Archaeological Investigation in *Ahferom Woreda*, Tigray: Ethiopia

Kifle Zerue

A Thesis Submitted to

The Department of Archaeology and Heritage Management

Presented in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Archaeology

Addis Ababa University

Addis Ababa, Ethiopia

June 2014

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By

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Advisor: Alemseged Beldados (PhD)

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Approved by Examining Committee

Dr. Alemseged Beldados	_____	_____
Advisor	Signature	Date
_____	_____	_____
Examiner	Signature	Date
_____	_____	_____
Examiner	Signature	Date
_____	_____	_____
Chairperson	Signature	Date

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Declaration

I Kifle Zerue declare that this work entitled *Archaeological Investigation in Ahferom Woreda, Tigray: Ethiopia,* is my own unless indicated by author citations, and has not been submitted before for any other degree or examination at any other university. It is being submitted for the degree of Master of Art in Archaeology in the University of Addis Ababa.

ABSTRACT

This study has been attempted to assess and document the hitherto uninvestigated but potentially rich archaeological area of Ahferom Woreda, in central Tigray highland of northern Ethiopia. To this end, systematic reconnaissance survey, oral history, and typological analysis of ceramics as well as other archaeological remains have been done. Based on this, eight new archaeological sites have been discovered and documented. The study also provides key insights into settlement distributions and cultural traditions of the area. Most of the sites are strategically located along the traditional trade routes and in the place where abundant natural resources like high potential water flow is found for irrigation agriculture. This indicates ecological and socio-economic (trade) factors contribute for the development of ancient village settlements in the region. Decoration and color analysis of pottery along with other archaeological evidence show that period occupation of the three settlement sites has been dated from the earliest phase of first millennium BC to the Middle and/or late phase of the first Millennium AD. This suggests that they had experienced marked continuity in site occupation. Detailed study of settlement findings and ceramic artifact analysis from the five sites, on the other hand, reflects evidence of Pre-Aksumite period occupation. Bidirectional cultural interactions (locally and regionally) are also evident from typological analyses of ceramics, bronze ornaments, masonry architecture, and astonishing monolithic pillars. This study also presents the threats to the archaeological sites and archaeological objects. Moreover, it produced baseline data for future archaeological investigations and possible conservation works.

`CHAPTER ONE: INTRODUCTION

1.1 General Background: The Conceptual Framework

In a conceptual understanding, a site has two rarely separated but often conflated meanings: the material remains/objects left in the site as found in the present and the location of human activity in the past (Dunnell 1991). It is likely that the site of human activity in the past, for instance, an ancient settlement site-may become the main emphasis of archaeological research at present. It is also possible, however, that taphonomic phenomena can remove material from one location to another: materials deposited in a stream, for instance, may be transported down through flood action and accumulate on the stream bank; or material deposited on an ancient beach may be included in an eroded cliff face and fall out onto the modern beach surface. Of course, sites are not sites in and of themselves but the home of something else. Hodder (1999) also stated that sites include some kind of activity, such as archaeology; of a former object or structure or a ruined building. Therefore, sites do not stand alone and cannot be understood or comprehended without taking into account this additional qualifying attribute. Moreover, understanding how and where these sites were developed in the ancient time is very vital.

Available geomorphologic, palynological and archaeological evidence indicate that many of the integral features that we discover in archaeological sites and observe at present are inevitably rooted from the interactions of human beings with their immediate environment (Dincauze 1987; Bard *et al*. 2000; Renfrew and Bahn 2008; D'Andrea *et al.* 2008; Gebru *et al*. 2009). It is obvious that within the immense span of time a number of fundamental ideas, events and inventions whose existence is physically manifested in an incredible variety of archaeological sites set in a diverse array of environment (Sulas *et al.* 2009; Brandt *et al.* 2012). As precisely noted in Renfrew and Bahn (2008), landscapes were transformed from natural to man-made, as for instances, trees gave place to cereal crops, towns and villages formed on farm land and leaders built massive artificial hills, temples and palaces as a foundations on various landscapes. This means archaeological sites are integral parts of an environment in which past humans left their cultural signatures resulted from human-resource competition within the landscape for survival (Butzer 1981).

If this is recognized as truth among archaeologists, there is no doubt to accept that locations which demonstrate significant traces of human activity, basically where archaeological indicators are found together, are considered as archaeological sites (Renfrew and Bahn 2008). But we should not forget that in addition to the geographical location and availability of rich natural resources like permanent water sources and fertile soil, the presence of trade linkage and interaction locally and regionally play a profound role for the development of archaeological sites (Fattovich *et al*. 2000; D'Andrea *et al*. 2008; Gerlach *et al.* 2013).

Archaeological evidence show that the existence of varied climatic conditions and diversified topographical settings ranging from tropical to temperate creates a good opportunity for the availability of different socio-economic and contexts in Ethiopia (Agazi 1997). Albeit fully unexplored, Ethiopia's archaeology provides solid evidence of some of the most intense and important achievements in the human experiences (Philipson 2000, 2003). For instance, the discovery of tremendous prehistoric rock art sites such as Gobodura and Laga Gafra (eg., Dombrowski 1970, 1971; Cervicek and Braukamper 1975; Amare 1980; Phillipson 1977, 1993) and a number of archaeological sites of the historic period: such as villages and towns (eg., Bent 1893; Butzer 1981; Munro-Hay 1982, 1991; Connah 2002; Phillipson 2003; Michaels 2005) provide significant information in understanding the archaeological potential of the country.

The discovery of towns and village centers in the 1st millennium BC, particularly in the Northern Ethiopia, contains evidence for the development of polities and the origins of urban settlements (Munro-Hay 1982; Fattovich 1999). Archaeological evidence related to chiefdoms, social stratification, occupational specialization, the development of long distance trade and intensive agriculture which dated to the 1st millennium AD were also discovered from the archaeological sites of Aksum, Yeha and Gulo-Makeda areas in Tigray (eg., Littman *et. al*.1913; Phillipson 1977; Kobishchanov 1979; Munro-Hay 1989, 1991; Phillipson 1998; Fattovich *et. al.* 2000; D'Andrea *et al.* 2008). Formerly, significant sites (most commonly towns and villages) were surveyed and excavated, for their plans, buildings and inscriptions were expected to reveal the political history of their area. Gradually, studies have been expanded in their scope and designed to elucidate the broad economic and social developments within the circumstances of these villages and towns. Even if such archaeological investigations in Northern Ethiopia, particularly in the Tigray plateau (perhaps rarely existed before) dated back to the beginning of 16th century

AD, it is still in its infancy. It is characterized by very fragmentary nature and limited to elite structures, such as monuments (Agazi 1997; Finneran 1998; Fattovich *et al.* 2000; Phillipson 2000; Finneran *et al.*2005). More surprisingly, little and /or no archaeological research has been made to explore other prehistoric and historic archaeological areas outside the previously known archaeological zones of Aksum–Yeha region (Finneran *et al*. 2005; Phillips 2005; D'Andrea *et al.* 2008). Therefore, this study is aimed to fill in this gap by realizing and documenting the archaeological potential of a hitherto uninvestigated area in *Ahferom Woreda* of central Tigray.

1.2 Review of Literature

1.2.1 Historical and Cultural Context of Northern Tigray Plateau

For thousands of years, the Horn of Africa has been considered as a bridge or central place of cultural networks where peoples of different regions have developed strong interactions both culturally and economically (Munro-Hay 1982, 1991; Fattovich 1999; Fattovich *et al*. 2000; Michaels 2005; D'Andrea *et al.* 2008). This core geographical zone has been considered as a background and corner stone for the development of complex societies and eventually strong kingdoms in the northern part of Ethiopia (Fattovich *et al.* 2000). Archaeological evidence discovered from Ethio-Sudanese and Eritrea borders showed that strong chiefdoms had flourished along the north western lowlands of Ethiopia in the period dated to second millennium BC (Fattovich 1999).

Large residential settlements flourished in strategic positions of central Tigray plateau in northern Ethiopia (Michaels 2005). Archaeological investigations that had been conducted in the region demonstrated that the prime factor for the development of the hierarchical society with developed political, economic and trade networks were the contacts and optimal environmental conditions along the Mereb-Tekezze River areas (Fattovich 1999; Fattovich *et al*. 2000; D'Andrea *et al*. 2008). Munro-Hay' (1991) also indicates that people had begun to command the most productive ecological zones and resources including the Mereb-Tekezze Rivers that flow westwards facing to the Nile direction. Moreover, he suggests that the highlands of Tigray plateau; specifically the Shire and Aksum areas received large amounts of rainfall.

