexts (Meyer 1998). As such, the tendency by researchers has been to view all places bearing glass beads as reflecting elites' residences. For example, the recovery of more than 100,000 glass beads at Mapungubwe with at least 26,000 glass beads and roughly over 12,000 gold beads discovered in a royal burial at Mapungubwe Hill cemented the idea that the hill was occupied by the ruling class (Huffman 2007:58). The Hill Complex and the Great Enclosure at Great Zimbabwe were regarded as royal residences partly based on the recovery of glass beads and other imports. However, recent analysis of the frequency of glass beads from elites and commoner sites in the Shashi Limpopo area by Wood (2012) shows a small discrepancy in terms of quantities from domestic contexts, thereby casting doubt on the view that access to beads and trade in general was controlled by a central authority. A number of historical accounts seem to support Wood's (2012) findings as they demonstrate that beads could be accessed by almost anyone in the society. Bhila's (1982) accounts chronicle young men of marriageable age travelling to distant places in search of beads or *chuma* to give to the women they intended to marry. Generally it has been assumed that the elite received a large share of glass beads as a result they were found in large quantities in elite contexts (Meyer 1998). However more recent research has shown that even those sites that were considered peripheral also had glass beads which might point out to their ubiquity on the landscape (Antonites 2014).

The appearance of glass beads on both elites and commoner sites at higher frequencies than imagined before, brings many questions on the role they played in societies. Kassam and Megersa (1989) hold the view that in the early history of mankind, 'ornaments among them beads probably expressed deep seated social, cultural and spiritual values. Mbiti (1969) is of the opinion that beads played an important ceremonial role at each stage of life and would have served overlapping functions. As such, Mbiti (1969) is of the belief that the essential nature of beads and the protective properties they possess are best approached through an understanding of African traditional religion and the deeply religious nature of traditional African people. In traditional Africa, it was and often still is common to recognise and welcome the key moments in life of the individual: the turning points in rites of passage such as birth, puberty and initiation; marriage, procreation, old age and death; entry into the community of the departed and the community of the spirits. Frequently, these key events were marked with religious ceremonies and rituals in which beads often had a role Mbiti

(1969). For one to understand the meaning of beads, be they of local or external origins, to either the makers or users, there is need to rely on ethnographic information. According to Bvocho (2005:491), ethnographic studies have shown that adornment communicates cultural values in symbolic language that expresses rank, religion, age, grade and marital status, thus making ornaments an integral part of a multi-layered communication system among all Shona-speaking people. For example, ancestral spirits were known to wear black and white beads while conus shells worn by chiefs were a symbol of fertility of land, animals, plants and people themselves. Those plagued by avenging spirits wore red and black beads while some traditional healers wore conus shells. Different bead types and colours were also worn by females to signify their stage in life (see Bvocho 2005 for a detailed description of these beads). Kassam and Megersa's (1989) ethnographic study in Boooran Oromo in East Africa revealed that in Oromo as in other cultures of the world, ornaments in general were more than mere objects of self-adornment. Among the Oromo, beads were a symbol of fertility and were worn by a woman in the form of a beaded necklace upon giving birth (Kassam and Megersa 1989). Traditionally, these beaded necklaces were red and yellow in colour symbolising blood and regeneration and the child's healthy waste matter respectively. Deriving from historical and anthropological sources, Bernard-Thierry (1960) and Van Der Sleen (1967) realised that in Malagasy culture, beads played a sacred role, had a medicinal value and were used to mediate contact with supernatural powers. Bernard-Thierry's study also revealed that the colour of the beads was also important in the Malagasy culture. She discusses of four common colours (red, yellow, blue and green) relating red to blood, fire and royalty; yellow to fertility, health and plenitude; blue to excellence and green symbolising plants and harmony. Bernard-Thierry (1960) also identified white and translucent colours which were linked to wealth and acquisition of good fortune. Verin (1972) gathered from historical sources that in Malagasy culture, it was forbidden to carry beads into a house where there was a dead person or inside a tomb regardless of social status. Raharisoa (1990) reports that in the 19th Century in the central highlands, beads were included in the amulets worn by soldiers in wars against their enemies.

Apart from glass beads, ostrich eggshell (OES) beads have been studied as distinctive cultural markers (Smith *et al*. 1991; Smith 1993). Large ostrich eggshell beads have been associated with hunter-gatherer societies. Smith *et al*. (1991) traced the evolving relationships between the hunter-gatherers and the incoming pastoralists in the south-western Cape of South Africa

through OES bead analysis. Ostrich eggshell beads were also used to trace evolving relationships between the hunter-gatherers and the incoming pastoralists in the central Thukela basin in South Africa. From the excavations of Mbabane and eSinhlonhlweni shelters in the central Thukela basin, Mazel (1986) concludes that hunter-gatherer/herder relations were probably close and harmonious. Traditional hunter-gatherer items such as worked bone, stone artefacts and ostrich eggshell beads are found in farming community sites while farming community-decorated pottery and iron implements have been recovered from hunter-gatherer sites (Mazel 1986). Thus Mazel (1986) suggested trade and exchange between the two populations.

Hunter-gatherers have largely been accredited for manufacturing OES beads recovered from early farmers' sites (Mazel 1986). As such, these items must have been imported as finished products. Even though it can be accepted that OES beads were the products of hunter-gatherers, it has also been shown that early Iron Age communities carved their own beads. Whether they borrowed the culture from hunter-gatherers is not clear. Denbow (1983) yielded a large collection of OES beads of various sizes from Taukome, an Iron Age site dated to the 8th century AD in Botswana. Beads in all stages of manufacture were recovered, including rough blanks and partially drilled specimens, indicating that many of these beads were made on site (Denbow 1983). Similar beads made from large land-snail shell were also recovered. This case presents evidence that OES beads were made on both Iron Age and Late Stone Age sites.

Differences in OES bead size is thought to be a reflection of changing fashion through time. Jacobson (1987) studied the OES beads found at Geduld in Namibia and observed a size difference between earlier and later central Namibian assemblages. The beads showed a constant increase in mean external diameters and aperture width throughout the sequence. Jacobson (1987) concluded that the change could a result of time and the occupants' economy.

In summary, the analysis of glass beads by context of recovery at Great Zimbabwe will illuminate similarities and differences in access between inhabitants of different areas as well as shedding light on Great Zimbabwe’s past trade contacts.

6.3 Bead classification

Initial identification of beads involved sorting by material such as glass, metal, ostrich eggshell and ivory. The classification and analysis of the beads followed principles and procedures adopted from Katea and Auttman (2003), Bvocho (2005) and Wood (2005). A data capture sheet was designed (Appendix 4). Material used for manufacture, manufacturing technique, shape, colour and diaphaneity were the main attributes recorded from the beads. The beads' size categories were adapted from Wood (2005:34) (Table 5.2). Diaphaneity classification defined by Katea and Auttman (2003:3) was adapted for this study (Table 5.3). The glass bead series developed by Wood (2000; 2005) and Robertshaw *et al.* (2010) were adopted (Table 5.1). It was felt that since the bead series clearly explains bead types common at each Zimbabwe type site, its use in this study would shed more light on Great Zimbabwe's interaction with other regions. The colour of the beads was arrived at based on an abridged Munsell colour chart which was used in combination with a powerful microscope. Vernier callipers were used for precision measurements to the nearest tenth of a millimetre. The colour for shell and ivory beads was visually ascertained.

Size	**Diameter**
Minute	<2.5mm
Small	2.5-3.5mm
Medium	3.5-4.5mm
Large	>

Table 6. 2: Beads size categories. Adopted from Wood (2005:34)

Diaphaneity class	**Definition**
Opaque	Light does not pass through the body of the bead. Some light may pass through the edges of the bead but only to a small extent
Translucent	Light easily passes through the body of the bead, but the glass is not clear
Transparent	Very clear. Objects can be seen through the bead

Table 6. 3: Diaphaneity classification. Adopted from Katea and Auttman (2003:3)

6.4 Results

The sampling protocol adopted for this study was followed in presenting results of the analysis of beads. In this presentation, glass beads were presented separately from ostrich eggshell and ivory beads. From the Hill Complex, Western Enclosure and NRS, samples yielded glass beads. Caton-Thompson (1931) reported recovering 80 glass beads from the Terrace Midden excavation. However, those beads were absent in the midden collections which are currently housed at the Museum of Human Sciences. The bead collection might have been given out for further analysis. Caton-Thompson (1931) had mentioned giving Beck the beads that came from her excavation for further analysis as well as getting the results back without mention of the return of the bead collection. Wood (2005) then mentioned making use of beads that had been given to Beck by Gertrude Caton-Thompson for analysis. As such, reference will be made to Robinson's (1961:230) classification of these beads. Of the valley settlements, only the Great Enclosure collections yielded glass beads. While no beads were obtained from the 'peripheral' settlement of Chenga, the Carpark Midden (open settlement) excavation produced beads.

A total of 663 glass beads were analysed, the bulk of the beads coming from the Hill complex (Table 6.4).

Context	**Quantity**
Hill Complex	500
Northern Rock Shelter	6
Great Enclosure	123
Carpark Midden	34
Total	**663**

Table 6. 4: Great Zimbabwe beads quantification

6.4.1 Western Enclosure

Robinson's Western Enclosure material collection yielded a total of 500 beads from six test pits (Table 6.5). This figure is below that reported by Robinson in 1961, and this researcher's assumption is that probably the missing beads might have been taken away as samples for analysis and never brought back. Out of the 500 glass beads recovered from Robinson's 1958 Hill Complex excavation, 16 different colours were determined. Pale green, yellow, blue and

light blue were the most dominant (Fig 6.2; 6.3 and Table 6.5). Oblates, cylinders and barrels were the shapes recorded for the glass beads with the exception of a single incomplete bead which was too small to determine its shape. Of the 500 glass beads, 132 (27%) were opaque and 322 (64%) were translucent while 46 (9%) were transparent (Fig 6.4). Blue, yellow and dark blue constituted the transparent beads. According to Wood (2005), transparent cobalt blue beads are a common characteristic feature of the Mapungubwe oblate series.

Attributes		**TP 1**	**TP 3**	**TP 5**	**TP8**	**TP9**	**TP 10**	**Total**
Bead type	Glass	304	20	11	4	116	45	**500**
Colour	Olive	-	-	-	-	-	3	3
	Pale olive	-	-	-	-	-	23	23
	Green	1	-	-	-	-	-	1
	Pale green	78	5	4	3	12	-	102
	White	-	-	-	-	1	-	1
	Black	27	-	1	-	-	-	28
	Yellow	64	9	1	1	58	-	133
	Olive-yellow	6	-	-	-	-	-	6
	Orange	16	-	-	-	-	-	16
	Blue	47	5	1	-	-	5	58
	Light blue	51	-	4	-	1	4	60
	Dark blue	8	-	-	-	22	-	30
	Brown	2	1	-	-	22	1	26
	Strong brown	-	-	-	-	-	5	5
	Red	3	-	-	-	-	1	4
	Reddish yellow	1	-	-	-	-	3	4
	Total	**316**	**20**	**11**	**4**	**177**	**45**	**573**
Shape	Oblate	259	2	9	1	74	28	373
	Cylinder	41	12	2	3	27	17	102
	Disc		1	-	-		-	1
	Barrel	4	-	-	-	15	-	19
	Total	**316**	**15**	**11**	**4**	**177**	**45**	**568**
Diaphaneity	Opaque	58	4	5	-	63	2	132
	Translucent	228	10	4	4	34	42	322
	Transparent	18	6	2	-	19	1	46
	Total	**304**	**20**	**11**	**4**	**116**	**44**	**500**
Size	Minute	155	1	10	4	71	28	269
	Small	134	16	-	-	34	15	199
	Medium	14	1	-	-	1	-	16
	Large	-	2	1	-	2	-	5
	Total	**303**	**20**	**11**	**4**	**108**	**43**	**489**
Method of	Drawn	304	20	11	4	116	45	500

manufacture								
Completeness	Complete	303	20	9	4	109	42	487
	Incomplete	1	-	2	-	7	3	13
	Total	**304**	**20**	**11**	**4**	**177**	**45**	**500**
KEY Minute = <2.5 mm Small = 2.6-3.5 mm Medium = 3.6-4.5mm Large = >4.6 mm								

Table 6. 5: Western Enclosure bead analysis

Slightly over half of the Western Enclosure glass beads came from Test pit 1, from levels 14 (3.9m) to hut A (0.15m). The analysis revealed that level 14 produced the first glass beads, which were yellow translucent and dark blue. These beads were found in association with period 2 pottery. Test pit 5 and 9 also produced glass beads in association with class 2 pottery. Test pit 5, floor q produced shiny blue transparent, either dull or shiny light green translucent glass beads. Pale green translucent, yellow translucent, dark blue transparent and brown translucent glass beads came from the bedrock of Test pit 9. Robinson (1961: 227) discusses a variety of beads (dark blue and green transparent cylinders, blue-grey translucent, blue-green, and green transparent cylinders and light blue translucent oblates) were found together with Period 2 pottery shards, some of which were, however, missing. An observation during analysis was that at first glance, most of the beads appeared opaque but once damped and viewed under a microscope became either translucent or transparent. Based on morphological features, these glass beads found in association with class 2 pottery/Gumanye settlement fit well within the Zhizo series (Wood 2005). Although Wood (2005) stresses that the Zhizo beads are prone to corrosion, no corroded or corroding bead was encountered in this assemblage.

On level 11, floors i and j, floor i produced pale green translucent, light blue translucent and yellow opaque, translucent and transparent glass beads, while yellow translucent, pale green translucent, brown translucent and dark blue transparent glass beads came from floor j. Level 10, floor h2 produced mainly pale green translucent, yellow translucent, yellow transparent,, orange translucent and olive-green translucent glass beads. Based on the Robinson's Test Pit 1 trench profile, level 12 to level 7 contain Period 3 pottery. It was observed that most of the beads are either shiny or dull. The glass beads recovered in association with class 3 ware are predominantly small, though minute beads are also present. Yellow can be singled out as the most dominant colours, though other colours are fairly well represented, while oblates and

cylinders were the most occurring shapes. As a sizeable number of beads resembled the doughnut it was adopted as a shape. The beads recovered with class 3 pottery belong to the Mapungubwe oblate series and the Great Zimbabwe series. Although no chemical analysis was performed, these bead series were separated based on lustre. Wood (2005) had noted that though morphologically these two bead series are the same, the Mapungubwe oblate series is shiny while beads making up the Great Zimbabwe bad series are dull. Also falling within the Mapungubwe/Great Zimbabwe bead series are glass beads from Test Pit 3. Test Pit 3 glass beads came from the bedrock and these were shiny yellow translucent and transparent; dull yellow opaque; dull pale green translucent and shiny pale green transparent.

Hut A containing Period 4 class ware produced mostly dull yellow translucent, shiny and dull strong brown translucent, shiny dark blue, dull light bluish green translucent, red opaque and dull and shiny olive opaque and translucent glass beads. Apart from Test Pit 1, beads were also recovered from Test Pits 3, 5, 8, 9 and 10. The bedrock of Test Pit 10 produced both blue translucent and transparent beads, brown translucent, reddish-yellow translucent and pale olive opaque and translucent beads. It was observed that glass beads from Hut A are mostly medium in size with a few large ones. Morphologically, the dull brown, dark blue and red glass beads are similar to Wood's (2005) Khami series.

Results from beads analyses show that these beads were recovered in association with Periods 2, 3 and 4 pottery. The recovery of beads in association with Period 2 pottery shows that contact with the outside world was established long before the advent of a culture of building with stones. Yellow beads appear to have always been in fashion since they are found from Period 2 to 4 settlements. The bulk of the beads from the Hill Complex belong to Period 3 and are referred to as the Zimbabwe series. This series has several similarities with the Mapungubwe oblates series. Wood (2005:55) is of the opinion that the Mapungubwe oblates series are appearing at Mapungubwe at much the same time as at Great Zimbabwe. Very few glass beads coming from Hut A, Test pit 1 belonged to class 4. These white and dull orange beads are coarse, irregular and much larger, fitting more into the Khami series than the Zimbabwe series.

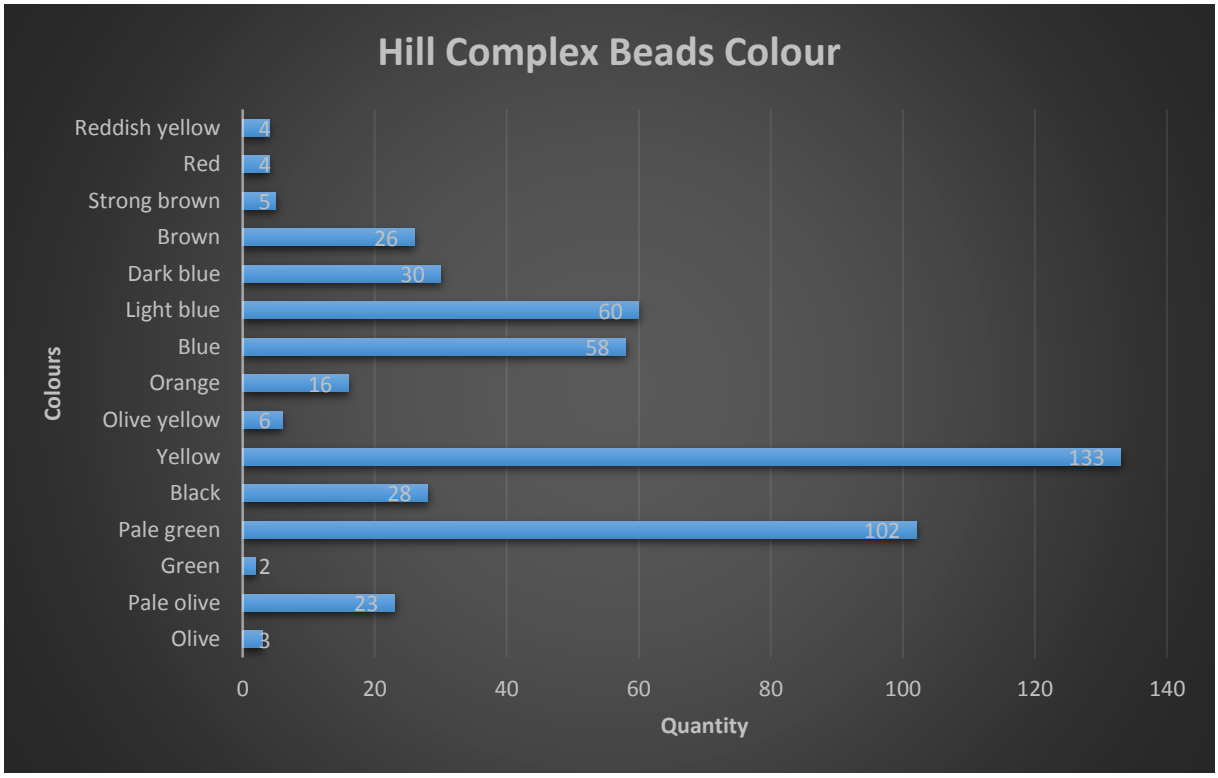


Figure 6. 2: Bar chart showing Western Enclosure beads colour composition

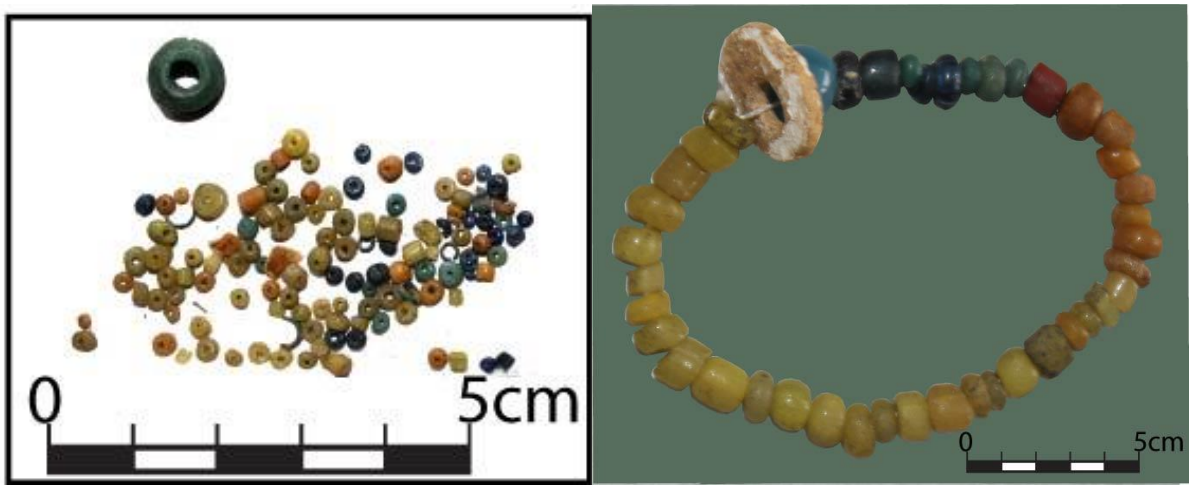


Figure 6.3: Images of Western Enclosure glass beads

Oblates, cylinders and barrels were the shapes recorded for the glass beads, with the exception of a single incomplete bead which was too small to determine its shape. All the OES beads took the shape of a disc while the ivory beads were barrels. Of the 573 beads, 132 (23%) were opaque (61 glass, 59 OES, 12 ivory) and 381 (67%) translucent, while 60 (10%) were transparent (see Fig 6.2). Blue, yellow and dark blue constituted the transparent beads.

According to Wood (2005), transparent cobalt blue beads are a common characteristic feature of the Mapungubwe oblate series.

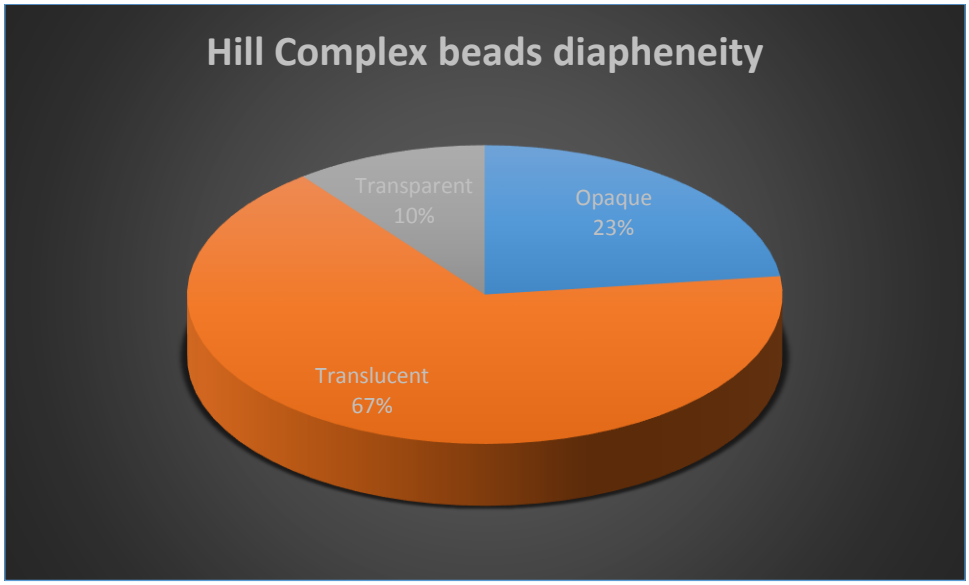


Figure 6.4: Chart showing Western Enclosure beads diaphaneity ratio

6.4.1.1 Ostrich Eggshell (OES) beads

A total of 59 OES beads and 15 pieces of ostrich eggshell were recovered from the base of Test Pit 9, which contained class 2 pottery (Fig 6.5). All the OES beads were either cut or curved and took the shape of a disc. The presence of unworked ostrich eggshells might mean that they were locally produced by the people of the Gumanye culture. It might also have been the case that these people traded with the hunter-gatherers of the Late Stone Age. Such interactions were reported by Smith *et al*. (1991). It might also be that former hunter-gatherers were present as 'clients' within Great Zimbabwe as documented ethno historically in Tswana towns and as proposed by Hall (1996) for some Early Iron Age societies.

Figure 6.5: Image showing Ostrich eggshell beads from Western Enclosure

6.4.1.2 Ivory beads

A total of 14 ivory beads came from the Western Enclosure of the Hill Complex (Fig 6.6). All the beads were collected from Hut A in association with a Period 4 settlement. Ivory has been identified as one of the commodities used to trade. Oral traditions have also reported the local use of ivory. The ivory beads all took the shape of a barrel. The ivory beads were of relatively the same diameter (approximately 55mm).

Figure 6.6: Ivory beads from Western Enclosure

6.4.2 Great Enclosure

Great Enclosure beads were recorded by Robinson (1961) as coming from Trench 8 (Central Area), layers 3 and 4, Trench 33 Layer 3, Trench 42 layers 5 and 6, and Trench 39 (Platform area) layer 3. It was, however, noted that the current accessioning system does not reveal the context of the Great Enclosure beads. As such, beads recovered from Roger Summer's Great Enclosure excavation were analysed based on their accession numbers. A total of 123 beads were analysed (Table 6.6). Shiny and dull pale green translucent, dull and shiny yellow translucent, shiny yellow transparent, dull and shiny orange translucent, dull blue translucent, dull white opaque, dull black opaque, dull red opaque, shiny dark blue transparent, shiny green, shiny olive and light brown are the colours recorded in this bead assemblage (Table 6.6; Figs 6.7 and 6.8). Of the beads 60% (74) are translucent, followed by transparent beads amounting to 23% (28) and then 17% (21) opaque beads (Figure 6.9). The Great Enclosure bead assemblage consisted of mainly minute (73 beads) and small (49 beads) drawn beads

that are uniform and a single large bead. When related to Wood (2005) and Robertshaw *et al.* (2010) bead series, the Great Enclosure beads fit well within the Mapungubwe oblates and Great Zimbabwe bead series. Very few beads, such as large white opaque and dark blue opaque beads, could be assigned with certainty to the Khami series. Mapungubwe oblates-Great Zimbabwe-Khami bead series have shared similarities, making it quite difficult to distinguish them based on morphological characteristics only. In the Hill Complex, these colours appear most in Test Pit 1 from levels 10 to 13. Level 13 marks the upper limit of Period 2, while the other levels are associated with class 3 ware. The Great Enclosure beads were found in association with mainly classes 3 and 4 ceramics.

