MEKKELLE UNIVERSTY

INSTITUTE OF PALEO ENVIRONMENT AND HERITAGE CONSERVATION

DEPARTMENT OF HERITAGE CONSERVATION

PROGRAM OF ARCHAEOLOGY

AN ARCHAEOLOGICAL SURVEY AND DOCUMENTATION ON THE ARCHAEOLOGICAL SITES OF KEBAKIB AND NEBAR KETEMA IN QUIHA SUB-CITY, MEKELLE ZONE, TIGRAY

BY: BRHANE BERHE

ADVISOR: HILUF BERHE (PhD)

CO-ADVISOR:

MEKELLE, ETHIOPIA

January, 2024

MEKELLE UNIVERSITY

INSTITUTE OF PALEO- ENVIRONMENT AND HERITAGE

CONSERVATION

DEPARTMENT OF HERITAGE CONSERVATION

PROGRAM OF ARCHAEOLOGY

This is to certify that the thesis presented by Brhane Berhe entitled: survey and documentation on the archaeological sites of Qebakib, and Nebar ketema in Quha Wereda zone Mekelle. Tigray, submitted in partial fulfillment for the degree of masters of art in archaeology complies with the regulations of the university and meets the accepted standards with respect to their quality and originality.

Approved by the Examining Committee

Brhane Berhe	_____	_____
Name of student	Signature	Date
1._____	_____	_____
Name of Advisor	Signature	Date
2._____	_____	_____
Name of Chairman	Signature	Date
3._____	_____	_____
External Examiner	Signature	Date
4._____	_____	_____
Internal Examiner	Signature	Date

Acknowledgement

Above all, I would like to extend my heart full gratitude to the almighty God, for giving me strength and health to complete this thesis.

Secondly, I would like to express my genuine and heart full gratitude to my advisor Dr. Hiluf Berhe for his valuable suggestions and constructive comments and for your nice guidance and direction for the overall enrichment of this paper.

My Acknowledgement also goes to the culture and tourism office of Tigray for support me in this study. Especially for Ato Guesh Tsehaye who is an archaeology expert in the main Office tigray. I also would like to thank you for the local communities of the study area for providing helpful information about the area.

Finally, my heart full and deepest gratitude goes to my family for their moral and financial support. I thank you for all my brothers and sisters for their moral and financial support throughout my study. And I also grateful for Berhe negash (MA) from Adigrat University And Asmerom teame (Geo-technique) department for your tremendous support in sketch the map of the study area. I would like to express my appreciation and thanks to all my friends for their various contributions in my thesis.

Abstract

The main aim of this study is to carried out an archaeological survey and document on the potential archaeological sites of Qebakib and Nebar ketema in Tabya May tsedo Quha Wereda, Zone Mekelle Tigray. In this study the researcher used pre- field work, field observation, interview and focus group discussion with the local residents for collecting data and both qualitative and quantitative methods of data analysis has been used. In this case, in the study area two archaeological sites are identified and documented. From these two archaeological sites, one archaeological site is reported before and the rest one archaeological sites are not previously reported. The study area is rich in the archaeological findings such as, potsherds, bone fragments, grinding stones, pillars, Burial sites. In all of the archaeological sites, pottery fragments are the dominant recoveries. Based on the comparison of the identified and documented material cultures with the previous sites, the study area dated to the Aksumite time periods. Even if the study area is potentially rich archaeological sites, they are destructed by both natural and cultural factors. Finally, this study gives a direction for future investigation and their conservation works in the future.

Acronyms or Abbrivation

Masl Metre above Sea Level

M Metre

BC Before Christ

AD Anno Domini

0C Degree Centigrade

BC Before Christ

GPS Global Positioning System

KM Kilometer

CM Centimeter

QA Qebakib

EC Ethiopian colander

CONTENTS

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

The archaeological research history of the Horn explains the development of the activities in investigating archaeological sites (Ziegert, 2008). At the beginning, the aim of the study in the Horn was to reconstruct the history of the region where archaeologists usually used very fragmented textual, epigraphic evidences and oral traditions. This sparse archaeological investigation gives clues for the recently undertaken archaeological information and for the development of the cultural history of the Horn (Fattovich, 2005). It was primarily dominant on elite structures but through time a shift is made to the study of the ordinary peoples' economic and settlement patterns. Therefore, the cultural evidence helps to attract more international researchers and have brought the application of modern techniques (Fattovich, 2005; Ziegert, 2008).

Even though the country holds some of the Africa's and world's most precious and significant material resource which could serve to reconstruct past human's culture but little part of it is studied yet. Its archaeological investigation started since 16th c accompanied by the description of Mariam *Tsion (local name)* and rock hewn church of Lalibela by Francisco Alvarez (Fattovich, 2001). In northern Ethiopia and Eritrea particularly Aksum travelers and scholars recorded ancient monuments irrespective of the way they did so were merely description of the monuments and architectures in the region since they were not as such professionally trained scholars (Fattovich 2001; Munro-Hay, 1991). Beyond this, they had just notified for the probable existence of lost underneath ancient civilization and put a milestone for Ethiopian historical archaeology (Fattovich, 2001; Phillipson, 1998).

Despite the richness, archaeology in the Horn is still in its infancy and in many aspects backward when compared with other African regions (Fattovich 1990). It is still largely unexplored archaeologically and focused only on a few specific topics like the early prehistory, rock art, megaliths, early historical monuments and medieval monuments (Brandt & Fattovich, 1990). As a result, it is characterized by very fragmentary in nature, limited to monumental stone structure and very little published. Then due to this, the chronology, history and cultural development are

not still well defined and established (Fattovich, 2005). During the early times description of sites in the region had been made by travelers, missionaries, ambassadors, explorers, traders and diplomats until the 19th century. For example, the earliest records of ancient monuments in northern Ethiopia like the church of St. Mary Tsion at Aksum, Lalibella rock-hewn churches and Yeha were described by them in the early 16th c (Curtis, 2008; Fattovich, 2000; 2005; phillipson, 1998; Munro-hay, 1991).

However, even though archaeological investigations have long history in the country, its complicated and mysterious history is not fully addressed; it remained disclosed to further quest. Indeed, this is not only due to its rare research undertaken so far but also priority has been offered only to the magnificent structures and towns. Regardless of the focus they had got, even these elite settlements are not probed well. Though Aksum and its vicinities is relatively better investigated than any other part of the country, still the ancient city and its nearby is not well studied.

Ethiopia is a well-known representative of prehistoric and historic archaeological discoveries of the world. These discoveries are the evidences for the ancient civilization of the country (Finneran, 2007). Until the 1980s, most Ethiopianists assumed that a state emerged on the highlands in Eritrea and Tigray is a consequence of a South Arabian (mainly Sabean) colonization of the northern Horn of Africa in the early 1st millennium BC. However, this narrative has been challenged by archaeological research which suggests the development of complex societies and states in Tigray and Eritrea was not a linear process of state formation, consolidation and decline, but consisted of distinct trajectories to social complexity indirectly related to each other, in the Eritrean–Sudanese lowlands and the Eritrean and Tigrean highlands (Fattovich, 2010). The archaeological investigations with more careful reconnaissance of sites began at the beginning of the 19th c with distributional maps of archaeological traces and detailed descriptions (Fattovich, 2005). D'Andrea (2008) suggested that the western province experienced prosperity, early in the Aksumite period followed by the rise in the power of the east which was eventually greater than the west. However, recently archaeologists began to survey and excavate after the region is known to have significant archaeological sites. Bilet, on this Wereda of the eastern part of Tigray zone with two clusters (Enderta and Adigudom) is found

east of Kuiha town. Therefore, the researcher wants to conduct an archaeological study to survey and documents the archaeological sites in the study area.

1.2. Statement of the Problem

Archaeological surveys and documentation have been conducted in Tigray region for more than a century thereby identifying plenty of archaeological sites (D'Andrea, *et al*., 2008, Munro-Hay 1991, Phillipson, 2003, Fattovich 1999). Despite the presence of immense archaeological sites in the region, their archaeological significance is not much investigated compared to their archaeological potential (Munro-Hay 1991, Bard *et al*., 1997; Fattovich 1999; Fattovich *et al*., 2000). Especially very little consideration has been given to explore areas which are located outside the towns and villages found at the Aksum-Yeha region. As a result, most of the researches that have been conducted in northern Ethiopia are very fragmentary (Finerann, 2007).

According to Tekle (2014), only very few foreign scholars have previously surveyed eastern Tigray in the late 1960s and early 1970s with the objective of exploring rock-hewn churches by leaving aside the evidence of pre-Aksumite and Aksumite cultures. But, beginning from the past few decades archaeological investigations have been undertaken in Eastern Tigray (see D'Andrea, 2008, Tekle, 2007). Here the main focus of the researchers was only limited to the known archaeological sites of Atsibi-Dera, Edaga-Hamus, Wukro and Agame areas by neglecting the other areas of the zone. As a result, archaeological investigations have never been previously carried out in Enderta *wereda* particularly Enderta cluster in southeastern Tigray administrative zone to investigate the limit of the organized settlements of the Aksumite populations and to assess its archaeological potential for further researches (Buxton, 1970; Plant, 1985; Phillipson, 2010).

Enderta has abundant archaeological sites and heritages. But, as mentioned above, only few archaeological works have been carried out in the Enderta cluster, while the remaining area/cluster/ with a potential in archaeology is not fully surveyed and documented by archaeologists. Consequently, the archaeological sites that reveal cultural developments of past humans are neither explored nor documented. Further, they are exposed to both human and natural destructions. As a result, their archaeological significance for the community and the country is slipping away and not fully understood. Thus, this research has attempted to fill the

gap by surveying and documenting the archaeological site of *Tabya* May Tsedo with sites of qebakib and nebar ketema in Kuiha of Mekelle zone, Tigray.

1.3. Research Questions

This research raised and formulated the following archaeological questions and made maximum effort to answer with the actual archaeological fieldwork.

- What are the potential archaeological sites and archaeological features in the study area?
- What is the nature, types and geographical distribution of the archaeological sites of the study area?
- What are the major agents of destruction and the current physical preservation status of the archaeological sites within the study area?

1.4. Objective of the Study

This study has the following general and specific objectives.

1.4.1. General Objective

The main objective of this study was to identify and document the archaeological sites of qebakib and nebar ketema *Tabia* May Tsedo in Kuiha sub-city of Mekelle zone, Tigray.

1.4.2. Specific Objectives

The specific objectives of this study are to:

- Survey and identify the archaeological sites in qebakib and nebar ketema *Tabia* May *Tsedo.*
- Document the archaeological evidences.
- Assess the current status of the archaeological sites.
- Compare and contrast the archaeological sites with other known sites and their archaeological significance.

1.5. Research Methodology

1.5.1. Methods of Data Collection

To gather reliable and appropriate data, the researcher used both primary and secondary methods of data collection. The primary sources include, opinions, focused group discussions with informants for oral traditions, and field survey. In addition to the primary sources, the researcher collected data from the secondary sources such as articles, internet sources, and monographs. Literature survey was conducted before and after the beginning of the actual fieldwork to have relevant archaeological information about the study area and to enhance the research results as well as to develop scientific analysis for the findings.

Therefore, the most important research methods that the researcher has employed to collect the relevant data from the study area and target population involved is discussed below in a wider manner. Furthermore, all of the identified archaeological sites and material cultures were represented in a map using GPS readings.

1.5.1.1 Pre-Field Work

Before the beginning of the actual field work, both published and unpublished archival and documentary materials were consulted. The materials which are related to the study area were collected from libraries, Mekelle university library and from the Culture and Tourism office in the city of Mekelle. Thus, related literatures from different books, articles and previous field reports were also consulted. Consultation of these materials is helpful for the researcher to identify the limits of the available data and gaps in the existing knowledge, to evaluate the previous archeological work in the study area and to identify the archaeological potential of the study area.

1.5.1.2 Field work

In this archaeological filed work, the researcher conducted some field work activities in order to know the history of our predecessors. As Balme and Paterson (2006) indicated, once the archaeological background to an area is assessed, perhaps the most obvious means of finding new sites, or of further assessing a landscape, is by making physical observations. They add that strategies for doing this are very numerous, depending on individual project circumstances, and

are to describe generally as pedestrian survey, field-walking or walk-over survey, each involving walking over an area in order to observe, record, and map additional archaeological traces, structures, and landscape features. Furthermore, the detailed information regarding the potential archaeological sites and their state of conservation, physiographical and environmental observations was also recorded using this technique of data acquisition. GPS (Geographic Positioning System) device was employed to obtain an absolute location and altitudinal information of the identified sites. The uncovered selected archaeological findings - artifact, Ecofact and feature were described and photographed. Metric measuring unit system using rulers is used to measure some findings such as stelae, pounding and grinding stones. The distances between each identified sites and other physical markers were also estimated and expressed in kilometers.

1.5.1.3 Interview and Focus Group Discussion

The archaeological sites and materials that were found throughout the study were clear to the informants including the distorted data from their original context like artifacts, ecofacts and features and the legendary name of a particular place. Therefore, the local inhabitants provided an important indication to the discovery of archaeological sites and its associated legend. At the same time considerable emphasis was given to the key informants with the purpose of strengthening the information obtained during the survey. The researcher was able to administer face to face interview to collect valid and reliable data from the key informants about the study area. The interviewees were selected based on purposive sampling technique to reconstruct the legend of the site that provides clues about the site's historical function. Thus, the researcher tried to select intentionally 18 informants composed of elders, religious fathers and administrators of the study area. In addition, the researcher added four other informants who were expected to have good knowledge on the archaeological sites. For cross checking issues, the researcher was forced to prepare the same questions mainly to cross check the validity of the data based on carefully looking at the nature of the sites. While doing this, the researcher used both structured and unstructured interview methods to keep the interest of the respondents.

1.5.1.4 Methods of Data Analysis and Interpretation

Since the collected data are merely qualitative, the researcher was forced to use qualitative data analysis and interpretation approach to come up with rational research results. The collected data

was analyzed qualitatively based on the nature of the data in a descriptive way of research. In order to catch up the predetermined objectives, the researcher used pre-dominantly the qualitative method of data analysis to analyze and interpret the data that was collected through data collecting techniques qualitatively at their original context. This qualitative method is used in describing and identifying the collected data through descriptive analysis of ideas and opinions of informants and field observation of the researcher. For the most visible archeological findings (such as shapes, styles and other relevant information) careful and detailed field observation was conducted by comparing with other noted information. Thus, categorization of the material remains into different types based on their typology was an important input in the analysis and interpretation of the sites under study both in the field and at home through visual observation and the photographs respectively. In line with this, all the archaeological findings that were found in the study area were clearly measured and described through qualitative approach of data analysis.

1.5.1.5 Sampling Procedure

The researcher used mainly purposive sampling technique, with a total number of 20 respondents. Why the researcher preferred this technique is because the target population of the study area were priests, local informants, and others from the Tourism Office who are expected to have better knowledge than others. Therefore, such respondents were selected purposively and interviewed through structured and unstructured way of interview. In order to become more familiar with the types and frequencies of the cultural materials in the study area, the research method involved a personal judgmental survey strategy. These judgments were undertaken based on previous experience in the area, some knowledge of the association of topography and the location of sites. When preliminary survey was conducted, it was not difficult to identify the place where the objects found.