The primary objective of the German archaeological institute (DAI) which is being conducted in Yeha is to search for the unknown indigenous cultural developments during the Pre-Aksumite period. The result of this investigation indicates the presence of indigenous inhabitants inscribed in the stone inscriptions discovered from Pre-Aksumite sites (Gerlach *et al*. 2013). According to this research, South Arabian influence was limited to the part of the societies which stood on a higher position. The director of this project noted that the South Arabian cultural elements were expressed on architecture, monumental and written evidence while the every life of the ordinary people remained largely unaffected.

Nevertheless, this research has failed to understand the nature of contact that had existed between the South Arabians and the local peoples in the highlands of central Tigray. For instances, Gerlach, and her colleague's (2013) archaeological evidence from Yeha indicate that the Sabean cultural elements in northern Ethiopia did not result through trade contacts in the route. In contrast, Gerlach including her team speculate that the contact emerged due to different South Arabian groups which had arrived and settled for a long time in the area with their own cultural components; they eventually merged in a process of acculturation with the existing indigenous culture. This cultural historical perspective has indirect but related connection with the view that the larger monumental buildings at Yeha cannot be constructed, unless, large number of South Arabian migrants had existed.

Similarly, former historical evidence has indicated that the earliest state formation in the northern part of Ethiopia had solely associated with the South Arabian migrants (Bent 1893). In support of this concept, results of other archaeological investigations indicate that the Pre-Aksumite period (800 BC, may be also before this time) began with the initial immigration of small groups of settlers from South Arabian (Michaels 2005; Phillipson 2005). By endorsing the acculturation view explained by the DAI in one way and opposed in another way, Michaels (2005) stated that South Arabian cultural elements within the early Pre-Aksumite period were introduced by a small number of elite groups. These small groups settled in the valley of Yeha for the purpose of coordinating the procurement and exporting of African raw materials to South Arabia. This was the background in which the Damat state had been developed in the Mid-1st millennium from both the Sabeans and Ethiopians (Philipson 1998, 2005; Michaels 2005). Albeit colonial imprint effect is not shown and discovered, Munro-Hay (1991) also suggests that the relationship

between Sabeans and Ethiopians may have been trading colonists living in some sort of conducive environments together with local communities.

Currently, however, the diffusion perspective has been challenged by archaeological studies with the view that state formation in northern Ethiopia, particularly on the central Tigray plateau, has resulted from two different but indirectly related processes (Fattovich 1997; Fattovich *et al.* 2000). Fattovich has explained that there had been small chiefdoms in the western Tigray lowlands in the earlier phase of Pre-Aksumite period. Soon after a shift upward to the central Tigray, there was a strong trade contact between the South Arabians and the local peoples of northern Ethiopia. Of course, the work of Schneider (1976) that suggested the presences of some names from the members of Sabean tribes recorded in the inscribed votive altars and offerings tables from central Tigray dated to the 1st millennium BC is undeniable. Fattovich's work of (1990) has not also rejected the presences of small South Arabian groups; nevertheless, argue that their cultural domination of the indigenous culture was not ascertained in central Tigray. Instead, he explains that there were strong interactions between the indigenous peoples and the South Arabians who dominated the highlands of Yemen-which in turn suggest that cultural element exchange possibility among each other might have existed.

Some earlier archaeological evidences support that even if the inscriptions of few Damat kings exhibited Sabean titles, such as Mukarib-in which the state was organized in the Sabean model, the contribution of the leaders may express a local tradition (Schneider 1976). This concept supports the indigenous development of the Damat state. Very latest archaeological evidences also indicate that the Pre-Aksumite state had roots from a local culture though some Sabean cultural elements observed in the elite people (Fattovich 2004). Cruits (2005) has consolidated this concept in the fact that colonists were not present, instead endogenous elite groups in the highlands adopted different Sabean prestige items. Inscriptions discovered from central Tigray (Finneran 2007) and the archaeological survey results from Gulo-Makeda in eastern Tigray (D'Andrea *et al.* 2008) confirmed the presences of close trade contact between the northern Ethiopian highlands and South Arabians in the 1st millennium BC. Archaeological research result from the Pre-Aksumite "D site" located in Aksum is another challenging discovery against diffusionists (Phillips 2004). According to this evidence, South Arabian influence was a very limited phenomenon and in all possibilities, a desire by a local king to strengthen his power as

ruler of the Damat state done by copping from the South Arabian state. Moreover, she stated that contacts were limited to the elite groups and the ordinary Pre-Aksumite society had been remained far less outside the Sabean contacts.

Even though variation in setting the chronological sequence of the pre-Aksumite period is common among archaeologists, it is generally divided in to three phases: Early Pre-Aksumite phase (9^{th}-7^{th} BC), the Middle Pre-Aksumite phase (7^{th}/6^{th}-/3^{rd} BC) and the Late Pre-Aksumite phase (3^{rd} C.B.C to 1^{st} BC/1^{st} C.AD) (Fattovich 1999). Archaeological and textual evidence show that during the earliest phase, the cultural area was divided into the eastern region including some areas, like the Akkele-Guzay and Agame and the western region which currently encompasses the geographical administrative zone of central Tigray particularly, Adwa and Aksum (Fattovich 1990; Michaels 2005). This situation was, however, changed completely during the Middle Pre-Aksumite phase as both regions were combined and centered at Yeha (Munro-Hay 1991). Though settlement sites presumably existed elsewhere before this time, historians argue that the state of Damat was extended to its surroundings certainly at this period (Sergew 1972).

Finally, since archaeological evidence that could demonstrate the continuity of the state in the late 1st millennium BC has not been discovered, it had collapsed leaving some cultural traces (Phillipson 1998; Fattovich *et al.* 2000). Archaeological evidence discovered by Bard and her colleagues (2000) also indicated that in the last part of the first millennium BC just after the collapse of the Damat state, another complex society with a different cultural pattern developed on the plateau of Aksum. Material evidence discovered from the site of Biete Giyorgs also demonstrated that the new complex society in the area of Aksum developed into a state level in the first century AD (Bard *et al.* 1997). It was during this Early Aksumite phase that Aksum became the capital of the Kingdom that controlled the whole plateau of Tigray and Eritrea (Fattovich 2000; Fattovich *et al*. 2000; Phillips 2005).

Even if the location in which the earliest Aksumite kingdom flourished is identified, hitherto the exact period of its development and its precise extended territory, particularly towards the south are poorly known. This is because of the fact that different scholars have suggested the origin of the kingdom to be in different times. Fattovich and his colleagues' work (2000) indicated that the

kingdom of Aksum was established during the Mid-1st century AD, but later, he and other archaeologists have noted that the kingdom emerged in 150 BC (Fattovich and Bard 2001; Michaels 2005; D'Andrea *et al.* 2008).

Though archaeologists have failed to know the exact period of the origin of the Aksumite kingdom, the life span of the kingdom is roughly divided in to three phases: Early Aksumite (ca. 1st to 4th/5th centuries AD), Middle Aksumite (ca. 4th/5th to 7th/8th centuries AD) and Late Aksumite (ca, 7th/8th to 9th/10th centuries AD) (Bard *et al.* 1997). It was during the late 3rd century AD that the kingdom became very powerful. The history of the state was known by a continuous territorial, economic, and political development (Bard *et al.* 2000). The discovery of towns at different topographical zones of Tigray such as Aksum, Hinzat, Hagaro Daragwuh, and Gulo-makeda etc. and others in Eritrea (Fattovich *et al.* 2000), suggest that the main area of Aksumite kingdom includes the Tigray plateau and Eritrea.

The kingdom eventually declined and collapsed between the 8th-10th centuries AD (Fattovich 1988; Munro-Hay 1991; Bard *et al*.1997; Bard *et al.* 2000; Fattovich *et al.* 2000; D'Andrea *et al.* 2008). Besides the political problems and commercial isolation in the Red Sea, archaeological evidence discovered from different Aksumite sites and notably from Adulis indicated that the environmental degradation contributed great role for the collapse of Aksumite kingdom (Fattovich 1999; Finneran 2007). Furthermore, geoarchaeological evidence of Butzer's (1981) also indicates that the chance to a concatenation processes that led to the environmental degradations had contributed a lot for the breakdown of the kingdom of Aksum.

1.2.2 Distribution of Archaeological Sites and Previous Research Conducted in the Tigray Region

Archaeological investigations in Ethiopia have been fragmented in terms of time and geographical location. This means, until almost half a century in the past, most of the archaeological studies were conducted in the northern part of the country and little attention has been paid to other parts of Ethiopia (Finneran 2007). Understanding of the cultural and historical developments in the northern Ethiopia in general and in the study area in particular may come across a key concept in demonstrating both temporal and spatial research coverage. Over the past half a century, different theories have been developed to understand the origin, development and

decline of the earliest state in the north western part of Ethiopia and the northern Tigray plateau (eg., Phillipson 1977, 1998, 2000; Fattovich 1988, 1989, 1997, 1999, 2002, 2009, 2010; Munro-Hay 1991; Fattovich and Bard 1994; Fattovich *et al* 2000; Michaels 2005; D'Andrea *et al.* 2008).