Attributes		**58187**	**58196**	**58197**	**58244**	**58248**	**58259**	**58301**	**58565**	**Total**
Bead type	Glass	1	**16**	**50**	**1**	**29**	**24**	**1**	**1**	**123**
Colour	Green	-	-	5	-	-	-	-	-	**5**
	Pale green	1	7	19	-	-	-	-	1	**28**
	Yellow	-	3	6	1	17	19	1	--	**47**
	Brown	-	-	5	-	5	-	-	-	**10**
	Orange	-	6	-	-	-	1	-	-	**7**
	Red	-	-	1	-	3	-	-	-	**4**
	Blue	-	-	-	-	-	3	-	-	**3**
	Dark blue	-	-	5	-	-	-	-	-	**5**
	Black	-	-	1	-	4		-	-	**5**
	Olive	-	-	2	-	-	-	-	--	**2**
	White	-	-	2	-	-	-	-	-	**2**
	Pale yellow	-	-	**5**	-	-	-	-	-	**5**
	Total	**1**	**16**	**50**	**1**	**29**	**24**	**1**	**1**	**123**
Shape	Oblates	-	5	29	-	20	11	1	-	66
	Cylinder	-	7	21	1	9	11	-	1	50
	Disc	-	2	-	-	-	1	-	-	3
	Barrel	1	2	-	-	-	1	-	-	4
	Total	**1**	**16**	**50**	**1**	**29**	**24**	**1**	**1**	**123**
Diaphaneity	Opaque	1	-	6	1	12	-	-	1	21
	Translucent	-	16	24	-	17	16	1	-	74
	Transparent	-	-	20	-	-	8	-	-	28
	Total	**1**	**16**	**50**	**1**	**29**	**24**	**1**	**1**	**123**
Size	Minute	-	9	32	-	18	12	1	1	73
	Small	-	7	18	1	11	12	-	-	49

	Large	1	-	-	-	-	-	-	-	1
	Total	**1**	**16**	**50**	**1**	**29**	**24**	**1**	**1**	**123**
Method of manufacture	Drawn	1	16	50	1	29	24	1	1	**123**
Completeness	Complete	-	16	50	1	29	24	1	1	122
	Incomplete	1	-	-	-	-	-	-	-	1
	Total									**123**

Table 6. 6: Great Enclosure Beads quantification

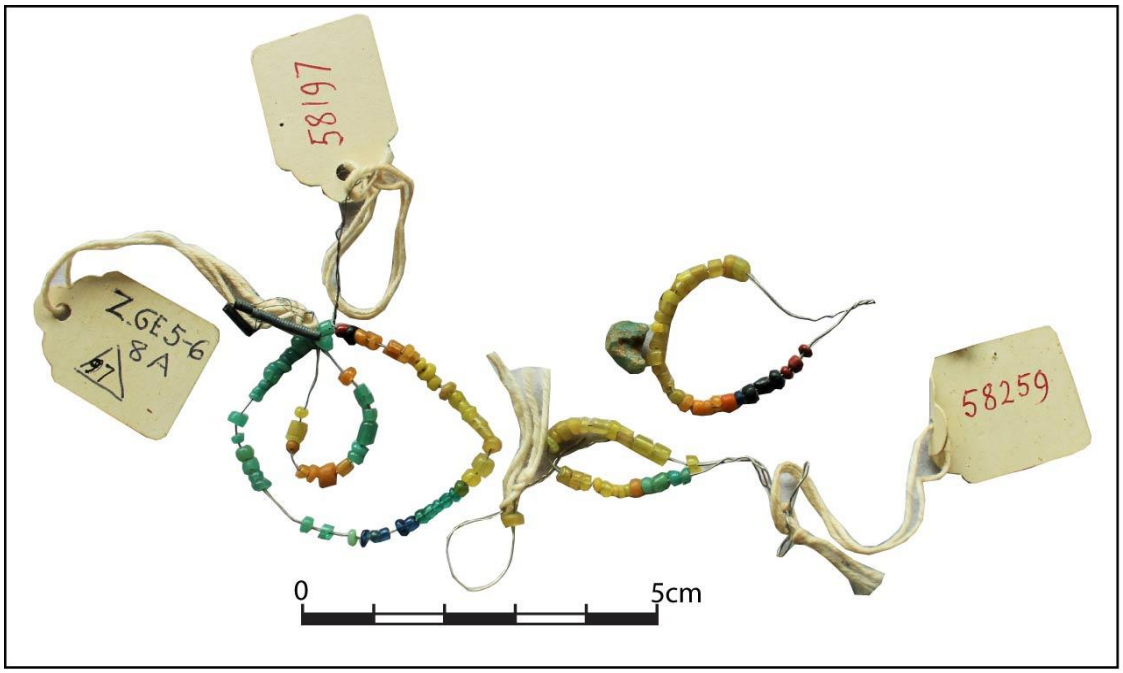


Figure 6.7: Image showing Great Enclosure beads

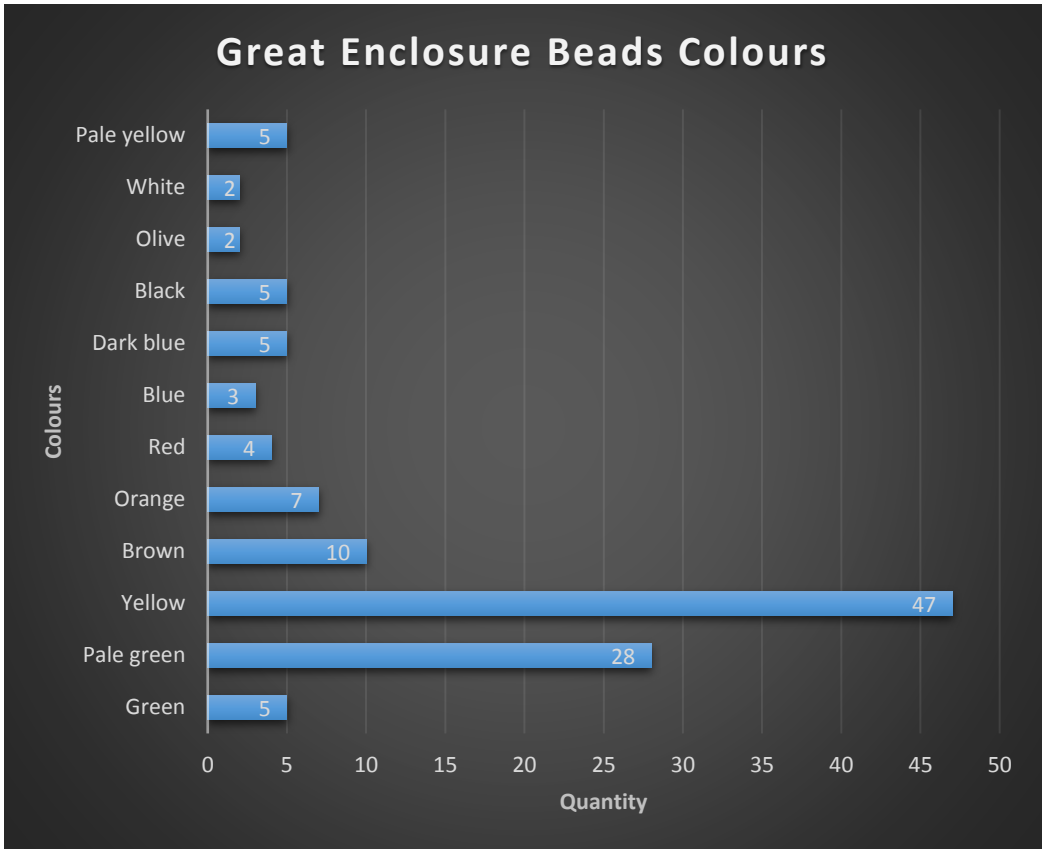


Figure 6.8: Great Enclosure beads colour chart

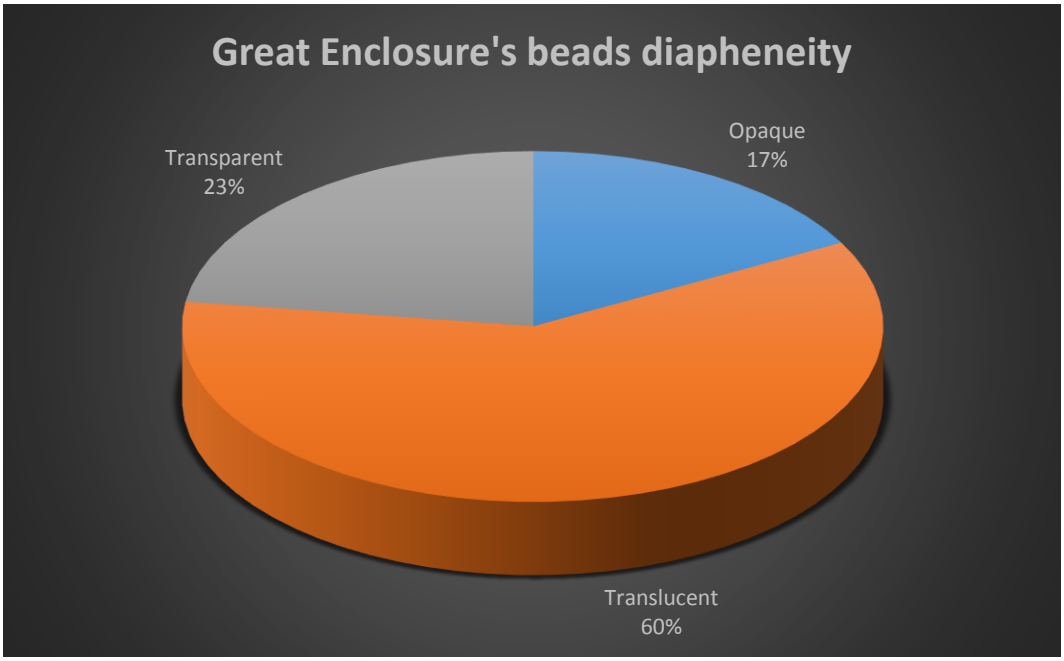


Figure 6.9: Pie chart showing Great Enclosure beads diaphaneity ratio

6.4.3 Carpark Midden

A total of 34 glass beads were recovered from the midden's levels 1, 2, 4, 5 and 6 (Table 6.7). Light green, dark green, red and yellow were the colours of the glass beads (Fig 6.11 and 6.12). These beads were either opaque or translucent (Fig 6.13). No transparent beads were recorded from this assemblage. Carpark Midden glass beads were all dull. In terms of size, the beads ranged from minute to large, although the small and medium beads were the most prevalent. All the glass beads belong to the Khami-type series (Robertshaw *et al.* 2010).

Attribute		Level						Total
		1	2	3	4	5	6	
Bead Type	Glass	5	1	-	1	23	4	**34**
	Light green	1	-	-	-	17	2	20
	Dark green	1	-	-	1	2	-	4
	Yellow	3	1	-	-	-	-	4
	Red	-	-	-	-	4	2	6
	Total	**5**	**1**	**-**	**1**	**23**	**4**	**34**
	Tube	-	-	-	-	2	-	2
	Cylinder	5	1	-	1	21	4	32
	Total	**5**	**1**	**-**	**1**	**23**	**4**	**34**
Diaphaneity	Translucent	1	-	-	-	17	2	20
	Opaque	4	2	-	1	6	2	14
	Total	**5**	**2**	**-**	**1**	**23**	**4**	**34**
Size	Minute	2	-	-	-	3	-	5
	Small	3	-	-		9	1	13
	Medium	-	1	-	1	7	2	11
	Large	-	-	-		4	1	5
	Total	**5**	**1**	**-**	**1**	**23**	**4**	**34**
Method of manufacture	Drawn	5	1	-	1	23	4	34

Key:
Minute = <2.5 mm Small = 2.6-3.5 mm
Medium = 3.6-4.5 mm Large = >4.6 mm

Table 6. 7: Car park midden bead classification

Figure 6.10: Glass and ostrich eggshell beads from the Carpark Midden

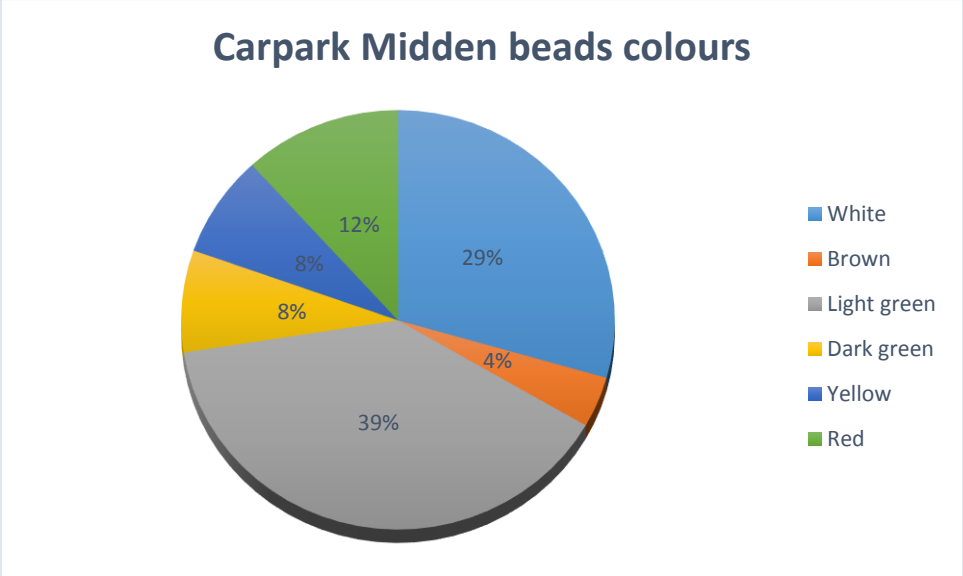


Figure 6. 11: Pie chart showing Carpark Midden colours

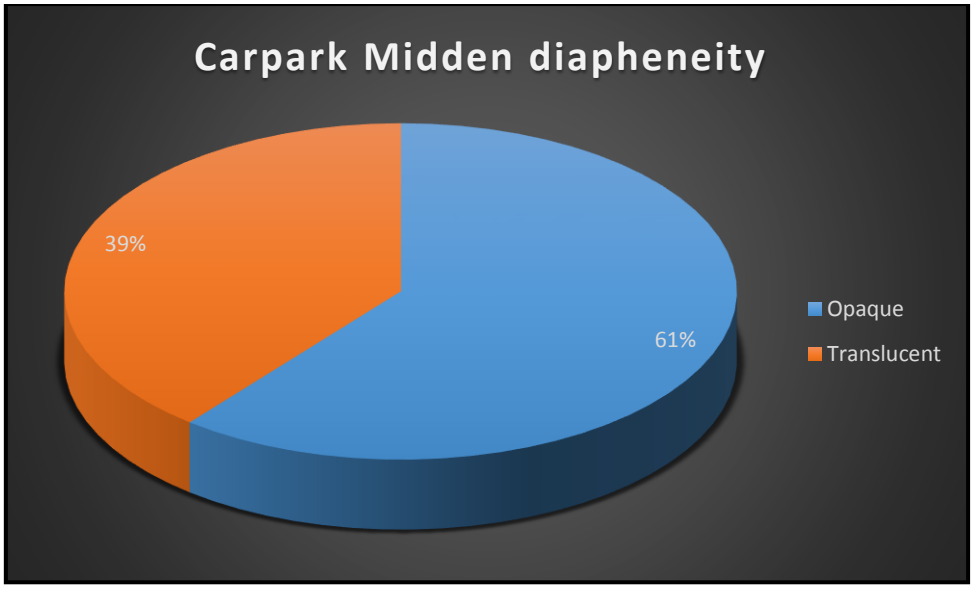


Figure 6.12: Chart showing Carpark Midden beads diaphaneity ratio

6.4.3.1 Ostrich Eggshell beads

Fifteen OES beads and two metal beads were also recovered from the Carpark Midden. OES beads came from levels 3, 4, 5 and 6 while metal beads came from only levels 2 and 4. All OES beads were white and opaque and metal beads brown (Fig 6.11). The recovery of OES beads on Iron Age communities had been explained in terms of trade and contact with the hunter-gatherers of the late Stone Age who were believed to be the manufacturers and distributors of OES beads (Smith *et al.* 1991). However, the presence of OES beads at Carpark Midden of Great Zimbabwe cannot be explained as likely in terms of contact with Late Stone Age societies since at that time they had been pushed far back into the Kalahari Desert. It is highly likely that the inhabitants of the Carpark and surrounding areas made their own OES beads. This would not be the first case of OES bead manufacture since Denbow (1983) reported the manufacture of OES beads at Iron Age settlements in Botswana. The recovery of OES beads from a Period 4 settlement means that the culture of making beads from ostrich eggshells continued long into later farming communities.

6.5 Discussion

The picture coming out of the analyses of beads is that of a fair distribution of beads across the Great Zimbabwe landscape. Both walled and unwalled areas/open settlements of Great Zimbabwe produced glass beads. Such a distribution raises a number of questions. Glass

beads at Great Zimbabwe and other Zimbabwe type sites have been interpreted as prestige goods whose access was restricted to the ruling class which controlled trade. Pwiti (1991) suggested that glass beads were a symbol the power of the ruling elites. This led the glass-bearing places to be viewed as elite residences. However, at Great Zimbabwe, these glass beads are found in the assumed commoner settlements. If this prestige goods hypothesis is accepted, the current bead distribution pattern makes the Carpark and surrounding open settlements elite quarters. Since radio carbon dates have shown that the Carpark Midden continued to be occupied long after the Hill Complex and the Great Enclosure had been abandoned, it is clear that the occupants participated in external trade. It might be possible that trade was just an economic activity which could be undertaken by whosoever had interest in it as long as they had the means of acquiring the goods to supply the foreign market. Pwiti (2005) noted that glass beads could have been exchanged for goods such as ivory, gold and animal skin. This might mean that any hunter or gold miner, regardless of class, could participate in trade. Antonites (2012) also came across imported items, iron, gold, copper and marine shells at Mutamba, and concluded that if such hinterland sites had access to a collection of artefacts traditionally considered to be restricted to elite consumption, it shows that they had significant power in shaping their acceptance of exotic goods.

The recovery of beads at Great Zimbabwe indicates that the site, just as any other Zimbabwe type settlement, also participated in long-distance trade. Sinclair *et al.* (2012) pointed to Chibuene and Kilwa trading centres as the entry ports of glass beads and other trade goods into southern Africa. Wood (2000, 2005) and Robertshaw *et al*. (2010) identified south and South-East Asia as the centre of origins of the glass that produced the Mapungubwe, Zimbabwe and Khami series beads. At Great Zimbabwe, the earliest recorded occurrences of glass beads is in association with Period 2 material culture in the Hill Complex. Morphologically, these beads relate mainly to the Zhizo series, with a few beads having characteristics of K2 beads. Robinson's (1961) radio carbon dating puts the beginning of Period 2 at AD 900 ending at around AD 1000. Whitty's (1961) architectural studies show that the culture of building with stones began in Period 3. This shows that at Great Zimbabwe, trade – or at least contact – with the outside world began earlier than the culture of stone building and continued into the 17th Century. Trade might have begun on a smaller scale and increased as the population expanded.

Glass beads recovered in association with Periods 3 and 4 settlements in the Hill Complex

and the Great Enclosure have several similarities with the Mapungubwe oblate series and the Great Zimbabwe series. The Mapungubwe oblates series continued to appear at Great Zimbabwe for some time after Mapungubwe was abandoned. Wood (2005:55) is of the opinion that the Mapungubwe oblates series appeared at Mapungubwe at much the same time as at Great Zimbabwe. Robinson (1961) encountered these beads in Period 3. Robertshaw *et al.* (2010) traced the glass used to make Mapungubwe oblates and Great Zimbabwe bead series to South Asia and South-East Asia, which might have been the reason for shared similarities. Chirikure *et al*'s (2013) Bayesian modelling demonstrated a settlement overlap between Mapungubwe and Great Zimbabwe. This overlap is being supported by the presence of Mapungubwe's oblates series at Great Zimbabwe. As such, if the oblates series are found at possibly the same time at Mapungubwe and Great Zimbabwe, it means these were two independent states such that the origin of the latter cannot be explained as a result of the demise of the former. However, these states appear to have been in contact with the same merchants, though supplying them with different goods.

Glass beads from the Carpark Midden resemble the Khami bead series whose origin was South Asia (Robertshaw *et al*. 2010:1908). The recovery of the Khami bead series reinforces the Carpark Midden radio carbon dates. It is now clear that the abandonment of Great Zimbabwe cannot be set at AD1450 since there is evidence that some parts of the site continued to be occupied into the 17th Century. Collett *et al.* (1992) highlighted the possibility of post-AD1450 settlement in the Valley Enclosures. What might have been experienced at Great Zimbabwe was just the movement of some people, not the total abandonment of the site. Results of bead analysis also support the occupational sequence being displayed by pottery analysis.

Apart from glass beads, organic and metal beads were also recovered at Great Zimbabwe. The recovery of such beads may be proof that the exotic beads did not replace the locally manufactured ones. The recovery of raw and semi-finished ostrich eggshells is a likely indication that the past inhabitants of Great Zimbabwe manufactured their own OES beads. Hunter-gatherer communities are credited with the manufacture of OES beads. Elephant tusks and ostrich eggshell were all exploited in different ways including for ornamentation. Archaeologists (Fouche 1937, Schofield 1958, Gardener 1963 and Van Ewyk 1987) have recorded finding beads encircling necks, waists, arms, pelvises and ankles of skeletons. The

recovery of ivory beads shows that ivory may have been used for external trade or worked for local uses such as making beads for local consumption. No reasonable conclusions could be made about ivory use at Great Zimbabwe since the sample dealt with was small. The discussion could have considered discoveries even from excavations out of this scope, but again, no records mention the recovery of ivory.

6.6 Limitations

As with the ceramics, the number of glass beads from the various areas differs, partly based on the size of the excavated area, and partly on the context of use. However, it is known that burials typically yield the highest amount of glass beads. Indeed, the burials from the top of Mapungubwe easily come to mind. Then there is the issue of context of use and the final place of disposal. All these issues affect the frequency of glass beads recovered from various areas. Thus the analysis performed here is only indicative of absence and or presence which indicates acess to these materials by different occupants of various parts of the sites. This means that the results of this study are only indicative.

6.7 Conclusion

Results obtained from analysing the glass beads challenged the standing view that considers them as prestige goods. Moffett and Chirikure (2016) have argued that beads could not have been a stable source of power, wealth and prestige in southern African Iron Age communities mainly because the local elites did not have a direct control of their manufacture and distribution, thereby making them a volatile source of power and prestige. They argue that land and cattle could have been better sources of power since the rulers could manipulate their use and distribution. The presence of glass beads within the open areas (Carpark and surrounding areas), regarded as commoner settlements, suggests that beads might not have been a privilege of the few. Instead anyone who had the means to source goods for the traders might have accessed glass beads. Quantitatively though, the walled areas produced more glass beads than open areas which might mean that the people residing in the walled enclosures had access to more glass beads. However, such a conclusion may be compromised by the fact that the walled areas have received more attention than the open areas thereby giving the impression that glass beads were more common in walled areas. One also has to keep in mind the chronological differences between walled and unwalled areas. This is

important because some walled areas were occupied during the flourishing of Great Zimbabwe while the unwalled parts such as the Car Park date to the 17th centuries when commercial connections had receded. However, more research is required particularly around the numbers of beads that are sufficient to indicate status and significance. Even though glass beads occur in great quantities, it is probable that they played a totally different role from the locally manufactured organic and metal beads, for the latter continued to appear even alongside glass beads (Moffett and Chirikure 2016).

In order to have a better understanding of Great Zimbabwe, the information gained from the analyses of glass beads needs to be corroborated by results coming from other forms of material culture. The next chapter discusses results obtained from the analysis of faunal remains.

CHAPTER SEVEN: FAUNAL REMAINS FROM GREAT ZIMBABWE

7.1 Introduction

Since the late 1960s, faunal studies have become one of the fastest growing sub-disciplines within archaeology. A primary purpose for zoo-archaeological research is to learn about the interactions of human and animals and the consequences of this relationship for both humans and the environment. Furthermore, it is believed that faunal remains are also potentially more informative about many aspects of daily life and living conditions among the depositing populations (Schulz and Gust 1983). On an archaeological site, bones are a direct result of human activities such as selective hunting, specific butchering techniques and in the case of domestic animals, morphological modification of the animal itself (Daly 1969). The main function of the analysis of faunal material is to aid in determining the economic basis of a culture. In complex societies, in addition to providing valuable information about diet and subsistence practices, animal bones can be used to reconstruct past exchange systems and in the identification of social status and ethnicity (Crabtree 1990). Ashby (2002) stress that the identity and diversity of species exploited, the relative abundance of domestic and wild taxa in an assemblage, elements distributions and butchery marks may reflect status related practices. In medieval England for example, hunting was pursed chiefly by the upper classes whereas the primary use of domesticated taxa is generally indicative of low status (Ashby 2002). Archaeological, paleoanthropological and ethno-historic research in the Maya world suggests that animal products were among the resources differentially accessible to the elite. Zooarchaeology confirms that the upper classes of Maya society had preferential access to exotic or ritual species like marine shells (used as decorative adornments) and wild cats (jaguars, margays and ocelots) (Emery 2003). Wilson (1973) also stress that hunting seems to have been an aristocratic sport in England before the Norman Conquest with bear, boar and deer being esteemed animals. Deer bones are often found in large quantities at high status medieval sites like Okehampton and Launceston Castle. Faunal remains have been used to study the hunting and scavenging behaviour of Pliocene and early Pleistocene hominids, the evolution of hunting technology and the domestication of animals in both the Old World and the New World (Crabtree 1990).