1.5.1.6 Tools or instruments for the study

In order to have an effective and successful result, archaeological research requires variety of tools. Although it is difficult to have all instruments at this level, to come up with precise location and documentation of the archaeological sites, the researcher was equipped with some of the basic tools for map production, photographing and measuring. Hence, GPS was used to

locate the geographical coordinates of the identified sites; ruler was used to give at least the approximate measurement of length and height. Photo camera, notebook, pen and brushes are also used to document and record the available data.

1.6. Significance of the Study

This archaeological study helps cultural heritage managers, archaeological as well as historical researchers, by providing at least the descriptive archaeological features with typological categorization of archaeological sites at the study area. The recording of these archaeological sites will also help the work of the cultural experts working in the area. Furthermore, this work provides some record of archaeological sites, which could be an initial input for non-governmental institutions involving in developmental projects. Since the archaeological sites of the area are destructed because of the presence of both human and natural factors, this study can give a preliminary protection on the heritages and helps to create awareness among the host community of the area. Since the area is becoming as center of archaeological zone, in the near future, the residents of the area can have the chance to benefit economically from the incoming researchers both directly and indirectly. Generally, it may pave the way for scientific archaeological investigation and helps to protect the heritage sites in a professional manner.

1.7. Scope of the Study

The scope of this study was delimited to the archaeological sites in *Tabya* May Tsedo in Enderta cluster *Wereda* Kuiha of Mekelle zone. The focus of the study is only in the single *Tabiya* of the cluster within two *Kushets (localities)* extended from Qebaqb to Nebar ketema(*localities)*. The prime aim of this archaeological investigation is to survey and document the archaeological sites of the study area.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 The archaeology of Northern Ethiopia

Since the early 20th c, extensive surveys and excavations have taken place in and around the ancient urban centers of Yeha and Aksum and discovered some pre-Aksumite and Aksumite sites as well as material cultures (Littman, Krencker, and Von Lupke, 1913; Chittick, 1974; Anfray, 1972; Michels, 2005; Munro-Hay, 1989; Bard *et al*., 1997; Fattovich and Bard, 1997; Agazi, 1997; Fattovich *et al*., 2000; Finneran, Boardman and Cain, 2000; Phillipson, 2000 in D'Andrea *et al.*, 2008). However, as Anfray and Annequin, 1965; Godet, 1977; Fattovich, 1990 in D'Andrea (2008) noted, scholars have not systematically surveyed these areas. Then, areas which are found beyond the urban center of Yeha and Aksum remain unexplored yet. Due to this reason, in the past ten years in particular, scholars have seen a leap in the understanding of the origin and cultural chronology of ancient Aksum.

In addition to this, key pre-historic and historic sites were located, mapped and briefly described during the 1995 field season. Even though, this was not a systematic survey. Aksumite Empire had emerged in the late 1st millennium BC and this empire didn't include Aksum only, but it was occupying the Tigryan and Eritrean highlands and its influence stretches to northern Ethiopia as far as Lasta and its environs. Aksum was the capital of this ancient empire and it served as a royal capital from 150 BC to 700 AD (Finneran, 1998). The city of Aksum has been the focus of more archaeological investigations than any other urban sites among the eastern and the Horn. It was the capital of one of Africa's most fascinating manifestations of complex societies. Moreover, Aksum was an international phenomenon; it had contacts with Mediterranean world, Nile Valley, Arabia and across the India and China and its own distinctive Christian identity (Finneran, 2007).

According to Bard *et al*. (2000), the chronology, history and cultural development of the Aksumite kingdom is still poorly known. Textural evidence suggests that the kingdom was already established in the mid-1st c AD and become powerful in the late 3rd c AD, when Aksum controlled South Arabia. The period from the regime of Ezana and Kaleb, marks the most powerful Aksumite political and military in Arabia (Sulas *et al*., 2009). And, the period from the 7th to 12th c is recognized as post-Aksumite in the sense that Aksum was no longer the political center of the kingdom. The period concerned includes the greater part of the 7th c, and terminates with the advent of the Zagwe dynasty in about 1137 (Munro-Hay, 1991).

The decline of Aksum probably started in the 7th c AD. Particularly from the late 7th c, the kingdom was progressively isolated from the Red Sea trade by the spread of Islam through north east Africa and in the 8th/9th centuries Aksum declined as a capital city, although the kingdom survived (Bard *et al*., 2000).

2.2 The Emergence of Complex Societies in Northern Ethiopia

The main archaeological indicators for the development of complex societies in the northern highlands are settlement pattern, administrative devices, burial practices and monumental architecture (Fattovich, 2010). The formation and development of complex societies in the highlands are represented by the Pre-Aksumite, Proto- Aksumite and Aksumite states (Fattovich *et al*., 2000; Finneran, 2007; Phillipson, 1998). Whereas in the lowland area the Gash group are the earliest complex society so far discovered between the late 3rd and 2nd millennium BC (Fattovich, 2010).

According to Curtis (2010), archaeological research carried out between 1998 and 2003 on the Asmara plateau of Eritrea has provided new insights concerning the development of early-mid 1st millennium BC settled agro-pastoral communities in the northern Horn of Africa. The settlement, subsistence, and material culture of these communities in the greater Asmara area, referred as the "Ancient Ona Culture," bear both unique qualities and striking similarities to coeval communities in Tigray, Ethiopia.

The Late Holocene history of the Tigrean Plateau was marked by the formation of states (Munro-Hay, 1993). In the mid-first millennium BC the kingdom of Da'amat (ca. 700/600–400/300 BC), a state-level urban society with strong South Arabian (Sabaean) characteristics arose on the

Tigrean plateau as a result of long-term cultural and economic interaction between South Arabians and indigenous peoples. The material remains of this state are identified in the archaeological record with the "Pre-Aksumite Culture." The territory of the Ethio-Sabaean state stretched from the Shire plateau in northern Tigray to the Akale Guzay region of central Eritrea. Yeha was the center of Da'amat state in Tigray (Anfray, 1973, 1990; Conti Rossini, 1928; de Contenson, 1981; Drewes, 1962; Fattovich, 1990; Ricci, 1984 in Bard *et al*., 2000).

The Ethio-Sabaean state collapsed in Tigray ("Late Pre-Aksumite Phase"), and a new complex society with a different cultural pattern arose on the plateau near Aksum in the late first millennium BC (Fattovich, 1990; Bard and Fattovich, 2001). The material evidence of this new complex society is provisionally identified in the archaeological record with the so-called "Proto-Aksumite" remains (ca. 400–150 BC) recently discovered at Bete Giyorgis to the northwest of Aksum (Fattovich, 2010). Complex society in the region of Aksum developed into a proper state (kingdom of Aksum; ca. 150 BC–AD 900). The material evidence of this state is identified in the archaeological record with the "Aksumite culture" (Anfray, 1990 in Fattovich, 2010).

In the first century AD Aksum became the capital of a kingdom that progressively expanded its control over the entire plateau in Tigray and Eritrea (Early Aksumite Phase; ca.150 BC-AD 400). A crucial event in the development of the kingdom of Aksum was the introduction of Christianity in the early 4th century. By the mid first millennium AD, the Aksumite kingdom went through a period of apparent economic stagnation (transitional Early/Middle Aksumite Phase; ca. late fourth–mid–sixth centuries). In similar period, Aksum controlled the international trade from the African hinter to the Red Sea which made the kingdom politically and economically powerful in the southern side of Red Sea. In the late first millennium AD, the kingdom declined (Late Aksumite Phase; ca. 8th–9th centuries), and it eventually disappeared in the 10th century (Munro-Hay, 1991).

2.3 Settlement Patterns During the Pre-Aksumite and Aksumite Periods

According to Trigger (1967), settlement archaeology is defined as the study of societal relationship using archaeological data. Trigger believes that, settlement archaeology does represent an approach of some importance, but once that will strengthen rather than replace or destroy the kinds of archaeology that exist at this time.

As epigraphic and archaeological evidence described, there was a state arose in Ethiopian highlands during the mid-1st millennium BC named Da'amat state. This pre-Aksumite kingdom had roots in local cultures but also experienced strong south Arabian cultural and economic influences (Anfray, 1973; Fattovich, 1988, 2004; Munro-Hay, 1991; Phillipson, 1998; Curtis, 2004 in D'Andrea *et al.*, 2008). Little is known about the Da'amat state; it declined leaving a series of polities during the 4th and 3rd centuries B.C. at the beginning of proto-Aksumite period. This was also followed by the emergence of Aksumite period in 150 B.C (Fattovich and Bard, 2001; Michels, 2005; D'Andrea *et al*., 2008; Schmidt, 2009).

A pre-Aksumite state polity (ca.700/600-400 BC) arose in the 1st millennium BC in Tigray and its decline during the last few centuries BC is still not clear (Anfray, 1990; Conti Rosini, 1928; De Contenson, 2005; Fattovich, 2005 in Sulas *et al*., 2009). At the same time, a proto-Aksumite polity emerged at Aksum (ca. 400-150 BC) and soon developed in to a new state – the kingdom of Aksum (ca. 150 BC-AD 700) (Phillipson, 2008, 1998). Aksum was the center of a sophisticated culture with its own writing and coinage, which adopted Christianity by the early 4th c AD (Sulas *et al*., 2009).

According to Curtis (2004), recent archaeological investigations on non-elite sectors of pre-Aksumite settlement provided a view of thoroughly indigenous origins and continuity in occupation for much of the 1st millennium BC. Scholars know from excavations and regional survey in greater Asmara of Eritrea and from excavations at the site of Kidane Mehret in Aksum area of Ethiopia, that by 800 BC people were living in fairly large and complex settlements composed of permanent multi-room stone buildings. These communities were herding cattle, goats, and sheep and cultivated crops such as barely, wheat, linseed and lentils. Moreover, Pre-Aksumite communities possessed ceramics and lithic traditions unique to the northern Horn of Africa.

Curtis (2010) also stated that the early to mid-1st millennium BC in the highlands of the northern Horn witnessed the growth of demographic complexity, diverse agro-pastoral economies, and the appearance of social differentiation. On the highland landscapes, from the Aksum area of Tigray

to the Asmara plateau of the Hamasien region of Eritrea, settlements ranged from diverse home lands, hamlets, nucleated villages, and towns built of stones.

The subsistence economy of these states certainly relied on agriculture and herding, and Pre-Aksumite settlements on the plateau were located at altitudes over 2000 m and in areas with good soils for cultivation (Fattovich, 1988, 1990, 1997a). Archaeological research in the region from Aksum to Yeha points to the location of Pre-Aksumite sites on low-gradient, highly fertile land that was optimal for plow cultivation and in narrow alluvial valleys requiring frequent fertility intervention by means of irrigation. The settlement pattern consisted of small villages (ca. 1-3 ha in size) and hamlets (less than 1 ha in size), about 2 to 3 km apart, with a major town at Yeha and important ceremonial centers in the Aksum region, at Hawulti, and possibly at Addi Ataro and Seglamien (Michels, 1988, 1994).

Pre-Aksumite peoples had cultural links to the Gash Delta region (near Kassala) and Tihama region of South Arabian coast (Fattovich, 1988; D'Andrea *et al*., 2008). The settlement pattern of the northern Tigrean Plateau suggests that population density was constant in the region during the first millennium BC (Phillipson, 2008). In fact, there was no significant increase in the number of settlements in the region between Aksum and Yeha through the entire Pre-Aksumite Period. On the contrary, the recorded sites suggest a major dispersal of population just before the rise of the Da'amat state, a concentration of population in a few larger settlements at the time of the kingdom, and another dispersal of population after the decline of Da'amat (Michels, 1994; Bard *et al*., 2000).

In the Pre-Aksumite Period, the human groups living in central Eritrea and Tigray seem to have interacted mainly with the South Arabs. In the second half of the 1st millennium BC, the pre-Aksumite polity collapsed in the Aksum-Yeha region, as the settlements sharply decreased in size and monumental buildings were abandoned. Yeha was no longer a major ceremonial centre, and the landscape was characterized by small rural settlements, with a nucleated population around Aksum (Michels, 2005). The size of the pre-Aksumite settlement is uncertain, as it has been only partly investigated (Michels, 1988; Fattovich, 1990).

The settlement pattern that has been investigated in central Tigray was characterized by towns, villages, hamlets, and ceremonial centers (Michels, 2005). A large settlement with two

monumental temples and a cemetery with very rich shaft-tombs containing many prestige items (imported objects from Nubia, bronze and iron tools and weapons, bronze seals) were located at Yeha. Another large settlement was located at Matara. The construction of small temples at the edge of the plateau overlooking the valleys sloping down to the lowlands may suggest that they were used as border markers (Fattovich, 1990). Administrative devices include zoomorphic and geometric bronze and clay seals, and suggest a widespread administration. Zoomorphic bronze seals, sometimes with personal names, were found only in the tombs at Yeha (Phillipson, 2000).
According to Fattovich *et al*. (1998), in the late 1st millennium BC, the D'MT polity was replaced in central Tigray by another polity which emerged at Aksum in the Proto-Aksumite phase. This polity is identified in the archaeological record with the Proto-Aksumite assemblages (ca. 400–150 BC). The main indicators of this polity are the settlement pattern, monumental architecture, some elite tombs and administrative devices (Fattovich and Bard, 1994: 2001). The origins of this polity are still uncertain. Despite some elements of continuity in the ceramics, the use of stelae in a mortuary context indicates an ideological break with the earlier pre-Aksumite state, where cult temples were the focal ideological feature of the society, as in Yemen, and may point to some kind of cultural continuity with the Gash Group. The earliest evidence of a polity maybe at chiefdom scale of complexity, which progressively developed into the Aksumite kingdom, has been found on the top of Bete Giyorgis hill near Aksum (Fattovich and Bard, 2001).

The early proto-Aksumite tombs were simple pit-graves, around 2 m deep, covered with small platforms and associated with rough stelae, around 2-3 m high. The monoliths were pointed stones, small pillars and flat slabs, and were reminiscent of the Gash Group stelae suggesting the existence of cultural contact with the low lands (Bard *et al*., 2000). In late proto-Aksumite times the tombs were elaborated pit-graves, around 5 m deep and richer in grave goods than the earlier ones. All stelae were monoliths, around 4-5 m high, with a vertical notch at the top, suggesting one dominant lineage. A conical bronze seal, reminiscent of Meroitic conical seals, was found in a late proto-Aksumite tomb (Fattovich *et al*., 1998; Bard *et al*., 2000).

The continuity in material culture (particularly ceramics and funerary stelae) between the Proto-Aksumite and Early Aksumite phases at Aksum indisputably demonstrates that the Aksumite state originated in the Proto-Aksumite polity. Imported artifacts, mainly glass vessels and beads,

from Aksum point to contacts with Egypt, India and Nubia in the Early Aksumite phase, Syria, and Egypt in the Classic Aksumite phase, as well as Byzantine, Egypt and Sassanian Persia in the Late Aksumite phase (Phillipson, 1998; Fattovich *et al*., 2000).