As to the work of Fattovich and his collogues (2000), the records that show the traces of past human beings in the Tigray plateau has a long history, which at least dated back to the period of the Periplus of the Erytherean Sea (Mid 1st millennium AD). Even if it was descriptive in nature, archaeological study in Ethiopia had improved in the beginning of sixteen century AD (Bent 1893). In fact, Bent was one among the British travelers who conducted the earliest and limited research works, such as the description and documentation of Aksumite obelisks at the end of 19th century. Eventually, monuments, ancient settlement sites, ruins of magnificent palaces and temples as well as centers of religions places have been described and identified at the beginning of 20th century with the focus in the town and villages of Aksum and Yeha (Bent 1893; Litmann *et al.* 1913; Kobishchanow 1979; Michaels 1990; Munro-Hay 1993; Bard *et al.* 1997; Fattovich 2003; Phillipson 2005). The turning point for the archaeological survey and excavation in Ethiopia, however, began by the Deustche Aksum Expedition (DAE) in 1906. In addition to the careful recording of inscriptions, some of the archaeological sites and material remains of Aksum and Yeha were photographed, and drawn by the DAE team (Phillipson 1997). This is the earliest systematic archaeological research that had been conducted in Aksum including the archaeological site of Yeha. Although some credits were given to the sites at Yeha, the focus of this archaeological investigation was at Aksum and within this area; great attention was paid to the monuments and the elite cemeteries (Munro-Hay 1989).

Lead by Neville Chittick and his student Stuart Munro-Hay, the British Institute in Eastern Africa (BIEA), conducted comprehensive archaeological studies at Aksum from the beginning of 1940s (Chittick 1974; Murno-Hay 1982, 1991, 1989; Finneran 2007). Their investigations have been dominated largely within the cluster sites of Aksum, for instance, in the main monumental stelae group (Chittick 1974) and "on the elite section of the Aksumite population- which was known as the continuation of Chittick's 1974 excavation" (Phillipson and Reynoolds 1996:99). More solid investigations progressively continued on the rock art site of Gobodura (a name derived from two Tigrigna words *Gobo*-hill and *Dura*-thick forest), monumental buildings, traditional houses, and elite tombs, architectural characteristics, cultural developments-example,

Gold-working traditions, and conservation works in the Aksum vicinities (Phillipson 1977, 1998, 2003; L.Phillipson 2006). This shows that most of the researches did not extended beyond the elite residential places in Aksum and Yeha.

In the 1950s and 1960s, the archaeology of Northern Ethiopia, particularly in the Tigray Regional State, was dominated by French scholars and many archaeological areas of the region were surveyed and excavated (Anfray 1968). Archaeological researches in Ethiopia in general have been greatly strengthened after the establishment of the Institute of Ethiopian Archaeology (IEA*)* in 1952 supported by the French government. It was after this historical event that many foreign archaeologists largely dominated in the region with the goal of reconstructing the Pre-Aksumite and Aksumite culture history and hypothesizing the rise and decline of the polities or states (Fattovich *et al.* 2000). In addition to these researchers, especially in the 1960s, the Italian, American, and British archaeologists were concentrated at both prehistoric and historic archaeological sites in the region of Aksum (Finneran 2007; Fattovich *et al*. 2000; Phillipson 2000).

Side by side with the French and British expedition at Aksum, the Italian archaeologists conducted archaeological investigation beginning from the end of 1930s (Manzo 1998; Fattovich 2008, 2009, 2010). Archaeological sites were excavated, surveyed and mapped (Manzo 1998; Fattovich 2002, 2003, 2010; Fattovich *et al.* 2000; Fattovich and Bard 2001) but their main emphasis was still on geographically accessible and very limited Aksumite and Pre-Aksumite sites of the same archaeological zone.

Archaeological researches in northern Ethiopia continued until the eve of the revolution period (1974-1991). For instance, based on the written accounts and coinage sequences, Munro-Hey (1989) has developed a chronological framework of northern Ethiopia while Michaels (1975) surveyed and identified extensive archaeological sites in central Tigray plateaus. However, due to the political instability of the 1974-1991, the project that had started under the direction of Chittick was suspended. Later on, however, the project was continued by D.Phillipson two years after the military regime was replaced by Ethiopian People's Revolutionary Democratic Front (EPRDF) in 1991 (Phillipson 2000). During the two decades of unstable periods, there was almost no archaeological investigation in the northern part of the country rather it shifted to the

Afar and southern prehistoric sites of the country and continued until the beginning of the 1990s (Fattovich *et al.* 2000). Similar to the works conducted by David Phillipson in the1990s, the Pre-Aksumite and Aksumite sites were surveyed and excavated by Italian and some American archaeologists from Naples and Boston Universities respectively (Phillipson 2000; Fattovich *et al.* 2000; Finneran 2007).

Therefore, albeit a number of archaeological areas are found elsewhere, from the beginning of 20th century, the attention of foreign researchers was concentrated particularly around the ancient urban centers of Aksum and Yeha (Littmann *et al*. 1913; Munro-Hay 1989; Bard *et al.* 1997; Agazi 1997; Fattovich *et al*. 2000; Finneran *et al*. 2000; Phillipson 2000; Michaels 2005). Eventually, however, some researchers began to give emphasis to different archaeological sites of the region as I indicate below.

Considering as a central place for the Pre-Aksumite state and Aksumite kingdoms (800 BC- AD 700), most theories that have been developed in the northern part of Ethiopia are based on the studies conducted on the low lands of western Tigray (Phillips 2004; D'Andrea *et al*. 2008). In addition to the preliminary assessments conducted by the culture and tourism offices of the region, other archaeological sites such as the Mai-Adrasha and Semmema and others around the Shire district were surveyed and even test excavation was carried out (Phillips 2004). Even though the archaeological potential of the region in general is still not extensively explored, the contribution of Jacky Phillips was solid in discovering prehistoric and historic settlement sites. The contribution of Finneran and his colleagues (2005) particularly in identifying the Pre-Aksumite and Aksumite site as well as in describing the general topography of the western Tigray region were also highly significant.

In addition to this, although the Eastern zone of Tigray is known to have significant prehistoric, Pre-Aksumite and Aksumite sites, it has never been systematically surveyed like the Aksum and Yeha region (D'Andrea *et al.* 2008). This indicates understanding the overall role of the areas beyond the ancient urban centers of Aksum and Yeha has remained problematic as the various sites were neither systematically explored nor documented. Later on, however, several Pre-Aksumite and Aksumite sites have been identified beyond Aksum-Yeha (i.e. outside the current central zone administrative of Tigray regional state). For instance, archaeological surveys and

ethnoarchaeological study directed by D'Andrea in the Gulo-Makeda area in Eastern Tigray has revealed potential archaeological sites that reflect local cultural developments. Even though this archaeological project is still in progress, ceramic evidence from the Sobea and Ona Adi sites shows distinctive local features dated to Pre-Aksumite times (Ibid).

As researches expanded and continued in the region, new other sites came to light. For instance, the recent excavations conducted at Maqabər Ga'əwa (near Wukro) which revealed remains of a temple belong to Almaqah, is a potential Pre-Aksumite site in the Eastern Tigray region (Gajda and Dugast 2010; Wolf and Nowotnick 2010). Other rare Pre-Aksumite and Aksumite sites were also surveyed and identified around *Hawzen, Ganta'afeshum,* and Gulo-Makeda areas (Habtamu 2004). These all are found in the Eastern part of Tigray and were reported to the culture and tourism agency of the region. Furthermore, even though the investigations were both rare in amount and late in time, few archaeological sites have been identified and documented in the region of *Atsbi-Dera*, east of Mekele (Gajda and Dugast 2010).