In attempting to interpreting faunal remains, one should bear in mind that in every calculation one is dealing with minimum quantities. The material with which one works has survived by a series of fortunate accidents. The assemblage is a sample of all the surviving bone which is made available by virtue of an excavation programme; it is a sample which is influenced by butchering methods and finally, it is a sample from a point in time Voigt (1983). As such, what we are doing is describing an assemblage which belongs to a limited period of time which indicates the possible pattern of behaviour of a group, a pattern which must be mentally extrapolated across the time span of the site.

The analyses of the Great Zimbabwe faunal assemblage enabled the reconstruction of the diet of the people who lived at the site, the species they exploited and the economic activities (hunting, animal husbandry and craft) in which they engaged. The faunal analysis also investigated similarities and differences in animal exploitation across the landscape of Great Zimbabwe in time and space. Such exploitation patterns have the potential of revealing any social inequalities.

7.2 Archaeozoological studies

Animals formed an important part of people's lives in the past. Their remains can be used to inform us about a variety of issues in the study of societies such as environment, seasonality, subsistence, hunting practices, political and social organisation, settlement patterns, and resource use (Klein and Cruz-Uribe 1984). Faunal remains are one of the most common finds on many archaeological excavations and as such, have been studied by both archaeologists and zoologists. Faunal remains found on sites usually signify the accumulation of waste over a long period of time. Therefore they represent the remains of numerous animals that were once present at the site and used for different purposes. The analysis of faunal remains makes an important contribution to the reconstruction of various aspects of prehistoric human behaviour such as economic, social and political organisation. Environmental reconstructions can also be arrived at since identified species give clues to the nature of the environments of prehistoric people. A zoo-archaeological and taphonomic analysis of faunal remains from a Kansyore midden called Pundo revealed that Pundo was mainly a dry season fishing and shellfish collection camp with limited contributions of terrestrial fauna (Prendergast and Lane 2010). It was also noted that lungfish and catfish which initially dominated the assemblage were replaced by cichlids, a change which Prendergast and Lane (2010) attributed to human

choice, improvements in fishing technology or an increase in the natural abundance of cichlids population. It was also gathered that Pundo and other Kansyore sites appear to have been occupied seasonally and during their occupation, activities including pottery use, hunting, fishing and shellfish collection took place (Prendergast and Lane 2010).

The study of faunal remains can also enable researchers to reconstruct past human-animal interactions. However, these relationships cannot be fully understood simply by studying the archaeological record since some interactions do not leave traces. Reitz and Wing (1999) support the use of multidisciplinary approaches in order to produce a more accurate picture of the relationship between humans, animals and their environment. For example, ethnographic studies by Huffman (1996) on the Venda people of South Africa revealed that the distribution of different parts of the cattle anatomy is closely related to social and political relations. Shenjere's (2006) ethnographic studies among the Murahwa people of Manicaland, Zimbabwe pointed to possibilities of important cultural significance of the worked duiker metapodials cache which she linked to traditional healing activities.

The analysis of faunal remains from the sites of Mwenezi and Malumba by Manyanga (2002) enabled him to identify the subsistence strategies that were adopted in these areas. He realised that while the inhabitants of Malumba exhibited a meat economy based on domesticates, the Mwenezi farm inhabitants' relied heavily on organised hunting of wild animals. The faunal evidence from the Mapungubwe archaeological complex indicates that this community depended on their herds and flock for most of the meat in their diet and that hunting, snaring and gathering supplemented this meat to a relatively small degree (Voigt 1983). The examination of cattle remains also showed quite clearly that the cattle from Mapungubwe fall within the size range of present day Sanga types and cannot be described as dwarf cattle. Pwiti (1996) and Pwiti and Mawoko (1997) have shown that domestic stock, in particular cattle, did not play a major role in the economy of the early farming community at Kadzi. This contrasts with the late farming community at Kasekete where cattle became the mainstay of the economy. Kansa's (2004) analysis of animal bones from three areas (E,F,G) in Afridar neighbourhood in Ashqelon, a settlement on Israel's southern coastal plain revealed that despite the diversity of wild animals, the inhabitants of Afridar relied almost solely on domesticates spending little time hunting wild animals. Peres (2010) is of the opinion that knowledge of a group's subsistence is key to understanding the relationships

between people and their environments, the technologies they create and use to exploit and modify their environments, as well as social and economic relationships among the people themselves. Different subsistence strategies also reflect a variety of responses to human to environment interactions and human to human interactions.

Well-developed social hierarchies are one hallmark of complex societies. It is commonly assumed that differences in socio economic status ought to be reflected in differential access to food resources. Curet and Pestle (2010) support the view that food in human societies can be endowed with great social weight arguing that food systems are often intentionally designed and executed to communicate key aspects of the consumer's identity including class or social status. Studies of social status based on faunal remains attempt to correlate differences in faunal assemblages associated with different households with other indicators of socioeconomic status. Ross (1987) is of the view that what people eat reflects substantive variation in status and power and characterizes societies that are internally stratified into rich and poor, sick and health, developed and underdeveloped, overfed and undernourished. In this way, the consumption of a particular foodstuffs has come to be seen as a marker of membership in a particular intra- societal grouping and/or as an indicator of internal social schisms, a realization that can be traced back in the anthropological literature to at least the structuralism of Levis-Strauss. deFrance (2009) is of the view that individuals of greater status can distinguish themselves from persons of lower status through differential consumption habits as well as through distinct use of animals for non-food purposes. Zoo-archaeologists working on southern African material have previously attempted to use animal bone remains to establish the presence of social hierarchies. Socio-economic differences have been reflected in differential access to food resources. Gummerman (1997) argued that food is intrinsically social and social relations are defined and maintained through food hence food should not be analysed for the sole purpose of describing diet and nutrition. Implicit in these studies is the assumption that, as a result of their greater power, wealth and social contacts, the elites have access to preferred foods, to larger quantities of food or to great diversities of food (Turkon 2004). Sandefur (1985) found status-related differences in her analysis of the vertebrate fauna from the Late Intermediate period and Late Horizon (Inca period) sites in the Central Andes. She found that during this period, elites consumed more camelid meat than the commoners but that the commoners' consumption of camelid meat increased during the Inca administration, thereby coming to the conclusion that under the Inca administration,

commoners may have received camelid meat in exchange for labour performed for the state. Bogan (1983) successfully identified dietary differences that appear to reflect differences in social status in his analysis of the faunal remains from the Late Mississippian (AD 1000-1500) Toqua site in Tennessee. He found that the bones of passenger pigeon and waterfowl were restricted to the high-status North Village and East Village midden areas. He also identified status-related differences in the distribution of deer elements. Occupants of the lower-status areas received mainly skulls and the less meaty lower limb bones. The higher-status areas included greater proportions of upper limb bones, especially forelimb elements (Bogan 1983). Schulz and Gust's (1983) analysis of faunal remains from four deposits of the 19th Century of Old Sacramento, California exhibited marked differences in the relative frequencies of bone from the different beef cuts. Using historical records, Schulz and Gust managed to identify the relative social status of the occupants of the four sites and they ranged from a hotel to two taverns to the city jail. They held the assumption that the diners at the hotel would have been provided with the highest-quality meats, while the inmates at the jail should have been provided with the cheapest cuts. Archaeologically, these differences were to be seen in differences in body part distributions. They focused their research on beef, since beef was the most commonly consumed meat in nineteenth-century Sacramento. Historical documents allowed Schulz and Gust to reconstruct the relative prices of the different cuts of beef at that time. As per prediction, the highest proportion of high-priced cuts was recovered from the hotel faunal assemblage. Most of the animal bones recovered from the hotel faunal assemblage. Most of the animal bones recovered from the jail were soup bones, especially those from the shoulder and neck (Schulz and Gust 1983).

Age profiles may also help us to recognise high status consumers. The underlying principle is that ageing of animals from archaeological sites can be equated with herd management strategies and that the younger the mortality patterns the more exploitative the strategy and therefore the more affluent the consumer (Reid 2004). According to Albarella and Davis (1996), young animals such as goat kids were considered a delicacy by medieval nobility in England. Rackham (1994) took the view that in the 12th to the 16th Century Zimbabwe, the slaughtering of cattle during their prime was far more common at high status than at those of lower standing. Thorp (1995) tested the hypothesis at the site of Great Zimbabwe. She analysed faunal remains from the Lilian Hodges midden located on the southwest of the Hill Complex and noted a substantially higher proportion of young cattle having been slaughtered.

Since the remains were from an area that had already been labelled an elite settlement, she concluded that these young cattle were being consumed by the elites. Thorp (1995) then interpreted the predominance of immature animals as evidence of social stratification, where the ruling class were fed with young prime and tender beef. She saw the presence of large quantities of immature cattle as indicative of an inefficient system of resource exploitation by powerful chiefs who received young stock in the form of tribute. Reid (1996) disputed the argument that the slaughter of immature stock is indicative of conspicuous consumption by an elite suggesting that it may relate to efficient redistribution of meat resources from which power was derived. He also cautioned against adopting Thorp's conclusions to interpret the whole site of Great Zimbabwe arguing that the faunal sample came from a very specific location of the site (the enclosure of the royal court and its retainers). As such, the pattern of exploitation is representative of a much greater specialised demand, assumed to be that of the cream of the elite (Reid 1996). He further proposed that in order to fully understand these mortality patterns, it is necessary to determine whether or not cattle were actually being kept at the elite centre. If they were being kept at the elite centre then the young animals might represent only the removal of young males from the herd rather than expropriation of surplus. Since no cattle enclosures have been identified at Great Zimbabwe, Reid (1996) assumed that all the bones represented in the Hill midden assemblage were of animals introduced to the site purely for the purpose of consumption. Sinclair (1984) is of the view that the exploitation represents a demonstration of power in the form of conspicuous consumption, implying a wasteful disregard for cattle resources. However, Pwiti *et al.* (2013) note that the high proportion of young animals at Great Zimbabwe remains to this day a unique pattern which has no ethnographic or historical parallel in Zimbabwe or elsewhere in Africa. As a result, they therefore propose that this pattern might be a reflection of consumption patterns associated with ceremonial activities where young bulls were slaughtered as sacrificial animals and subsequently consumed. These examples demonstrate how the selective slaughter of young animals may be seen as a mechanism for the display of wealth and power.

In order to understand the significance of immature animal bones at the site of Ntusi in southern Uganda, Reid (1991) relied on ethnographic accounts and observations of contemporary Bahima pastoralists of the same region. An analysis of faunal remains had revealed the exploitation of immature cattle population with between 6 to 22 percent being allowed to reach maturity. It was explained from the ethnographic record that due to

favourable climatic conditions consisting of two wet seasons and a short dry season, cows reproduced throughout the year making milk available all year round. This according to the informants made meat a far less significant source of food. Resultantly, it was less important that bulls be allowed to attain full meat weight. This example has shown that the exploitation of young stock does not necessarily point to social status but such choices are sometimes governed by either cultural or natural factors that might leave traces in the archaeological record.

On the other hand, Hall (1986) denied that the economic interpretation of faunal remains were of any use in determining political relations or structure within sites. His argument is that cattle bones from archaeological sites relate more to cattle as allocative resources as compared to authoritative resources over which power was exercised and therefore could not be used to establish socio-political context. Reid (1996) argued that the division of allocative and authoritative resources stressed by Hall is strictly an analytical concept since in reality there is an overlap. Hall (1986) is of the view that in complex societies such as Mapungubwe, Great Zimbabwe and Khami, the signification of power through cattle was superseded by other forms of signification among them glass beads and cloth. He however stressed that cattle remained important in the basic signification of power between elite and commoner but other signifiers defined the subtle structuring of relations within the society's elite.

Faunal remains' studied have also enabled the reconstruction of past environments. Since we possess knowledge of the habitats of particular animals, we can use our present-day knowledge to reconstruct the environment that prevailed during the time the site was occupied. Small mammals and snails are particularly good indicators of past environments because they have very specific habitat requirements. Tapfuma's (2010) analysis of faunal remains from the site of Danan'ombe, a Khami-phase Zimbabwe tradition site, revealed that the site was located in an environment which had a mixed vegetation, not very different from the present environment. Manyanga (2002), however, stresses that although micro environments can be determined from the animal feeding zones, determining climatic change is complicated as large ungulates in particular are known to have a high level of tolerance to changing environments. Shenjere (2011) carried out a stable isotope analysis on faunal remains from the sites of Samakande, Ndongo and Murahwa Hill. The analysis gave a precipitation ranging from 450 to 550mm, revealing that the prehistoric climate was wetter than today. At present these areas receive rainfall totals of roughly 400mm. This type of

analysis can also give information about continuity and variation in consumed resources through time, between populations, and within a population (Van der Merwe 1989; Scarry and Reitz 2005). Higgs (1967) observed climatic changes that occurred in present day Cyrenaican Libya through the analysis of faunal remains from the Stone Age site of Haua Fteah. He came to the conclusion that changes in the abundances of bovines versus Barbary sheep reflected climatic changes from drier to wetter than then back to drier conditions. Higgs (1967) also estimated the earliest occurrence of domestic caprine in Haua Fteah to be approximately 6800 BP. A revisit of the faunal assemblage by Klein and Scott (1986) supported the broad pattern of faunal changes reported by Higgs and went an extra mile of providing previously unavailable information on skeletal part representation and on the ages of animals at time of death. With respects to skeletal parts, Klein and Scott (1986) realised that smaller ungulates were represented by a wider variety than large ones, a contrast that is almost universal in the African Late Stone Age.

Information obtained from faunal analysis has also been used for inferences on cultural activities. Thorp (1984) attempted a cultural interpretation of animal bones recovered from Khami Hill. She stresses that the presence of worked bones from both edible and non-edible species cannot be explained in terms of economic contribution but intensive rituals associated with traditional healers. Her conclusion was substantiated by information gathered from practising traditional healers who suggested that perforated bones would be owned only by a healer.

Faunal remains may provide some evidence for trade routes. Carr's (1986) analysis of faunal material from the Pre-classic Maya community of Cerros in Belize revealed substantial osteological evidence for the consumption of reef-dwelling fish. Since the barrier reef was located 50 km away, Carr came to the conclusion that the large numbers of reef fish bones provide firm evidence for boat traffic between the site and the barrier reef. Thus the fish remains provide clear evidence for coastal trade routes or long-distance procurement expeditions. In addition, the near absence of reef fishes after the Post-classic period corresponds to a postulated decline in Cerros's role in coastal trading at that time.

Cultural lifeways relating to meat procurement, consumption and discard patterns have also been reconstructed through faunal analysis. Shenjere's (2006) study of Murahwa Hill faunal

remains revealed that early and later farming settlements' meat came mostly from wild species as evidenced by the presence of large quantities of bones of wild species and only a few domestic stock. She also noted that at the Refuge occupation at the same site produced many bones of domestic stock in comparison to wild animals. She then concluded that such a trend shows a growing move towards herding which was complemented by hunting.

The origins and spread of farming and livestock herding has been widely researched in southern Africa. Orton *et al*'s (2013) analysis of faunal remains from the Stone Age site of Namaqualand, South Africa helped in understanding cattle herding. The analysis revealed the presence of cattle in the form of a horn core whose genome was confirmed by DNA testing. This horn was directly dated to AD421- 559. The date pushed back the antiquity of cattle in South Africa, raising the possibility that cattle and sheep arrived at the Cape together around 2000 years ago. Orton *et al* (2013) concluded that cattle were present in western South Africa early in the first millennium AD. They also disputed the fact that early cattle were obtained from Bantu speaking agro pastoralists in eastern South Africa because the date present predates the Bantu expansion into that region. After consolidating the results of faunal analyses from Blombos Cave, Spoegrivier Cave, Kasteelberg and Namaqualand, Orton *et al* (2013) therefore suggested that livestock are more likely to have spread along western route to the Cape than through the central interior of southern Africa and that migration may be a more tenable hypothesis than diffusion for the spread of early pastoralism.

Procurement technologies and hunting strategies may be inferred not only from the artefacts found in archaeological contexts, but also from the animal resources (represented taxa, quantity, and size) that were exploited (Kozuch 1993; Walker 2000; Walker *et al.* 2001). However, it should be noted that the ability of faunal remains to inform us of the aforementioned issues depends on a good methodology.

7.3 Species distribution around Great Zimbabwe

Currently, Great Zimbabwe and the surrounding areas are home to more than 25 species of wild mammals (Appendix 6). Some commonly cited animals include: buffalo, common duiker, eland, impala, kudu, reedbuck, warthog, waterbuck, white rhinoceros, wildebeest,

zebra, giraffe, squirrel, black-backed jackal, leopard, honey badger, rock dassie, hippopotamus, ostrich, crocodile and porcupine. Some of the rarer species include: ant bear, bushbuck, bush pig, klipspringer, sable and steenbuck. The compilation of the species list was crucial in understanding any environmental changes that could have taken place since the 13th Century.

7.4 Methodology

A number of processes – among them cleaning and sorting – were done before moving on to identifying the faunal specimens and quantifying them. Identification is a multi-step process that involves deciding what element is represented by the specimen as well as the taxonomic category. Determining which elements are represented is also a preliminary step towards examining fragmentation, which is a form of modification. Quantification is necessary to compare animal use through time and space. The goal of quantification is to define characteristics that clearly differentiate among groups.

7.4.1 Sorting

Preliminary sorting of the bone material was done in the field where bones were separated from the rest of the cultural material. Further sorting and cleaning was done in the Archaeology Laboratory at the Conservation Centre at Great Zimbabwe, where identifiable faunal remains were separated from the non-identifiable ones and then accessioned in accordance with the NMMZ's current accession criteria. Although the faunal material from other areas under study had already been classified into identifiable and non-identifiable categories, they were reclassified in case they got mixed, either as they were transferred from one museum to another or during the reaccessioning exercise which was conducted in the post-independence era. Each area's faunal material was analysed separately as this would reveal exploitation trends within each area. Such trends would allow comparing of results, thereby validating or refuting the widely held belief that different forms of meat consumption existed between elite and commoner populations.

7.4.2 Identification

Identification of faunal specimens is based on morphological features. It was made possible through the use of two comparative collections. The fragmentary nature of the faunal assemblage made it impossible to distinguish between sheep and goats. They are therefore grouped as sheep/goat (*Ovis Capra*).

7.5 Bone quantification

Bone quantification is necessary as it enables the comparison of animal use through time and space. It involves statistical analysis that ranges from expressing abundance in relative terms to calculating diversity indices or computing hypothetical economic models.

Faunal material came from all the sections that are the focus of this research. Due to lack of information on context, most of the faunal material was analysed based on the way they had been accessioned. Non-identifiable fragments were placed into six categories which included enamel, skull, ribs and vertebral fragments, bone flakes and miscellaneous (Table 6.1). Incompleteness and formlessness were the two attributes that led to a bone being classified as non-identifiable. The issue of formlessness is, however, a subject of debate as investigators may not share the same view as to what constitutes formlessness (see also Klein and Cruz-Uribe, 1984).

FRAGMENT	DESCRIPTION
Enamel	Constitutes all teeth fragments
Skull	All fragments identified to have come from the skull
Ribs	All ribs and rib fragments
Vertebral	All vertebral column fragments
Bone flakes	Bone fragments from long bone shafts
Miscellaneous	Skeletal parts consisting of all bones fragmented beyond recognition.

Table 7. 1: Table showing categories of non-identifiable bone fragments

Ribs and vertebral bones were grouped as non-identifiable fragments due to the difficulty in identifying them to species. Weathered, broken and skeletal parts consisting of all bones fragmented beyond recognition were all classified as miscellaneous skeletal parts. All

fragments of long bones were recorded as bone flakes. The non-identifiable fragments were then stored away since little information could be extracted from them.

Identifiable fragments were sorted to skeletal part, broader taxonomic categories and species using two comparative collections, one housed at the Museums of Human Sciences in Harare and the other housed at the Cecil Kopje Nature Park in Mutare, Zimbabwe. The comparative collections were complemented by the list of species known to have roamed in the study area (Appendix 6). Bovine fragments which were too fragmentary for positive identification were assigned to one of the four bovine classes. A data capture sheet was prepared (Appendix 5). Attributes recorded for the identifiable fragments included skeletal part, size range, species, dimensions, presence or absence of butchery marks, bone modification and damage. Investigation of cut/or chop marks, apart from informing on butchering techniques and meat processing, also aided in the classification of the faunal assemblage as either a natural or cultural one.

Age estimation was arrived at based on teeth eruption and wear patterns that have been established for various mammalian species (Plug 1988). The use of teeth eruption and wear patterns is, however, limited by bone fragmentation. The level of ossification of the long bones was also used to determine age. As put forward by Bone (1982), epiphyses in young animals are attached to the diaphysis by cartilage which is converted into bone as the animal matures. As a result, this characteristic of mammalian bone growth allows a rough determination of age at death (Manyanga 2001). The age profile shows that animal exploitation was skewed in favour of mature animals.

7.6 Relative abundance of taxa

Number of Identifiable Specimens (NISP) and the Minimum Number of Individuals (MNI) are used to establish the relative abundance of taxa in the Great Zimbabwe faunal assemblage. Relative frequencies of taxa were used to evaluate the relative importance of animals in diets obtained through various subsistence strategies. NISP is the primary data. Since no single method of bone quantification has been found to be satisfactory in all aspects, these methods were used together in this study to complement each other.

7.6.1 Number of Identifiable Specimens (NISP)

The Number of Identified Specimens (NISP) is the simplest measure of taxonomic abundance available to zoo-archaeologists, and it is probably also the most commonly used (Klein and Cruz-Uribe 1984; Marshall and Pilgram 1993). NISP denotes the number of bones or bone fragments that can be assigned to an assemblage. This method is based on the assumption that the number of identifiable skeletal parts of those species in a particular sample reflects the relative abundance of those species in the sample (Plug, 1984; Klein and Cruz, 1984). NISP counts were determined by counting all the identified fragments or complete anatomical units of a particular species present in the sample. The NISP method treats each recorded specimen as a separate entity; hence NISP counts can be calculated at the same time as the basic bone identification is done (Klein and Cruz-Uribe, 1984: 25). One crucial weakness of NISP estimates is that easily identifiable bone and bone fragments of large mammals such as cattle may be overestimated at the expense of smaller animals whose parts are less easily identifiable because they are more susceptible to destructive taphonomic processes (Marshall and Pilgram, 1993: 262; Baker et al, 1997: 309; Manyanga, 2001: 47).

7.6.2 Minimum Number of Individuals (MNI)

MNI denotes the minimum expected number of animals in the excavated sample (Plug 1984; Klein and Cruz 1984 Baker *et al.* 1997: 311; Reitz and Wing 1999: 194). MNI counts are based on the occurrence of the most abundant skeletal parts of each species in the sample. MNI counts thus indicate what the absolute lower limit for the original number of individuals may have been at a site (Wild and Nichol, 1983: 344; Orchard, 2005: 352). MNI quantification should, therefore, avoid multiple counting as found with using NISP quantifications (Marshall and Pilgram, 1993: 267).

7.7 Skeletal parts representation

Identifying skeletal parts was an integral part of the quantification procedure followed in this study. The most common anatomical parts identified are tarsals, carpals, phalanges and teeth, and their high numbers are a reflection of their relative abundance in most mammalian species. The compact nature of these bones makes them withstand the agents of pre- and post-depositional destruction, making them highly identifiable (Manyanga 2001).

7.8 Modifications

Skeletal parts presented, fragmentation and marks on specimens are closely related and provide information on a number of site-formation processes. In terms of human activities, butchering and cooking techniques are of particular interest. Modifications attributable to intentional behaviour are helpful in distinguishing between commensal and food animals. The location and types of marks may indicate whether the animal was skinned. Modifications related to butchery may indicate the ethnic identity of the butcher, the social standing of the consumers, whether butchery was for household consumption or for trade and whether the butcher was a specialist producing standard cuts for a discriminating market or a local householder intent on maximising the amount of food and other products obtained from the carcass (Reitz and Wing 1999).

7.9 Results presentation

The sampling protocol adopted for this study was followed in presenting faunal results. All other sampled areas produced a sizeable quantity of faunal remains, except the Western Enclosure which produced very few non-identifiable bone fragments and some working bone. Results are to be presented area by area after which their implications will be discussed cumulatively. The total analysed bone assemblage from the site of Great Zimbabwe yielded 14 522 bone fragment of which 2 590 (17.8%) were identifiable while 11 932 (82.2%) were non–identifiable fragments.

7.9.1 Western Enclosure

The Western Enclosure material culture assemblage produced only 10 bone fragments, three non-identifiable bone flakes and seven identifiable fragments. Of these identifiable fragments, six were worked bones while the remainder came from cattle. The worked bones comprised two bone points measuring 22.6cm and 7.8cm long, two polished shafts measuring 13.1cm and 9.9cm long and two polished canine teeth of a *Panthera Leo* (Fig 7.1). However, it is not clear what the final product made from these shaft bones would have been.

Figure 7.1: Worked bones from Western Enclosure

7.9.2 Northern Rock Shelter

A total of 1662 bone fragments were analysed. These came from Trenches 2 and 3 (Table 7.2). Of the 954 bone fragments yielded in Trench 2, 179 (18.8%) were identifiable fragments while 775 (81.2%) constituted the non-identifiable fragments. All in all, Trench 3 yielded 708 bone fragments. Of these, only 63 fragments (8.9%) could be identified while 645 (91.1%) were non-identifiable fragments. Both trenches also produced too-fragmentary miscellaneous pieces which were weighed to a total of 1745g.