The rise of the kingdom of Aksum marked a new stage in the development of urbanism on the plateau. About one hundred and fifty Aksumite sites have been recorded so far in Eritrea and Tigray. They are scattered over the whole plateau, from Amba Alaje in the south to the Rore in the north. They include the remains of towns, villages, isolated hamlets, churches, cemeteries and single tombs (Michels, 1988). But, only three towns were more extensively investigated: Adulis, Matara and Aksum. Adulis was the port of the kingdom. A settlement already occurred at this site in early Aksumite times, as we know from the classical sources. Matara was inhabited in the early and middle Aksumite times. The town was suddenly abandoned not later than the eighth century AD (Anfray, 1963; Anfray & Annequin, 1965; Anfray, 1966; Anfray, 1967; Anfray, 1970; Anfray, 1974, in Fattovich, 2009).

Generally, Aksum was the capital of the kingdom. It was occupied during the whole Aksumite period (Littmann, Krenker& von Lupke, 1913; Puglisi, 1941; de Contenson, 1959; de Contenson, 1963; Anfray, 1972; Chittick, 1974; Munro-Hay, 1989; Anfray, 1990; Michels, 1990 in Fattovich, 2010). According to traditional Ethiopian sources, the earliest settlement was located at Mazaber and later at Aseba. The town of Aksum was established by about 150 BC and become powerful international kingdom which dominated both sides of Red Sea from the 3rd-6th c AD (Fattovich *et al*., 2000). Aksum is one of the major and impressive archaeological areas in Ethiopia, even in the sub-Saharan Africa. The town is also the main religious center for the Ethiopian Orthodox church and it was included in the UNESCO world heritage list in 1980 (Bard *et al*., 2000). The major archaeological indicators of this kingdom are the settlement pattern, monumental elite architecture, elite tombs associated with monumental stelae, thrones, administrative devices and coinage (Phillipson, 1998; Fattovich, 2008).

The Aksumite settlements included towns, villages, and isolated hamlets. Monasteries and churches became a relevant component of the settlement pattern after the introduction of Christianity in the mid-4th century AD. Urbanism was at its peak in the mid-1st millennium AD, when the kingdom reached its maximum expansion (Phillipson, 1998; Michels, 2005).

The residential architecture at Aksum and Matara points to an increasing social hierarchy from the 1st to the 7th centuries AD. Residential buildings included elite palaces, smaller urban and rural elite residences, large rural houses, medium urban houses and small rural houses, suggesting the existence of an upper elite (kings and nobles), lower elite (lower status nobles and/or wealthy farmers), and ordinary people including farmers, crafts men, etc (Fattovich *et al*., 2000).

The collapse of the Aksumite kingdom was most likely due to combined environmental and economic causes. A progressive exhaustion of the soils by anthropogenic deforestation, together with a generally reduced rainfall from the 7th to 10th centuries AD may have caused droughts, famines and epidemics with a consequent movement of population southwards (Bard *et al*., 2000). According to local traditions and Islamic sources, Beja nomads moved from the Eastern Desert into the Eritrean highlands and formed independent polities in this region in the 7th-9th centuries AD, cutting off the core of the kingdom from direct access to the sea (Fattovich, 1990). Eventually, after the Arab conquest of Egypt and the Muslim expansion along the Red Sea in the late 7th-10th centuries AD, Arab coastal polities replaced Aksum in long distance trade with the Mediterranean countries, and probably further weakened the power of the Aksumite kings and elite (Conti Rossini, 1928 in Fattovich, 2010).

2.4 Previous Archaeological Research and its Historical Context in Northern Ethiopia

The work of DAE of 1906 is an important foundation for all subsequent work on the city of Aksum and many of neighboring sites. Following this, archaeological research was focused primarily up on elite structures and many of the reports of these excavations have been published in a good manner. The 1st BIEA expedition to Aksum (1972-74) was curtailed by political circumstances and as such it never fully realized its goals, although after a while exceptionally useful report was finally produced by Munro-Hay in 1989. Latter BIEA began work under the direction of David Phillipson (1993-97) and a joint project of Italian-US projects (1993) under the direction of Fattovich and Bard (Phillipson, 2000).

According to Finneran's (2007) explanation, the biography of archaeological research at Aksum over the last 100 years express concisely the wider debates paradigm changes within African

archaeology in general. One of the best achievements of recent archaeological research has been to situate the Aksumite Empire with in a broader global context. Re-assessment of coinage sequence increased by large number of radio carbon dates helped to create a better of the Aksumite chronology (Aksumite empire), spanning from the 1st c BC up to late 10th or 11th centuries AD (Bard *et al*., 2000).

Archaeological research has made notable contributions to our understandings of the early history of Ethiopia and Eritrea. Abundant material evidence has been gathered and numerous remains have been revealed: building sub-structures, inscriptions engraved in stone, metal and earthen ware; pottery and various other objects, together with gold, silver and bronze coins. Based on the archaeological observations and epigraphic studies, scholars divided the period in to Pre-Aksumite and the Aksumite period (Fattovich, 2004). Sub divisions have also progressively been introduced in to these two major periods in line with the discoveries made (Finneran, 2007).

Although the major focus of archaeological activity in the northern highlands of Ethiopia has been Aksumite polity development (Fattovich *et al*., 2000; Phillipson, 2000), other recent research has sought to understand its prehistoric landscape (Finneran, 1998). Concurrent ethno-archaeological studies have illuminated the socio-economic complexity (D' Andrea *et al*., 1997). Archaeological highland agricultural perspective system of the Aksumite unknown polity antiquity has always looked eastward. Studies have been undertaken along the littoral and the corridor to the Red Sea, but hitherto little attention has been paid to the putative cultural links westward to the Sudan steppes and Nile valley. Intensive work in eastern Sudan, in the Gash Delta region around Kassala, has thrown considerable light on its cultural and ecological developments over millennia, and the evidence indicates clear socio-cultural links with the Ethiopian plateau (Fattovich,1993; 2004).

Aksum, situated in the northern highlands of Ethiopia at an altitude of 2200m, is best known today for its importance to the Ethiopian Orthodox church and for its great monumental stelae, remnants of a prosperous, sophisticated, literate civilization which flourished from about the first to the eighth century AD. Its trading contacts extended from the Mediterranean and Byzantine world to India and perhaps farther afield, while its rule at times encompassed parts of southern

Arabia. Coins issued by the kings of Aksum circulated widely in international trade. It was one of the first states anywhere to make Christianity its official religion, which it did in the 4th century (L. Phillipson, 2000).

2.5-The archaeological documentation conducted in Aksum

According to Munro-Hay (1991), from the very uneven choice of excavation areas at Aksum and other Aksumite cities, we have inevitably a view of Aksumite everyday life which favors the upper echelons of urban society. Palaces, mansions, large and important tombs, and churches contain the remains of objects from these élite groups. In short, potteries, glass ware, stone bowls, metal work, coins and other archaeological materials were discovered from different Aksumite sites.

Both fine and coarser ceramic wares have been found in very large numbers in the archaeological excavations of Aksum. These were made in a pottery tradition which seems to be particularly Aksumite and to owe relatively little to either the pre-Aksumite period or to foreign influences. The commonest types are fired to colours between orange and almost brick red, and there are also black or grey wares from different periods. Some less usual wares are brown, or red-brown (Munro-Hay, 1989). Chronologically, it seems that the red wares are typical of earlier Aksumite times, the brown coming later in perhaps the fifth century, while the black wares typify the post-Aksumite period (Anfray 1966; Wilding in Munro-Hay, 1989). Differences in the pottery found at such sites as Adulis, Matara, and Aksum, typifying three different regions of the country subject to different influences and developments, are not well understood (Anfray, 1973i in Michels, 1979). Imported amphorae are also common, and were employed for various purposes after their original contents had disappeared. Some were cleverly used to form a sort of water supply-pipe to a baptismal pool near a basilica at Matara and others served as coffins for the burial of babies at both Adulis and Matara and a third use was as furnaces or ovens (Anfray, 1974 in Munro-Hay, 1991).

Glassware was found at Aksum (Morrison in Munro-Hay, 1989) and Matara (Anfray, 1968 in Munro-Hay, 1989). This was most probably imported, though some types may have been made locally. There was an unusual incidence of exotically-coloured or decorated glass from the Aksum excavations, representing types unknown elsewhere at the moment. Glass from habitation sites is generally very fragmentary, but is naturally best preserved in tomb deposits.

Since such glass seems to indicate a quite luxurious level of living, perhaps the tomb-owner was a prosperous merchant (Munro-Hay, 1991).

The remains of many purplish breccia bowls were found in the town of Aksum, particularly in Addi kilte (Chittick, 1974). The shapes ranged from a squat flat-based bowl to a stem cup. They were probably part of the luxurious equipment of some prosperous Aksumite. Nothing like them is known from elsewhere in Ethiopia (though a few fragments of marble plates were found at Matara (Anfray and Annequin, 1965 in Munro-Hay, 1991).

Moreover, the metal equipment used by the Aksumites seems to fall into two categories. In the first, items of luxury, such as jewelry, costly boxes, small decorative objects, bowls, and figures in the round appear in gold, silver and bronze, or combinations of these metals. In the second category of metal objects come the tools, weapons, and other objects in iron, sickles, knives, chisels, saws, axes, tweezers, hinges, spear and arrow heads, hooks or staples, and other unidentifiable objects have been found that could be uncovered by different archaeologists (Munro-Hay, 1991; 1989). A very large number of stone tools are noted by various excavators at Aksum and other sites. All sorts of grind-stones or polishers, and a variety of stone mortars, come from Aksumite sites (Munro-Hay, 1989).

Moreover, the Aksumite erected a number of large stelae, which served a religious purpose and grave marker in pre-Christian times. The Stelae are perhaps the most identifiable part of the Aksumite legacy. These stone towers served to mark graves and represent a magnificent multi-storied palace. They are decorated with false doors and windows in typical Aksumite design. The stelae, which are tall, flat-sided spires, some decorated as if to represent the storeys of a building, and often with a false door at the bottom, are commonplace in Aksum. They often cover tombs, but seem to have been made as much for prestige as for religious belief, since they vary in size, getting bigger with time (Phillipson, 2003; 1994).

The Empire of Aksum was also one of the first African polities economically and politically ambitious enough to issue its own coins, which bore legends in Ge'ez and Greek. From the reign of Endybis up to Armah (approximately 270 to 610), gold, silver and bronze coins were minted. It is generally thought that the first Aksumite coins were intended for international trade. These

coins, bearing the name of King Endybis (ca. AD 270/290), were mainly struck in gold and silver and followed the weight standard which existed in the Roman Empire. For the most part, gold coins were inscribed in Greek and often intended for exports, while silver and copper coins were in Ge'ez. From the 4thcentury AD, an increasing number of copper coins were issued which had evidently Christian inscriptions such as 'Joy and Peace to the People' and 'He conquers through Christ'. Many of the coins are used as signposts about what was happening when they were minted (Munro-Hay, 1999: 1991).

The Early Aksumite Phase corresponds to the formation and initial expansion of the kingdom, up to the introduction of Christianity. The Middle Aksumite period is characterized by the major expansion of the kingdom. Coinage was widely used. Churches were widely scattered over the territory of the kingdom. The Late Aksumite Phase also corresponds to the decline of the kingdom. Coinage was probably no more in use and some important towns, such as Matara and Adulis, were apparently abandoned. Aksum was quite reduced in size (Michels, 1990; Munro-Hay, 1991).

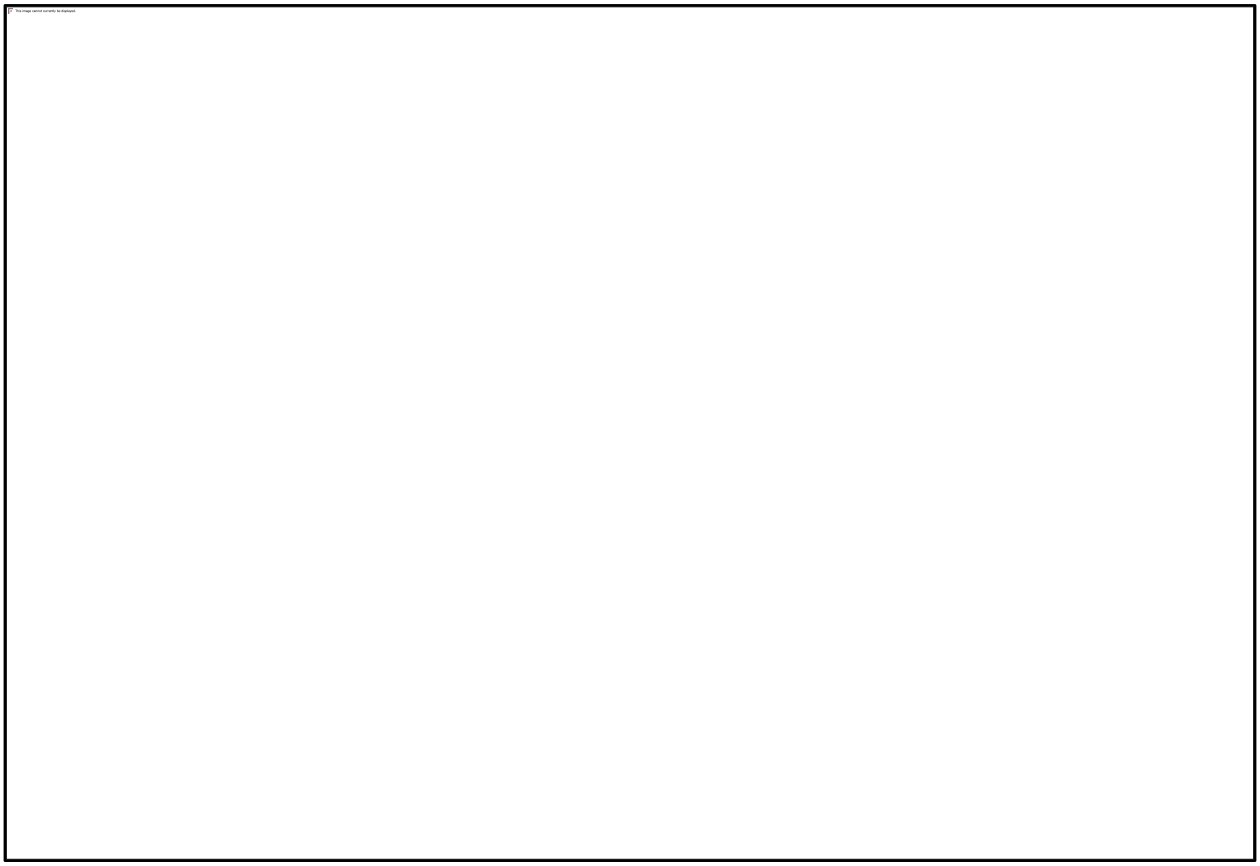
In addition to this, as Munro-Hay (1991) noted that, Aksum had its own unique architectural construction. Three main types of Aksumite buildings are presently known: large elite residential buildings (temples and palaces), churches, and rural houses. Aksumite palaces and churches were erected on a massive podium with five steps and one or more stair ways. The pavilions in their domestic enclosures are the most typical examples of the unique Aksumite form of construction, and embody most of the characteristics of Aksumite architecture. Most of the surviving podium walls of these Aksumite structures were furnished at all corners with large and carefully cut granite corner blocks, which protected, linked, and supported the weaker parts of the walls. Wooden beams as a strengthening element within the walls and putting no mortar on the stones used to construct vast royal palaces and public buildings is also another unique feature of Aksumite architecture.