Nevertheless, archaeological studies that show contemporaneous settlement centers, especially south of Yeha including the valley of *Feres-may* that extends up to the *Hawzen* archaeological sites are not hitherto at hand. The archaeological investigations of the late 1980s carried in Aksum-Yeha area also mistakenly suggest that Yeha-alone remained as political and economic center (Michaels 1988). One can also find the same information from the works of Munro-Hay (1991) who focused on the elite residential places in Aksum and Yeha. From these general premises and as Gebru and colleagues *(*2009) also noted, one can infer that attention had not been given to identify, locate and understand other potential archaeological sites elsewhere. It was only after my assessment and report to the Department of Archaeology of Aksum University in 2009 and consecutive work for "BA thesis" on the site of *Filhat* and cultural mound of *Enda-Ra'essi* (Kifle 2011) that Hiluf (2011) has made a work on few sites there along with me and is not wide in its scope . Although Gajda and Dugast (2010) have also made a trip to a single site of *Adi Ba'ekel,* just after the report, neither comprehensive archaeological field works nor was accurate documentation done in the wealthy archaeological area of *Feres-may*.

1.3 Statement of the Problem

Despite the archaeological potential of northern Tigray plateau which has attracted some archaeologists for about a century (Sergew 1972; Munro-Hay 1991, 1989; Phillipson 1977, 1998, 2003; Bard *et al.* 1997; Fattovich 1999; Fattovich *et al.* 2000; Phillips 2005), very little consideration has been given to explore areas which are located beyond the towns and villages found at the Aksum-Yeha region. As a result most of the researches that have been conducted in northern Ethiopia, in Tigray Regional State are very fragmentary. Albeit some archaeologists have developed a conceptual understanding of the indigenous origin of the Damat state, an attempt to understand the overall cultural and economic developments of the ordinary people has remained greatly outside the attention and subject discussion of scholars. This archaeological bias may be resulted from the premises that most researchers gave a mere attention to the socio-economic and political developments of the elites which in turn to connect its genesis with outsiders. For instance, archaeological research aimed at assessing local people's achievement that would had existed before the Damat has not been conducted. This has contributed a negative effect on exploring new archaeological sites outside the previously and repeatedly surveyed and excavated areas both at Yeha and Aksum.

Hence, previous researches tend to be incomplete and limited to specific areas as great attention is given to elite structures in the towns. Moreover, they are mainly focused in geographically accessible areas, such as within the Aksum- Shire- Adigrat main road. Thus, the achievements of the ancient societies who settled outside the repeatedly investigated areas were completely ignored. Indeed, human beings had not been settled merely within the areas that are found around the main roads (today's towns and villages), rather, evidence of their significant traces of material culture have been survived in some places. In addition to this, archaeological sites that can reflect cultural developments of past humans are neither explored nor documented rather highly exposed to both human and natural destructions. Consequently, the information within the archaeological sites and material remains are victims of sever destruction although they are irreplaceable. Furthermore, any attempt of preventive archaeology is not conducted to stop the damage of sites and cultural traces of the past as the region is very far from the attention of professionals.

1.4 Objective of the Study

1.4.1 General Objective

The main objective of the study is to explore archaeological sites of *Ahferom Woreda* and documenting the available material culture for the next generation.

1.4.2 Specific Objectives

- To identify and record archaeological sites and associated material culture in selected localities of *Ahferom Woreda* and create a database of sites accessible to future researchers;
- To outline the major cultural developments and develop a preliminary cultural chronology for the study area based on comparisons with previously dated sites in the region;
- To identify endangered sites and suggest methods of site conservation.

1.5 Research Questions

In general, there are a number of unresolved questions about the unexplored archaeological area of *Ahferom woreda*. For this reason, some indispensable questions are developed below and these include:

- To what extent that the study area is archaeologically rich zone?
- Does an evidence of ancient settlement site exist in the study area? If it exists, when and why past societies had preferred to settle there?
- Do the cultural materials have any similarity either to previously identified Pre-Aksumite or Aksumite sites and findings? What are they?
- Why the area has been remained less far outside the attention of archaeological research?
- To what degree of destruction that the archaeological sites and objects are vulnerable?

1.6 Methodology: Methods of Data Acquisition

To come up with reliable result, incorporating appropriate data collecting methods that fit to the problem under study is a must. For this purpose, ground reconnaissance survey method which was also used by different archaeologists (eg., Harrower 2011; Phillips 2004; Fenneran *et al*. 2005; D'Andrea *et al*. 2008) and oral history are included during the investigation. Systematic field survey in the selected areas was conducted by waking on foot and sites were identified and

located while artifacts have been carefully recorded and collected as a sample from the surface area. This method has become instrumental in discovering new sites and in building up wider archaeological evidence. Moreover, this method is greatly supported by internet and archival surveys which provide secondary sources composed of published and unpublished literatures in general. However, since the secondary sources available on the topic are not sufficient, the research has depended largely on the primary data collected during the field season. As you can see bellow, the most important methods that involved to the study are discussed in a wider manner.

1.6.1 Pre-Fieldwork

Oral history and literature survey was conducted before the beginning of actual fieldwork with the aim of solidifying the approach of the subject matter in hand. In the development of this thesis, secondary sources which include books and articles in journals from all the available public libraries both in Addis Ababa University, the Institute of Ethiopian Studies and in the region were repeatedly consulted. Data gathered from the *Woreda'*s administration office were most notable in providing information particularly, the current socio-economic, cultural aspects and other related issues of the area under discussion.

1.6.2 Interview

The archaeological data discovered from sites obviously provide a picture of the past which is essentially different from, and in many ways complementary to, that which may be reconstructed from oral historical traditions. Even though oral historical traditions are not used as a substitute of archaeological data source, they are most carefully preserved and re-told among the peoples of the area under study. Hence, a comprehensive picture of past societies who had lived within the newly discovered archaeological sites can only be built up through the use of both available data. For this reason, maintaining good local community relations and a local understanding of what I am trying to achieve has become an important technique to the study. Thus, besides the data gathered in the field, substantial credit has given to oral history with the goal of cross-checking and consolidating the information obtained during survey. For instance, current primary information such as oral history of the sites, the name of the specific sites, and causes of damage of both the sites and materials are collected from the interviewees.

Thirty one (31) local people composed of elderly, religious men and administrators and others who were expected to have knowledge about the subject matter in one or another way were selected intentionally and interviewed repeatedly at various times. The numbers of interviewed peoples are almost proportional among all sites as for instance, ten (10) in the sites of *Enda-Ra'essi, Ziban-Geba* and *Ona Enda Fitewrary Tarek* (*OFT*), five (5) at each site of *Filhat, Adi-Ba'ekel,* and *Tsirhan* and three (3) at each site of *Tahtay-Guldam* and *Mai-Omo.* However, since people who have excellent knowledge existed outside the selected interviewee, to limit this gap, four (4) additional interviewees were included based on the snowball data sampling technique. From the total interviewed sample group at all sites, the religious men cover large number of 9, former and current *Tabia* and local administrators including polices 8, agricultural experts 2, women 8, and other 8 elders from all sites.

1.6.3 Reconnaissance Survey

I first identified some of the archaeological sites of the area in 2009 when my professor from Aksum University informed me to make survey and identify archaeological site in my locality. What I planned and did during that time was consult knowledgeable people of that area. Based on these potential survey results, then, I decided that a very detailed investigation of the area is a must. But to consolidate this by updated information, communication with the local communities and archaeology students from that area has been continued until 2012. Based on this general information, therefore, *Ahferom Woreda* has been selected to be focus of this archaeological investigation.

The central Tigray administrative zone consisted of twelve (12) *Woredas. Ahferom* is one of these *Woredas* which again is composed of thirty three (33) *Tabias*. Twenty seven (27) of the *Tabias* of *Ahferom* are rural villages where as six of it are an urban settlement. In order to become more familiar with the types, frequencies and spatial arrangement of sites in a universe (study area); my research method then involved a personal judgmental survey strategy. Since the study area is also where I grew up, I have knowledge of the place of potential archaeological sites. In addition to this, when I was a student in Aksum University, I had the opportunity to document some part of the area. Therefore, based on the sum of all information discussed above, four (4) *Tabias* of the rural villages and one (1) *Tabia* of the urban settlement are purposely selected to survey from the total *Tabias* of the universe. However, another one

site which is located between the border of Adwa and *Ahferom Woreda* administration, particularly, in the *Gendebta Tabia*, is purposely composed to the study. This is greatly aimed to see the connections or similarities to the archaeological sites south of it i.e. around *Feres-may* and in the north with Yeha.

Once the targeted sites are recognized, their geographical coordinates including the boundaries are carefully recorded using hand held GPS. The relative location of each site was also done with other easily identifiable cultural and natural references. Then, cautious field observation was carried out on the surface of the sites and contributed greatly in collecting primary sources. Indeed, the focus at present has broadened to reconnaissance survey of sites by looking in their local and regional settings rather than conducting excavation. As Renfrew and Bahn (2008) advised us to use and both Phillips (2004, 2005) and Finneran with his colleagues (2005) applied in the Shire region; as was also very relevant method to the work of Michaels (2005) in the Aksum-Yeha region and D'Andrea with her colleagues (2008) in the Gulo-Makeda area, a valid method of surface survey involved to the study by looking for the most prominent remains in a landscape. As Renfrew and Bahn (1996) also defined well, field walking is an important method which relies upon the observation of the ground surface and the recognition of ancient artifacts lying upon it.