	TRENCH TWO				**TRENCH THREE**				
Bone type	**L1**	**L2**	**L3**	**Total**	**Surface**	**L1**	**L2**	**L3**	**Total**
Identifiable	28	120	31	179	4	2	37	21	63
Enamel fragments	0	4	7	11	0	0	1	1	2
Skull fragments	0	27	28	55	0	0	27	29	56
Rib fragments	34	121	147	302	0	0	49	71	120
Bone flakes	23	131	164	318	0	0	71	232	303
Vertebral fragments	6	28	10	44	0	0	17	9	26
Miscellaneous skeletal parts	7	28	10	45	0	0	41	97	138
Total unidentifiable	70	339	366	**775**	0	0	206	**439**	645
Total sample	**98**	**459**	**397**	**954**	**4**	**2**	**242**	**460**	**708**

Table 7. 2: Northern Rock shelter bone quantification by level

7. 9.2.1 Species present

The faunal assemblage recovered from the Northern Rock Shelter points to the exploitation of both domesticates and wild animal species. Cattle and goat/sheep are domesticates that

were exploited. Wild animals exploited ranged from small animals to large ungulates. Cattle (*Bos Taurus*), goat/sheep (*Ovis Capra*), Bushbuck (*Tragelaphus scriptus)* are the most presented in trench 2 while trench 3 is dominated by *Bos Taurus* (Table 7.3; 7.4; Fig 7.2). Both the NISP and MNI occurrences stress the importance of domesticates. A minimum of six species were exploited by the inhabitants of the NRS.

	TRENCH TWO			**TRENCH THREE**			
SPECIES	L1	L2	L3	Surface	L1	L2	L3
Bos Taurus	25/3	105/9	26/2	3/1	2/1	32/3	16/5
Connochaetes		4/1				2/1	3/1
Procavia capensis							1/1
Ovis Capra	1/1	5/1	1/1			3/1	
Cephalaphinae		3/1					1/1
Tragelaphus strepsiceros			2/1				
Tragelaphus scriptus	2/1	3/1	2/1				
Total NISP/MNI	**28/5**	**120/13**	**31/5**	**4/2**	**2/1**	**37/5**	**21/8**
TOTAL Species	**3**	**5**	**5**	**2**	**1**	**3**	**4**

Table 7. 3: Northern Rock Shelter species present NISP/MNI by trench

Species	**NISP**	**NISP%**	**MNI**	**MNI%**
Bos Taurus	209	86.4	10	58.7
Ovis Capra	10	4.1	2	11.8
Kudu	2	0.8	1	5.9
Procavia capensis	2	0.8	1	5.9
Tragelaphus scriptus	7	2.9	1	5.9
Connochaetes	9	3.7	1	5.9
Tragelaphus strepisceros	3	1.3	1	5.9
Total NISP/MNI	**242**	**100**	**17**	**100**

Table 7. 4: Northern rock shelter species present NISP/MNI

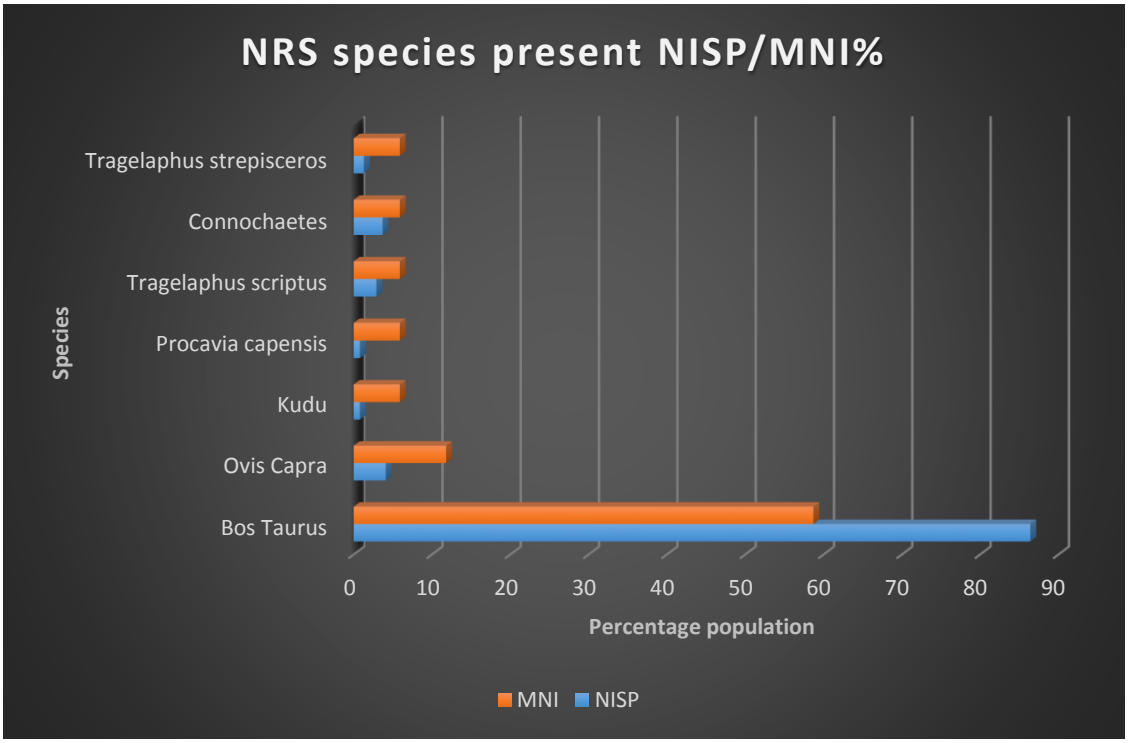


Figure 7.2: NRS Species present NISP/MNI%

7.9.2.2 Skeletal parts presentation, bone preservation and treatment

Bos Taurus, the most common specie, has most of its anatomical parts well represented and distributed as reflected by their occurrence in both trenches. Tarsals, carpals, phalanges and teeth are the most represented anatomical parts for both domesticates and wild animals. Bones from the NRS were well preserved. Only 27.2% of the identifiable bone fragments showed signs of modification. Trench 2 produced a large quantity of modified bones. Cut marks were the most frequently occurring marks in both trenches.

7.9.3 Terrace Midden

Due to the unavailability of field notes, faunal material from the Terrace Midden were analysed based on their accession numbers. A total of 3365 bone fragments were analysed. Despite the bulky quantities, only 183 (5.4%) were identifiable fragments while 94.6% (3182) formed the non-identifiable collection (Table 7.5). High faunal fragmentation has been associated with a limited meat supply such that people had to break down the bones further to take as such meat as possible.

Bone type	SN7396	SN7596	SN7696	SN7796	SN8696	SN8996	SN25196	SN24896	SN24696	SN23596	Total
Identifiable	21	28	17	16	12	31	55	3	0	0	183
Enamel fragments	5	4	0	0	25	0	19	0	0	2	55
Skull fragments	57	33	2	125	97	32	12	2	0	0	360
Rib fragments	245	88	12	270	92	199	123	11	1	4	1045
Bone flakes	91	76	5	146	0	66	72	5	2	4	467
Vertebral fragments	49	99	0	72	92	81	14	0	0	0	407
Miscellaneous	12	22	8	140	408	178	65	0	10	5	848
Total unidentifiable	459	322	27	753	714	556	305	18	13	15	3182
Total sample	**480**	**350**	**44**	**769**	**726**	**587**	**360**	**21**	**13**	**15**	**3365**

Table 7. 5: Terrace Midden bone quantification

7.9.3.1 Species present: NISP/MNI

The occupants of the terraces exploited both domesticates and wild animals, though with a heavy reliance on domesticates. Both NISP and MNI quantifications (Table 7.6; 7.7; Fig 7.3) stress this reliance on domesticates. From the faunal assemblage it can be seen that domesticates are limited only to cattle and goats, probably because the skeletal parts withstand post-depositional agencies better than small stock such as chicken. Furthermore, small stock bones are rather soft and easy to destroy as bone marrow is extracted. The exploitation of wildlife was not so extensive. Terrace Midden faunal analysis revealed exploitation of both young and old stock.

Species	7396	7596	7676	7796	8696	8996	25196	24896
Cattle	19/2	26/2	15/2	7/1		18/3	46/3	3/1
Goat/sheep		1/1	2/1	7/1	3/1	4/1	5/1	
Kudu	2/1							
Rock rabbit/ Dassie				1/1	3/1	1/1		
Hare				1/1	2/1			
Bushbuck		1/1			4/1	8/1	4/2	
Total NISP/MNI	21/3	28/4	17/3	16/4	12/4	31/6	55/6	3/1
Total Species	2	3	2	4	4	4	3	1

Table 7. 6: Terrace Midden species present NISP/MNI

Species	NISP	NISP%	MNI	MNI%
Cattle	134	73.2	8	53.3
Goat/sheep	22	12.1	2	13.3
Kudu	2	1.1	1	6.7
Rock rabbit/Dassie	5	2.7	1	6.7
Hare	3	1.6	1	6.7
Bushbuck	17	9.3	2	13.3
Total NISP/MNI	**183**	**100**	**15**	**100**

Table 7. 7: Terrace Midden species present NISP/MNI percentage

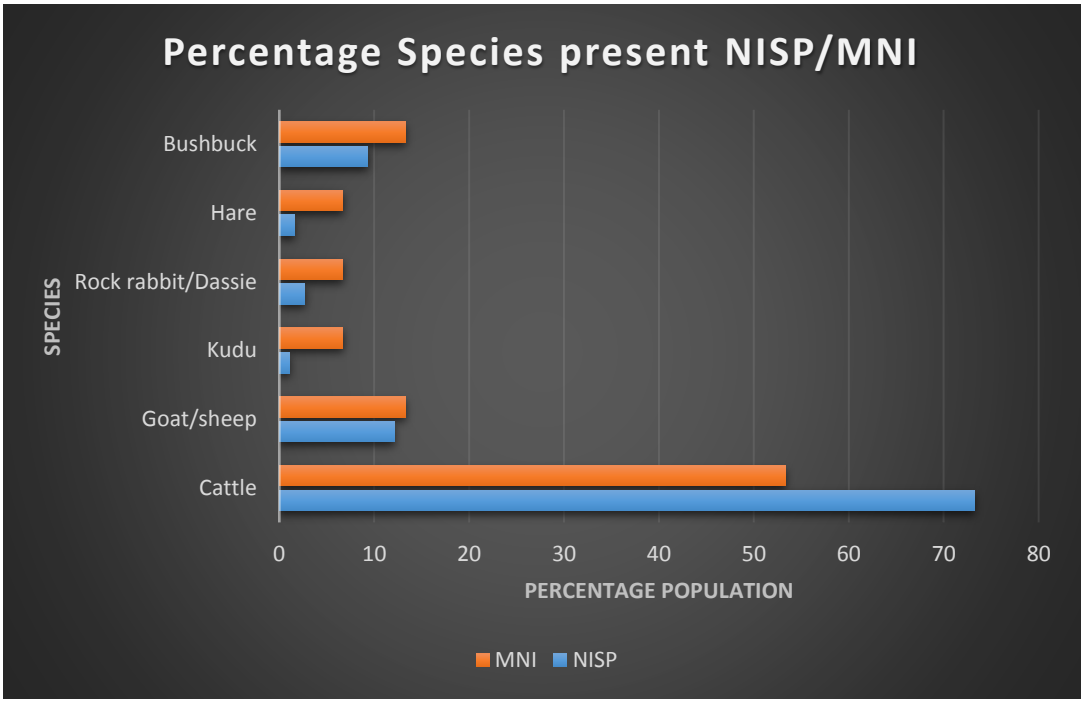


Figure 7 3: Chart showing Terrace Midden species present NISP/MNI percentage

7.9.4 Great Enclosure

Faunal material from the Great Enclosure was analysed based on accession number due to lack of field notes or any other documentation. Of 276 bone fragments, 117 (42.4%) were identifiable fragments while 159 (57.6%) were classified as non-identifiable fragments (Table 7.8). Only three species (cattle, goat/sheep and hare) were identified from the analysis (Table 7.9; Fig 7.4). However, this might not be a true representation of animals exploited during the occupation of the Great Enclosure, mainly because much of the material culture was

unsystematically removed by Hall as part of his conservation work. Both NISP and MNI quantifications revealed a domination of cattle.

Bone type	1048	1050	1051	1052	1055	1058	1061	1063	1064	Total
Identifiable	**4**	**3**	**6**	**1**	**2**	**3**	**69**	**6**	**23**	**117**
Enamel fragments	1	0	3	0	0	0	11	1	8	24
Skull fragments	0	0	0	0	0	0	3	0	1	4
Rib fragments	5	7	0	1	0	7	2	0	4	26
Bone flakes	6	2	6	0	5	2	29	4	7	61
Vertebral fragments	0	1	4	0	1	1	9	0	2	18
Miscellaneous fragments	2	4	1	2	6	4	3	1	3	26
Total non-identifiable	**14**	**14**	**14**	**3**	**12**	**14**	**57**	**6**	**25**	**159**
Total sample	**18**	**17**	**20**	**4**	**14**	**17**	**126**	**12**	**48**	**276**

Table 7. 8: Great Enclosure species present NISP/MNI percentage

Species	NISP	NISP%	MNI	MNI%
Cattle	113	96.6	6	60
Goat/sheep	2	1.7	2	20
Hare	2	1.7	2	20
Total	**117**	**100**	**10**	**100**

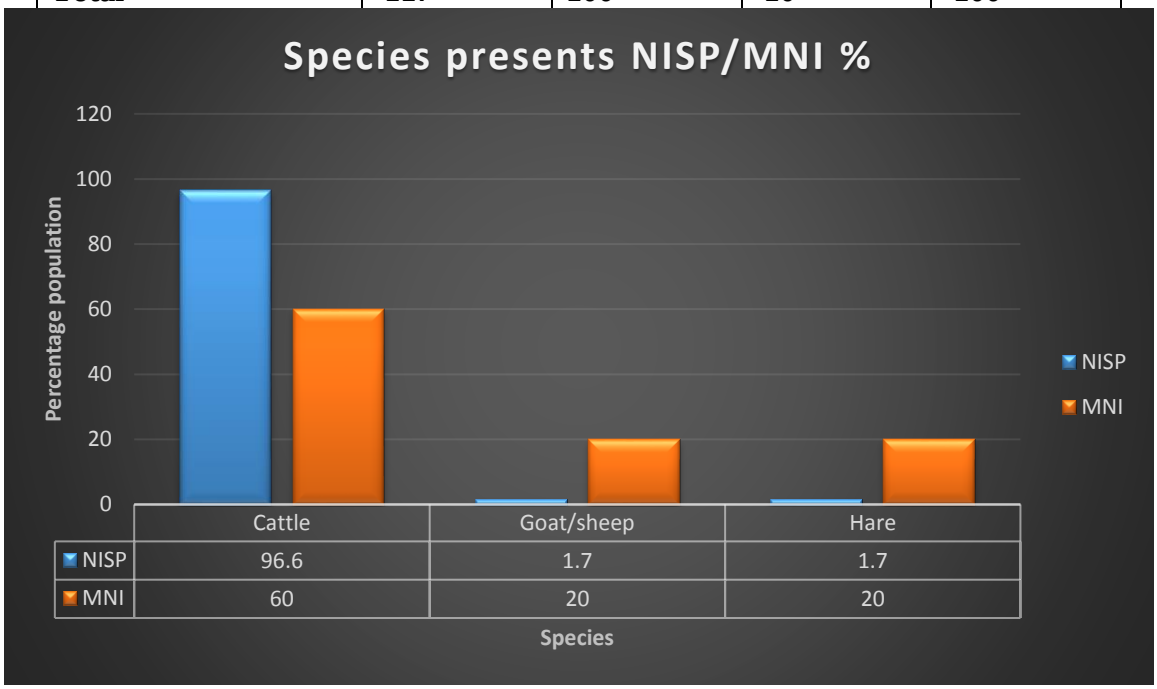


Figure 7.4: Great Enclosure species presence NISP/MNI%

7.9.4.1 Worked bones

Three worked bones were recovered from the Great Enclosure faunal material. These were all tibia bone shafts polished and worked into bone points measuring 13.1cm, 11.9cm and 5cm long, with an average thickness of 1.8cm (Fig 7.5).

Figure 7 5: Worked bones from the Great Enclosure

7.9.5 Western Valley

The Western Valley faunal assemblage was limited to domesticates only. This bone collection contained only 39 identifiable bone fragments which were identified as belonging to cattle and goat/sheep. MNI counts put the minimum number of species exploited at four, which is two cattle and two goat/sheep. The sample is too small to reach any informed conclusions regarding animal exploitation patterns.

7.9.6 Chenga Ruins

A total of 231 bone fragments were analysed from the site of Chenga, of which 107 (46.3%) constituted the identifiable fragments while 124 (53.7%) were non-identifiable (Table 7.10). The Chenga faunal assemblage is too small to offer a more informed story. An almost equal faunal representation came from test pits 1, 3 and 7. The faunal collection from the site of Chenga was dominated by teeth and mandibles. Only 34 bone pieces of the identifiable fragments collection were not teeth. Even the non-identifiable specimens were dominated by enamel and skull fragments. An explanation for this high proportion in teeth against other anatomical parts cannot be offered at this point. At least six species were exploited at Chenga (Table 7.11; 7.12; Fig 7.6). Faunal analysis revealed a meat diet sustained mainly by cattle. Very few wild animals whose exploitation appears limited were identified at Chenga.

Bone type	TP1	TP3	TP7	TOTAL
Identifiable fragments	33	32	42	107
Enamel fragments	7	18	30	55
Skull fragments	6	8	4	18
Rib fragments	2	2	11	15
Bone flakes	0	15	4	19
Vertebral fragments	0	0	6	6
Miscellaneous skeletal parts	5	2	4	11
Total unidentifiable	20	45	59	124
Total sample	**53**	**77**	**101**	**231**

Table 7. 9: Chenga bone quantification

The only modification noted was charring. Most of the bone remains were ashy and it might be possible that these were thrown on a refuse dump with hot ashes. Even some pottery fragments had ash on them.

Species	TP1	TP3	TP7	TOTAL
Cattle	26/1	28/2	31/2	85/5
Wildebeest	0	2/1	6/1	8/2
Goat/sheep	2/1	1/1	0	3/3
Rock rabbit/Dassie	0	0	3/2	3/2
Hare	1/1	0	2/1	3/2
Bov 2	5/1	0	0	5/1
Total NISP/MNI	**34/4**	**31/4**	**42/6**	**107/15**
Total species	4	3	4	

Table 7. 10: Species presents NISP/MNI by trench

Species	NISP	NISP%	MNI	MNI%
Cattle	85	79.4	5	45.4
Wildebeest	8	7.5	1	9.1
Goat/sheep	3	2.8	1	9.1
Rock rabbit/Dassie	3	2.8	2	18.2
Hare	3	2.8	1	9.1
Bov 2	5	4.7	1	9.1
Total NISP/MNI	**107**	**100**	**11**	**100**

Table 7. 11: Species presents NISP/MNI percentage

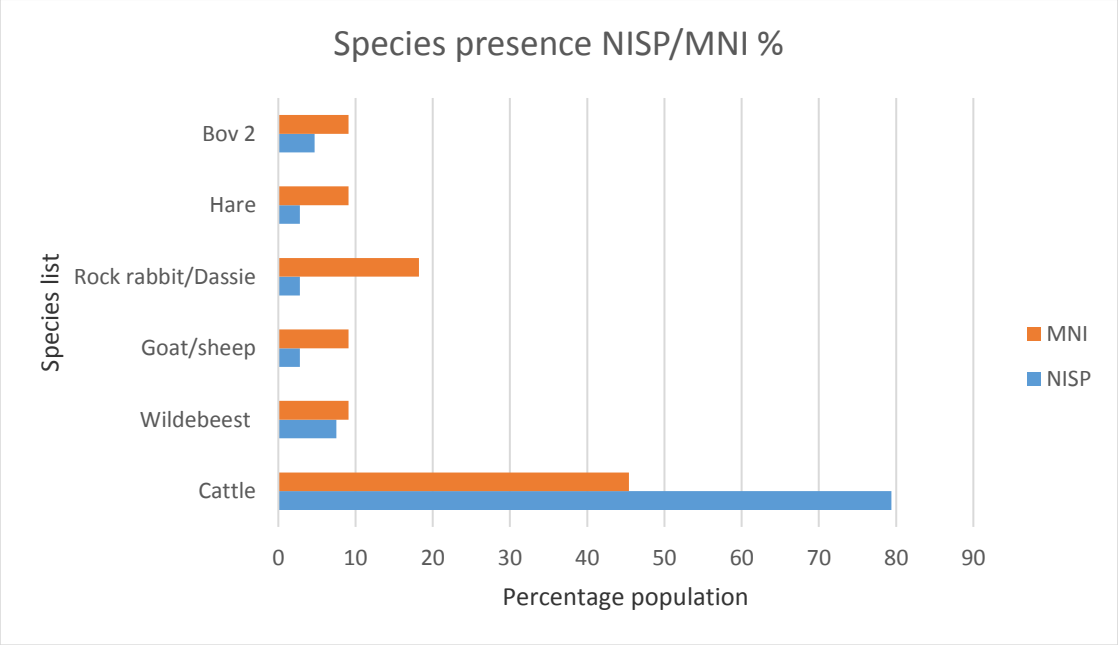


Figure 7.6: Graph showing Chenga species presence NISP/MNI%

7.9 .7 Carpark Midden

A total of 2026 bone fragments were analysed, of which 267 (13.1%) fragments represented identifiable fragments while 1759 (86.9%) were non- identifiable (Table 7.13).

Bone type	Surface	L1	L2	L3	L4	L5	L6	L7	Total
Identifiable	4	18	43	42	36	22	90	12	267
Enamel fragments	4	4	12	3	8	16	6	0	53
Skull fragments	0	0	9	7	9	17	17	0	59
Rib fragments	0	40	156	146	132	69	12	20	575
Bone flakes	0	41	118	94	118	92	107	6	576
Vertebral fragments	0	0	28	4	20	11	55	0	118
Miscellaneous skeletal parts	0	52	38	70	45	92	57	24	378
Total unidentifiable	4	137	361	324	332	297	254	50	1759
Total sample	**8**	**155**	**403**	**366**	**361**	**319**	**344**	**62**	**2026**

Table 7. 12: Car park midden bone quantification by level

7.9.7.1 Species Present

The Carpark Midden faunal assemblage points to the exploitation of both domesticates and wild animal species. Cattle and goat/sheep are domesticates that were exploited. Wild animals exploited ranged from small animals to large ungulates. Cattle (*Bos Taurus*), goat/

sheep (*Ovis Capra*), rock rabbit/dassie (*Procavia capensis*) and wildebeest (*Connochaetes*) are the most presented in almost all levels (Table 7.14, 7.15). NISP counts stress the importance of domesticates, which contributed 83.1% while MNI counts balance both domesticates and wild animals and put the minimum number of animals exploited during the use of the midden at 25 (Fig 7.7, 7.8). All in all, at least nine species were exploited by the inhabitants that were using the midden. Level 6 shows higher diversity in terms of exploitation as it has eight of the species present. The analysis revealed the exploitation of both young and old domesticates, though with an inclination towards mature ones. On the other hand, all wildlife exploited was mature.