CHAPTER THREE

GEOGRAPHICAL LOCATION AND DESCRIPTION OF THE STUDY AREA

3.1. Location of the Study Area

The archaeological investigation is conducted in *Kebelle* Maytsedo(locality) Kuiha sub-city, at about 3 km to the east of Kuiha town (see map: 3.1). According to the annual statistical report of Kuiha *sub-city* (2011 E.C), the study area is located at 0335857 northing, 1564732 easting and at an elevation ranging from 1700 to 2081 meter above sea level as well as has an average annual temperature ranging from 34-26^{0}c and rain fall between 248 and 300 mm per year. The study area is bounded by two kushetis (locality) Nebar Ketema to the north and Qebaqb to the south. Culturally, the study area is surrounded by archaeological sites. Moreover, there are several gentle gradient hills bounding the study area to the eastern and northern directions.



Location of map study area

3.2. Geological Features of the Study Area

The geological scenery of Tigray is defined by tectonic, volcanic, and geomorphic and sediment logical features formed during the Cenozoic era of tertiary period due to the effects of both internal and external formational processes (Bard *et al*., 2000; Curtis, 2005). As a result of these two processes, many of the new rock formations of the region, including extensive basaltic flows are rested on the older sedimentary and Pre-Cambrian crystalline rock families (Curtis, 2005). As Schmidt *et al*. (2008) stated, broad volcanic activity along with extensive faulting had been occurred in Tigray during the early Cenozoic era and covered wider parts of the region's high lands with thick layers of tertiary basalts.

For its larger section, the geology of Tigray is characterized by volcanic rocks formed as a result of volcanic activity (Bard *et al*., 2000). According to Asfawesen (2002), the geology of Tigray region as a whole is distinguished by the availability of uneven topography with the domination of high volcanoes, volcanic ridges and some granite outcrops as well as sediment logically deposited landscapes. Sulas *et al*. (2009) noted that the plain areas of Aksum consisted of alluviums which are deposited recently upon a volcanic geology. The authors also stated that heterogeneous Quaternary deposits consisted of alluvium and colluviums are usually discovered along the river Valleys and the foot slopes of Aksum.

Hence Cherkos Billet (Nebar ketema) and Qabaqib (Kebell of May Tsedo) like Tigray churches and archaeological sites are rich, historical, and religious indication. From these churches Cherkos Billet was one of the rich churches in palace of the kings and their past history. And inside the boundary of the church we can find a palace which was excavated by the French archaeology team than that backfilled. And the site has a great Aksumite structure.

3.3. Paleo-environmental and Paleo-climatic Conditions of the Study Area

The Paleo- environmental history of Tigray in general and Quiha in particular is not well known. However, there are few evidences which can provide us important clues about it. For instance, some palynological and Archaeozoological evidences show that the highland areas in Tigray plateau had faced moist and dry climatic fluctuations as northern and eastern Africa during the Holocene period (Fattovich *et al*., 2000). Moreover, based on some geomorphological evidence, the early Pleistocene climate history of central and northern Tigray was characterized by the formation of alluvial sedimentation signifying heavy erosional dynamics on gradients with poor

vegetation cover. Although the specific time for the end of such sedimentation is not clear, alluvial sediments were covered with thick and dense vegetation up to the Middle Holocene. Additionally, stratigraphic evidence and radiocarbon dates suggest that central and northern Tigray had encountered soil erosion for extensive time after the early second millennium BCE (Bard *et al*., 2000).

Fattovich (2010a) stated that from Early to Middle Holocene, the highlands of Ethiopia received high amount of rain, and it caused to shift the original flow of Gash River to the present delta from its initial flow with the Atbara. Pollen analysis from Bieta Giyorgis indicated that during the Proto-Aksumite period the vegetation pattern was widely distributed (Bard *et al*., 1997). The vegetation cover of the area was overshadowed by shrubs and herbaceous plants representative of open vegetation and locales of human settlement (Bard *et al*., 2000). The settlement pattern increased from Pre-Aksumite to the Classic Aksum in the vicinity of Aksum as well as in the town itself (Fattovich, 2010a). Bard *et al*. (2000) stated that the Geo-archaeological studies done at Aksum in the early 1970s by Butzer (1981, 1982a, b) suggest that soil erosion became faster in the Early-Aksumite times (ca. 100 BCE- CE 400) as a result of heavy periodic rains and intensive land-use practices which led for the reduction of the vegetation cover. He also noted that the Late-Aksumite times (ca. CE 650-800) was characterized by a period of deep soil erosion raised by very intensive land-use activities and very heavy seasonal rains, and this action caused for the minimization of the agricultural capacity of the land of Aksum due to the removal its fertile topsoil.

Generally, using the geomorphological, palynological, archaeological and historical evidence Bard *et al*.(2000) and Fattovich *et al*. (2000) outlined the Paleo-environmental history of the Tigrean plateau as: (1) during the Early Holocene, the plateau was characterized by more humid climate with a heavier vegetation cover; (2) during the Middle Holocene, the plateau was distinguished by the beginning of soil erosion due to the activity of vegetation clearance and being the area drier; (3) during the Late Holocene, the plateau was represented by intensive use of agricultural practices as a result of the rise of a state; (4) from the early first millennium BCE to the mid-first millennium CE, the plateau was known by high soil erosion due to demographic pressure, and it reached its apex in the mid-1st millennium CE (Middle and Late-Aksumite Phases); (5) during the late first millennium CE (7th-8th centuries CE), the plateau was

characterized with the presence of environmental deterioration as a result of intensive cultivation and heavy rains caused high soil erosion; (6) during the early second millennium CE, the plateau was distinguished by the rebirth of the vegetation cover and minimization of soil erosion, and (7) during the second half of the second millennium CE, the region was characterized by continuous vegetation removal and it has become faster in the last 300 years.

Therefore, the study area the Paleo-environment of the area under investigation has experienced *weina dega* (local name) characteristic. But this does not necessarily mean that the entire region had experienced such conditions. But it needs a further scientific study to understand the real Paleo-environmental and Paleo-climatic conditions of the study area.

3.4. Current Environmental Conditions: Climate and Vegetation Cover of the Study Area

The climatic condition of central Tigray plateau in general and the study area in particular is characterized by the presence of a dry season almost for a period of nine or ten months. As the annual statistical reports of the Kuiha *Wereda* (2009 EC) indicates, the study area receives maximum amount of rain fall during the rainy seasons (from June to August) ranging between 259-300 mm, with maximum rain falling in July and August, and its annual temperature of the study area ranges from 23-25^{0}c. So, the climate type of the study area is generally classified under *Weina Dega* because of its temperature range similarity with one of the ecological zones-*Weina Dega*.

The study area has varieties of natural vegetation such as *Awhi*, *Sagla*, Bahrzaf and various shrubs. Those different types of vegetation are non-uniformly distributed over the study area. For instance, *Awhi* is dominantly found in the village of May Tsedo.

3.5. Contemporary Land Use: Crop Cultivation and Economic Patterns of the Study Area

The total population of the sub-city Kuiha is 65500. Out of the total populations, 53% are males and the rest 47% are females. All the inhabitants of the study area are Tigrians who speak Tigrigna language, and all of them are followers of Orthodox Christian religion (Annual statistical Kuiha in the *Wereda*, 2016 EC). Almost all residents of the study area live at the bottom of gentle slope hills placed each other in a horizontal manner. But, the physical proximity among them is various since some residents live closely and others live very far to each other.

For instance, the residents found in village of Billet are close to each other with an average of approximately one hundred fifty meter whereas the inhabitants of *May Tsedo* village live very far away to each other with an average of approximately six hundred meter. Moreover, the houses of the local residents of the study area show some quality variations probably due to the existence of economic differences among the residents.

Agriculture (both animal husbandry and crop cultivation) is the major economic activity of the residents of the study area. The agricultural practice in the study area is mainly dependent on seasonal rain fall for the whole year through irrigation (Kuiha *Wereda* Agriculture and Rural Development Office, 2016 EC). Majority of the arable lands of the study area are continuously cultivated each year through crop rotations. However, in some small arable lands, the cultivation process is not continuously practiced; rather, it is exercised every two years because they have less soil fertility which is not sufficient to grow crops efficiently every year.

According to Kuiha *Wereda* Agriculture and Rural Development Office (2016 E.C), the major crops which are widely produced in the region include teff, wheat, barley, sorghum and maize. But, teff is the most dominantly cultivated crop of the region. Cattle, goats, sheep and donkeys are the major animals which are herded in the region. In addition to animal husbandry and crop cultivation, many people of the study area involve in different activities like selling stone for construction and as guards in private companies. Therefore, every member of a house hold has his/ her own job responsibility given mainly based on age and sex. For instance, men mainly involve on plowing the land during the spring season and obtaining other revenues from different daily and monthly works; children usually involve in herding animals while on vacation, and women do variety of tasks at home.

CHAPTER FOUR

4. DATA PRESENTATION

The archaeological investigation conducted in *Kebelle May Tsedo* identified totally two archaeological sites. Those sites are asymmetrically disseminated in terms of their location and physical proximity in the study area. The archaeological sites of Qebaqb and nebar ketema are found in the same village – Billet but the distance among those sites varies. The distance between the archaeological site of Qebaqb and nebar ketema is about 800m with different physical settings.

Moreover, the density and types of archaeological findings in each site of the study area are not totally equal. Majority of the archaeological sites of the study area are located in cultivated areas. Hence, based on the concentration of the material type, location and their local name, the archaeological sites which were surveyed and identified in kebelle Billet are listed below with their detail description and identification.

4.1 The Archaeological Site of Qebaqb (QA-01)

The archaeological site of **Qebaqb (QA-01)** is found in village *May Tsedo.* The site is situated in uncultivated small gentle slope mound surrounded by the archaeological site (Emba Fikada) to the south west.

According to the local tradition, the term "Qebaqb", which is Tigrigna word in its derivation and linguistic utility has been started to serve as a name for the area holding the perception that once in ancient time there has been an outbreak/outburst occurrence accompanied by disastrous demolishing of existent infrastructures of the site. Likewise, the local inhabitant further tried to its nomenclature designation by the presence of small number of ruined structures scattered and easily discernable in the region, as immediate consequent and left over eye witnesses of the catastrophe of the Archaeological sites. Based on the local tradition, the place is believed to be a house with floors or story of rooms. Beside to this the term "Qebakib" came from a type of trees found in the area and use to in order to prepare food especially bread.

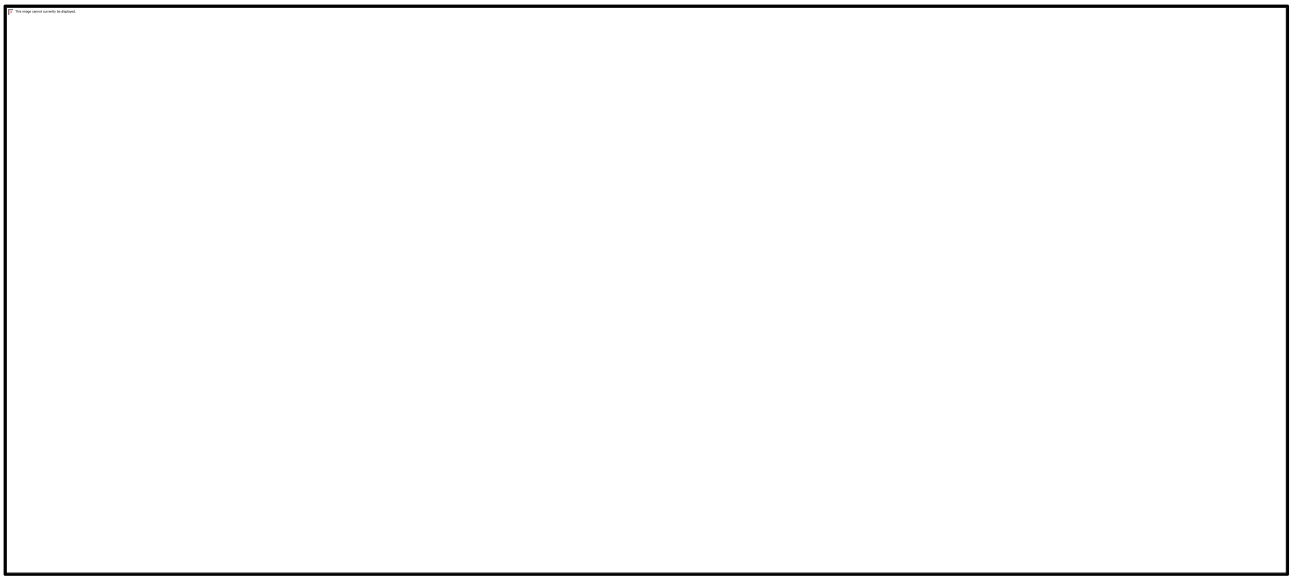
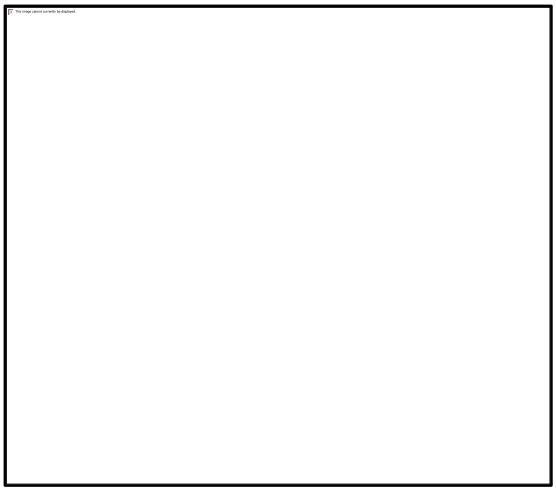
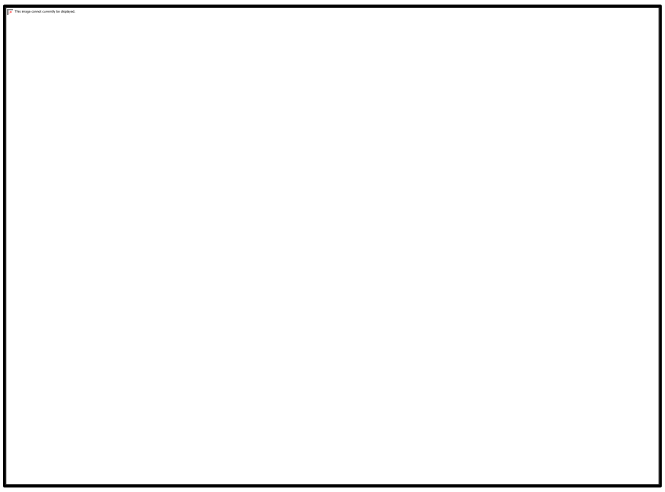


Figure 4.1 *The location of the archaeological site of Qebaqb (Photo: Brhane Berhe 2012 E.C)*

In this space, there are visible fragments of pottery and ash like soils. Consequently, this space indicates that there is something behind that deserves further detailed investigation. In addition to these archaeological features, the site also consists of fragments of pottery both decorated and undecorated, grinding stones. The pottery fragments are distributed in all corners of the archaeological site. Some of the pottery fragments have cross like decorations with reddish brown colors, incised vertical as well as horizontal lines with fired clay.