Therefore, careful field survey was conducted on the sites to amplify insights concerning the development of ancient complex society and settlement sites in the study area. This field survey involved critical surface examination of the archaeological sites. While walking on sites, records of detailed archaeological, physiographical, and environmental observations were conducted. Artifacts, and surface features were recorded accurately in relation to their location and this is the most important part of the data for the development of this thesis.

With no doubt, almost all the identified settlement sites have needed surface collection to reveal better archaeological evidence. However, based on time and financial constraints, I decided to focus on and collect samples from one part of the site of *Ziban-Geba.* The primary criterion to collect samples from this site is its central location to other sites at nearby. Geomorphology of the site (i.e, in the eroded section of 1.5 m depth of this site, very abundant evidence are found), and density of the scattered archaeological evidence on the surface are additional reasons for

selecting this site purposely. Controlled surface collection at the site of *Ziban-Geba* covers 100 sq. meters of uncultivated land. Sample collections were successfully completed and find location was recorded using a GPS receiver. Collection of samples was complemented by a bag and tag recording system. Before collecting the material objects, photograph was taken to record the overview of the selected unit.

There was a separate list arranged serially for the collected archaeological objects. This is kept in a separate section of the field notebook. The number of pottery bag containers, the date it was assigned, the name of the site, any particular observation; number of drown, the registry number assigned to specific cultural traces and the numbers of diagnostic and non-diagnostic sherds are arranged serially in the table *see appendix one*. The potsherds with their tagged containers were taken to Aksum archaeological museum. Then, they were carefully washed using brushes to avoid rough scrubbing, which can accidentally remove ink, paint or other decoration. After half a day the ceramics have dried and placed in to a plastic bag with their tag. Sorting of the diagnostic artifacts and sherds continued and placed in to separate plastic bag which contain all the material from the original container.

Side by side in locating the sites, the photographs of the diagnostic parts (particularly, potteries) and other intact artifacts, important features, settlement sites, and the general landscape were taken during the survey using a digital camera. This contributes significant role to document all necessary information before disappearance of the evidence through both human and natural factors. Each photo of the objects was dated, numbered, described, and recorded in the inventory Photo Log sheet *see appendix one*. The photos in the digital camera were then downloaded to the computer annotated and renamed (Site #Field # Date, photo#) immediately.

Mapping became the most important task in my study to transfer the information in the ground surface of different settlements and other sites in to paper work. Hence, the study area in general and all the specific archaeological sites in particular were mapped. Producing this map then, enabled me to show the type, frequency, and spatial distribution of archaeological sites. Moreover, the general landscape or topography is clearly defined in the map using the Geographical information System (GIS) and Geographic Position System (GPS) tools. Sketching of some important archaeological evidence was another critical activity at Aksum archaeological

museum. For example, some of the diagnostic parts (decoration of the potsherds) were sketched in the lab. The purpose of such activity enabled me to see the details which in turn I categorized them in to different groups of periods.

The size of each settlement site has been recognized approximately based on their abundances of archaeological data and are expressed in hectares. The distance between each settlement sites and other physical references, such as road, agricultural field, rivers, or other relevant archaeological site was estimated and expressed in kilometers. Moreover, the height, width, thickness of stelae and all intact and some diagnostic parts of potteries, inscriptions, metal objects, cultural mound, pillars, stone slabs, and base of wall structures were measured using tap measure, centimeters, caliper and chart paper. Diameter of the cultural mound and other objects also measured using these instruments. The prepared inventory form, *see appendix two,* summarizes all the activities carried out during the survey.

1.6.4 Methods of Data Analysis

The collected data are analyzed qualitatively and quantitatively both at the sites and in the lab of Aksum archaeological museum. Characterization of the material remains into different types based on typological attributes is often indispensable in the formation of chronology of the sites under study. Cautious field observation was then conducted and every identified site has received a clear description while the similarities and differences in material type, shape and surface attributes of the stelae, slabs, pottery, and pillars were compared and recognized. Such typological comparison done with those previously documented, displayed and stored in the archaeological museums of Aksum and Yeha.

Above all, careful ceramics analysis has been conducted on the basis of previously established typological interpretations, notably with (Phillipson 1977; Fattovich 1990, 1994, 1999; Michaels 2005; Curtis 2005). During the analysis, the diagnostic sherds received special treatment. I carefully measure them, described and record details about the fabric, the finish (firing methods, burnishing, incised, or decoration, etc.), and what part of the vessel they were. Hence, the diagnostic sherds are sorted, registered, and described. The overall typological characteristics of the diagnostic sherds (paste, form, and notably color and decorations), therefore, contributed great role in establishing a relative chronology of the archaeological sites.

On the other hand, the non-diagnostic sherds are not described but counted and placed into larger plastic bags marked with a duplicate container tag. Similar to the archaeological research method used to investigate the *Pre-Aksumite and Aksumite settlements of NE Tigray, Ethiopia* (D'Andrea *et al.* 2008), and the *archaeological survey at Edaga-Robue/Mezbir*-East of Yeha conducted by Harrower (2011), my investigation is also supplemented by GIS analyses. For example, the data gathered in the field by GPS are processed using Arc View GIS 3.10 and SPSS programme. From this information, therefore, I can tell exactly what kind of archaeological site was and to which period of time it was categorized. Finally, the data analyzed quantitatively are expressed using maps, charts and tables whereas the data analyzed qualitatively are expressed in description and photographs.

1.6.5 Tools or Instruments Used in the Study

For effective and successful result, I was equipped with variety of tools, which are reliable to measure the length, width, height, diameter, and thickness of features, artifacts, to locate sites as well as to record all the data as much as possible. Hence, field survey and lab analysis tools such as GIS, GPS, digital camera, a profile gauge, caliper, tape measure of different size, architect's ruler, scaled paper, munsell/soil color guideline chart, rim chart paper, notebook, mechanical pencil, pen, plastic bag and tag, basket, brush, rope, and others were used during the study.

1.7 Significance of the Study

This investigation can provide a vital significance for the general public as well as professionals. One of the most significant merits is its primary documentary nature for scholars who need to carry out further investigation on the sites. With no doubt, the study area will not be limited only to my research rather the result of this work will have the potential to make the area center of research. Therefore, using this source as basic guideline, other archaeological studies can be expanded extensively within and around the study area in the future. Since the region under study is now considered a potential archaeological zone, in the long term, the general people can have the chance to benefit economically from the incoming researchers in different ways. Hopefully, the area will have great chance to be a place of researchers and/or tourist as clusters of archaeological sites are now being identified.

Moreover, the archaeological data which are under great damage because of deliberate activities, such as removal of objects from their primary archaeological context and unintentional actions like construction development can be saved and conserved. Equally, there will be great opportunity in minimizing the degree of deterioration of cultural materials resulted from natural destruction agents. Such direction of cultural conservation can be resulted from the change in awareness towards heritage preservation. This is also responsibility of everyone who owns the cultural remains of the past. Through conservation and documentation, it is possible to keep the heritage of the area for the coming generations. Based on its proximity, the sites can also have great advantage to Aksum University, for training students about rescue archaeology (cultural heritage management).

1.8 Scope of the Study Area

The study area is delimited to the archaeological sites which are located within *Ahferom Woreda* of Tigray regional state. However, because of its proximity to the study area, the eastern border of *Gendebta* area from Adwa *Woreda* administrative, specifically along the way to Yeha is purposely included to the study area. The primary aim of merging this site in to the study area is its significant location in which the largest portion of current study area in the south and the Pre-Aksumite site of Yeha in the north are bridged or connected at this plateau. This enabled to examine if there were connections and further to see the cultural similarities of both sites in the north and south of it. The primary goal of this investigation is of course, exploring and documenting of archaeological sites. Nevertheless, preliminary interpretation was also conducted especially to have general concept on the chronological sequences of the sites and associated issues as well as other cultural developments in relation to the environments they had already selected and settled.

1.9 Limitations of the Study

The basic challenge I confronted during the study was largely the absence of written sources of the study area. This is because that the archaeological areas under the universe is not yet investigated rather poorly known and hence, no earlier work on the study area was found. The other problem that I encountered during the study was the wide spread location of some of the

sites. While most of the sites are located closely each other, some sites are found as far as 50 km away from the location of the other clusters of sites. Such problem combined with the absences of public transport facility easily has made the field work so challenging. The study depends totally on the result of the survey and one objective of the research is setting up the chronology of the site. However, due to logistical constraints, controlled sample collection was conducted only to one site.