Levels								
Species	Surface	1	2	3	4	5	6	7
Bos Taurus	4/1	14/2	37/3	32/2	29/2	19/2	64/5	12/4
Connochaetes		2/1	1/1	3/1	2/1	1/1	2/1	
Procavia capensis			1/1	1/1	2/1		10/2	
Ovis Capra				2/1	1/1	1/1	7/1	
Cephalaphinae				3/2		1/1	1/1	
Lepus capensis				1/1			1/1	
Bovid 2			1/1				3/1	
Tragelaphus strepsiceros		2/2			2/1			
Tragelaphus scriptus			3/2				2/1	
TOTAL NISP/MNI	**4/1**	**18/5**	**43/8**	**42/8**	**36/6**	**22/5**	**90/13**	**12/4**
Total Species	**1**	**3**	**5**	**6**	**5**	**4**	**8**	**1**

Table 7. 13: Car park midden species present NISP/MNI

SPECIES	**NISP**	**NISP%**	**MNI**	**MNI %**
Bos Taurus	211	79	9	36
Connochaetes	11	4.1	2	8
Procavia Capensis	14	5.2	2	8
Ovis Capra	11	4.1	4	16
Cephalaphinae	5	1.9	2	8
Lepus Capensis	2	0.8	1	4
Bov 2	4	1.5	1	4
Tragelaphus Strepsiceros	4	1.5	2	8
Tragelaphus Scriptus	5	1.9	2	8
TOTAL	**267**	**100**	**25**	**100**

Table 7. 14: Car park midden species present NISP/MNI percentage

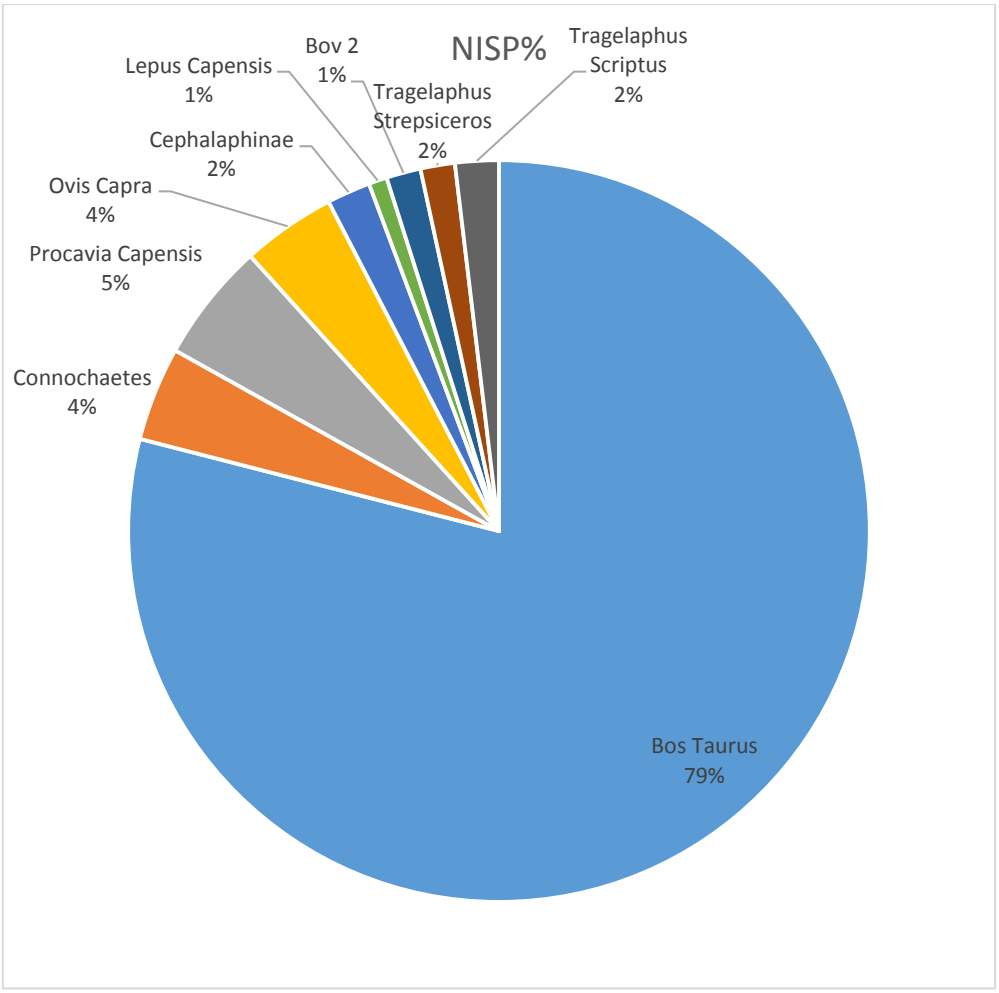


Figure 7.7: Carpark Midden species categories based on NISP

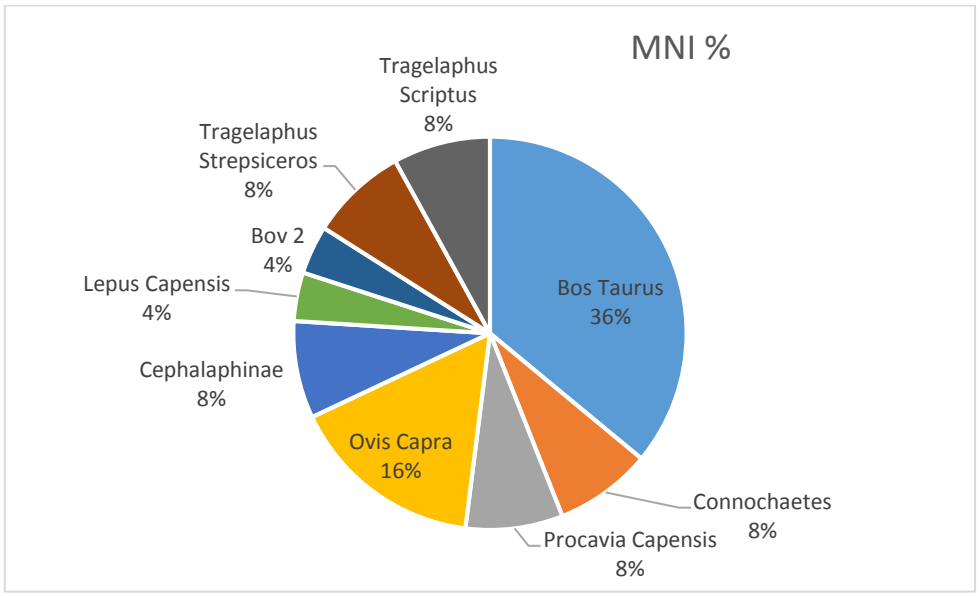


Figure 7.8: Carpark Midden species categories based on MNI

7.9.7.2 Skeletal part representation, bone preservation and treatment

Typical of southern African Iron Age societies, the midden produced large quantities of phalanges, teeth, carpals and tarsals. Bones from the Carpark Midden were well preserved although they were burnt. Burning of bones can be ascribed to human activity. Charred bones were those with a whitish, greyish and black colour. It could not be established in this study whether the charring was a reflection of meat processing or the result of burning of rubbish associated with most middens which were recipients of charcoal from domestic fires. The modified bones accounted for only 20.9% of the total assemblage.

7.10 Great Zimbabwe faunal collection consolidated

Bone type	**HC**	**NRS**	**TM**	**GE**	**WV**	**CR**	**CPM**	**TOTAL**
Identifiable	7	242	183	117	39	107	267	962
Enamel fragments	0	13	55	24	12	55	53	212
Skull fragments	0	111	360	4	8	18	59	560
Rib fragments	0	422	1045	20	66	15	575	2143
Bone flakes	3	621	467	61	42	19	576	1789
Vertebral fragments	0	70	407	17	24	6	118	642
Miscellaneous fragments	0	183	848	22	27	11	378	1469
Total non-identifiable	3	1420	3182	148	179	124	1759	6815
Total sample	**13**	**3082**	**6547**	**413**	**397**	**355**	**3785**	**14592**

Table 7. 15: Great Zimbabwe faunal assemblage quantified

The faunal assemblage shows an economy which is dominated by both domesticates and wild animals. This means that both herding and hunting have been part of the economic strategies in this area. Based on NISP percentages, domesticates contributed 94.2% to the diet of the inhabitants of Great Zimbabwe, with the greatest contribution being that of cattle amounting to 90%. This means that game meat contributed 5.8% only. On the other hand, MNI percentages put the contribution of domesticates at 69.6% (cattle 56% and goat/sheep 13.6%) and game meat at 30.4% (Fig 7.9). Although different in quantities, both NISP and MNI emphasise the importance of cattle meat in the diet. The fact that domesticated animals were slaughtered within or close to homesteads might mean that all body parts were taken in the homesteads unlike those of wild animals which would be heavy to carry, especially over long distances. Marshall (1994:65), studying the Okiek hunter- gatherers, however, disputed this aspect when she argued that slaughtering of game animals at kill sites was a way of reducing

weight of the carcass through discarding body fluids and some internal organs and to create smaller and more easily carried skeletal units.

The presence of cattle and goat/sheep as the only domesticates in this assemblage should not be taken to mean that these were the only domesticates exploited at Great Zimbabwe, but it could be that their bones can withstand pre- and post-depositional destruction, making them highly identifiable. The analysis of domesticates revealed the exploitation of both young and old stock, although there is a heavy reliance on old stock. This trend was uniform across all occupational areas under study.

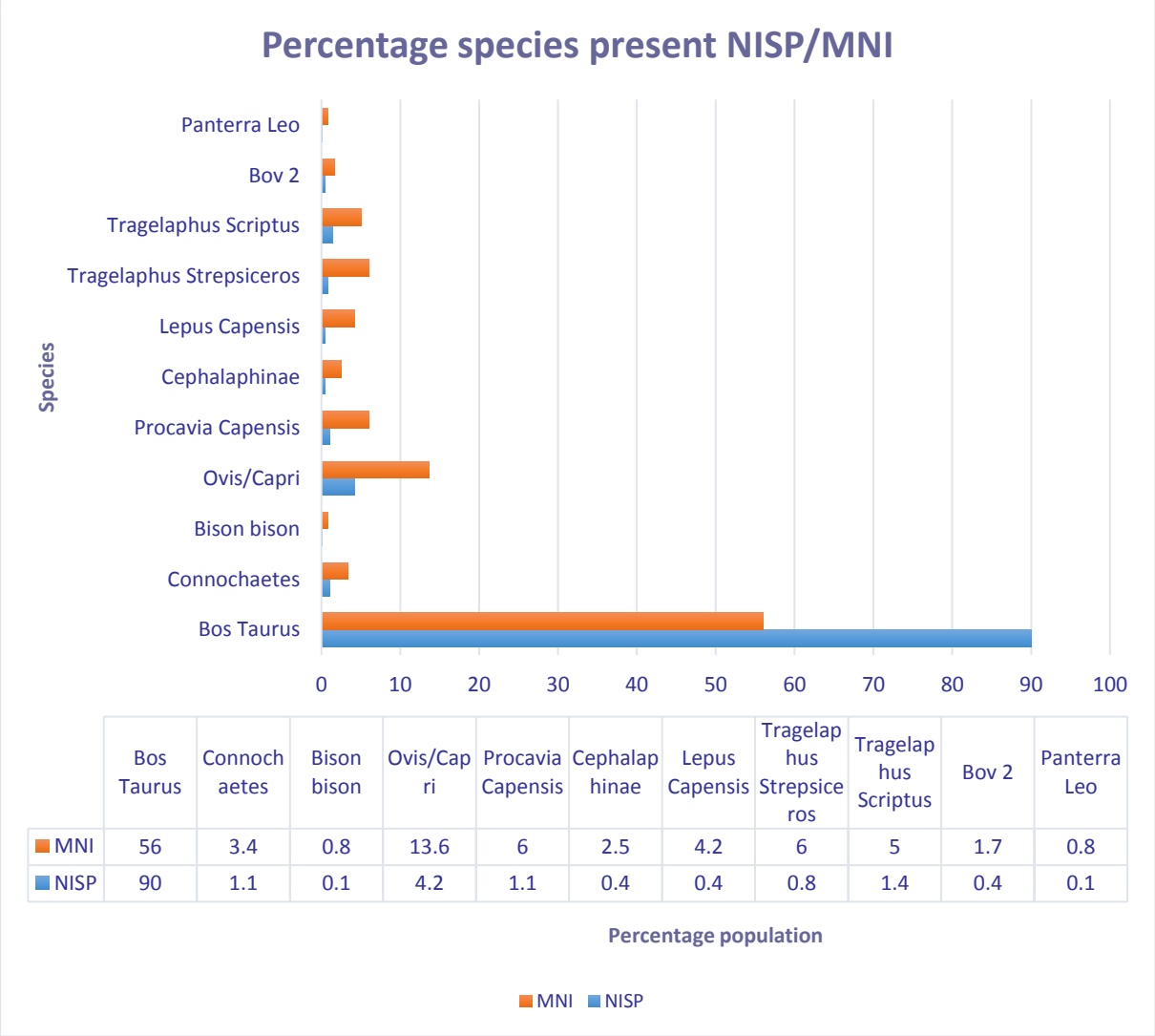
A wide range of wild animals ranging from small animals such as hare and rock rabbit/ dassie to large ungulates like kudu, wildebeest and bushbuck, were also identified in the faunal assemblage ((Table 7.18, 7.19). Faunal remains of wild animals point to the exploitation of mainly mature/adult animals, which might be a reflection of the existence of some form of traditional wildlife conservation strategies. Some of the wild animals identified in the faunal assemblage are now extinct (Appendix 6). NISP counts reveal that at least 2590 individual animals were consumed at Great Zimbabwe. On the other hand, MNI puts the minimum number of animals exploited to 108. Also present in the archaeological record are worked bones. *Panthera Leo* (lion) appears in the assemblage through the recovery of teeth which might be a pointer to more complex social use. *Loxodonta Africana* (elephant) and *Struthio camelus* (ostrich) also appear in the assemblage in the form of processed ornaments (see bead section).

Species	**HC**	**NRS**	**TM**	**GE**	**WV**	**CR**	**CPM**	**TOTAL**
Bos Taurus	1	209	134	113	26	85	211	779
Connochaetes		9				8	11	28
Ovis/Capri		10	22	2	13	3	11	61
Procavia Capensis		2	5			3	14	24
Cephalaphinae		3					5	8
Lepus Capensis			3	2		3	2	10
Tragelaphus Strepsiceros	2	2	2				4	10
Tragelaphus Scriptus		7	17				5	29
Bov 2						5	4	9
Panthera Leo	4							4
								962
Total species	3	7	6	3	2	6	9	

Table 7. 16: Species presents per area: NISP

Species	**HC**	**NRS**	**TM**	**GE**	**WV**	**CR**	**CPM**	**Total**
Bos Taurus	1	10	8	6	2	5	9	41
Connochaetes		1				1	2	4
Ovis/Capri		2	2	2	2	1	4	13
Procavia Capensis		1	1			2	2	6
Cephalaphinae		1					2	3
Lepus Capensis			1	2		1	1	5
Tragelaphus Strepsiceros	1	1	1				2	5
Tragelaphus Scriptus		1	2				2	5
Bov 2						1	1	2
Panthera Leo	1							1
								85
Total species	3	7	6	3	2	6	9	

Table 7. 17: Species present per area: MNI



	Bos Taurus	Connochaetes	Bison bison	Ovis/Capri	Procavia Capensis	Cephalaphinae	Lepus Capensis	Tragelaphus Strepsiceros	Tragelaphus Scriptus	Bov 2	Panterra Leo
MNI	56	3.4	0.8	13.6	6	2.5	4.2	6	5	1.7	0.8
NISP	90	1.1	0.1	4.2	1.1	0.4	0.4	0.8	1.4	0.4	0.1

Figure 7 19: Bar chart showing species presents based on NISP/MNI percentages

7.10.1 Skeletal part representation

The identification of skeletal parts was an important part of the quantification procedure followed in this study. As in most faunal assemblages, it was discovered that phalanges, carpals, teeth and tarsals were the anatomical parts most identified. Their high numbers are a reflection of their relative abundance in most mammalian species. Furthermore, the compact nature of these bones makes them withstand the agents of pre- and post-depositional destruction. *Bos Taurus*, the most common species in all sections, has most of the anatomical parts well represented. This might be a pointer to meat-sharing among homesteads where body parts are symbolically distributed. Marshall (1994:65) noted that meat-sharing among households is an important factor that affects body part representation at a site. In most cases,

social relationships are overwhelmingly the strongest predictor of patterns of sharing. Huffman (1996:118), researching among the Venda of South Africa, realised that the division of meat was determined by the relationship based on gender, status and private roles and protection. The almost equal distribution of anatomical parts in this Great Zimbabwe faunal assemblage does not conform to Thorp's (1995) meat allocation between the elites and the commoners. Thorp (1984, 1995) after analysing the faunal from the Lilian Hodges midden and Khami Hill Ruin came to the conclusion that elites ate prime meat while the commoners' meat came from old stock. However, analyses of the faunal remains from the research areas revealed the consumption of both young and old domesticates. The 'elite areas' – the Northern Rock Shelter and the Great Enclosure – had a high proportion of mature stock while the all the faunal remains in the Western Enclosure pointed to a mature stock. The Terrace Midden had an equal representation of young and mature stock while faunal remains from Chenga Ruins exhibited more mature stock with very few bones coming from young stock.

7.10.2 Worked bone

Only 10 worked bones were recovered from the Great Zimbabwe assemblage. These came from the Great Enclosure, the Hill Complex's Western Enclosure and the Nemanwa Ruins. The Western enclosure had the highest number of worked bones which came from both edible and non-edible species. Having encountered the presence of small perforated bones and bones from non-edible animals such as small and large carnivores within the Khami faunal assemblage, Thorp (1995) explained this element with ethnographic support as representing the activities of ritual specialists who must also have lived in the vicinity and shared the royal midden. It might also be possible that worked bones recovered at Great Zimbabwe were associated with traditional healers. Manyanga (2001) highlights the fact that among the Shona people of Zimbabwe, lions were viewed as the abode of the ancestral spirits. As such, it is possible that teeth recovered in the Hill Complex were associated with spirit mediums.

7.11 Discussion

The trend coming out from faunal analyses is that from earliest settlements, there has been a heavy reliance on cattle for meat which was complemented by goat/sheep and a wide range of wild species. Cattle and goat/sheep were domesticated throughout the Great Zimbabwe

settlement. Hare, rock rabbit, wildebeest, kudu, duiker and bushbuck were wild species exploited. The exploitation of wild animals was limited to mature stock, which might mean that the inhabitants of Great Zimbabwe's wild animals exploitation was guided by the need to conserve young stock for reproduction. All the species identified were consumed in the different sections making up Great Zimbabwe. Even though these sections were occupied at different intervals, they exploited the same species. Faunal results support a continued exploitation of the same wild species from early Iron Age to late Iron Age settlement at Great Zimbabwe. Quantitatively, there is a balance between bones from old and young stock. In terms of species diversity, both NISP and MNI quantifications have revealed a near equal representation of all species across the Great Zimbabwe landscape. There is, however, an increased diversity in species exploited in Period 3 and 4 settlements. Though shown to have exploited large wild species, the early inhabitants (Gokomere/Zhizo, Gumanye) relied heavily on small stock while large stock dominated the fauna of later occupation (upper levels of NRS, Carpark Midden). It has also been noted that apart from providing meat, wild species of kudu and bushbuck bones were crafted into bone points. The presence of teeth of a lion whose consumption has not been recorded in archaeology may point to the status of the inhabitants of the Western Enclosure. Lions, particularly the males, have been an important symbol for thousands of years ago. Generally, the most consistent depiction of lions is in keeping with lions as symbols of royalty, stateliness and bravery. In ancient Mesopotamia, a lion was regarded as a symbol of kingship while in Middle Eastern cultures (Arabic and Persian), a lion was regarded as a symbol of courage and bravery. Thorp (1984, 1995) documented the use of non-food animal species' bones for divination of traditional healers. Shenjere (2006) linked a large cache of worked metapodials of the common duiker to traditional healing activities.

The presence of both young and old stock faunal remains in all areas under study requires some attention as it has the potential of providing an insight into the nature of the relationship among the residences of Great Zimbabwe. The analyses identified old stock in the faunal assemblages from the 'elite' settlements of NRS, Terrace Midden, Great Enclosure and Chenga and young stock in 'commoner areas' – such as the Carpark. Such a distribution means that the elites and commoners of Great Zimbabwe cannot be defined on the basis of meat preference and consumption, as proposed earlier on by Thorp (1995). Pwiti *et al.* (2013) expressed reservations on the adoption of Thorp's conclusions from the analysis of the Hill

Midden faunal remains. Ethnographic studies among the Shona people have shown the existence of intermarriages between the elites and commoners as well as the existence of a meat-sharing practice. Such information can help in explaining the faunal record of Great Zimbabwe. It means that a cow slaughtered within the elite settlement found its way to the commoner settlements and reverse. Now since portions are distributed based on relations to the owner of the slaughtered cow, it is probable that at one time, in the cycle of relations, the chief might have been a nephew entitled to receive those portions being regarded by Huffman (1996) and Fatherely (2012) as commoners' portions. Conversely, there might have been a time when the commoner would have received meat portions coming from the hindquarters (superior portions).

The faunal assemblage exhibits a meat economy based on domesticates and wild animal species. Domesticates outnumber the wild animal species. As put forward by Manyanga (2001), this trend is quite consistent with other Zimbabwe tradition sites. These assemblages also exhibited a substantial proportion of large wild mammalian bones. The results from the analysis reveal that general preference for wild animals was for mature animals, which might suggest that these people were aware of the long-term negative effects of slaughtering animals that were still breeding. Had they preyed on young animals, the capacity to reproduce would have been reduced and animals become scarce. Such choice of wild animals among hunters was observed by Cooke (1958), who explained that female and young animals were normally conserved to reproduce. Had the sexes of wild animals in our sample been identified, there is the possibility that the above observation by Cooke (1958) might have applied to Great Zimbabwe. The other reason might be that these animals provided meat in larger quantities as compared to small ones or that mature animals were targeted because, as they grow old, their speed is reduced, thus making it easier for hunters to kill them.

Analysis of the contribution of domestic species to the economy of the site revealed that cattle had a significant part to play. Cattle had high social value among Later Iron Age societies in southern Africa. Among them, cattle were regarded as a source of wealth and an indicator of status in a society such that the more cattle one possessed, the more respected and the easier it was for one to exert power on those with less or no cattle at all (Maggs, 1984; Huffman 1996; Van Waarden, 1998; Manyanga 2001). Ethnographic and archaeological studies by Kuper (1980) and Huffman (1993) have emphasised this social and

ideological importance of cattle among southern Bantu people. The ability to control large herds of cattle has been one of the factors used in explaining the growth of complex societies in southern Africa (Garlake 1978; Denbow 1983). As a result, cattle became a prestige possession and a source of political and social power.

Results obtained from the analysis of faunal remains recovered at various areas at Great Zimbabwe aided in reconstruction of past environments. Information relating to environment came mainly from the animal species that were identified in the sample. The wildebeest, kudu, duiker, bushbuck, rock rabbit and hare are some of the wild animals that found the environment conducive to their physiological needs. Domesticates (cattle and sheep/goats) also found the environment suitable. This environment must have been made up of a mixed type of vegetation which ensured that at least each species had an assured source of food and habitat. When taking into account food and habitation requirements of these species represented in the sample, at least four different types of vegetation which differed according to relief and availability of water can be inferred: mainly open grassland, Acacia, Mopani and Brachystegia Woodland, mixed Terminalia, and Terminalia shrub. On the other hand, domestic animals have a wide range of habitat tolerance. Mixed Terminalia, Acacia and Mopani Woodland are suitable environments for the survival of sheep and goat, which are mainly browsers. Cattle, which are grazers, prefer areas with a good supply of water and green grass. Most of the observed animal species are water-loving meaning that there must have been a reliable source of water in the area.

Under-representation of some species may be explained in terms of taphonomic processes which act on bones before and after they have been deposited. Thus when looking at the economy and diet, one should bear in mind the fact that faunal remains in a sample do not always reflect the full picture with regards to the role played by different species. For example, the absence of chicken bones does not necessarily mean that they were not domesticated at Great Zimbabwe. Carnivore and rodent activities, natural attrition within a deposit due to soil conditions, erosion and weathering, differential preservation of the skeletal material of various animal groups as well as human factors – among them methods of waste disposal, division of carcasses and de-fleshing of carcasses away from the site – are some of the factors that may lead to misinterpretation of the role played by different animals. The weaknesses of quantification methods also lead to biased interpretation. Be that as it may,

high percentage of meat supply came from cattle. In terms of the exploitation of wild animals, one should bear in mind the role played by societal values, myths and taboos, belief systems and restrictions imposed by traditional leaders (Manyanga 2001:83-84).

7.12 Conclusion

The animal exploitation patterns at Great Zimbabwe revealed a dominance of domesticates in the diet of the inhabitants. Of these domesticates, cattle was the most dominant. This shows that besides being a form of wealth, cattle were also a major protein source at Great Zimbabwe. Wildlife exploitation patterns might point to the existence of some form of traditional conservation methods. At Great Zimbabwe, there seems to be no sharp distinction on elite and commoner meat preference since bones of both young and old stock are found in their areas of settlements. This might rather be revealing complex social relationships that might have existed. The bone quantities at Great Zimbabwe to some extent do not support the population postulated by previous researchers. However, for a more informed discussion of issues of status, the faunal data must be combined with a wide range of other lines of evidence. Such a discussion will be dealt with in Chapter Eight after the presentation of the analysis of craft objects in the next chapter.

CHAPTER EIGHT: CRAFTS PRODUCTION AT GREAT ZIMBABWE

8.1 Introduction

Crafts production materialises in the form of various objects and structures (Costin 2005). The Great Zimbabwe inhabitants manufactured a range of objects that helped them to exploit the natural environment as well as interacting with other communities. Archaeologists have studied these objects to understand past societies' craft activities. In this research, the study of crafts production was limited to describing and recording the distribution of craft products and centres. It was felt that recording the occurrence of these forms of material objects was essential as it provided insights into their distribution patterns on the Great Zimbabwe landscape, thus shedding light on issues of specialisation, power and status. Some of the craft activities reported at Great Zimbabwe were weaving, smithing, carving, construction and pottery. There was little material evidence pointing to craft activities in the collections analysed. As such, they are all presented here, ending with a discussion which aims at showing their contribution in understanding the site of Great Zimbabwe. Stone walling and *dhaka* structures although not collections are also presented here. It was felt that they are important forms of material culture that would contribute to our understanding of the site of Great Zimbabwe.

8.2 Spindle whorls

Spindle whorls are the most tangible evidence for cotton spinning and weaving. The main purpose of analysing spindle whorls was to understand the weaving industry at Great Zimbabwe. The analysis aimed at revealing the provisional dates for the introduction of this craft and its abandonment at Great Zimbabwe as well as establishing whether it was a specialised activity or an activity open to all. The spatial distribution of the spindle whorls was expected to shed more light on this issue. Spindle whorls were first separated on the basis of material used to manufacture them, namely clay, sandstone and soapstone. Outer diameter, perforation diameter, number of perforations and thickness were the main attributes recorded on the spindle whorls.