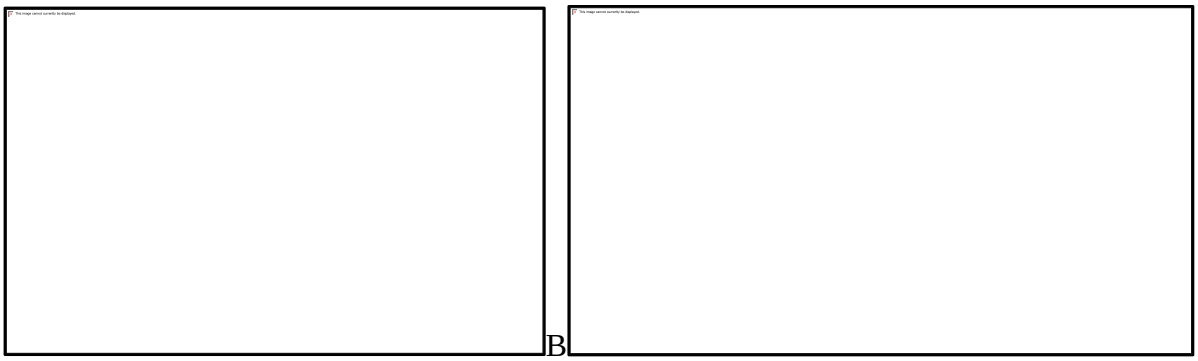


Figure 4.2 *Closer view of the archaeological site of Qebaqb (photo: Brhane Berhe, 2012 E.C).*

Different Types of archaeological objects were discovered from this area; most of them are lost and destructed through time and illegal trading of materials as well as due to agricultural activities. This potential archaeological site is found in wereda Kuiha particularly in Tabya *May Tsedo.* This site consists of different types of pillars and potsherds and probably it could be a burial site. Near this site boulders or large stones are being broken and sold for construction purposes. In addition to these archaeological features, the site also consists of fragments of pottery (both decorated and undecorated), grinding stones and ash like soils. The pottery fragments are distributed in all corners of the archaeological site.

However, most of the pottery fragments in the site are undecorated; there are immense diagnostic shreds with impressive decorations. Some of them have a hole with dot impressions. Others have also with internal vertical base relief molded set alternatively with ovoid boss distributed over the external surfaces. Likewise, other handle pottery fragments are also discovered in the site. Hence, they need further archaeological investigation to determine and extract further information regarding them either through residue analysis or other mechanisms. The detail information for these pottery fragments will be discussed in the analysis and discussion sections. And also, the site contains two cultural mounds separately placed to the north of the compound. Those cultural mounds are covered with abundance of well-designed rubble stones. It is found at the center of the arable land and is partially covered by plants mainly *machucho* and grass. Several potsherds were discovered together with the cultural mound.

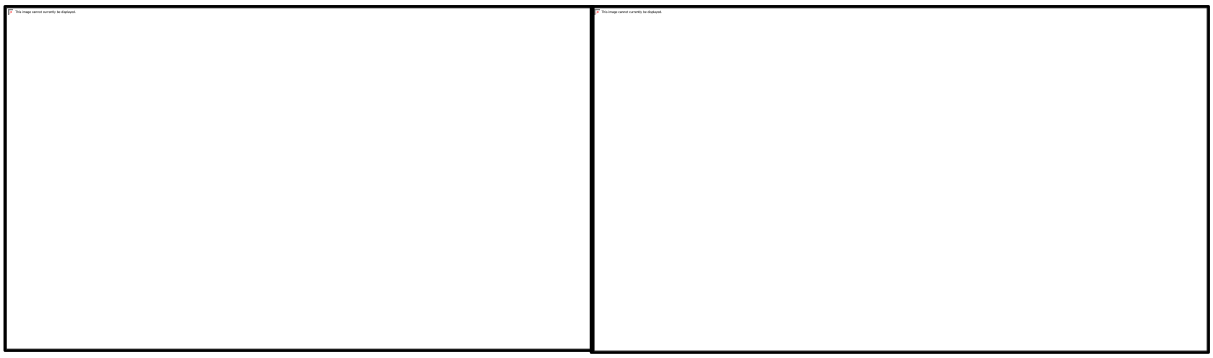


Figure 4.3 *The ruins/mounds found in the archaeological site of Qebaqb (photo: Brhane Berhe, 2015 E.C).*

4. 2 Ancient Ruins

Based on the local informants, this area was a residential place in the ancient time and as far as the researcher's observation the area is a real archaeological site but this needs further research. Within the ruins, especially before a few years ago different bones and gold were found. This site consists of different types of stelae and potsherds and probably it could be a burial site. Near this site boulders or large stones are being broken and sold for construction purposes. This site lies on densely concentrated building debris covered the ground, along with pottery fragments and small potteries and, then surface archaeological structures, such as well-dressed stone masonry and mounds are recognized at the middle part of the site.

4.3 Stone Slabs:

In this site dressed stone slabs are found probably used for structural function during the ancient time. Because, the slabs have joint like structure, especially on its top parts of stone slab and this indicates the purpose of these slab stones could be for structural function. These granite stone slabs also might be used as grave stones to cover the tomb. This stone slab also has holes or joints which might be helped to connect with other stone slab in order to construct large building or structures. Using such instruments, it seems that they used to make narrow and shallow holes in straight line in boulders to make stelae. It appears that they combined these holes with same instruments to make larger ones until they achieved their goal as remains of unfinished ones from several Aksumite quarry sites. Then, these stone slabs also had such kind of characteristics.

It has reddish color and seems to be sand stone. Unlike the stone slabs, according to the local informants, moreover, there are so many stone slabs which are transported /collected from the archaeological site of Qebaqb.

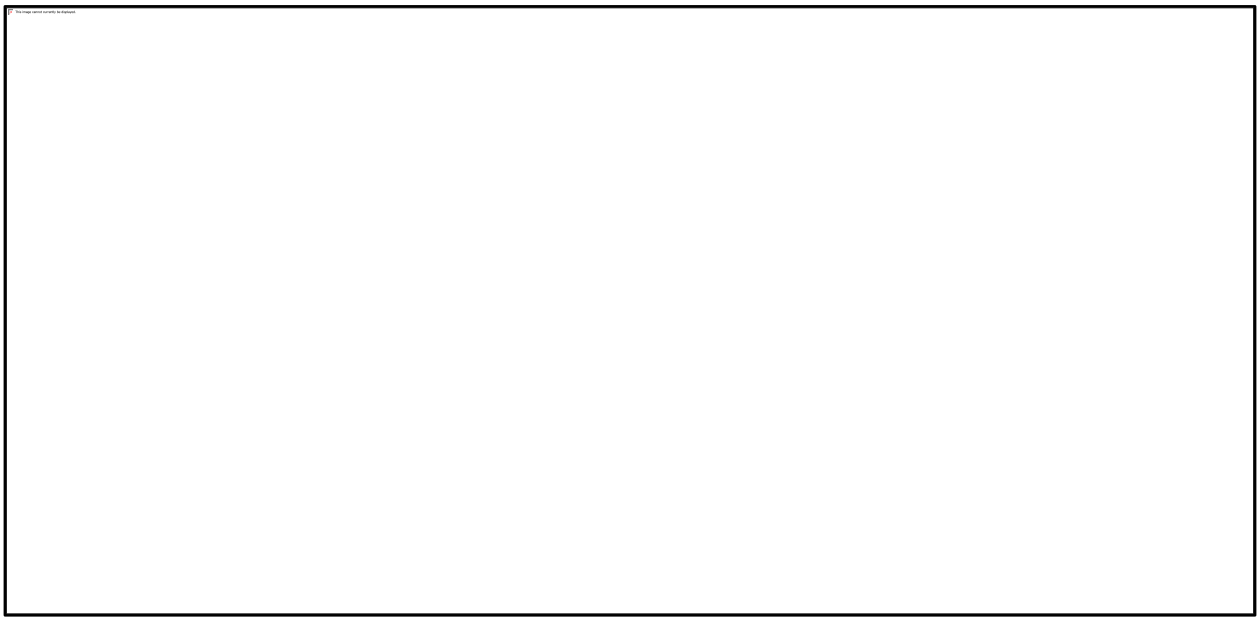


Figure 4.4 *Stones slabs in the yard of the site (photo: Brhane Berhe, 2012 E.C)*

4.4 Archaeological Site of Nebar Ketema

This archaeological site takes about 20-30 minutes on foot from the center of Kuiha ketema to the east direction. The marginal part of the site is specifically fringed by different land forms; small tributary gorges in its south and east direction.

According to the local inhabitants, currently, the site is partly wooded but during the rainy season ancient artifacts are usually exposed from their primary context due to flood and erosion. Beads, pottery fragments, ashy soils (that indicates early human settlement), distinct stone rubbles, fossils, burial sites, grinding stone, structure, stelae and sink holes are among the major findings identified from this archaeological site. According to the local residents, a public campaign for soil and water conservation has revealed sinkholes that are more than two meter in depth and complete vessels were uncovered from this site. Generally, this site possesses tremendous surface indicators that highlighted the existence of both exposed and untouched buried archaeological materials in the area.

This archaeological site entails a number of evidential archaeological materials that provide non hesitant clue of ancient settlement. Astonishingly, the site is also home for abundant bone fragments, especially at places excavated by animals like honey badger even though the bones are not yet identified as to which faunal species they belong. Furthermore, fired charcoal and grounds that retain ashes (probably hearth site) were also parts of the findings discernable in the site. Unfortunately, the site is currently being threatened through frequent flooding washing down from its upper catchments.

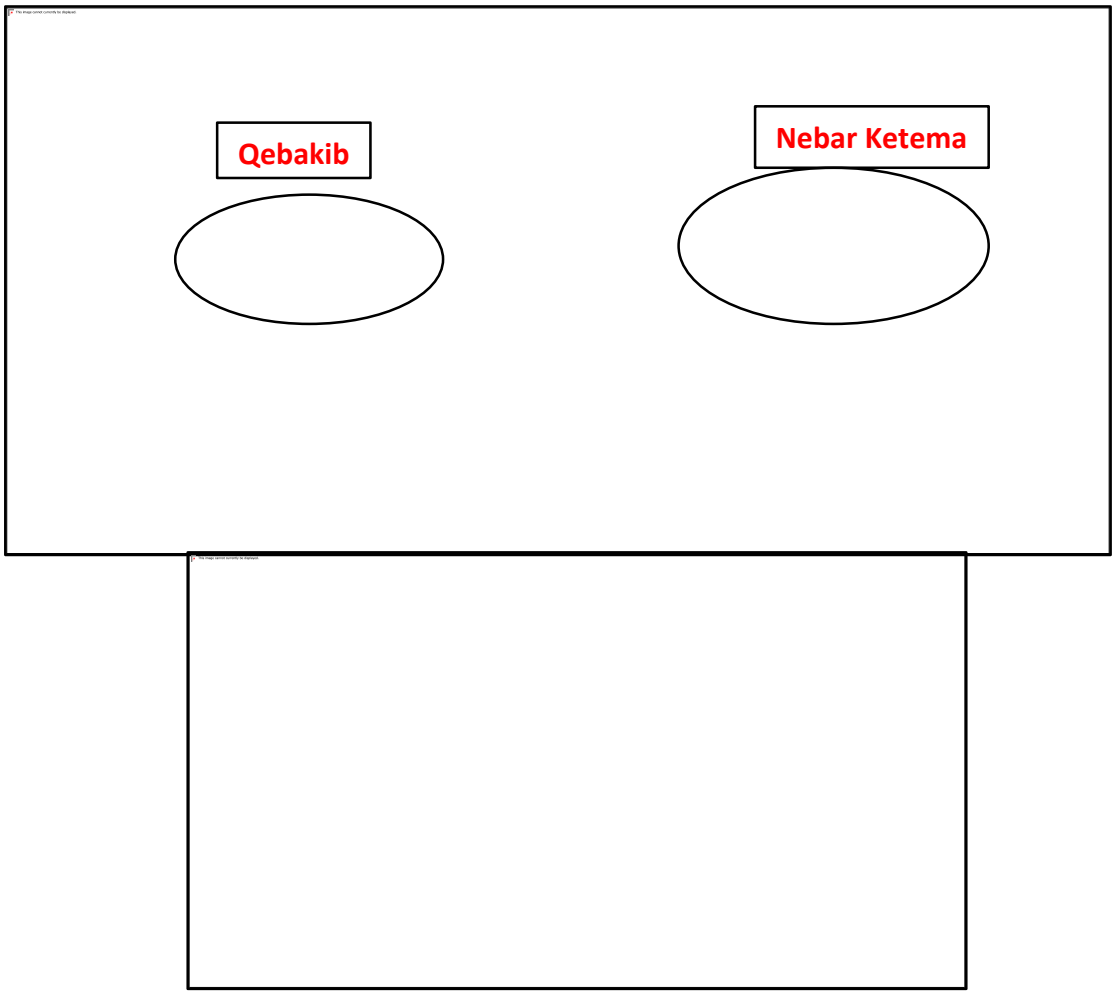


Figure 4.5 *Geographical location of the Archaeological sites (source: Google map, 2017 E.C).*

As mentioned earlier, the archaeological and religious site of *nebar ketema* is found somewhat in sloppy area and the compound of the church constitutes different types of material culture. Generally, the archaeological materials that are found in this site are:

4.4.1 Pillar

A large part of this pillar is buried and half visible step is shown because of summer seasons covered by some clay like the other pillars. The inclined but with partially fragmented step and smooth surface pillar is found the fallen pillars area (Enda cherqos church). The rest small pillars to be visible above the ground next to the inside with fallen pillars. The last shortest and fragmented visible pillar is located at the eastern end, right corner of the same line and just at four meters south of pillar. This pillar is almost buried and neither sharp corners step is recorded. However, clues from the remaining part indicate that the upper part of the pillar could have been taken by the local community in order to build house because fragmented pillars fond in there house.

All over the surface of the site, unevenly scattered fragments of pottery were recorded. The pillar field and the main site exhibit sparsely distributed largely eroded pieces of pottery. This is because topographically the upper part of the site is gently down sloped to the river and agricultural practice, such as irrigation. Land and hence due to the irrigation flood, the potsherds were moved down.

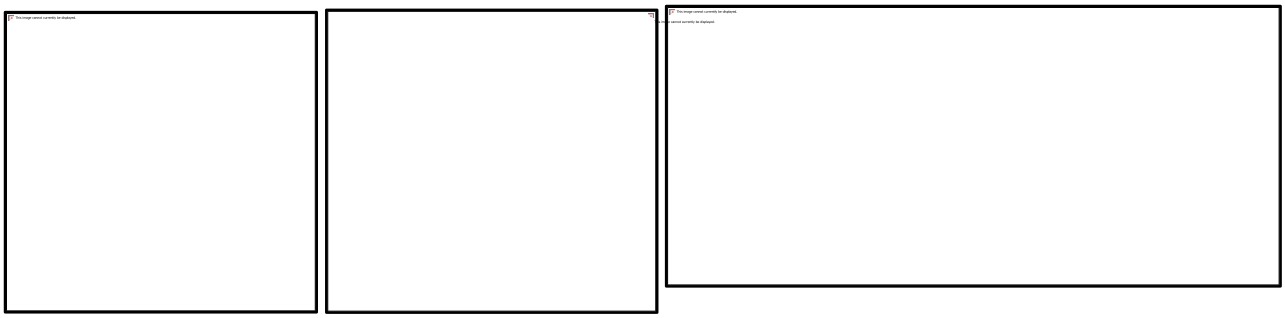


Figure 4.6 *Fragments of pillars found east of Enda Cherqos church (photo: Brhane Berhe, 2012 E.C).*

4.4.2 Potteries

The dominant archaeological findings which were documented from the archaeological site of Billet Cherqos (nebar Ketema) are the pottery fragments and vessels, bone fragments, remains of furnaces and grinding stones.