1.10 Thesis organization

The thesis is organized in five chapters. Chapter one deals with the general introduction of the present research including summary of related literature, identified gaps, goals, research methods used, and advantages of the research. The second chapter introduces the geological settings, geographical and environmental conditions as well as cultural patterns of central zone of Tigray in general and the study area in particular. Chapter three is devoted to distribution and description of each site and archaeological remains located in the *Ahferom Woreda*. Chapter four provides a detailed analysis of data and discussion of results in different aspects of the cultural remain accounts and in out comparisons with respect to the typology. The last chapter provides an attempt of draw general statements and conclusions of the research.

CHAPTER TWO

GEOGRAPHICAL, PALEOENVIRONMENTAL AND CULTURAL SETTINGS OF THE STUDY AREA

2.1 Location of the Study Area

The study is conducted at *Ahferom Woreda* of three sub-districts named: *Hahaile, Entcho,* and *Gorhusrnay* which are like the other administrative units of Tigray region, northern Ethiopia (see Fig.2.1 below). According to the yearly published book of the *Woreda,* the study area is located between 38^0 56' 30" and 39^0 18' 00" longitude; and between 14^0 o6' 30" and 14^0 38' 30" latitude and the elevation of the study area ranges from1550 to 2991 m above sea level (Kahsay 2013). It has been surrounded by historically known cultural sites as well as rolling mountains and hills. Culturally, the area is delimited by the Pre-Aksumite archaeological sites in almost all directions. For instance, the famous historical site of Yeha is located at about 5 kilometers in the northwestern part of the study area while *Hinzat* borders it from the western direction. To the northeastern and eastern direction of the study area lays the eastern zone administration of Tigray and has been dominated by the Pre-Aksumite and Aksumite settlement sites. The southern part of the study area which I currently assumed to be the way to the Pre-Aksumite site in *Hawzen* is bounded by some *Tabias* of *Worri Lake Woreda*. Natural reference for each currently identified archaeological site within the study area is precisely described in chapter three.

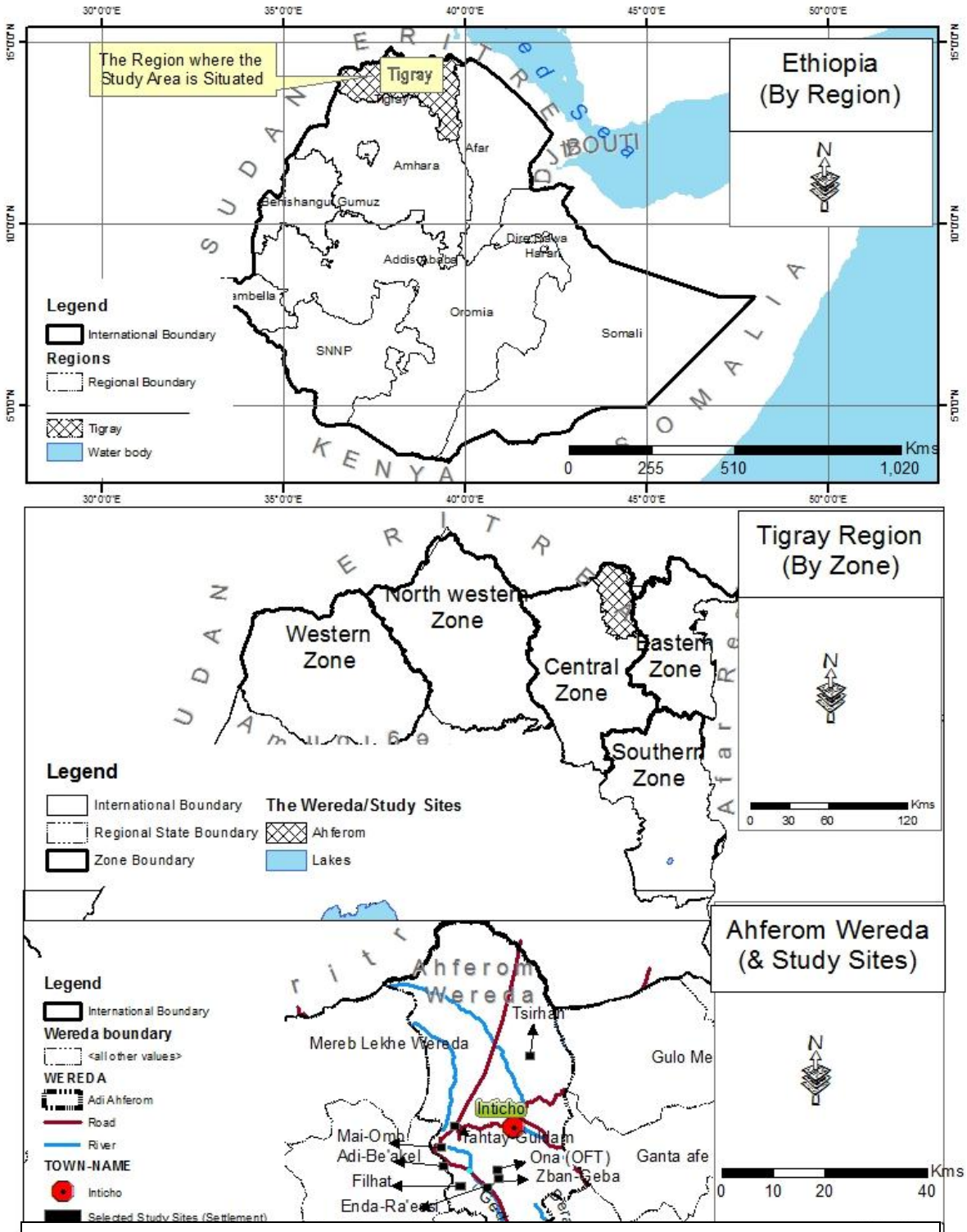


Fig 2.1 Map shows location and identified sites of the study area in *Ahferom Woreda*

2.2 Geological and Physical Settings of the Study Area

The geological setting of Tigray in northern Ethiopia is the result of a long time span evolution. It is described by distinct tectonic, volcanic, geomorphic, and sedimentological features. For the most part, the geology of central Tigray plateau is the result of volcanic activity (Bard *et al.* 2000; Wendowski and Zigert 2003). Studies conducted by Gebru and his colleagues (2009) show that the intensively folded and faulted rocks of the Upper Precambrian, mostly metasediments and metavolcanics are uncomformably overlain by Paleozoic and Mesozoic subhorizontal sandstones and limestones. Moreover, Entcho-sandstone as investigated by Asfawesen (2002) is identified as bulky to well beded calcareous with silt beds and ferruginous layers. He precisely noted that the Entcho (Permo-carboniferous) sandstones (in the study area), either lies unconformably over the crystalline basement or interlocks with *Edaga Arbi* Glacial towards south of the study area.

The geology of the study region as whole is thus characterized by the presence of uneven topography dominated by high volcanoes, volcanic ridges and some granite outcrops as well as sedimentologically deposited landscapes (Ibid). Steep rocks are heavily eroded; slope deposits as fine grained sediments originating from weathering are only preserved at the foot of the hills, covering ancient surfaces and cultural remains on different layers.

The elevation of this area is almost similar to the high land areas of Aksum and, therefore, the local ecological and topographical conditions do not differ markedly. Nevertheless, little topographical differences marked around Bellesat in the north towards the Eritrean lowland borders and in the low bases of the deep river gullies in the southern limit of the study area. To the south foot of the rolling mountains of *Soworya* and *Adi-Manaeter* as well as to the west foot of the upland areas of *La'elay Hahayle* is a large, flat broad valley plain, cut at intervals by deep river gullies feeding into the *Worri* basin which is primary source of Tekezze River. Steep escarpments of igneous rocks (also called Adwa Mountains) form a large mountainous block immediately north and northwest of the town of *Feres-may* where cluster of archaeological sites are being identified. Farther north, beyond the sites of *Tahtay-Guldam* and *Tsirhan* towards the Ethiopian-Eritrean border, the general area is cut by gullies feeding northwards into the Mareb River.