8.2.1 Background to the study of spindle whorls

Spindle whorls are typically the most tangible evidence available of cotton spinning and weaving, mainly because cloth rarely survives in the soils of southern Africa (Huffman 1971). However, a few sites in southern Africa have produced some cloth pieces, for example Ingombe Illede (Davison and Harries 1980). Although spindle whorls are primary evidence for spinning only, Davison and Harries (1980) argue that their repeated occurrences at any site imply a large-scale spinning of thread for weaving. The spindle whorls are considered to have been weights on the end of spindles. There is therefore a correlation between the weight and diameter of spindle whorls, the length of the spun fibre, and the thickness of the thread produced (Alt 1999; Anawalt 2000; Barber 1991; Halperin 2008; Keith 1998). However, Garlake (1974:117) and Davison and Harries (1980) once suggested that these archaeological ceramic and stone circular discs with central perforations could have been used as gaming counters or as divining dices. Swan once suggested that these ceramic discs could have been used as fishing weights (Ruwitah 1997). However, no ethnographic studies in southern Africa have revealed any other use for spindle whorls expect in association with cotton spinning and weaving. Archaeologists have used such measurements of whorls (weight, perforation diameter and total diameter) to suggest the raw material and thickness of the yarn produced. In general, large and heavy spindles are best for thick yarns while small, lightweight spindles are used for thin thread spun from short fibres such as cotton.

The development of cotton in Zimbabwe has been viewed as following international and/or regional trade (Phillipson and Fagan 1969; Reynolds 1968). Setumu (2002) shares the same view, believing that the appearance of spindle whorls at Mapungubwe marks the introduction of weaving by coastal traders and perhaps the start of another craft speciality. Garlake (1997) and Huffman (1971) are of the opinion that the craft of spinning doubtlessly spread from the East Coast into southern African interior as stronger trade contacts were established. Ruwitah (1999), however, argues for a local development of the skill and knowledge of cotton spinning and weaving in Zimbabwe. He is of the belief that Zimbabwe could have been the single most important centre of the traditional cotton industry in southern Africa during the Late Iron Age, thereby suggesting that the few whorls associated with sites in neighbouring countries could be spill-overs from the Zimbabwe plateau. Davison and Harries (1980)

attribute the spread of the cloth-weaving technology into the Venda areas of the northern Transvaal and the Tsonga areas of southern Mozambique and northern Transvaal to the Shona migrants who moved southwards in the 17th Century. Linguistically, the existence of vernacular terms for wild cotton and handwoven cloth has been taken to confirm the existence of a weaving tradition among the Shona, Venda, Tsonga and Sotho before any contacts with the Portuguese traders. Apart from a few publications among them, Huffman (1971), Ruwitah (1999), Mckenna (2011) and Antonites (2012), the study of spindle whorls in southern Africa has been marginal. Huffman (1971) suggested that cloth was being manufactured by the late 13th Century.

Clothing was one of the important uses of textile hand-woven from homespun thread. Many Portuguese documents report weaving on the Zimbabwean plateau as well as giving accounts of how the cloth was worn (Ley 1947; Davison and Harries 1980). Sloan (1923:67) reports the making of woven bands used to strap babies to their mothers' backs. There is a possibility that the locals attached more value to own cloth than imports. Twenty-three years after colonisation, Sloan (1923) reports the existence of an intense traditional cotton industry in the Dande area even after the introduction of European and Asian cloth. Davison (1979) stresses that local cotton thread was highly valued, so much so that the use of cotton among the Ngonde of northern Malawi, the Venda and Lobedu people of south of the Limpopo was the prerogative of the chiefs. He also noted the importance of local cotton thread among the Lobedu people, who used the old pieces of cord made from locally spun wild cotton on which to string their beads and amulets. Among the Nafana of Banda area in Ghana, local cloth had cultural values attached to it Cruz (2003). Girls undergoing Nafana nobility (initiation and a series of rituals and restrictions) were recognised by wearing locally woven traditional cloth with a special double string of white beads with a cowrie and four large beads. Projecting back in time to the Zimbabwe culture settlements, there is a possibility that imported cloth did not overshadow the local one. Ethnographic and historical sources from southern Africa make it clear that cloth was a highly valued exchange item in the past. There appears to have been some social value attached to local cloth that could not be replaced by the imported ones. For example, a number of Portuguese documents mention that the 'Monomotapa wore only cloth spun in the land'. Ethnographic studies by Ruwitah (1999) among the Chikunda people of Kanyemba district revealed that striped hand-woven cloth was symbolic as they

were worn by mediums of the Nyungwe and the *akolo* (baboon) spirit, particularly during spirit possession and related trances.

8.2.2 Spindle whorls at Great Zimbabwe

The recovery of spindle whorls suggests weaving was an important activity carried out at Great Zimbabwe. A total of 37 spindle whorls came out of the collections under consideration (Appendix 7). Eighteen spindle whorls were complete, while 19 were incomplete. Of the incomplete, 17 were at least half-complete while two were a quarter-complete. The Great Enclosure had the highest number of spindle whorls (Table 8.1), from Trenches 5, 6, 7, 19, 40 and 44. They are found in association with class 3 pottery. The only spindle whorl recovered in the Hill Complex came from test pit 9 and was associated with class 2 pottery. Northern Rock Shelter's trench 2, level 2 produced a spindle whorl fragment while level 5 produced six spindle whorls. Spindle whorls from the Western Valley Enclosure were found in association with Period 4 pottery. Huffman (1971:11) puts the spindle whorls recovered from Great Zimbabwe at 227, the majority coming from 'Hall's dumps'. Hall's material was, however, not part of this research. Hall (1902:127) reported recovering mostly clay spindle whorls which, according to local informants, were cut out of fragments of local bowls and pots. He regarded them as being used by the local people for drawing the threads out of a mass of cotton. A stick was passed through the centre and the bottom end was inserted in the cotton while the upper part was twisted round quickly between the palms of the hand. These large quantities of spindle whorls reinforce the idea that thread was being spun on a large scale at Great Zimbabwe. All except of the spindle whorls analysed in this study were made from clay which was shaped into discs and drilled through the middle. The remaining spindles were made from soapstone and sandstone (Fig 8.1). These came from the Great Enclosure. In terms of perforation, all the 37 samples had a single perforation. Although some of the spindle whorls were broken, it is highly unlikely that the missing part would have contained more than a single perforation. Only a single spindle whorl exhibited some form of decoration. Since the decorated spindle whorl is made of clay, it can be argued that the decoration emanated from the pot from which it was made.

As noted from the presentation, spindle whorls were found in association with mainly Period 3 and 4 pottery, thereby attributing the cloth-weaving industry to the stone builders. The reconstruction of weaving in Period 4 settlements suggests that the local industry was not

disturbed by the coming of imported cloth. It might mean that locally produced cloth had a certain value that could not be replaced by imports, or it might simply be a reflection of varied preferences in term of cloth. Although the Western Enclosure spindle was found within Period 2 pottery, it is difficult to assign it to that period with certainty due to the problem of mixed material objects discussed in detail in Chapter 3.This means that weaving at Great Zimbabwe was more established in the Later Iron Age settlements.

Area	**Complete**	**Incomplete**	**Total**
Hill Complex	1		1
Northern Rock Shelter	1	5	6
Terrace Midden	2	1	3
Great Enclosure	10	11	21
Western Valley	4	2	6
Total	**18**	**19**	**37**

Table 8. 1: Statistical quantification of spindle whorls by area

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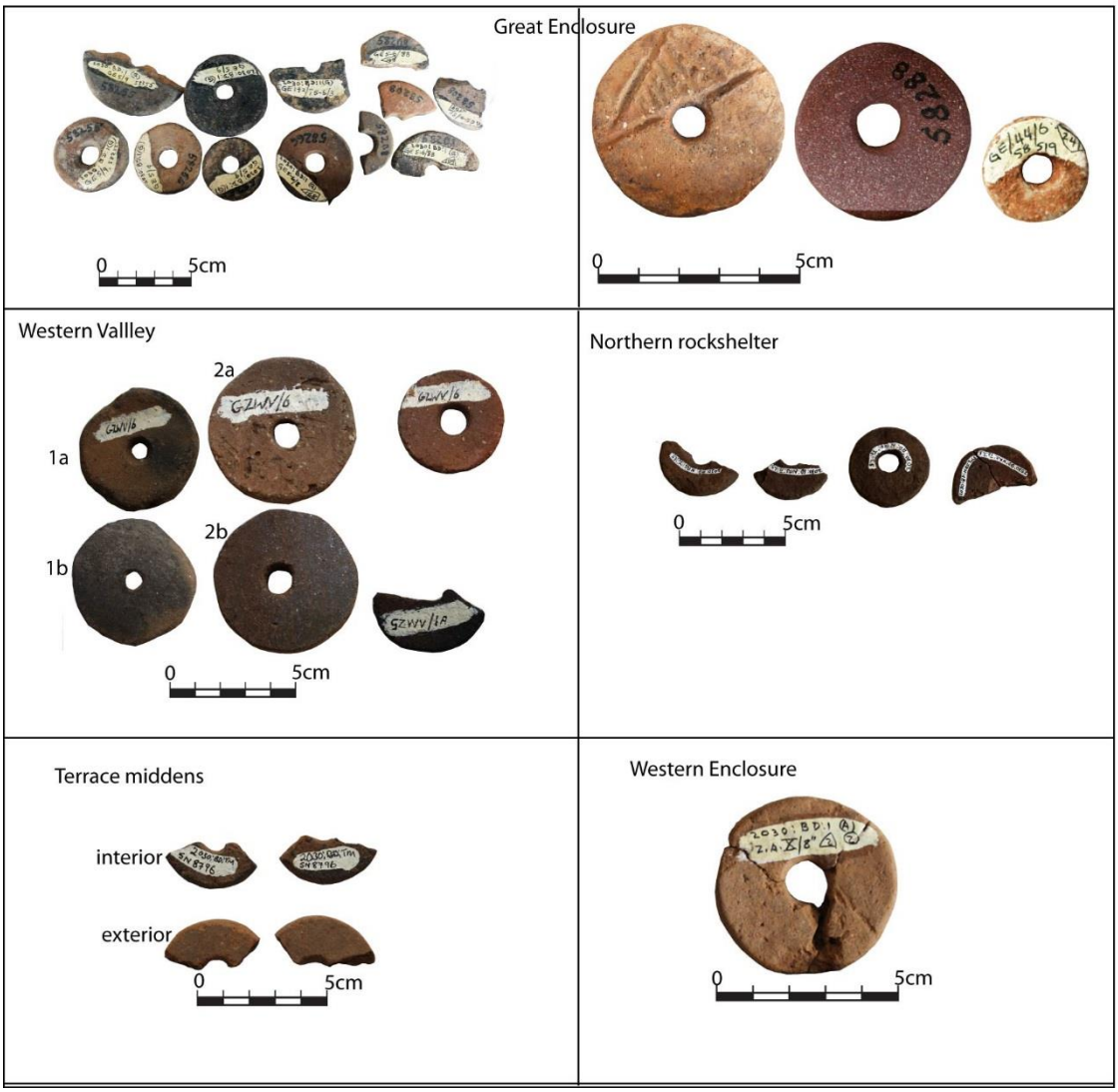

Figure 8.1: Images of spindle whorls by area

8.3 Metal craft production

The research on metal craft production was limited to highlighting the spatial distribution of such objects across the site of Great Zimbabwe. An understanding of such distribution was instrumental in the identification of production areas and modes of production and for understanding the consumption patterns of various products at the site. Metal objects were also studied to reconstruct the nature of the metal-working industry at the site. Costin and Earle (1989) are of the view that consumption patterns are useful in understanding the status of the people who occupied various areas of the site. Herbert (1996) feels that by focusing attention on the metal artefacts and debris of metal working, one can yield more information about political power. She identified iron, copper and gold as the three main primary metals worked at Great Zimbabwe, pointing out spears, double gongs and axes as objects most likely

representing political prestige and authority. Gold, iron, copper and bronze are regarded as metals signifying power and wealth at Great Zimbabwe, with the possibility of a close relationship between political leaders and metal workers (Herbert 1996). Bandama *et al.*'s (2016) metallurgical studies revealed that Great Zimbabwe's constituent areas contained remnants for primary production and secondary working together with objects in domestic contexts, concluding that various components of Great Zimbabwe worked and processed their own material, pointing to homestead-level production and consumption. Their argument was based on the recovery of slags, crucibles, decorative and utilitarian objects in both walled and unwalled areas.

The Great Zimbabwe metal assemblage had a total of 301 metal pieces which were a mixture of semi-worked and finished products and production debris (Appendix 8). Metal objects were recorded from all other sections except Chenga. Metal distribution was relatively equal across all areas (Fig 8.2; Table 8.2). Domestic utilitarian objects, weaponry, adornment objects, and metal production debris in the form of slag and tuyere were recorded in these various settlement areas. Tuyeres were recorded only in the NRS although Caton-Thompson (1931) and Summers *et al* (1961) came across them during their excavations on the Terrace Midden and in the Western Enclosure respectively. Hall (1905) also removed tuyeres from the Great Enclosure. The presence of metal production debris in each area is evidence of metal smelting at the site. At intra-site level, it might be an indication that each area was responsible for the production of its objects. Hoe blades, bangles, spearheads, arrowheads, axes, wound wire bangles, chisels, slag, wound wire pieces and tuyere were the dominant objects (Fig 8.3-8.7). A lot of wound wire pieces and a needle were also recorded. There is a possibility that the wound wire pieces were once fashioned into objects of adornment such as bangles, rings and necklaces. In addition to supporting tools production, needles also reflect cloth making. The analysis of the chemical composition of Great Zimbabwe's metal objects by Bandama *et al.* (2016) revealed that the occupants smelted iron, bronze and copper.

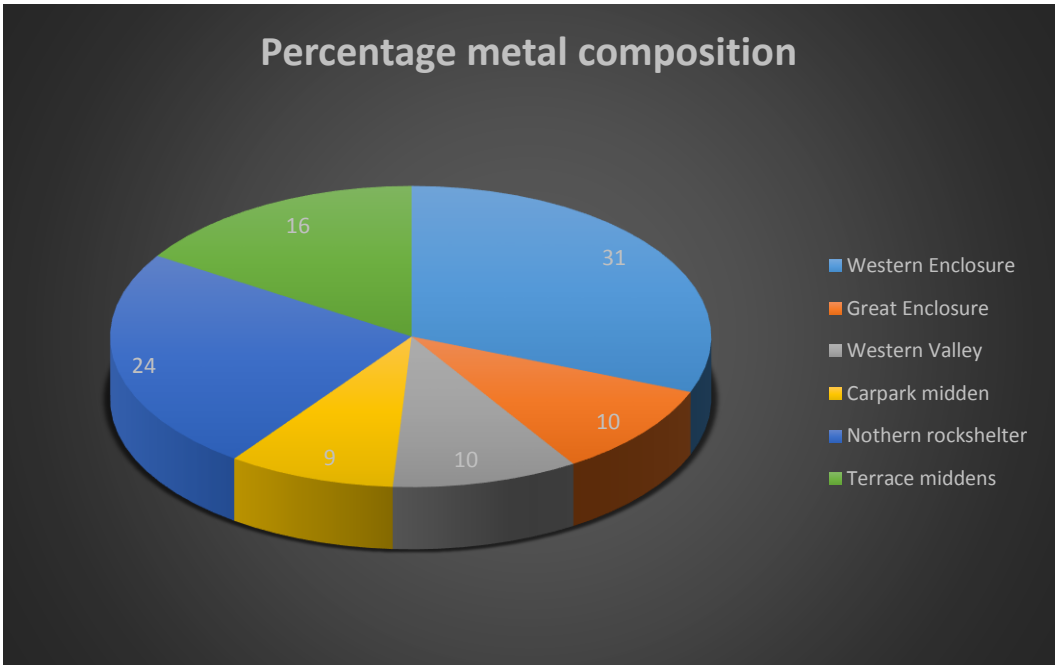

Figure 8 2: Metal composition by area

Metal groups	**NRS**	**WE**	**TM**	**GE**	**WV**	**CPM**
Adornment/Jewellery	✓	✓	✓	✓	✓	✓
Domestic utilitarian	✓	✓	✓	✓	✓	✓
Weaponry	✓	✓	✓	✓	✓	
Slag	✓	✓	✓	✓	✓	
Tuyeres	✓					
Crucibles	✓			✓		✓
Expressive objects		✓	✓		✓	

Table 8. 2: Table showing the presence or absence of metal crafts by area

Figure 8.3: Metal objects from the Western Enclosure

Figure 8 4: Metal objects from Western Valley

Figure 8 5: Metal objects from the Terraces

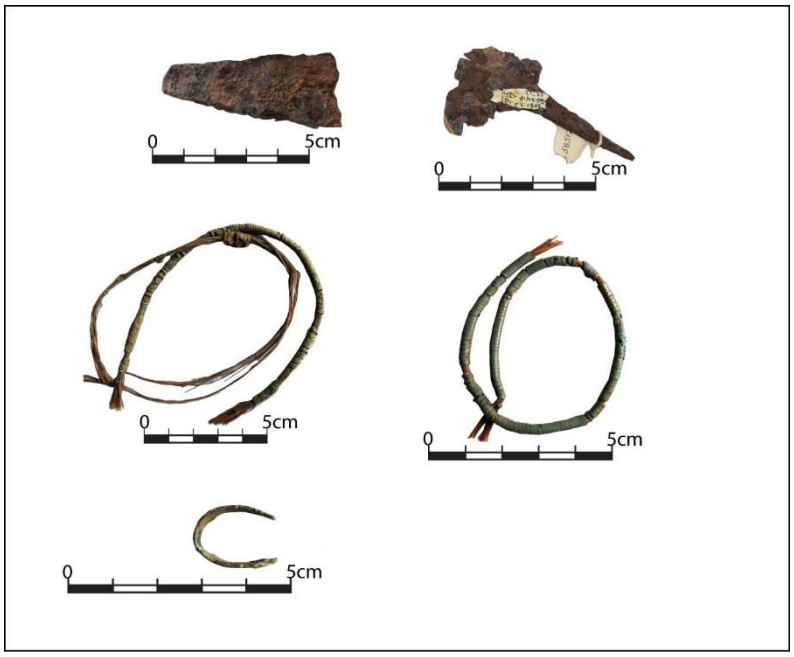

Figure 8 6: Metal from the Great Enclosure

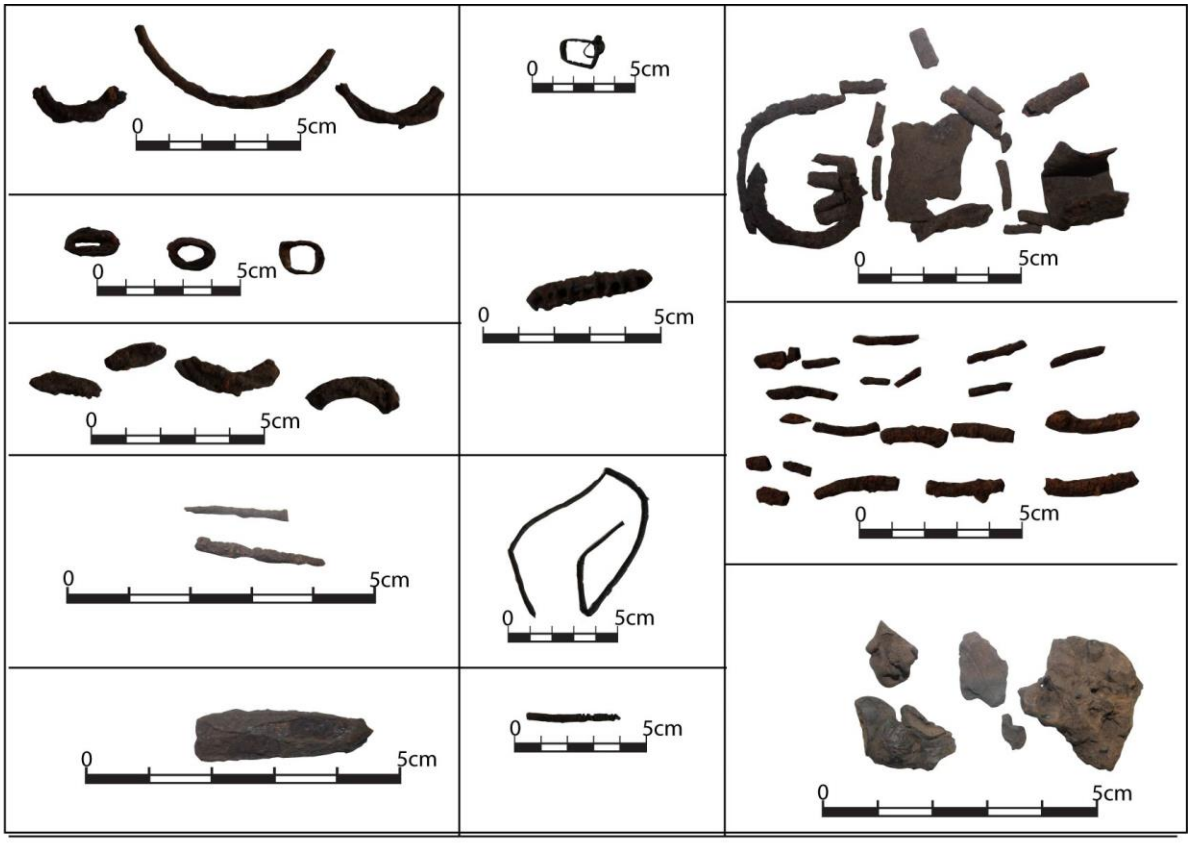

Figure 8 7: Metals from Northern rock shelter

8.4 Stone walling

The main purpose for including stone structures was to highlight varying explanations they received. These explanations were then correlated to results obtained from analysing other forms of material culture. Great Zimbabwe's stone structures have been intensively examined since there were parts of the mystery to be solved from the early 1900s. Since then, no further study has been done. Whitty's (1961) architectural study established a sequence for the construction of the site which was later complemented by Collett *et al.* (1992) and Chipunza (1994).

Many studies of Great Zimbabwe and related stone-walled sites have treated architecture as a backdrop to typology and dating of the structures. Studies of Great Zimbabwe and related sites by Whitty (1957), Summers (1958), Robinson (1959), Summers *et al*. (1961), Summers and Whitty (1961) and Garlake (1970) used wall types (P, Q and R) as a basis for relative dating and chronology, as well as for tracing the development of building sequences. This

observation has remained the cornerstone for understanding the development of the society once based at Great Zimbabwe and its expansion to other regions on the Zimbabwe Plateau.

Based on architectural details and quality of construction, the walls of Great Zimbabwe have been divided into four classes, namely P, PQ, Q and R. Architectural research has shown that P-style walls were the earliest (Whitty 1961; Garlake 1970; Ndoro 2001). PQ style combines both P and Q elements. Q walls, which came later, are generally regarded as the best of the Zimbabwe culture architecture. They were built with dressed blocks of a regular size and shape and with clear courses that can be traced over a long distance (Pwiti *et al.* 2013). R walls, which came last, are built of undressed blocks placed haphazardly with no courses. This established style of construction has been fundamental in reconstructing the chronology of Great Zimbabwe. It has been shown that the Hill Complex, which contains mostly P walls, was the first to be constructed, followed by the Great and Valley Enclosures (Fig 8.8). The enclosures of Chenga were constructed in the R style, thus making them contemporary with some valley settlements. This nature of development is supported not only by radio carbon dates but also by the picture emerging from the analyses of, *inter alia* ceramics.

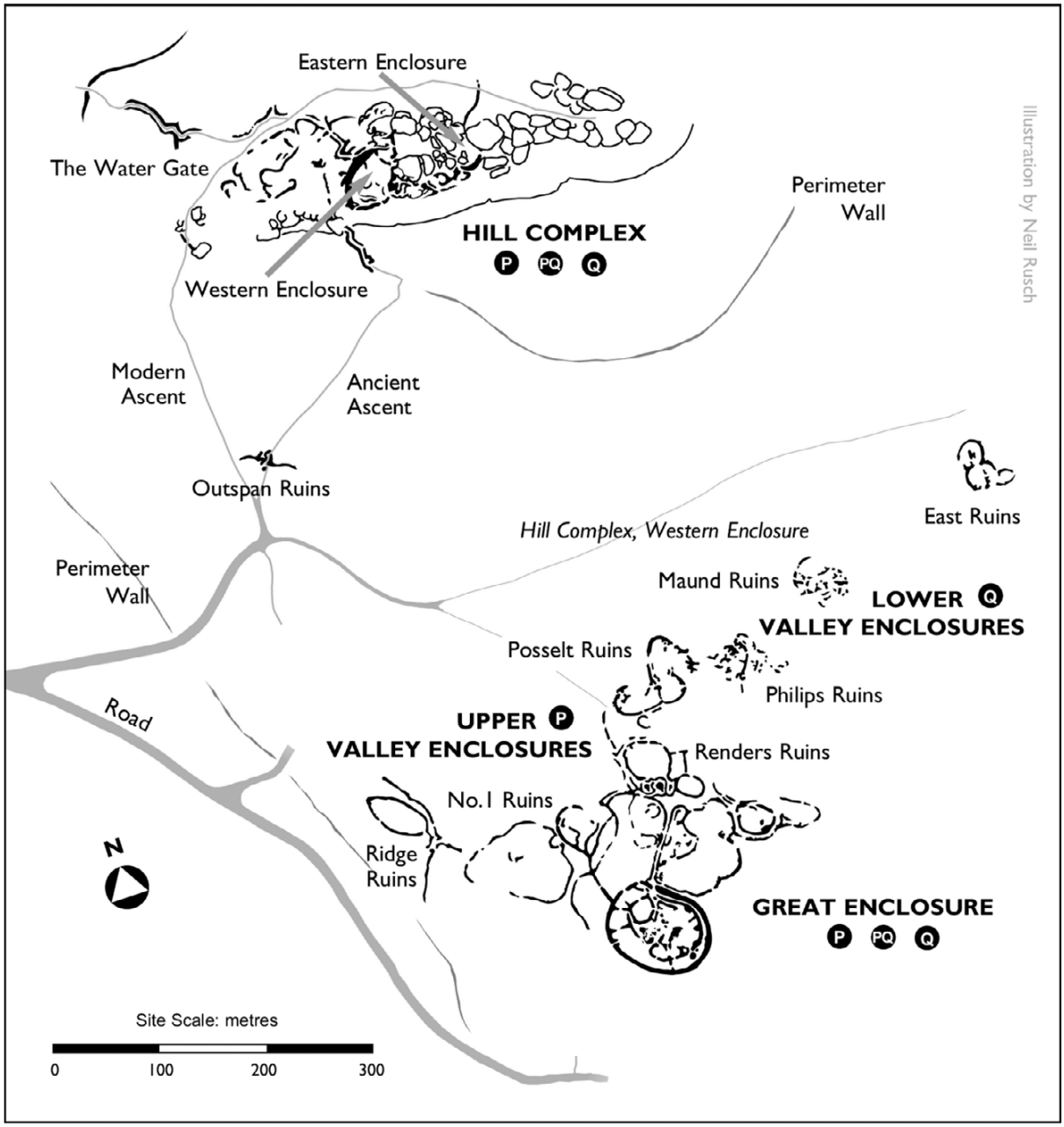

Figure 8.8: Architectural development of Great Zimbabwe. (After Chirikure and Pikirayi 2008: 978).