One small ceramic vessel is found in this archaeological site, only broken its handle. As a result of the researcher's observation on typology, the vessel is characterized by a red fine ware fabric, with smoothed internal and burnished external surface, evenly curved profile and rounded rim. These were made through clay minerals or soils and they are red in color just like the earliest

Aksumite potteries. Probably both look like the a cooking bowl and kuskusti (used for washing hands and other small activities). According to the local resident explanation, this was collected near the stelae during the summer season. And currently this archaeological material is kept and stored in the house of those individuals. The pottery fragments are distributed in all corners of the archaeological site. Since some of the pottery fragments are small in size and highly weathered by human and natural agents, it is difficult to distinguish their motive decoration simply. However, there are plenty of pottery fragments with impressive decorations either in their rims or other bodies of them. Some of them are with black burned colors and other with red brown and brown colors. some of the pottery fragments have cross like decorations with reddish brown colors, incised vertical /horizontal lines with fired clay and grey/ black colors and horizontal line decorations with reddish brown colors. Others have also with internal vertical base relief molded set alternatively with ovoid boss distributed over the external surfaces.

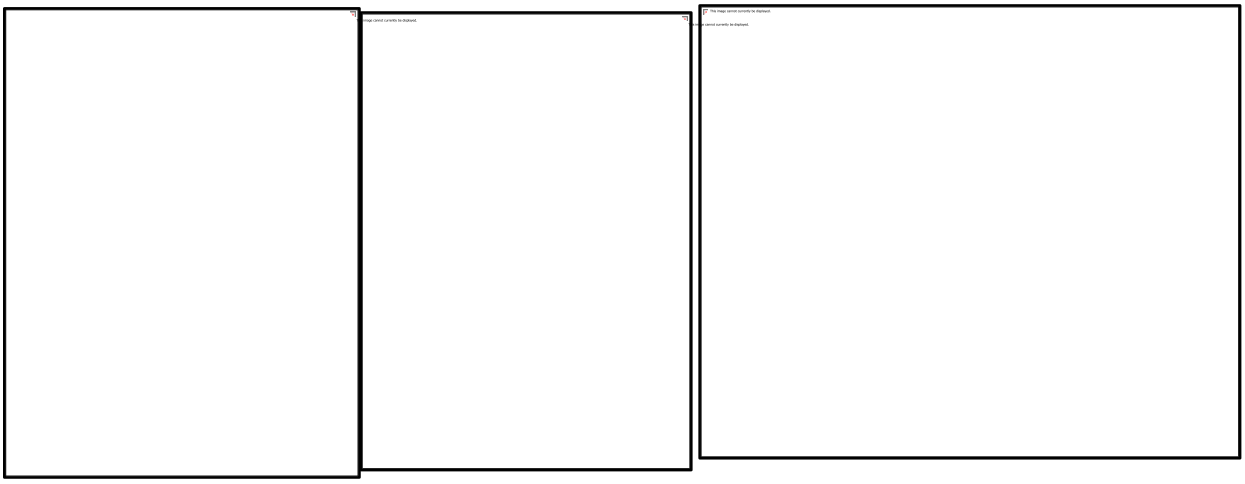


Figure 4.7 *Shows the undecorated (a) and decorated (b) pottery fragments from the archaeological site Billet Cherqos and nebar ketema (photo: by Brhane 2012)*

4.4.3 Grinding Stone

In the archaeological site of Billet Cherqos and nebar ketema, grinding stones are also found. The raw material for these grinding stone is possibly granite types and somehow polished. The purpose of these grinding stone was to grind cereals for the sake of preparation of food. Grinding stone is key tool in traditional farmers for food preparation in remote villages of Ethiopia. For example, according to L. Phillipson (2001), the function of grindstones is primarily used for grinding grain and understands through ethnographic analogy. The structure of these grinding stone resembles just like a steep convex forms, mainly at its top parts.

Upper grinding stones require both hands to manipulate in a back and forth motion. They are usually used in conjunction with a grindstone to mill grain or, less frequently, to reduce other substances to a paste or powder.

The salient features of grinding stones are closely related to and largely determined by some of the most fundamental economic and subsistence activities of the people who made and used them. Grinding stones are also present, but few, it seems, were large enough to grind corn and proof cultivation is lacking. The principal use of grindstones and their associated top stones, both at present and in the recent past in northern Ethiopia as in many other parts of the world, is for food preparation particularly for grinding seeds or grain to produce flour. Grinding-stone tools are a long-established technological tradition embedded in the livelihoods of hunter-gatherers, pastoralists, and agriculturalists alike. Throughout Africa, these implements come in a variety of morphological forms differing in functional and symbolic importance, though the interpretive potential of these seemingly self-evident tools has yet to be fully realized (L. Phillipson, 2001).

According to the informants, previously a number of grinding stones were found in the site. These grinding stones are not there on the site. The reason for the loss of these grinding stones is it may be buried on the site because of agricultural activity and the local residents take these and use for different activities (secondary use). Grinding and other stone tools are found in the private houses of the local villagers. While the small and broken grinding, pounding and other domestic stones are still visible on the surface. The grinding stone were uncovered from the agricultural land on the western side of the stone pillar.

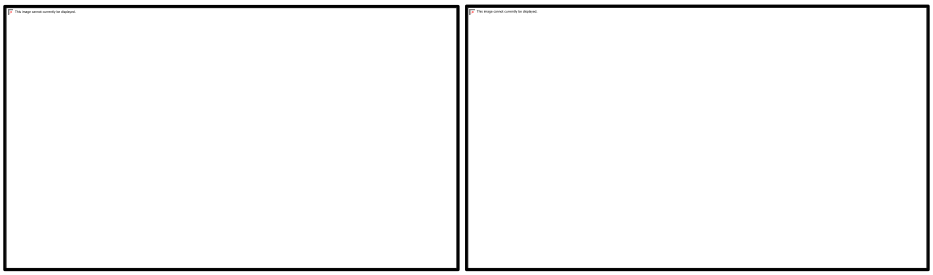


Figure 4.8 *Grinding stones in the archaeological site of nebar ketema (photo: Brhane Berhe,2012 E.C).*

4. 5 Current Conservation and Management Condition of the Archaeological Sites and their Material Culture

Both cultural and natural factors are the threats for the archaeological sites of the study area and its material remains. Some of these are: illicit excavation, development activities, agriculture and erosion.

4.5.1 Illicit Excavation: Looting

Being poor are the main reason for the destruction of heritages in Ethiopia in general and the study area in particular. For example, residents in the study area always search for archaeological material, maybe especially those different heritages in order to sell for their personal expense. If he or she gets any movable archaeological material from its surrounding area or whatever else, their main target is not protecting the heritage. Beside to this near to the area there are some residents living inside to the site of "Qebaqib" and still they practiced agricultural activities and they find some archeological evidences such as artifacts and they distract the site without any know how; as a consequence, they do not report to concerned office for the heritage protection. Rather they hide artifacts when they find them. For example, Ato Haben, resident farmer lives inside the site.

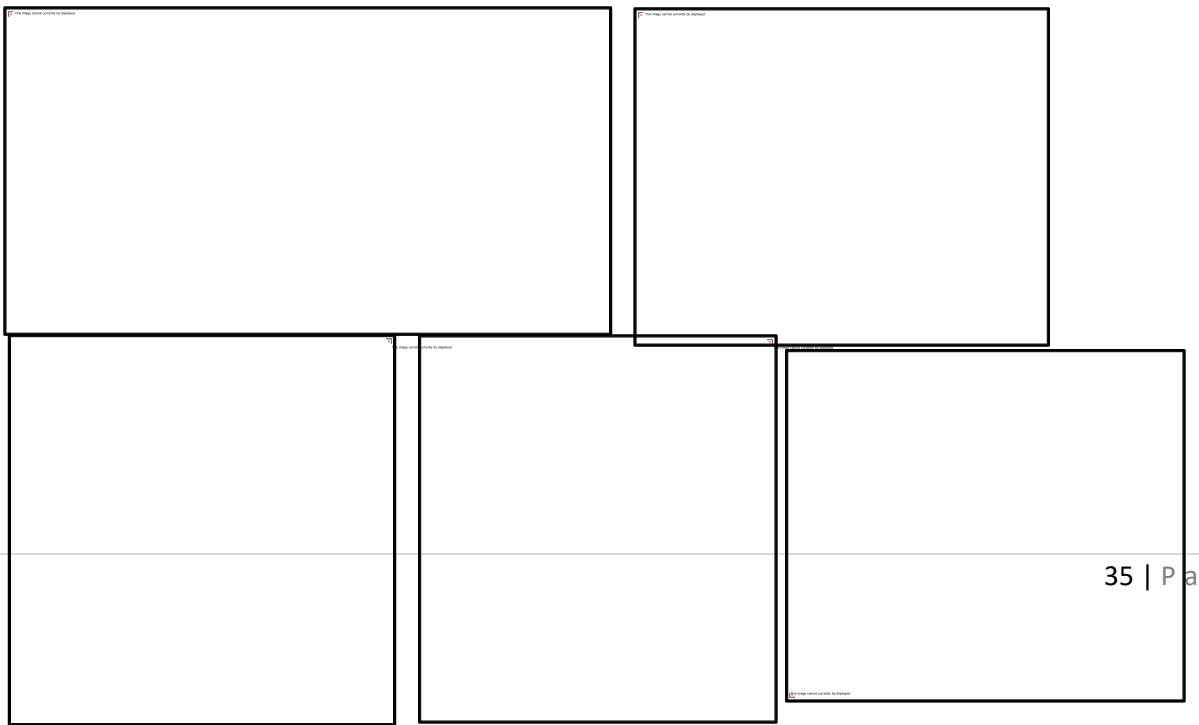


Figure 4.9 *Impact of looting /the destruction of archaeological site of Billet Cherqos as a result of illicit excavation; (photo: Brhane Berhe, 2015 E.C).*

4.5.2 Development Activities

The rapid growth of population in some heritage sites usually resulted in the emergence of dense settlements and illegal construction. Continuous human occupation and settlement have exposed the sites to erosion and environmental degradation. Moreover, problems associated with sanitation have largely reduced the aesthetics of heritage sites.

The fact that there is no tradition of undertaking environmental impact assessment before introducing certain developmental or any other project is another shocking problem affecting heritage sites of this study area. Then, expanding of settlements due to a very rapid demographic growth in the area is another major cause for the destruction of archaeological sites with its material culture. Most recent compounds are built on ancient rural sites destroying any evidence of them. Illegal quarrying to get stones for construction is a series danger for most archaeological sites of the study area and its material cultures, and this leads to an increment of erosion; mainly on the sites of Billet Cherkos (Nebar Ketema).

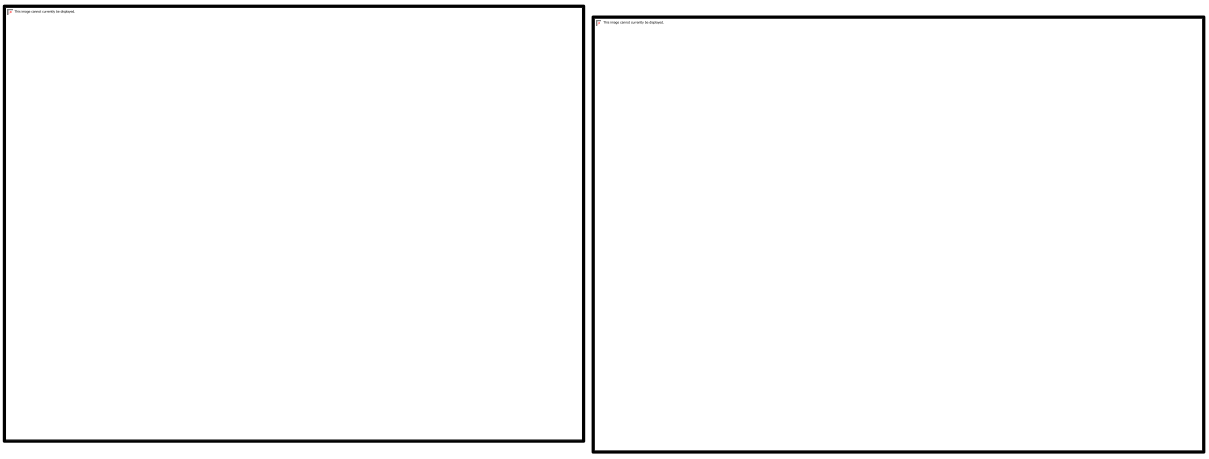


Figure 4.10 *The impact of development on archaeological site of Billet Cherqos (photo: Brhane Berhe, 2015E.C).*

4.5.3 Agricultural Practices

Archaeological sites are also affected by cultivation processes, because stones from ancient structures are collected to cover the cultivated fields in order to maintain soil humidity or to build agricultural terraces and this is also caused through anthropogenic/human activities. In addition

to this, archaeological materials are destructed or got damaged through repeatedly use of land for agricultural activities, because mostly they are found scattered and distributed on the surface, especially those of potsherds. Moreover, animals also destroy such like archaeological materials while over grazing the land. Definitely such kind of activity occurred on the archaeological sites of the study area such as Qebaqb and nebar ketema.

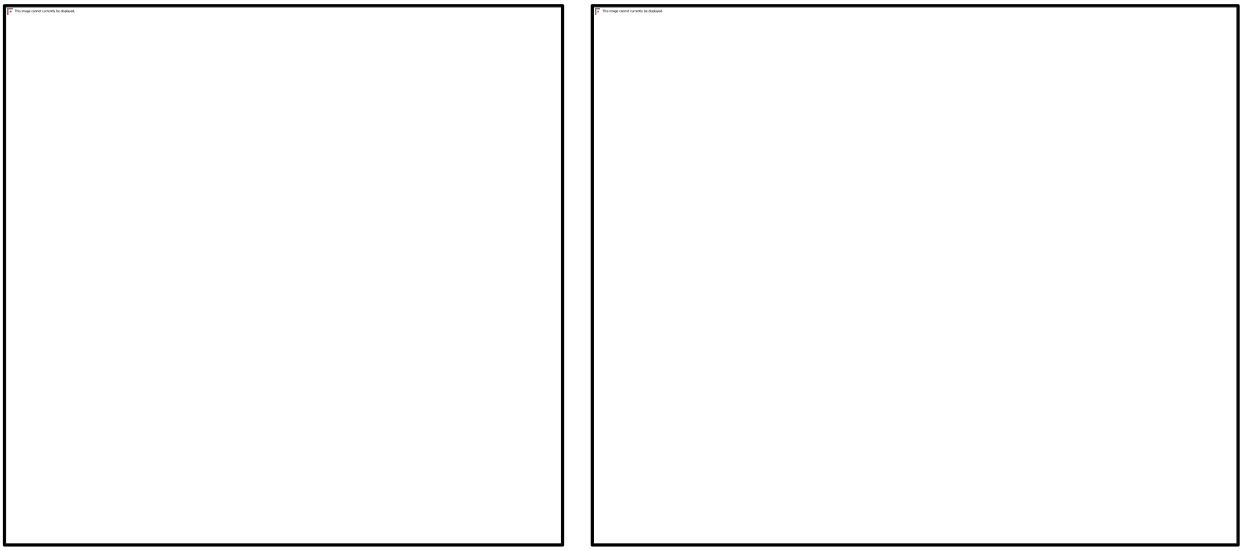


Figure 4.11 *Impact of agricultural practices in the archaeological site of Billet cherqos and Qebaqb (photo: Brhane Berhe, 2015 E.C).*

4.5.4 Physical contamination and construction activity

Physical contaminations are also other cultural factors in diminishing the value of the archaeological sites of the study area. It is obvious that, there are finding which did not need to have a physical contamination. If somebody touches them, they seriously broken down or easily destructed. So, to escape from such severs, they need to have some special handling or keeping in the archaeological site.