Generally, on the basis of altitudinal changes in precipitation and temperature, three major agro-ecological zones (*Dega, Woyna Dega, and Kola*) are recognized in the study area (Kahsay 2013). According to the yearly published book of the *Woreda*, the *Dega* (highland) zone, for example, *Daero-Anbessa* which is known to have a Pre-Christian rock cut temple, prevails in the upper reaches of 2300-3200 masl. Similar to the central zone of Tigray plateau (Fattovich 2010), below 2300 m the *Woyna Dega* (mid-altitude) zone of the study area has warmer, slightly drier conditions (Kahsay 2013). Lower elevation portions of *Woyna Dega* continue down to 2000 masl to encompass flat fertile farmlands dissected by numerous seasonal streams, permanent rivers, marshes and seasonal lakes fed by runoff from the mountains. Places which include such ecological zones are *Feres-may*, *Adi-Yiekoro,* and *Tahtay-Daeraka*. Hotter, semi-arid conditions of the *Kolla* (lowland) zone are present to the northeast part of the *Woreda*. For instance, most of the *Tabias* located within the *Gorhusrnay* sub-division administrative of the *Woreda* are generally located below 1500 masl while the site of *Erdi-Jeganu* is a little higher with 1700 masl.

Based on their fertility, the ecology of the area under study is known by the presence of two ecozones. The first is a flat plain which is characterized by low gradient and fertile land that is optimal for plow agriculture at summer and in winter through irrigation. The second category is known by the presence of mountains and hills that are steep in gradient with culturally and naturally terraced landscapes. It is very less important for ox-plow agriculture. Largely, terracing increases the available land for cultivation, soil conservation, and soil moisture. Surface water is found either as rivers occupying the gully bottoms, or as springs flowing from the bases of the *Ambas* (flat-topped hills and mountains) at their interfaces with the permeable sandstones.

2.3 Paleoenvironmental and Paleoclimatic Conditions of the Study Area

Environment has a great role in governing human life, as for instance, latitude, altitude as well as landforms and climate determine the vegetation. The combinations of these elements affect how and where humans have settled. Investigating the connections between palaeoenvironmental instability and the emerging and disappearance/decline of polities in the Tigray plateau should be taken in to consideration to understand the general human-environment interaction (Bard *et al.* 2000; Gebru *et al* 2009). Butzer's work of (1981) also demonstrates that the northern Tigray

plateaus are excellent location to investigate potential interactions between palaeoenvironments and the trajectories of civilizations. As environmental resources cannot be treated as static variables in the ecosystems that represent ancient civilizations, the region in general provides good evidences of how spatial and temporal availability of resources, and their relationships between a communities (Bard *et al*. 2000).

Although accurate palaeoclimatic evidence is scant, studies conducted by (Bard 1997; Bard *et al.* 1997; Hassen 1997; Bard *et al*. 2000; Gebru *et al*. 2009) indicate that during the Holocene period, the central Tigray plateau had experienced the same climatic fluctuations as North Africa as a whole. For instance, archaeological results of Fattovich and his colleagues (2000) confirmed that the highlands of central Tigray experienced moist and dry climatic fluctuations during the Holocene period. Stratigraphic evidence and radiocarbon dates, also show that the central and northern Tigray plateau was marked by a long period of soil erosion after the early second millennium BC (Gebru *et al.* 2009). Studies conducted by Hassen (1997), however, points out that since the mid-2nd millennium BC, there was a progressive shift to drier conditions in the central Tigray plateau. Geomorphological evidences again strengthened that subordinate humid phases occurred between 500 BC and 500 AD (Bard *et al*. 2000). In addition to such climatic fluctuations, soil erosion may have also been caused by progressive vegetation clearance (Brancaccio *et al*. 1994). This solidifies Pankhurst's (1992) comprehensive work which described that the region had significantly expressed environmental hazards.

Palynological and sedimentological evidences indicated that large part of Tigray Plateau was forested during Middle Holocene period (Bard *et al*. 2000; Gebru *et al*. 2009). On the other hand, Pollen analysis from the Pre-Aksumite settlement site of Biete Giorgs, in Aksum area show that " arboreal pollen types, especially those that can be considered forest-indicator species such as *Podocarpus gracilior*, *Juniperus procera*, *Olea*, and *Celtis*) , were very poorly discovered in comparing to other pollens identified from the samples" (Bard *et al*. 2000:73).

Nevertheless, this does not mean that the whole area of the central and northern Tigray plateau was characterized by the complete absence of arboreal species. This is because the work of Bard and his colleagues matches with the pollen analytical results of Hamilton (1972) which suggested that the presences of very low amount of pollens of forest indicators were a result of

long-distance transport by wind. This gives insights that there might be potential areas elsewhere that could have included trees in addition to other plant species. Eventually, however, in similar phenomena to the Horn of Africa, the environment was greatly degraded due to both natural and anthropogenic factors and shrubs and herbaceous vegetation dominated the central and northern Tigray plateau (Butzer 1981; DiBlasi 1996; Hassen 1997). Palynological results conducted at the site Beite-Giorgs (Bard *et al*. 2000) also indicated that during the Middle and Late Pre-Aksumite phase, the region was characterized by the presences of open vegetation indicators such as shrubs and herbaceous plants.

Based on those evidences, one can predict that the general paleoenvironmental and paleoclimatic characteristics that existed in central and northern Tigray plateau in general and at Biete Giorgs in particular could have been experienced at highland places of the present study area. But we have to take in to consideration that although the geographical settings and environmental condition of the study area is almost similar with the Aksum archaeological zones, understanding of the exact type, frequency, and distribution of plants particularly in the study area is the task of future careful palynological and geomorphological investigations.

2.4 Current Environmental conditions: Climate and Vegetation cover of the Study Area

Climatically, the study area is characterized by the presence of a dry, and at times very dry, period of ten months (September-June) of the calendar year. According to the reports of the *Woreda*, annual rainfall has a uni-modal pattern and ranged between 540-650 mm, with a sharp maximum of 80% normally falling in July and August. Due to orographic effects, however, the mean annual rainfall of the study area varies very little from place to place. For instance, the northeastern part of the study area which is characterized by the *kola*/low land topography, particularly, around the Mereb River receives low rainfall. On the other hand, majority of the study area where clusters of sites are located in the highlands is known to have high amount of rainfall. In addition to this, the annual mean temperature of this area ranges from 18^0-27 c^0.

Population pressure, intensive farming, and heavy erosion have impacted the region's natural landscape to the extent that elements of the natural vegetation are visible in and near ravines,

rocky outcrops, steep slopes, around churches and other areas too difficult to settle or plow. In a Broad manner, however, the vegetation ranges from semi-arid scrubs and grasses in the *kola* (lowland) areas to woodland and grasslands on the highlands. Woody vegetation largely is restricted to the ridges and piedmont areas, around the heads of gorges, near springs, and within church and monastery compounds. Its type and extent is dependent on soil depth, geology, aspect and *Amba* slope, and also the degree of protection from woodcutting and grazing afforded by the site. Although *Amba* flank areas and lowland places such as the *Erdi-Jeganu* (northward of the study area) tend to be bare, some steep slopes possess exceptionally thick deciduous brush vegetation. Major stands of trees largely comprise planted eucalyptus made a little survival of closed forest along the *Feres-may* valley and other river basins albeit they are currently used extensively for building and firewood. In addition to the valleys and streams, however, very rare hillsides are planted with eucalyptus trees to improve the soil-holding capabilities of the hillsides.

2.5 Current Land Use: Crop Cultivation and Economic Patterns of the Area

Very interestingly the area has a wealth of permanent rivers, such as *Enguya, Belesa, Sebeha* and *Mai-Suru* supplying to the Mereb river in the north while *Berakit* and *Gedallo* flows down to the Tekezze river along the *Worri* river basin in the south (see Fig.3.1 below). The major categories of land use of the *Woreda* in general include: residential, cultivated land (both rain fed and irrigation), forest conservation and unmanaged communal grazing lands. About 16.9% of the total land size of (133979 ha) the study area is a farming land and 11557.4 hectare (51%) of these arable lands are irrigated throughout the year (Kahsay 2013), which indicates that irrigation fed agriculture has equal contribution to rain fed agriculture in crop production. *Feres-may* is, in fact, a wide and well-watered river valley with deep vertisolic soils just to the east and west of the town. The qualities and potential for modern agricultural exploitation of this landscape have been well recognized. Larger part of irrigational practice of the study area is then found in the *Feres-may* broad valley along the streams supplying the headwaters of the *Berakit* and *Gedallo.* What makes surprising here is that majority of the sites within this region are located in the rain fed agricultural lands as well as along the farmlands where irrigation is practiced intensively.