The purpose and function of this architecture has been the subject of considerable discussion in both the archaeological and historical literature (Beach 1980, 1994; Huffman 1981, 1986, 1996). Whitty (1959) is of the view that the enclosed stone structures were primarily built to display power of the state and that they symbolise in permanent and obvious fashion, the achievement of the ruling class. Whitty's view later found support from Garlake (1970), who regarded the enclosures and walls at Great Zimbabwe as not integral parts of the buildings but rather serving a clearly domestic purpose, screening and sheltering groups of clay-walled,

thatched huts which were interpreted as living quarters of a small elite, probably a ruling group. Ndoro (2001; 2005) argues that the stone structures at Great Zimbabwe were constructed without any plan but were altered over time to suit the needs of the occupants. At Great Zimbabwe, stone walling has been taken by Huffman (2005) to emphasise class differences and sacred leadership through elite enclosures, hut terracing and by demarcating the perimeters of elite residential areas. Kim and Kusimba (2008) are of the view that wealth drawn from regional and coastal trade might have encouraged elite investment in dry masonry stone architecture. There also argue that transformation in building technology from mud and daub structures to dry stone masonry residences surrounded by perimeter walling during the 13th Century institutionalised inequality whose foundation had been laid several centuries earlier beginning with Bambandyanalo. Pikirayi (2013) is of the opinion that stone architecture was not a mere reflection of the existing power of the elites. He believes the process of creating architecture was also one of creating elite power, thereby arguing for the existence of a relationship between architecture and natural power which provided links with the ancestral world. Pikirayi (2013) concludes that the construction of monumental architecture in the Zimbabwe culture was a process of constructing social and political power through the manipulation of ideology, including the appropriation of nature.

However, Manyanga *et al.* (2010), although acknowledging the existence of patterns in the usage of space, have argued that authority and power define space. It is the authority that gives value to space; hence it should not be literally assumed that all walled enclosures were royal places while unwalled areas were residences of the less privileged. This has been demonstrated in Shona bureaucratic systems where, upon the death of a chief, the heir rules from his residence without necessarily taking over the residence of the former chief, thereby giving his own residence a new value.

8.5 *Dhaka* structures

Striking similarities were noted in the house floors of both walled and unwalled areas of Great Zimbabwe (Fig 8.9). Partially exposed house floors observed within the Carpark had very thick *dhaka* walls and connecting barrier walls similar to those documented in both the walled and unwalled areas of Great Zimbabwe (Caton-Thompson 1931; Huffman 2007).

Figure 8.9: Images showing dhaka *structures, top row from Western Enclosure; bottom row from Carpark area*

It apears as if houses from both the walled and unwalled sections of the site were built of poles and thatched with grass. Huge quantities of pole and lath impressed *dhaka* recovered during excavations strongly support the possibility of similar houses.

8.6 Discussion

Recording the presence or absence of craft material helped to understand their distribution across the site. Objects of adornment, weaponry, slag, crucibles and a wide range of utilitarian objects appear in both walled and unwalled settlement areas, thereby suggesting that these metal products were accessed by everyone regardless of their settlement location. The distribution of metal objects and metal-working debris suggests that craft production at Great Zimbabwe was mainly homestead-based to sustain various activities as proposed by Bandama *et al.* (2016). The distribution of smelting and smithing observed in this study suggest the unlikely possibility of control and manipulation of metal production by a few

individuals. Even the quantities of production debris (taking into account those reported by previous researchers) does not support large-scale production. The presence of objects of adornment shows that metal production was not only limited to the making of utilitarian objects. The distribution pattern of crafts was instrumental in the identification of various activities that were performed at Great Zimbabwe. Smelting and smithing of metal, spinning and weaving, masonry, carving, pottery-making and housing construction were the activities identified (Table 8.3). Activities such as hunting and crop cultivation were inferred from metal objects such as arrowheads and hoe heads.

Nature of activity	Hill Complex			Valley settlements		Outlying settlements	Open areas
	Western Enclosure	NRS	Terraces	Great Enclosure	Western Valley Enclosure	Chenga	Carpark
Smelting and smithing	✓	✓	✓	✓	✓	✓	✓
Spinning and weaving	✓	✓	✓	✓	✓	x	✓
Stone masonry	✓	✓	✓	✓	✓	✓	x
Carving	✓	✓	✓	✓	✓	x	x
Pottery making	✓	✓	✓	✓	✓	✓	✓
Housing construction	✓	✓	✓	✓	✓	✓	✓
Key: x- absent ✓ - present							

Table 8. 3: distribution of craft activities

The recovery of spindle whorls in both walled and unwalled context proves the widespread spinning and weaving of cotton at the site. Just as in metal production, spinning and weaving was practised across the site. It appears as if each settlement area of the site made its own cloth. Furthermore, the local weaving industry remained in existence even after the arrival of foreign cloth, implying that local cloth might have had an important local use. Axelson, a Portuguese merchant, recalls coming across the head of the Monomotapa empire wearing only locally made cloth. No pronounced differences were noted on *dhaka* structures of the

walled and unwalled areas. The only notable difference is that the walled areas, especially the Hill Complex, have thick *dhaka* floors, probably due to successive settlements.

8.7 Conclusion

This chapter has shown that craft production was an activity that was undertaken by people residing in walled stone areas and open settlements. This has implications in our understanding of the nature of the settlement at Great Zimbabwe. There were a number of craft products that were manufactured at Great Zimbabwe. The evidence of this is in the form of production waste and finished products. It has also been noted that there is a fair distribution of all kinds of metal products, suggesting that there might have been no high status objects. Having presented the trends displayed by each form of material culture, the next chapter presents an overall discussion showing how these trends help in our understanding of lifeways of Great Zimbabwe's past inhabitants.

CHAPTER NINE: DISCUSSION

9.1 Introduction

This chapter provides a discussion which is based on the findings presented in previous chapters. In preceding chapters, the implications of the results of each form of material objects were considered in isolation. However, these results are correlated in this chapter for an enhanced understanding of the site of Great Zimbabwe. The distribution of objects at the site is used to reconstruct the lifeways of its inhabitants. The main aim is to see how information obtained from bead, bone and ceramic analyses and the distribution of craft production evidence complemented each other. When considered together, do they reveal the chronology of the site? What does the distribution of objects tell us about various activities conducted at the site? Were stone walls a social demarcation? The limitations of the archive, and the varied sizes of excavated areas and objects recovered from therein made it impossible to interrogate patterns using advanced statistical analyses. While future work may focus on this, the results of the current study are strongly indicative of trends and patterns at the site.

9.2 The chronology of Great Zimbabwe

Chronology is crucial to understanding the various elements of Great Zimbabwe and its relationship to other important regional centres. Information obtained from the analyses of various forms of material objects presented in previous chapters supplemented by radio carbon dates has shown that the rise of Great Zimbabwe cannot be explained in light of the collapse of Mapungubwe since these two sites co-existed for almost 70 years. Chirikure *et al.*'s (2013) Bayesian modelling had also reflected this. Huffman (1977, 2000 and 2005) is of the view that Great Zimbabwe Period 3 was an emulation of the Mapungubwe sequence, his rationale being that the Gumanye people of Great Zimbabwe borrowed concepts and settlement structures from Mapungubwe. However, ceramic analysis shows that Great Zimbabwe's Period 3 ceramics are closely related to Period 2 (Gumanye) pottery instead of Mapungubwe ceramics. In fact, there is a continuation of the Gumanye pottery style, with minor modifications in surface finish, paste and fabric. Such continuity in Gumanye pottery style had earlier on been noted by Chirikure and Pikirayi (2008). Their preliminary study of Great Zimbabwe's pottery revealed striking similarities of pottery from Period 2 upwards

with minor differences in traits such as texture and fabric. Huffman (2007) had explained differences in these traits in terms of stimulus diffusion from Mapungubwe. However, Chirikure *et al*'s (2013) qualitative typological study that considered vessel shape, decorative motif and layout and this research's ceramic analysis revealed that changes in fabric are not matched by changes in profiles and motifs, hence Chirikure *et al*'s (2013) argument that the differences in texture of construction material are likely a result of the changing clay sources. The chances are high that there was continual settlement of Great Zimbabwe by the same group from Period 2 up to Period 4. It is also probable that the same group might have occupied the site up to Period 5, though that cannot be said with certainty since Period 5 is not well understood. Even the bead analysis shows that Great Zimbabwe and Mapungubwe were receiving much the same beads at the same time, though supplying the merchants with different items. At some point Mapungubwe then collapsed, leaving Great Zimbabwe to continue trading, which explains why some of the beads found at Great Zimbabwe, especially the latter ones, do not appear at Mapungubwe. With more similarities and continuity in pottery technology in terms of vessel type and shape, decoration techniques and motifs, it is probable that this is evidence of the same cultural group expanding their territory.

It has been shown that Great Zimbabwe had Gokomere/Zhizo and Gumanye settlements prior to the development of the culture of building in stone. Based on the similarities between Gumanye and Period 3 (early walling phase) material objects, it has been suggested that the people responsible for the Gumanye culture were responsible for wall construction at Great Zimbabwe. What cannot be established with certainty is where they got the idea to build in stone. Since the people were residing in the Western Enclosure on the Hill Complex, it was logical for them to first construct stone enclosure around their homes. This might explain why the earliest stone buildings were identified in the Hill Complex. Settlement at Great Zimbabwe appears to have been initially centred on the Hill, expanding with time to the terraces to accommodate an increasing population. As population continued to increase, some people might have moved to the valleys, settling first in the Great Enclosure and later in the Western Valley Enclosures. The recent deductions are in conformity with Chirikure *et al*'s (2013) Bayesian modelling which pegged the start boundary for the Hill Complex at AD 1100 to AD1281, while the occupation of the Great Enclosure was from AD 1226-AD1383. These dates indicated that the occupation of the Hill was earlier than in the Great Enclosure and by extension the Valley Enclosures. These findings cement Whitty's argument that the

Hill Complex dominated by poorly coursed stone walling (P style) was occupied first followed by the Great Enclosure with few P style walling and a majority of neatly coursed Q walling and lastly the Valley Enclosures with Q walling only. The chronology developed from material objects analysis, Bayesian modelling and architectural studies strongly supports observations by Beach (1998) and Collett et al (1991) that the structuralist reading of spatial activity across the site while possible was inappropriate because Great Zimbabwe developed over time (Chirikure *et al* 2013). During the occupation of the Valley Enclosures, settlement expanded to Chenga and the open space of the site. The Hill Complex was intensively occupied during Periods 1, 2 and 3, followed by the Great Enclosure which was occupied during Period 3, moving to Valleys in the latter stages of Period 3. Settlement in the Western Valley continued up to the 17th Century (Period 4), as previously suggested by Collett *et al.* (1992). The Carpark area was occupied at much the same time as the Valleys and Chenga ruins. Recent dates from the Carpark Midden have shown that occupation of the area around the midden stretched from AD1450 to AD1640. Now when presented with the new dates from the Carpark Midden, it becomes very clear that Great Zimbabwe was neither occupied nor abandoned at the same time. It shows that as some areas were abandoned within the settlement, new ones were occupied resulting in the artefact patterning and chronological overlaps. The progressive occupation of the site also has a bearing on the population estimates previously proposed. Huffman (1977) estimated that at its peak the site of Great Zimbabwe housed between 18 000 to 20 000 people. With this new pattern of occupation, it is now doubted whether at any given point in time, Great Zimbabwe accommodated such huge numbers of people. Through the combination of archaeological, ethnographic and historical evidence with ecological and statistical modelling, Chirikure *et al* (2017) argued that the total population estimate of Great Zimbabwe's nearly 800 years occupational duration never exceeded 10 000 people. Their conclusion is further supported by the absence of mega middens at the site, the chronological differences between several key areas of the settlement and the results from the phosphate and geophysical magnetic surveys which they conducted. These surveys revealed that only 40 percent of the 720 hectares making up Great Zimbabwe has evidence of permanent settlement remains thus making it impossible to accommodate more than 10 000 people for such a long duration without stressing the environment. The material culture has also demonstrated with certainty that the collapse of Great Zimbabwe was a gradual process. What has been demonstrated here is that some parts of Great Zimbabwe continued to be occupied during the Khami and Mutapa phases. The

Carpark Midden and the Western Valley's material objects belong to Period 4. Beads from the Carpark Midden fitted in the Khami bead series while the pottery is Period 4. It has now been supported by radio carbon dates from the Carpark Midden. The dates from the Carpark Midden have a bearing on the collapse of the site. The dominant view among scholars has for a long time estimated the collapse of the site to be at AD1450. However, this new date proves that at least some parts of Great Zimbabwe continue to be occupied way after AD1450. The occupation of Great Zimbabwe after AD1450 was also raised by Collett *et al.* (1992) when they proposed the abandonment of Great Zimbabwe to have been in the 16th Century, based on the relative dating of the porcelain pottery. They recovered large pieces of blue-on white Chinese porcelain of the Honghzi period (Ming Dynasty AD1488- 1505) from a sealed context in the Western Valley Enclosure which to them was evidence that some parts of Great Zimbabwe were still occupied. Even though radio carbon dates give AD1640 as the possible abandonment date of Carpark Midden area, there is a possibility that there was continued occupation of the site up to the Mugabe period in the 19th century. The area excavated at the Carpark had been subjected to progressive erosion; hence the suggestion that evidence of later occupation might have been eroded.

So far, four periods of occupation have been established. This is, however, not meant to ignore the possibility of the existence of Period 5 settlement at Great Zimbabwe, as proposed by Summers et al. (1961). There is need to expand research into various areas identified as containing Period 5 occupations. The periods of occupations established are Gokomere/Zhizo, Gumanye, Periods 3 and 4 settlements. This research has demonstrated that the people responsible for the Gumanye material culture are likely to have been the same people responsible for later settlements. Although periodisation clearly highlights the development of the site, these periods should not be taken to represent the occupation of the site by totally different groups.

9.3 Distribution of activities at Great Zimbabwe

One of the objectives of this study was to understand the distribution of material objects across the site. The distribution and frequency of occurrence of various activities has also been used by archaeologists to understand the social stratification of complex societies. The underlying rationale being that people actively use material goods to shape social relations. Apart from the use of the widely assumed high value goods such as glass beads and imported

ceramics and cloth, Blanton *et al* (1996) argue that the elite can manipulate the meaning and possession of even 'ordinary goods' to create and maintain their elevated status. At Great Zimbabwe, an understanding of the distribution pattern was crucial in reconstructing various activities engaged in by the past inhabitants of Great Zimbabwe as well revealing any patterns that would likely point to some form of manipulation and/or control of activities. The investigation revealed at the level of presence or absence, a uniform distribution of both utilitarian and non-utilitarian objects (weaponry, and objects of adornment/jewellery) within walled and non-walled areas. It has also emerged that each component of Great Zimbabwe participated in trade, livestock rearing and hunting, crop cultivation, cotton weaving and metal working, thus painting a picture of various self-sufficient units. This point was recently raised by Bandama *et al.* (2016). The wide distribution of beads shows that each area participated in trade or had access to trade beads, while the presence of spindle whorls points to deliberate efforts at production of cloth. Even metals, which were regarded as signatures of power and authority (Herbert 1996), might not necessarily have been so since they are widely distributed in both walled and unwalled components of the site. Furthermore, such distribution patterns do not support the view that metal production and the distribution of metal products was controlled by the rulers. Instead it reveals a production designed to meet the demands of individual household units. A similarity has been noted in house floors recorded in both walled and unwalled areas. Chirikure *et al.* (forthcoming) observed thick *dhaka* floors with connecting barrier walls within open settlements similar in nature to those recorded by Caton-Thompson (1931) in the Hill Complex and Eastern Valley Enclosures.

Slag, tuyeres, crucibles and pieces of ostrich eggshells were some of the craft production-related evidence at the site. These came from all areas except Chenga Enclosures. The distribution suggests the dominance of units-based production as opposed to centralization of production. Even the quantities of production debris (taking into account those reported by previous researchers) do not support large-scale production. Unworked ostrich eggshells are also evidence that the production of OES beads occurred at the site. The production of OES beads has for long been thought to be a specialty of Stone Age hunter-gatherers. Their presence on Iron Age communities has been interpreted as contact with the hunter-gatherers.

9.4 Status at Great Zimbabwe

It has emerged that the second millennium AD inhabitants of Great Zimbabwe had a more complex social relationship than currently perceived. The population of Great Zimbabwe has been divided into the elites and commoners, with access to exotic goods (glass beads, ceramics, cloth and glass) as one of the parameters used to separate these groups. Elites were regarded as having unrestricted access to these foreign goods since they were believed to be the ones in control of the trade. On the other hand, commoners were thought to be deprived of glass beads, which were seen as prestige goods. In the archaeological realm, for a long time, most archaeological studies of social stratification had assumed that the elite display their status by symbols of wealth and power, objectified in luxury or prestige goods, elaborate burial treatment and architectural elaboration (Turkon 2004). These studies assumed that due to their relatively greater power and access to wealth, the elite could restrict access to high value goods which commonly took the form of prestige goods that have little utilitarian function but require great amount of specialised labour to produce, are made of scarce materials, use specialised technology and/or are imported from distant places as a way to visually express their domination (Bayman 2002). Resultantly, the elite would have restricted access to, or higher frequencies of these high value goods either because lower social groups cannot afford them or are consciously restricted and manipulated to become a marker of status (Appadurai, 1986; Inomata, 2001; Smith, 1987). The prestige goods model assumes that prestige goods were necessary for social reproduction and that political actors acquired and maintained their power by controlling their circulation. Evaluating the concept of prestige goods model and its contribution to the evolution of Iron Age communities of different periods, Moffett and Chirikure (2016) argued that the distribution, use and deposition of exotic imports in southern Africa is not compatible with the pattern suggested by the prestige goods model. They argue that hinterland elites did not have any control of the source and the distribution of exotic goods from producer regions, making them a volatile source of power and prestige. As a result, Moffett and Chirikure (2016) proposed that land, cattle, religion and individual entrepreneurship were far more predictable and stable sources of prestige, wealth and power. As seen in Chapter 6, glass beads have been recovered from both walled ‘elite’ and unwalled ‘commoner’ areas, thus casting doubt on their use to create class divisions. Quantitatively, more glass beads were recovered from walled areas for example Hill Complex produced 500 glass beads and the Great Enclosure produced 123 glass beads when compared to the open area (Carpark midden produced 34 glass beads) under study but this cannot be taken to reflect that residents of the walled areas controlled the

distribution of glass beads at Great Zimbabwe mainly because few excavations have been undertaken in open areas thus making it difficult to compare. Decoding status from numbers of glass beads is very challenging because these artefacts were hardly used as individual pieces (Moffett and Chirikure 2016). The individual glass beads were stringed together to produce objects such as bracelets, and aprons. Because people were buried with items of clothing, it is not surprising that some of the highest numbers of beads were recovered from burials. No studies have been performed to understand the disposal patterns of beads across different contexts such as middens, house floors, and burials. This is important because context is important in understanding possible use and significance. However, middens associated with an open area situated at the back of the Great Enclosure were recently excavated by a team of archaeologists from the University of Cape Town and yielded over two hundred glass beads. The same midden also yielded two gold beads. This suggests that more work is required before frequencies of glass beads can be used as proxies for status.

This research has demonstrated that foreign glass beads did not replace locally produced ones (e.g. ostrich egg shell and metal beads) as local beads had a role in the community that they could not replace. Rather all type of beads were often used together to produce various colour combinations. Ethnographic studies have revealed that even though beads were for adornment, they communicated cultural values in symbolic language that expresses rank, religion, age, grade and marital status, thus making ornaments an integral part of a multi-layered communication system among all Shona-speaking people. For example, ancestral spirits were known to wear black and white beads while conus shells, worn by chiefs, were a symbol of fertility of land, animals, plants and people themselves (Bvocho 2005). Those plagued by avenging spirits wore red and black beads while some traditional healers wore conus shells. Different bead types and colours were also worn by females to signify their stage in life (Bvocho 2005). As such, it appears that the cultural value governed the choice of beads worn by each member of society. Earlier on, Kassam and Megersa (1989) had stressed that in African communities, beads were more than mere objects of self-adornment. They argued that beads expressed deep seated sociocultural and spiritual values. For example, in the Booran Oromo society of East Africa, locally produced red and yellow beads were worn only by women who would have given birth mainly because they were a symbol of fertility. Such values attached to locally produced beads meant that imported glass beads could not easily replace them. Moffett and Chirikure's (2016) research revealed that glass beads had

spiritual associations and particular types of beads and colour combinations such as red, white and black were connected with diviners and healers. In some cases, glass beads were often combined with ostrich eggshell beads, achatina shells, and metal beads to create various colour schemes that related to situational meanings and contexts such as childbirth, womanhood, personhood and death.

Keating (2000) and Turkon (2004) warn against the use of prestige goods as status indicators arguing that there may be contextual variation in the way in which status is expressed. They explained that individuals and households have multiple social identities that vary by situation and experience. Bayman's (2002) study among the Hohokam of North America revealed that most high value crafts were not directly controlled by the elites and there is no evidence that prestige goods were unitary symbols of social status or political power. Instead, power in the Hohokam society may well have emanated from rituals where marine shell bracelets were imbued with critical meanings. Bayman's contextual analysis of marine shell artefacts disclosed their functions as material symbols of group membership and identity, ritual performance paraphernalia, instruments of power and insignia of office. Bayman (2002) gathered from anthropological sources that these valuables were imbued with ideological meanings that legitimized the emergence of corporate modes of power from individualized networks. Basing on ethnographic and historical narratives, Sassoon (1993) and Reid and Maclean (1995) gathered that in the Karagwe kingdom in eastern Africa, cattle remained as a symbol of power and status. They gathered that the king of Karaagwe usually appeared in public surrounded by iron cows, embodying the power of iron as well as cattle. Within the same kingdom, the king also presided every month over the New Moon rituals, whose success ensued the fertility of the state, essentially the flourishing of crops and the fecundity of cattle (Reid and Maclean 1995). In the case of cattle keepers therefore, a new level of power was created whereby they were dependent on the king for the success of their herds and were therefore subject to the king's authority. Research among the Mutapa state revealed that the rulers did not base their wealth or power on exotic commodities (Chanaiwa 1972). Turkon (2004) therefore stress the need for an examination of differential distribution of data representative of a broader number of activities than are subsumed in prestige values. This approach assumes that status is affected by, and affects many different components of a household's daily life such that, in order to broaden the view of social variation within any society, more than just wealth related items should be examined. The inclusion of artefacts

related to household activities such as consumption, presentation and preparation can broaden the archaeological identity of status to allow an understanding of how status affected people in everyday contexts. Tukon (2004) argued that differential food consumption and distribution of food preparation remains can also be indicators of social status. Taking food preparation remains for example, Tukon (2004) is of the view that since food preparation was tedious and time consuming, the elite may give up food preparation activities and engage the services of the non-elite who would either prepare the food outside the living quarters of the elite or in specified sections within the elite residence. In the latter, Tukon (2004) argues that the elite may designate separate, segregated spaces for food related activities in an effort to physically and symbolically disassociate themselves from the mundane tasks and commoner class. Resultantly, the elite then should have fewer residues of food preparation activities or should have a specific areas within their quarters dominated by food preparation remains as in the case of Mayan site of Altun Ha, Belize which lacked kitchen evidence in the elite residences (Pendergast 1992). In Malpaso Valley in Zacatecas Mexico, material studies revealed that people distinguished themselves by their daily activities and the foods they ate and less frequently exhibited status using prestige markers (Tukon 2004). Turning to Great Zimbabwe, there is no record of segregated spaces for food related activities within the walled enclosures. The current study revealed that there is also an almost equal representation of food preparation and serving remains in all constituents of the site. This might mean that at Great Zimbabwe, food preparation was not one of the many ways in which social status was displayed.

In some communities, the elite are known to have been involved in restricted activities that create and maintain their power such as supervising and regulating production, overseeing religious ceremonies, acting as religious specialists or creating and maintaining an atmosphere of domination. At Great Zimbabwe, Herbert (1996) suggested the presence of a close and entangled relationship between metal workers and political leadership. She held the view that iron and copper objects represented the materialization of elite power. It has however been established from this research through the study of the distribution of metal objects and production debris that there appears to have been no centralised control of metal production at Great Zimbabwe. This scenario casts doubt on the likelihood that status at Great Zimbabwe was exerted through the regulation of metal production. Moffett and

Chirikure (2016) had also argued that metal production at Great Zimbabwe was likely homestead-based and that there appears to be no centralized control of production of metals.