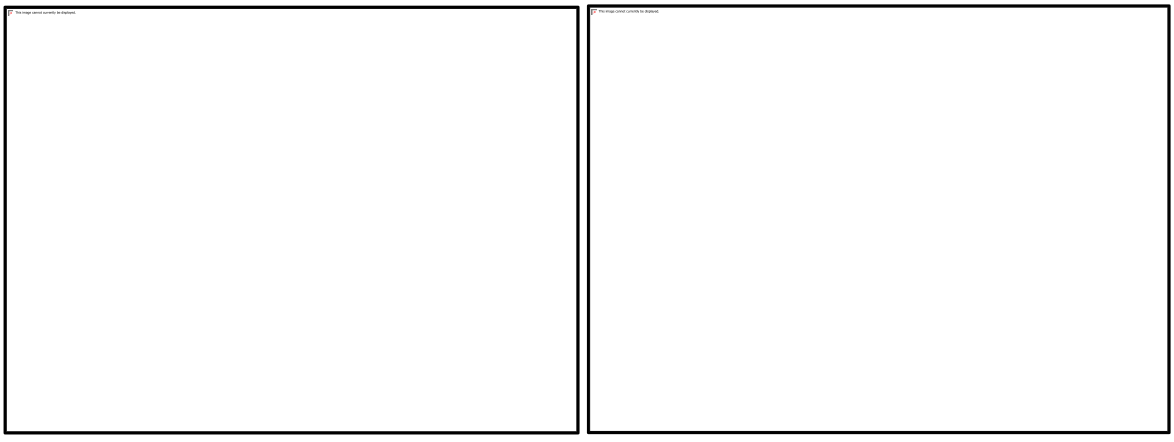


Figure 4.12 *Damaged grave with remains of human bones? (photo: Brhane berhe 2012.)*

4.6 Fossil Remains

Numerous humans as well as animal remains are also available on the agricultural fields. Human skeletal remain for instance skull, humerus and Tibias are commonly discovered during farming and when natural agents disturbed the site. Some of the probable ancient human remains that able to be seen on the surface comprise skull fragments and humerus from these findings the site might be used for burial site. Despite the rich archaeological potential and its associated information that can be explored from the site and their roles to narrow the gap of archaeological knowledge in the reconstruction of the culture history, this site is being threatened by cultural and natural agents.

The site was possibly believed to be a religious and political center due to the existence of ruins of ancient remains of building with the holy place. The area also incorporated an evidence of settlement and other activity areas that indicate human was lived for long span of time. The main reason for the establishment of this site might be due to the environment is located in a strategic place which provides enough resources. The geographical landscape also gives important clue about the ancient civilization in the area because of the availability of enough water sources, strategic place that can protected from enemies and fertile landscape for agriculture. Accordingly, the archaeological site of nebar ketema is bounded by large cliffs on all parts except on the southern direction with flat land. Because of that starting from the ancient time the site might be a settlement area with localized administrative structure. Bones and mounds are also documented on the north western part of the site.

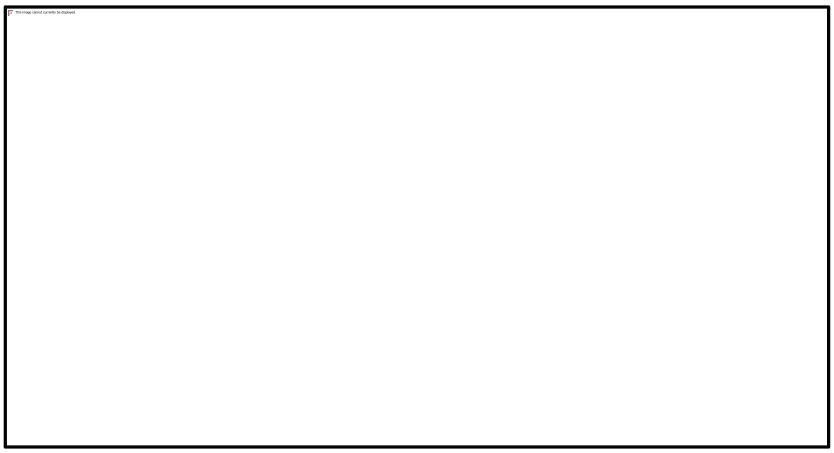


Figure 4.13 *Bones found from the Archeological site of nebar Ketema (Cherqos Kuiha) (photo Brhane, 2012 in EC).*

CHAPTER FIVE
DATA ANALYSIS AND INTERPRETATION

5.1 Comparative Analysis

As mentioned before, the collected data was analyzed through qualitative methods by describing and triangulating different ideas as well as through figures. Cross-checking various results of analysis enables to obtain complementary, consistent research results that cannot be obtained by a single natural scientific analysis. Therefore, the researcher makes analysis as follows.

5.2 Pillar

At the western side of the church end of the right corner just 2.5 meters south of pillar, the rest pillars are found approximately (2.30_ 2.50 c.m) pillar is found. A large part of this pillar is buried and have half visible step is shown because of summer seasons covered by some clay like the other pillars. The inclined but with partially fragmented step and smooth surface pillar is found the rained pillars area (Enda cherqos church). The rest small pillars to be visible above the ground next to the inside rained complex. The last shortest and fragmented visible pillar is located at the eastern end, right corner of the same line and just at four meters south of pillar. This pillar is almost buried and neither sharp corners step is recorded. However, clues from the remaining part indicate that the upper part of the pillar could have been taken by the local community in order to build house because fragmented pillars fond in there house.

All over the surface of the site, unevenly scattered fragments of pottery were recorded. The pillar field and the main site exhibit sparsely distributed largely eroded pieces of pottery. This is because topographically the upper part of the site is gently down sloped to the river and agricultural practice, such as irrigation.

5.3 Grinding Stone

According to Duffy (2011), the lithic nature of grinding materials made grind stones often to be the only artifacts in the archaeological record containing important evidence of food processing behaviors of ancient populations. Processing pigments, cereals and other plant foods using grind stones and related artifacts by human beings dated back to prehistoric times. Despite grinding technology appears in early prehistory, its expansion seems to coincide with the event of transition from gathering-hunting societies to farming societies (Dubreuil, 2001). Important archaeological evidence of grinding stones has been discovered from different sites in Ethiopia. (L. Phillipson, 2001).

There for the grinding stone of the entrance of the road of "Enda Cherqos" church and starting from human being up to court (Gari) local name. And its characteristics are the same to the others found in different archeological sites they youth for the sack of preparing food. Beside to this the nature of the stone is metamorphic rock.

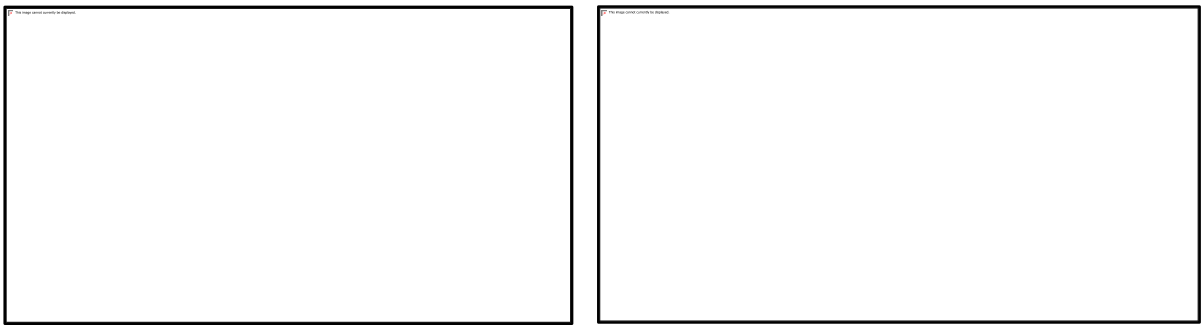


Figure 5.1 *Grinding stone in the archaeological site of nebar ketema (photo: Brhane, 2012, 2015 E.C)*

5.4 Potteries

Clearly open types of bowl used for serving liquid, and comparable pieces are known in the Aksum Museum and in private collections (Munro-Hay, 1989). Similarly, different kinds of ceramics (eg. large pots, bowls-mainly ring based bowls) and potteries/potsherds (fragmented one) are also found from the archaeological sites of the study area. But, for the time being it is difficult to analyze these all types of potsherds and the researcher took representative samples to analyze these archaeological data as presented in the figure below.

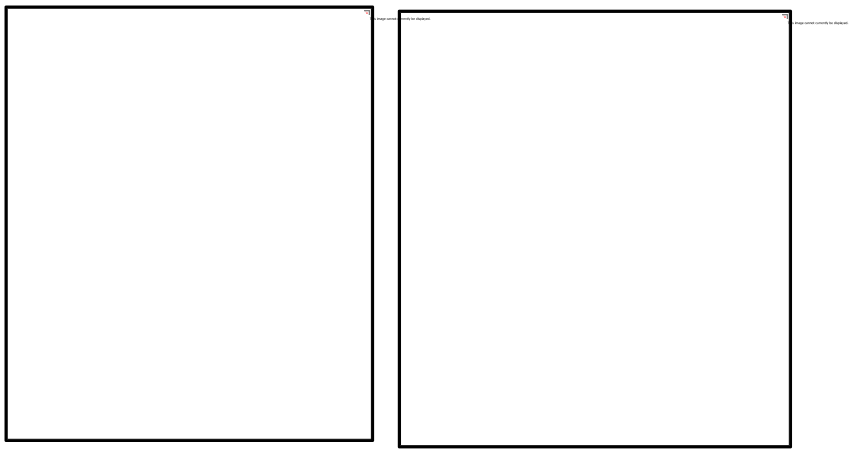
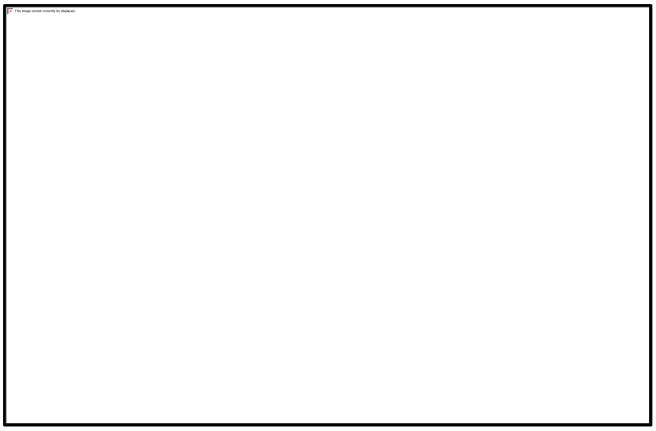


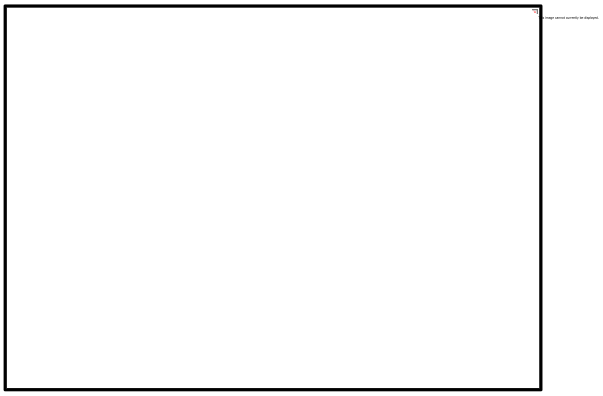
Figure 5.2 *Samples of potsherds around the site of nebar ketema (Photo: brhane, 2012 E.C).*

Potsherds are any pottery fragment or piece of broken pot or other item and that has an archaeological significance or the invaluable part of the archaeological record. And when we come to the billet cherqos potsherds or pottery's can gain beneath of the ground with the association of another type of pottery an as Hypothesis give explanation till know those potsherds are use by the ancient axumaite the communities lived away because when we see the fragmented potsherds are or most of them are have the characteristics axumite and post axumite characteristics and beside to this when we see some of the potsherds have a Christian cross, Beside to this the area because till now the site were bounded with the Christian communities. And the pottery making technology is some of them are decorated with a black ripped and made up from red and black clay and decorated with finger and stick.

5.4 wall structures found in the study area

Most of tigray churches are rich in archaeological, historical, and religious indication. From these churches billet Cherkos (nebar ketema) was one of the rich archeological site in palace of the kings and their past history. And inside the boundary of the "Qebakib" and nebar ketema church of Enda cherkos church we can gain a palace which excavated by the French archaeology team and back felled (till note finish). And the site has a great aksumite structure. My consideration on the Hypothesis is they are different because End Cherkos palace has fully aksumite architecture. Even the site of Qebakib is most probable futures are found in the site, but by the natural and cultural factors the site at this time very damaged and decaying its original history. Than we have to conducted a scientific excavation.





A B

Here the difference is the figure A is resent photo and there is a distractions of wall structure because of that I mentioned before the natural is Example rain, the cultural disaster is the communities they don't have any knowhow and they only assume to sell the artifacts to the foreigners only but the local scholars maybe they knapped me than they distract lots of wall structures.

5.5 Discussion

Most of the archaeological sites are located in which placed on the large productive environment. These sites are mainly associated with channels, flood plains of streams and large rivers in which early humans favored such location for permanent settlement in order to have ample natural resources like water, fertile soil for agriculture and other constituents for their way of life. This enable to suggest that at the time of initial occupation of the sites the people might be served caves as a house.

The pottery artifacts and other associated material culture like burial sites, stela, ruins of building, grinding and stone tools, religious centers and other geographic information indicates intensive and continuous occupation of the area since long times. The ancient settlement, subsistence, cultural and landscape history, economic strategies, site chronology and function of the ancient complex societies are able to understand from those primary sources. Mound structure and fragmented potsherds which may be Aksumite and post Aksumite distinctive cultures are also found on much of these archaeological sites.

Large numbers of pottery fragments are discovered in vast settlements with indications of monumental buildings and in some cases possible tombs. These kinds of potential environmental data are more widely scattered in almost all sites which informs the existence of settlement in the ancient times on various parts of the area of study. These settlements might be for administrative bodies or ordinary peoples probably dated to Aksumite or pre-Aksumite period.

Also, the evidence of such prestige objects and impressive buildings may suggest human occupation and trade activity (Fattovich, 1999). The ancient societies select to live in this area maybe due to availability of environmental resources, its strategic location on the ancient trade route and for defense purpose. The location of the study area is positioned at the junctions of several ancient trade routes between the ancient capitals of Aksum, Yeha and Adulis probably since pre-Aksumite period (D'Andrea, 2008).

The routes perhaps extended to the area of study and its surrounding due to the existence of numerous archaeological sites and material remains which prove that the inhabitants of the site were having a line of external exchange or communication. Hence, the archaeological sites of Qebaqb as well as nebar ketema and others might be resulted from the formerly abandoned centers of ancient trade routes and settlement areas. The area was possibly served as a center for the exchange of locally produced commodities. If this may be a reason for extended and continuous occupation of these sites it would be upcoming task of detailed investigation.

The material cultures on these sites represent for both administrative bodies and ordinary societies who lived in a different area. The trace they left were found along the massive, flat and extended granite plain lands and valleys, at the bottom, middle and top of the hills as well as on the river banks that widely regarded as the common place.

Potteries, ruined settlement, grinding stones, unidentified bones and human skeleton are some of the associated materials found in the site. Most of the settlement pattern in each site was characterized by widely scattered rural community located near hills and on cultivable open areas. The area is currently inhabited by peoples practiced mixed economic system both agriculture and animal herdeing on the bare grazing land. They involved in identifying the non-renewable archaeological resources on the ground. As a result, in the time of ploughing / cultivating the plot of land, constructing their houses and churches, digging to find precious

materials, weeding the grass from the crops, harvesting and other human agents they expose many archaeological records in their environment.

Grinding stones and gold cross were also discovered from this site during harvesting, plowing and weed removal.

The pillars were revealed long time ago but still present they are removed since every one not understood its value for the next generation. While in the archaeological site of nebar ketema potteries and other unidentified materials were exposed under the recognition of the local governing bodies with the hope of finding gold and other very important elements.
The archaeological sites comprise movable and immovable material cultures that prevalent at the settlement area starting from their initial occupation in the earlier period.
Although some of the archaeological sites and few man-made elements are survived still present but most part of the traces was lost and minimized from time to time after the ancient people leave it directly. The possible reason for this may be due to lack of knowledge and ignorance of the peoples who live in the previous and know in the area and with the blind believe of the ancient sites could have valuable materials for private benefit. Naturally, the sites are also situated in a comfortable place for everything especially for agriculture and resettlement by the earlier and current society.

The duration of occupation how long the site is used by the pioneer peoples before it was reused by the later societies and do them put down evidences which cannot easily perishables that able to resist the cultural and natural impacts is important for their existence. This leads to differ one site from the nearby in terms of quantity of materials, time period, range of the data and there. The reason for ceasing and leaving of the ancient society in these archaeological places appears to have been due to long term climatic and manmade factors which affected a wider area (Bard et al, 2000; Hemming, 1961; Phillipson, 1998).

It is possible that environmental and geological factors were the responsible factors that disappear the site in the previous generations. This can be directly recognized when the area is dug in the day-to-day activities every one found numerous complete skeletal remains of animals, humans and plants with wide-ranging house hold goods and ruins of buildings. This kind of

massive collection in the area indicates it might be covered randomly with any natural hazards that can be the possible reason for the demise of this ancient settlement. Legend also supports this indication about the termination of these settlement areas. The loss of the long trade route that was existed between Aksum via Adulis might be another reason, if the site was significantly benefited from such ancient trade route.

The certain period in which the sites completely abandoned are not assured that needs further investigation through scientific techniques using advanced materials. The fine structured buildings, tombs and stela in the area is possibly an evidence for the survival of local governing bodies with their own religious and political centers. This indicates the region was inhabited by well-organized societies that could able to manufacture a spectacular houses, church and palace structures, stone and metal tools, different stylistic potteries and stone slabs or stelae which have higher level of manufacturing skill.

This suggests the presence of technologically advanced peoples through cultural and social interaction with in locals and out of the locality. As a result, many end products of stones and soils are still alive even if pottery is the most commonly found throughout the study area and is present at all sites which confirms possible ancient occupation of the area.

CHAPTER SIX
CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

The Horn of Africa particularly northern Ethiopia is one of the richest regions in Africa with respect to archaeological remains. Archaeological study in Aksum has started since the 16th CE, but only a few archaeological sites have been investigated and excavated so far (Fattovich *et al*., 2000). Even many of those few studies that have been conducted on the Aksum-Yeha, West-East axis and South-North of Aksum are restricted within 10 km radius to the south and north of Aksum (Kobishchanov, 1979).

Although the area under investigation remained so far uninvestigated, an archaeological survey and documentation on the archaeological sites of Qebaqb and nebar Ketema in wereda Kuiha, enabled to identify totally two potential archaeological sites. Those sites are categorized based on the concentration of the material types, location and their local name. The study resulted several findings, such as roughly designed pillars, ruined structures, stone slabs, ceramic artifacts/sherds, grinding and polishing stone artifacts, obsidian and chart artifacts, column bases and constructional rubble stones.

Overviews regarding the characteristics of each site like type, spatial distribution and tentative chronology including the behavior of their inhabitants are inferred by the type and concentration of their material cultures discovered at each site. Most of the sites documented during the study shown evidence of Aksumite settlements mainly from the characteristics of ceramic artifacts, fired clay bricks, stone slabs, column bases and stone bowls.

Hence, the tentative chronology of the sites of the study area are: the archaeological site of Qebaqb dated to the Aksumite period ranging from about the 1st to the 5th centuries CE based on the characteristics of ceramic objects documented at the area; the archaeological site of *nebar ketema* dated to Late-Aksumite and Post-Aksumite periods in association to the ceramic artifacts.

Some material remains of the ancient settlements of the study area show similarity with the Aksumite sites found in/ close to the center of the Aksumite civilization. Therefore, the discovery of sites dominated by Aksumite settlements in these interconnected Kebelle as well as

the presence of remnants of elite society at the site indicates that the study area was one of the nucleus centers of Aksumite kingdom.

Moreover, the discovery of diverse findings among the sites and at a single site shows the existence of communities who had varied social status within and among the sites. Most of the sites of the study area are located in arable lands which have fertile soil suitable for agricultural productivity. Moreover, some of the sites which have now less soil fertility might have fertile soil in the past. Furthermore, many of the sites of the study area are located along the naturally resourceful areas like near streams and River.

Accordingly, the ecology of the study area might have played a significant role for choosing ancient communities to live there.

Finally, this preliminary investigation attempted to assess the current condition of the sites and their material cultures of the study area. Hence, majority of the sites and their objects are under serious problems caused by: cultural factors, such as agricultural practices, developmental activities (road expansion and building constructions), negligence and poor handling, and natural factors, such as erosion, flood as well as animal trampling and burrowing. Comparing to natural factors, human factors are the major destructive agents of the sites and their material cultures of the study area.

6.2. Recommendations

The preliminary archaeological study enabled to add some new information which is not documented so far.

Moreover, an attempt to identify, document, describe and analyze the findings of the sites, identify the function of the sites, describe the characteristics of the ancient communities who lived in the sites and to outline the tentative chronology of the sites has been done.

However, it is difficult to get in-depth and reliable evidence about the socio-economic, cultural and political aspects of the people who occupied the region in the past as well as the accurate chronology of each site based on the scant and in some cases contextually disturbed information.

Moreover, the sites and their associated material cultures of the study area are under bad condition due to both cultural and natural hazards.

Therefore, the researcher finally put the following recommendations in order to discover deep and detailed information about the above mentioned ideas as well as to minimize the major damaging factors of the sites and their associated material cultures:

- Based on the important clues observed from the surface in all identified sites, well-organized and multidisciplinary archaeological investigation should be carried out in each documented site of the study area in order to generate detailed information of the ancient communities of the region.
- Scientific geological, geomorphological, zoo-archaeological and environmental studies should be carried out by multidisciplinary experts to get better understanding of the geological and environmental of the study area in general and the site formation processes in particular.
- Well-organized and proper documentation of oral history of the study area must be carried out since oral history plays a key role to obtain much information about the region's past together with the archaeological evidence albeit the oral history of the study area is not documented so far.
- The government should promote the site to be a center of scientific research and tourist destination area since the study area has potential heritage resources but local communities are not benefiting from it.
- The government (different project planners) must conduct environmental impact assessment before the expansion of different developmental activities in any areas of Quiha in general and in the study area in particular.
- The proclamations of the country (Ethiopia) enacted for heritage protection should be implemented since the proclamations are not implemented practically or are not working on the ground, rather they are almost paper value.
- Public education about the economic, social and cultural values of the heritages and means of protecting them should be given to the local administrators and residents by responsible bodies like Mekelle Culture and Tourism Office and Mekelle University. Because, many people are actually living in or use sites and objects that are part of the cultural patrimony

without being aware of their significance result much loss of the irreplaceable heritages permanently.

- The major cultural and natural heritage destructive factors of the study area, such as developmental activities, agricultural practices and erosion have to be minimized by conducting proper conservation activities for the sites and their objects. For instance, conservation attempts like conducting rescue archaeology, relocating the position of the flow of water in a way which does not lead to site erosion, fencing and sheltering of sites should be done by responsible bodies like ARCCH, Mekelle University and Mekelle Culture and Tourism Office in order to protect the sites from those severe natural and cultural hazards.
- Lack of experts like archaeologists and heritage managers at different offices starting from Wereda up to Federal levels is the most serious issue in which government has to be solved soon. Therefore, Professionals should be employed at different levels starting from Wereda up to Federal in order to minimize the destruction and loss of heritages at different areas of the country as well as to achieve the country's transformational plan of development through the expansion of tourist destination sites.
- Generally, well-organized and continuous archaeological excavations should be carried out in the sites of the study area in order to extract in-depth and reliable evidence about the socio- economic, culture and political aspects of the people who occupied the region in the past, and to establish the accurate chronology of each site as well as make the sites a major tourist destination area by extracting and promoting their potential.

Reference

Ashmore, W. and Sharer, R. (2003). Archaeology: Discovering Our Past (3rd Ed). New York: Mc Graw Hill Companies.

Asfawosen Asrat (2002). "The Rock-Hewn Churches of Tigray, Northern Ethiopia: A Geological Perspective", Geoarchaeology: An International Journal, 17(7): 649-663.

Ayele Tarekegn (1997). "Aksumite Burial Practices, The 'Gudit Stelae Field', Aksum". Aspects of African Archaeology,1: 611-619.

Bard, K. A., Fattovich, R., Manzo, A. and Perlingieri, C. (1997). "Archaeological Investigations at Bieta-Giyorgis (Aksum), Ethiopia: 1993- 1995 Field Seasons". Journal of Field Archaeology, 24: 387-403.

Bard, K. A., Coltorti, M., Di Blasi, M. C., Dramis, F. and Fattovich, R. (2000). "The Environmental History of Tigray (Northern Ethiopia) during the Holocene: A Preliminary Outline". African Archaeological Review, 17(2): 65-86.

Butzer, K.W. (1981). "Rise and Fall of Aksum, Ethiopia: A Geo-archaeological Interpretation". American Antiquity, 46(3): 471-495.

Buxton, D. (1970). The Abyssinians, London.

Buxton, D. (1971). The rock hewn and other Medieval churches of Tigre province, Ethiopia.‖ *Archaeologia .103 pp* 33-100.

Curtis, M. (2005). Archaeological Investigations in the Greater Asmara area: A Regional Approach in the central highlands of Eritrtea (PhD. Dissertation), University of Florida.

D'Andrea, A. C., Manzo, A., Harower, M. J. and Hawkins, A. L. (2008). "The Pre-Aksumite and Aksumite Settlement of NE Tigray, Ethiopia". Journal of Field Archaeology, 33(2):151-176.

Dubreuil,2001, New Discoveries in Eritrea: The Early Pre-Aksumite Period and the Rise of Cultural Complexity in the Horn.University of Florida and University of Asmara. 23, 1-33.

Fattovich, R. (1987). "Some Remarks on the Origins of the Aksumite Stelae". Annalesd'Ethiopie, 14: 43-69.

_____ (1988). "Remarks on the Late Prehistory and Early History of Northern Ethiopia". In Beyene, T. (ed.), Proceedings of the eighth international conference of Ethiopian

Studies (pp. 85-104). Addis Ababa: Institute of Ethiopian Studies.

_____ (1990). “Remarks on the Pre-Aksumite Period in Northern Ethiopia”. Journal of Ethiopian Studies, 23:1-33.

_____ (1999). “The Development of Urbanism in the northern Horn of Africa in Ancient and Medieval Times,” in Sinclair, P. (Ed.), The development of urbanism in Africa from a global perspective, Online publication: http//www.arkeologi.uu.se, Uppsala.

_____ (2001). “The Horn of Africa. In T. Murray (ed.)”, The Encyclopedia of Archaeology 2: History and Discoveries, I (pp. 35-43). Santa Barbara (CA): ABC- Clio.

_____ (2004). “The Pre-Aksumite State in northern Ethiopia and Eritrea Reconsidered”, in Lunde, P. and Porter, A. (eds.), Trade and Travel in the Red Sea Region (pp.71- 77). Oxford: Archaeo Press.

_____ (2005). “The Archaeology of the Horn of Africa”, in Walter Raunig and Steffen Wenig (eds.), Afrikas horn (pp. 3-30). Wiesbaden: HarrassowitzVerlag.

_____ (2010a). “The Development of Ancient States in the Northern Horn of Africa, ca. 3000 BC-AD 1000: An Archaeological Outline”, World Prehistory, 23:145-175.

_____ (2010b). “Uno Archaeological Expedition at Aksum (Tigray): 2009 Field Season Final Report”. Newsletter di Archeologia CISA, 1:85-112.

Fattovich, R. and Bard, K. A. (2001). “The Proto-Aksumite Period: An Overview”. Annales d’E´thiopie, 17:3-24.

Fattovich, R., Bard, K. A., Petrassi, L. and Pisano, V. (2000). The Aksum Archaeological Area: A Preliminary Assessment. Napoli: Istituto Universitario Orientale.

Finneran, N. (2007). The Archaeology of Ethiopia. New York: Routledge.

Fluzin, P. (2004). “The Process Chain in Iron and Steel Making: Archaeological Materials and Procedures the Contribution of Metallographical Studies. In the Origins of Iron Metallurgy in Africa, New light on its Antiquity, West and Central Africa”. Bocoum, H. (ed.), UNESCO Memory of Peoples, 1:65-96. Griffiths, D. (1999). “The Role of Interdisciplinary Science in the Study of Ancient Pottery”. Interdisciplinary Science Reviews, 24(4): 289-300.

Phillipson, D. W. (1977). The Excavation of Gobedra Rock Shelter, Axum: An Early Occurrence of Cultivated Finger Millet in Northern Ethiopia.

_____.(1998). Ancient Ethiopia: Aksum, its antecedents and successors. London: British Museum.

_____.(2005). African archaeology (3rd ed.). Cambridge: Cambridge University Press.

_____.(2010). Ancient Churches of Ethiopia fourth to the fourteenth centuries, Addis Ababa.

Munro-Hay, S. (1991). Aksum: an African civilization of late antiquity. Edinburgh: Edinburgh University Press.

Ziegert, H. (2008). E. Littmann in Aksum 1906: A focal point and start for the archaeological – Historical Research on an Ancient Capital. Humburg.