Differential distribution and access to specific food types has successfully been used to infer social status in the archaeological record. However, in this current research, it has been shown that is not feasible to divide the elites and commoners based on subsistence practices. The dominant hypothesis has been that the elites consumed prime meat while the commoners' meat came from old stock. This has been so despite Reid's (1996) caution against using the Hill Midden's exploitation pattern to interpret the whole site, arguing that the pattern of exploitation is representative of much specialised demand. Faunal analysis has shown that both walled and unwalled areas had a greater proportion of old and young stock. The Hill Complex and the Great Enclosure contained bones from both young and old stock. Nemanwa, which is regarded as a homestead of an administrator, also had a greater proportion of old stock compared to young stock. Chenga Ruins had a bias of old stock while the Carpark Midden faunal remains show that the occupants consumed both young and old stock. Reid (1996) urged scholars to consider a number of factors, among them herding strategies and herd offtake, in interpreting faunal assemblage of any Iron Age society. He is of the view that the principal concern of cattle-keeping determines the sex and age at which cattle can be slaughtered. For example, if the herd were to be managed primarily for subsistence (meat production), then obviously most bulls would be allowed to approach their full bearing potential before being slaughtered, unlike when the principal concern is for milk, where bulls could be slaughtered at any age. In contrast, if the emphasis is on their growth and reproduction, bull calves can be slaughtered at any age since not many bulls would be required to service the cows.

Schmidt (1977), Huffman (1996) and Fatherely (2009) each suggested meat allocation models whereby specific parts such as the scapula, humerus, radius and ulna (forequarters), and femur, pelvis, tibia and fibula (hindquarters) were considered as elite portions, while the metapodials and phalanges were commoner portions. The Great Zimbabwe faunal assemblage was classified on this basis. It came to light that the commoner portions were in abundance in the walled areas and elite portions also appeared in unwalled areas, thus leading

to the conclusion that a complex relationship existed between these two groups. Such a relationship might have developed through intermarriages.

After consideration of all material objects, it has emerged that the most remarkable difference noted at Great Zimbabwe is the presence and absence of stone-walled structures, which raises questions as to whether they represented class distinction – as previously argued by Robinson (1959, Garlake (1970), Beach (1980), Huffman (1981, 1986, 1996), and Hall (1987). Could stone walls be a reflection of the king's power to either coerce or organise his subjects to construct these massive stone-walled enclosures? However, Shona bureaucratic systems have shown that in most cases, it is not the place that determines the status of the person but the person that determines the importance of a place, meaning that it was possible that an heir could have assumed the position of a chief from any place, be it inside the stone enclosures or outside (Chirikure *et al* 2016). There have not been any records of heirs moving into the homesteads of previous chiefs upon assuming duty.

9.5 The place of Great Zimbabwe in the Zimbabwe Culture

The long standing view has been that Great Zimbabwe is part of the Zimbabwe Culture and that it rose to power after the demise of Mapungubwe whose capital was situated near the confluence of the Shashi and Limpopo Rivers on Mapungubwe Hill (Huffman 1984, 2000; Pikirayi 2001, 2006). Huffman (2000, 2005) invoked a vague interaction sphere through which Gumanye people had to have been aware of the rise of Mapungubwe and the structures of its associated polity as well as alleged linguistic affinity. He further suggested that some Mapungubwe royalty may have participated in the growth of Great Zimbabwe but van Waarden (2011) argued that if that was the case then these royalty were accompanied by neither their subjects not material evidence. Citing lack of evidence of contact between the Mapungubwe and Great Zimbabwe and by extension the two regions, van Waarden (2011) doubted the Mapungubwe origin Great Zimbabwe. She argued that no Mapungubwe pottery has been found at Great Zimbabwe not in contemporary Gumanye levels nor in subsequent Period IV levels nor has Gumanye pottery been found at Mapungubwe. She also suggested that the origins of stone walling tradition at Great Zimbabwe might be sought in the Tati Cluster. Beads analysis has revealed the presence of Mapungubwe oblates beads at Great Zimbabwe. It is probably an indication that these states were at one point in co-existence and

in contact with the same merchants. Chirikure *et al's* (2013) Bayesian analysis had revealed a 70 year overlap between Mapungubwe and Great Zimbabwe thereby arguing that the rise of Great Zimbabwe should not be explained in terms of the collapse of Mapungubwe since these two co-existed for a long time. The traditional view has been that Great Zimbabwe went into decline around AD 1450, giving rise to two separate successor states, the Mutapa in the north and Torwa in the southwest (Pikirayi and Chirikure 2008). Pikirayi and Chirikure (2011) doubted that the state based at Khami was a direct successor of Great Zimbabwe. They carried out an investigation and their preliminary findings suggest that Great Zimbabwe and Khami type architecture express two competing political ideologies which at some point were contemporaneous and which may account for why Khami was or chose to be different from the former. A change from a wet to dry climatic conditions has been cited as one of the reasons behind the move from Great Zimbabwe to Khami. However, recent isotope studies by Dyvart (2016) did not support any claims of drought. Previous researches had indicated that the Iron Age periods were in general wetter than present conditions. The analysis carried out in this research indicated that Great Zimbabwe was already an important place before the collapse of Mapungubwe. Khami bead series were also recovered at the Carpark Midden, a Period IV settlement at Great Zimbabwe. Again, this is evidence of Great Zimbabwe's co-existence with Khami and, by extension, the Mutapa state. Although Great Zimbabwe and Khami might have co-existed, their material culture are distinct. Recently, Mukwende's (2016) study of material objects from Khami revealed that ceramics from Khami are highly decorated with band and panel and painted with red ochre in contrast to Great Zimbabwe ceramics, most of which are plain and graphite-burnished. He further notes the dominance of freestanding walls at Great Zimbabwe as opposed to terraced platforms at Khami thereby disputing the view that Great Zimbabwe gave birth to Khami suggesting that Khami origins most likely lie in the Leopard's Kopje tradition. His suggestion was arrived at basing on the marked differences between Great Zimbabwe and Khami material culture and striking similarities between Khami and Leopard's Kopje material culture. Chirikure *et al* (2014) disputed the view that Mapungubwe was the sole cradle of the Zimbabwe Culture. Their fieldwork at Mapela, in south west Zimbabwe revealed stone walled terraces, class distinction, *dhaka* floors, exotic goods (glass beads) which are attributes of the Zimbabwe Culture. Furthermore, Bayesian chronology puts the initial construction of stone walled terraces at Mapela at 11th Century CE, almost two hundred years earlier than Mapungbwe. This led Chirikure *et al* (2014) to advocate for the adjustment of existing models. This

emerging trend casts doubt on the linear model of the development of complex societies in southern Africa where the collapse of one state was seen as the reason behind the rise of another. There is a significant chronological overlap between Mapungubwe and Great Zimbabwe and Great Zimbabwe and Khami, and, by extension, the Mutapa state. This suggests that these states were competing peers rather than successors. The new findings are in line with Chirikure *et al* (2016) who had argued that the pathway to socio-political complexity in southern Africa was multilinear. As had been argued by Chrikure *et al* (2013, 2016), the various political entities that made up the Zimbabwe Culture could be regarded as competing entities that shared the same landscape at a broadly similar time. These polities were different and operated differently in their areas although there is a possibility that there could have been some form of relationship among the people who occupied these places. More research is needed to understand the nature of relationship that these states might have had. Research should also extent to other smaller sites so that their place in the Zimbabwe Culture could be fully apprehended. Such an approach would also make it possible to understand the emergence of socio-political complexity in a more dynamic way (Chirikure *et al* (2013). For a long time, research has focused mostly on the major sites such as Mapungubwe, Great Zimbabwe, Khami and Mutapa with little contribution from smaller sites. The concern was raised by Chirikure (2015) when he commented that research into the Zimbabwe Culture has seriously suffered from the big site syndrome where research has been directed towards large sites at the expense of the smaller sites.

9.6 Limitations

This study for the first time presented objects from Great Zimbabwe's over a hundred year's old archive. In the process of study, a number of challenges were encountered. While some are applicable to archaeological collections in general, others are more specific to the Great Zimbabwe archive. For example, the incompleteness of the accompanying records and unsystematic collection standards is a problem that also affects leading museums such as the Pitt Rivers and the British Museums (Mitchell 1998, Lane 2013). For Great Zimbabwe, the collection was moved between institutions, resulting in re-accessioning and a loss of accompanying details. Also, some excavation notes are missing and the material was often recovered from excavation units of varying sizes. All these challenges often limits the amount of information that can be elicited from the collection. However, the collection is still a valuable source of information because some of the areas at the site such as the Great

Enclosure were thoroughly cleaned by Hall and others. As such, the collection is the only existing record.

8.6 Conclusion

The research has demonstrated that material objects are indeed 'reluctant witnesses to the past'. By analysing Great Zimbabwe material culture, this research has managed to shed light on a number of issues that were either still not understood or speculated on. It is by studying the material objects that a more informed chronology of Great Zimbabwe was established. Even though more work still needs to be done, the analysed material culture has managed to show the development of Great Zimbabwe. The analyses of Great Zimbabwe's material culture has shown that from Period 2 onwards, the site was occupied by the same group, making it highly unlikely that its Period 3 pottery was influenced by Mapungubwe pottery. Furthermore, the analyses revealed a gradual occupation of the site, starting from the Hill Complex, then spreading into the valleys (Great Enclosure and the Western and Eastern Valleys) and other open areas. Great Zimbabwe's abandonment was also gradual, just as its occupation. Material analyses and radio carbon dates have shown that the once labelled commoner areas continued to be occupied long after the enclosures had been abandoned. The research revealed a general uniformity in the occurrence of both local and imported objects in various areas constituting the site of Great Zimbabwe. Such patterning might be suggesting that imports were accessible to everybody who had the means to acquire items sought after by the merchants. It is possible a complex relationship such as intermarriage existed between the occupants of walled and unwalled areas.

The development of social complexity in southern Africa has been explained in a linear model where the collapse of one state led to the rise of another state. The dominant view has been that the collapse of Mapungubwe saw the rise of Great Zimbabwe, whose collapse in turn led to the rise of Khami and Mutapa states. This research has revealed that Great Zimbabwe co-existed with both Mapungubwe and Khami. It might even be possible that Great Zimbabwe continued to be occupied after the abandonment of Khami.

An important lesson that came from this study is that archaeological collections could be an emerging frontier for research, public education and heritage use if individual archaeologists

and the archaeology profession as a whole take more responsibility for the collections they create. Collections represent a valuable resource only if they are properly documented, conserved and organised in such a manner that their research value is maintained. Whenever an excavation is carried out, care should be taken to record it to the last detail. This is mainly because once an archaeological site is excavated or destroyed by development or looting, that portion of archaeological record is gone except as curated collections and associated records. The collections of artefacts and the equally crucial documents become an irreplaceable record of the past (Marquardt *et al* 1982; Barker 2003). The records that form significant elements of archaeological collections include field notes, photographs, maps and any other paperwork that would have been made to record and preserve contextual and analytical information. Barker (2003) is of the opinion that without these, archaeologists cannot adequately conduct further research, interpret the past or manage the resources in informed ways. Childs and Sullivan (2003) also hold the view that artefacts and specimens are worthless for research or interpretation unless they are accompanied by documentation that records often very precisely where these things were found- that is provenience.

8.7 Direction for future research

More work needs to be done in order to understand Great Zimbabwe's Period 5. According to Robinson (1961), it is the Mugabe people who are responsible for Period 5. However, his information is insufficient since he relied on a single potsherd to define Period 5. What needs to be done is to direct research on areas such as Mtuzu Hill, believed to have been occupied by the Mugabe people. However, since Mtuzu Hill excavation records are missing, it might be difficult to fully understand this period; hence the suggestion to excavate Period 5 settlements. It is only after such research that the relationship between Period 4 and 5 can be explored. This research has demonstrated that there is continual occupation of Great Zimbabwe by the same group from Period 2 to 4.

One of the challenges encountered in dealing with collections was missing field reports. In the end, some of the material ended up being analysed based on the way they were accessioned. Field notebooks are important as they are the ones that help one to reconstruct the excavation and understand the issues of stratigraphy. As such, National Museums and Monuments of Zimbabwe should make it a policy that any researcher who carries out work in

Zimbabwe deposits a copy of their field notes with the institution. Without field notes, it might be difficult to understand collections.

Working with the Great Zimbabwe collection revealed a great deal of missing material culture. It is not known whether the collections were taken for further research or whether they were deliberately taken by previous researchers who wanted to create a 'cabinet of curiosities". Such material should be returned so that researchers interested in it can study and contribute to the knowledge base. There is also need to reconcile the previous accessioning system with the one currently used by NMMZ.

Numerous scientific methods have been used by archaeologists elsewhere to identify sources of certain objects. These studies have helped greatly in revealing comprehensive past interactions. Such studies can be carried out at Great Zimbabwe to identify sources of, for instance, clay used to make pottery. It has been speculated that the *dhaka* pits found at the site were sources of *dhaka* for plastering houses. This issue can be verified with provenance studies.

Despite a number of challenges felt, this study has brought to light the lifeways of Great Zimbabwe's past inhabitants.

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APPENDICES

Appendix 1: Great Zimbabwe radio carbon dates

Area	Context		Laboratory	Calibrated dates	Source
	Test pit	Level			
HILL COMPLEX	1	5	M 915	AD1440+/-50	Huffman and Vogel, 1991:63-66
		7	Pta 2706	AD1370+/-50	
		9, floor g	Pta 1986	AD1310+/-45	
		11, floor h1	Pta 2704	AD1280+/-45	
		11, floor i	Pta 1985	AD1260+/-45	
		12	Pta 1984	AD1100+/-40	
		13	M 914	AD1075+/-150	
	V	3	M 913	AD320+/-150	
			Pta 2705	AD1190+/-50	
	VI		Pta 1983	AD670+/-40	
	PWD face		Pta 745	AD1280+/-30	
GREAT ENCLOSURE	5	9		AD1380+/-90	Sheppard and Swart, 1966
		9	Pta 2693	AD1240+/-45	Huffman and Vogel, 1991:63-66
	8	6	Pta 2694	AD1250+/-40	
	Lintels original dated by Libby and Zeuner		Pta 792	AD1300+/-50	
			Pta 1594	AD1310+/-40	
Z1	House 35		Pta 1208	AD1350+/-50	
	Residential unit		Pta 2711	AD1580+/-50	
Z4	Midden 1	30-43cm	Pta 2423	AD1400+/-50	
	4	71-83cm	Pta 2423	AD1350+/-40	
Z5	3	100cm	Pta 2429	AD1410+/-40	

Compiled from Huffman and Vogel (1991: 63-66)

Appendix 2: Ceramics data capture sheet

Artefact number _____

1. Material _____
2. Vessel shape and form: rim ☐ neck ☐ shoulder ☐ body ☐
   base ☐
3. Lip form _____
4. Rim diameter _____
5. Profile _____
6. Decoration technique: wrapped fibre ☐ comb stamping ☐ fine line incision ☐
   broad line incision ☐ punctuate ☐ perforation ☐
7. Decoration Motif _____
8. Decoration placement: inside vessel ☐ outside rim ☐ lip ☐
   neck ☐ shoulder ☐ body ☐
9. Surface treatment and finish: smoothed ☐ polished/burnished ☐
   graphite burnished ☐ polished with red ochre ☐ rough ☐
   worn/corroding ☐
10. Image numbers _____
11. Class _____
12. Sketch

Appendix 3: Consolidated Great Zimbabwe pottery analysis

Attribute		GE	NRS	TM	CR	CPM	HC	WV	Total
	Diagnostic	129	248	112	108	201	162	59	1019
	Non-diagnostic	572	5363	2200	1228	2069	256	418	12106
	Total	**701**	**5611**	**2312**	**1336**	**2270**	**418**	**477**	**13125**
Lip form	Rounded	67	49	7	22	7	27	4	183
	Flattened	26	74	12	7	12	80	2	213
	Tapered		23	5	14	21	4	1	68
	Rounded/externally thickened	6	22		5	77	6	2	118
	Flattened/ externally thickened		19		1	17	7		44
	Total	**99**	**187**	**24**	**49**	**134**	**124**	**9**	**617**
Fabric	Fine	45	165	67	81	114	75	4	551
	Medium	49	41	29	15	19	57	38	248
	Course	35	42	16	12	68	30	17	220
	Total	**129**	**248**	**112**	**108**	**201**	**162**	**59**	**1019**
Vessel shape	a	12	15	5	10	8	12		62
	b	24	70	35	24	60	23		236
	c	63	22	27	62	90	29		293
	d	4	12	10	4	13	12		55
	e	1	10	10	4	29	9		63
	f	8	7	4	4	1	16		40
	g	5	24	2			14		45
	h	3	9	1			2		15
	i	9	33	2			43		87

	j		2				2		4
	Total	**129**	**204**	**96**	**108**	**201**	**162**		**900**
Surface treatment and finish	Burnished	58	81	27			51		207
	Polished	1	20	20	14	72	2	14	143
	Graphited	11	50	11	17		2	3	94
	Smoothed	31	69	33	24		62	14	223
	Rough	17	6	5	4		43	5	80
	Worn/corroding		3	5	1			1	10
	Graphite polished	11	14	8			2	2	37
	Graphite burnished		4	3	48	129		20	204
	Total	**129**	**248**	**112**	**108**	**201**	**162**	**59**	**1019**
Decoration technique	Incisions	24	49	30	11	8	33	6	149
	Comb stamping	5	3	4			17	1	26
	Punctuates		5	1			2	1	9
	Incisions and punctuates		4	5			2		11
	Total	**29**	**61**	**40**	**11**	**8**	**54**	**8**	**211**
Decoration placement	Outside rim		3	2	3	1	4		13
	Neck	4	22	12	5	2	14	4	62
	Neck/shoulder		1	4			1	1	7
	Shoulder	14	9	12	3	5	14	2	49
	Body	6	26	10			9	1	52
	Neck, shoulder, body	5					7		7
	Outside rim, neck, shoulder, body						5		5
	Total	**29**	**61**	**40**	**11**	**8**	**54**	**8**	**211**

Pottery classes	1		8				37		45
	2		59	66			42		167
	3	79	137	40	4		66	18	344
	4	50	44	6	104	201	15	41	461
	5						2		2
	Total	**129**	**248**	**112**	**108**	**201**	**162**	**59**	**1019**

Key

Vessel shapes

a) Tall-necked pots with flared rims
b) Short-necked pots with beaded rims
c) Short-necked pots with thickened rims
d) Neckless pots with thickened rims
e) Shouldered pots with constricted rims
f) Constricted pots with straight rims
g) Short flared to vertical-necked pots
h) Gourd-shaped pots with flattened rims
i) Shoulder pots with vertical necks
j) Open-necked pots

Occupational Areas

GE - Great Enclosure
NRS - Northern Rock Shelter
CR - Chenga ruins
CPM - Carpark Midden
HC - Hill Complex
WV - Western Valley
TM - Terrace Midden

Pottery classes

1 - Gokomere/Zhizo
2 - Gumanye
3 - Zimbabwe period
4 - Zimbabwe period
5 - Mugabe period

Appendix 4: Beads data capture sheet

1. Artefact number _____
2. Completeness: complete ☐ incomplete ☐
3. Material _____
4. Manufacturing technique: blown ☐ cut/carved ☐ drawn ☐
   wound ☐ moulded ☐
5. Bead structure : compound ☐ simple ☐ complex ☐ composite ☐
6. Bead form _____
7. Bead shape _____
8. End treatment: cut/sawn/ground flat ☐ rounded ☐ unfinished ☐
9. Heat treated yes ☐ no ☐
10. Lustre: dull ☐ shiny ☐
11. Bead colour _____
12. Number of facets _____
13. Diaphaneity: opaque ☐ translucent ☐ transparent ☐
14. Mended yes ☐ no ☐
15. Post manufacturing modification yes ☐ no ☐ _____

_____

16. Measurements: length ☐ width ☐ height ☐ weight ☐
17. Image numbers _____
18. Remarks _____

_____

Appendix 5: Faunal recording form

IDENTIFIABLE FRAGMENTS RECORDING FORM.

Accession number :

Skeletal part :

Size range :

Species :

Site : Great Zimbabwe

Provenance :

Level :

Dimensions : length

Bone modification :

Permanent housing : Great Zimbabwe Collection Storeroom

IDENTIFIABLE FRAGMENTS RECORDING FORM.

Accession number :

Skeletal part :

Size range :

Species :

Site : Great Zimbabwe

Provenance :

Level :

Dimensions : length

Bone modification :

Permanent housing : Great Zimbabwe Collection Storeroom

Appendix 6: Species list

Common Name	***Scientific name***
PRESENT	
Buffalo	*Syncerus caffer*
Common Duiker	*Sylvicapra grimmia*
Eland	*Tragelaphus oryx*
Impala	*Aepyceros melampus*
Kudu	*Tragelaphus strepsiceros*
Reedbuck	*Redunca redunca*
Warthog	*Phacochoerus aethiopicus*
Wildebeest	*Connochaetes taurius*
Waterbuck	*Kobus ellipsiprymnus*
Zebra	*Equus quagga*
White Rhinoceros	*Ceratotherium simum*
Giraffe	*Giraffa camelopardalis*
Squirrel	*Tamiascurus hudsonicus*
Blackbacked jackal	*Canis mesomelas*
Leopard	*Panthera pardus*
Honey badger	*Mellivora capensis*
Rock dassie/rabbit	*Procavia capensis*
Hippopotamus	
Ostrich	*Struthio camelus*
Crocodile	*Crocodylus acutus*
Porcupine	*Erethizon dorsatum*
Hare	*Lepus capensis*
Human	*Homo sapiens*
Baboon	*Papio ursinus*
Monkey	*Cercopithecus aethiops*
Presently rare to spot	
Antbear	*Orycteropus afer*
Bushbuck	*Tragelaphus scriptus*
Bushpig	*Potamochoeus porcus*
Sable	*Martes zibellina*
Steenbuck	*Raphicerus campestris*
Klipspringer	*Oreotragus oreotragus*

Appendix 7: Spindle whorls quantification

Area	Length (mm)	Thickness (mm)	Context	Comments
GREAT ENCLOSURE				
	48	11	GE5/9	complete
	35	10		complete
	31	10	GE5-6/2	fragment
	49	10	GE5-6/8B	fragment
		10	GE H2/T5-6/3	fragment
			GE H2/T5-6/3	fragment
		11	GE5-6/3	fragment
	53	11	GE44/7	fragment
	24	8	GE44/6	complete, soapstone
	34	11	GE5-6/2	complete, soapstone
	42	17	GE5/9	complete
	41	10		complete
	66	9		complete
	44	9	GE5-6/8	complete
	42	10	GE19	micaceous sandstone
	51	9	GE46	a decorated spindle whorl
TERRACE MIDDENS				
	27	11	TM28	fragment
	25	11		fragment
	44	10		complete
WESTERN ENCLOSURE				
	52	11		fragment
NORTHERN ROCKSHELTER	49	10	T2L2	complete
	40	10	T2L5	complete
	40	10	T2L5	complete
	40	10	T2L5	complete
	20	10	T2L5	fragment
	20	10	T2L5	fragment
WESTERN VALLEY				
	48	11	WV6	complete
	44	10	WV6	complete
	51	10	WV6	complete
	49	10	WV6	complete
	22	10	WV6	fragment
	19	10	WV6	fragment

Appendix 8: Metals quantification

WESTERN ENCLOSURE		
Object	**Quantity**	**Context**
wound wire	10	Test pit IX, base of midden
hoe blade	2	Test pit IV, remains of grain bin
bangle/bracelet	4	
arrow	1	Test pit 1,floor d
arrow	11	Test pit VIII
blowpipe	1	Test pit 1
wrapped fibre	3	
hoe blade	2	Test pit IX
arrow	1	Test pit IX
chisel	1	Test pit VII
axe	2	
axe	1	
chisel	2	Test pit IX
hoe blade	1	Test pit X
spearhead	1	Test I, Hut A
spearhead	1	Test pit I, floor I, hut D
metal pieces	25	Test pits I,V,VII,IX
iron slag	3	Test
wire bangle/bracelet	2	
bracelet	1	Test pit XI
wound wire	6	Test pit V
arrowhead	2	Test pit I, floor k
wound wire pieces	11	Test pit I, drain channel
wound wire pieces	7	Test pit I, floor f
	93	
WESTERN VALLEY		
hoe blades pieces	7	
arrow heads	1	
axes	6	
hoe pieces	2	
metal rods	2	
slag pieces	1	
bangles	4	
wound wire	2	
metal pieces	5	
	30	
GREAT ENCLOSURE		
bracelet	1	GE9/3
slag pieces	1	
wound wire/bracelets	2	GE39/8

metal pieces	2	
metal pieces	10	GE29/3
metal pieces	6	GE49/9
bracelet	1	T3 L2
wound wire	1	GE42/6, layer 6
bangle pieces	5	GE33/3
slag pieces	1	GE11/5-7
metal pieces		GE13/1
	30	
CARPARK MIDDEN		
metal pieces	6	L6
piece of a bangle	1	L2
wound wire pieces	10	L2
wound wire(ring)	1	L2
wound wire	1	L1
wound wire on a fibre	5	L3
crucibles	2	L4
	26	
NORTHERN ROCK SHELTER		
metal pieces	4	T1L1
slag pieces	9	T1L1
copper pieces	3	T1L1
iron ore	1	T1L3
arrowheads	2	T1L3
metals	2	T1L3
metal pieces (copper)	4	T2L1
slag pieces	5	T2L1
metal pieces	3	T2L1
slag pieces	7	T2L2
wound wire	6	T2L2
iron pieces	20	T2L2
metal pieces	6	T2L5
slag piece	1	T2L6
	73	
TERRACE MIDDENS		
slag pieces	16	TM-1
tuyere pieces	5	TM-1
complete hoe	1	
slag pieces	3	TME 27
wire	1	
wound wire pieces	8	TM-26-E
slag pieces	6	TM2B
metal pieces	9	TM-26-E
	49	