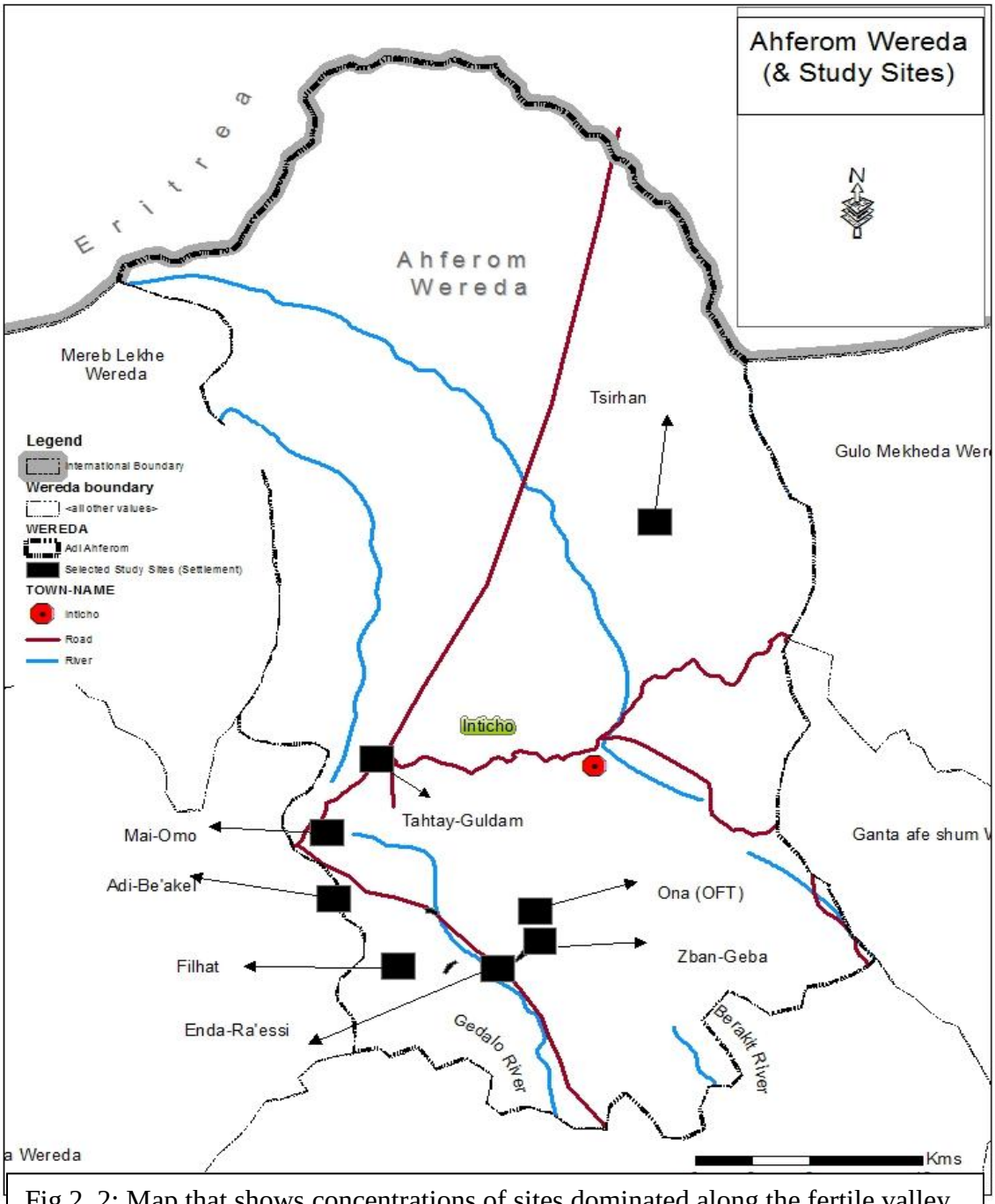


Fig.2. 2: Map that shows concentrations of sites dominated along the fertile valley of *Feres-may* where irrigation based agriculture is practiced throughout the year

Supplemented by trade and handcrafts, agriculture is the dominant occupation in the region. Crop harvesting, animal husbandry, and mixed farming (i.e. crop-livestock combinations) are the main constituent parts of agriculture practiced. However, because of climatic and soil fertility

diversifications, all crops are not cultivated in every corner of the study area. In many areas below the mountains, flood plains with rich, dark vertisols and outcrops of sedimentary rocks particularly, in the *Feres-may* area and surrounding *Tabias* are utilized for intensive cultivation, allowing a wide range of crops to be grown. Dominant crops that cultivated in these fertile lands include barely (*Hordeum vulgare*, wheat (*Triticum dicoccum/monococcum*), *hanfetse* (intercropped wheat and barley), noog *(Guizotia abyssinica*), maize (*Zea mays),* teff (*Eragrostic tef*), Peas (*Lathyrus sativus*), and lentils (*Lens culinaris)* while sorghum *(Sorghum bicolor)* and red and black finger millet *(Eleusine coracana*) are the primary crops of the lowland area of *Gorhusrnay/Erdi-Jeganu*. Rotation cycle among the crops such as tef, wheat, barley, beans, pea, and hanfetse is common like the other place of the region. The seasonal schedule of agricultural activities is also very similar to those recorded for the Mekelle and Gulo-makeda area (D'Andrea *et al*. 1999; D'Andrea *et al*.2008) and Aksum areas (Fattovich *et al*. 2000).

Currently, the study area of *Ahferom Woreda* is inhabited almost by the Semitic language speaking ethnic groups of the Tigrians. Today's population number of the study area include 197,224 of which the number of males is 95, 392 while females have a maximum number of 101, 832 (Kahsay 2013). According to the *Woreda*'s population statistics, the total householders of the *Woreda* are 44162 and from this one arrives at an average of 0.68 hectare per person? The very long and continuous existence of people in the area has resulted in the over exploitation of the natural resources.

CHAPTER THREE

DISTRIBUTION AND DESCRIPTION OF ARCHAEOLOGICAL SITES AND MATERIAL REMAINS

This archaeological investigation has identified a total of eight archaeological sites of which 5 sites (*Filhat*, *Adi-Ba'ekel, Enda-Ra'essi, Ziban-Geba*, and *Ona Enda Fitewrary Tareke (OFT))* are located in the *Hahayle* sub-district in and around the *Feres-may* valley, while the *Entcho* and *Gorhusrnay* sub-districts include *Tahtay-Guldam* and *Tsirhan* respectively. Some of the archaeological sites contains another individual localities as for example, the sites of *AB* 01, *AB* 02 and *AB* 03 within the largest settlement site of *Adi-Ba'ekel, Fil* 01 and *Fil* 02 in *Filhat* and *Gramarya* which is small portion of *Ziban-Geba* are to mention a few (see table 3.1). The largest concentrations of archaeological sites are found generally in the fertile valley of *Feres-may* within three *Tabias* named as *Adi-Yiekoro, Tahtay Da'ereka* and the town of *Feres-may* itself. The physical proximity among the archaeological sites of the *Feres-may* group is very short. Unlike to these, however, the location of the archaeological sites of *Mai-Omo, Tahtay-Guldam* and *Tsirhan* is relatively far among each other as well as with the *Feres-may* group (see Fig. 3.1 below).

Site Name	Site number	Site type	Site size (≈ha)	Location/ *Tabias*/	Northing (center point)	Easting (center point)	Elevation
Filhat	*Fil* 01	Settlement and burial area	3	*Adi-Yiekoro*	14^0 09' .786	39 04' .795	2135 masl
	Fil 02	Settlement and burial area	1	>>	14^0 10' .085	$39^0$04'. 949	2115 masl
Adi- Ba'ekel (*All within*	BA-01	Inscription site	8	>>	14^0 11' .724	39^0 04' .328	2042 masl

the large settlement area)	*BA*-02	Stele site and burials	-	>>	$14^0$11' .784	39^0 04' .495	2028 masl
	BA-03	Cultural landscape(mound and other structures)	-	>>	14^0 11' .665	39^0 04' .576	2020 masl
Enda-Ra'essi	*ER*-01	Artifactual mound and temple (?) at the top	?	*Feres-may*	14^0 09' 933"	39^0 06' .443	2050 masl
Ziban-Geba	*ZG*-01	Settlement and burial area	1	*Tahtay-Da'erek a*	14^0 10' .158	39^0 06' .942	2000 masl
Ona Enda Fitewrary Tareke	*OFT*-01	settlement	7	>>	14^0 10' .391	39^0 07' .121	1988 masl
Mai- Omo	*MO*-01	Settlement	6	*Gendebt a from Adwa*	14^0 14' .015	39^0 01' .792	2264 masl
Tahtay-Guldam	*TG*-01	?	?	*Dbdibo*	14^0 16' .225	39^0 03' .015	2047 masl
Tsirhan	*TSI*-01	Settlement and ceremonial place	3	*Erdi-Jeganu*	14^0 23' .640	39^0 10' .917	1700 masl

Table 3.1 Summary of the archaeological sites in the study area

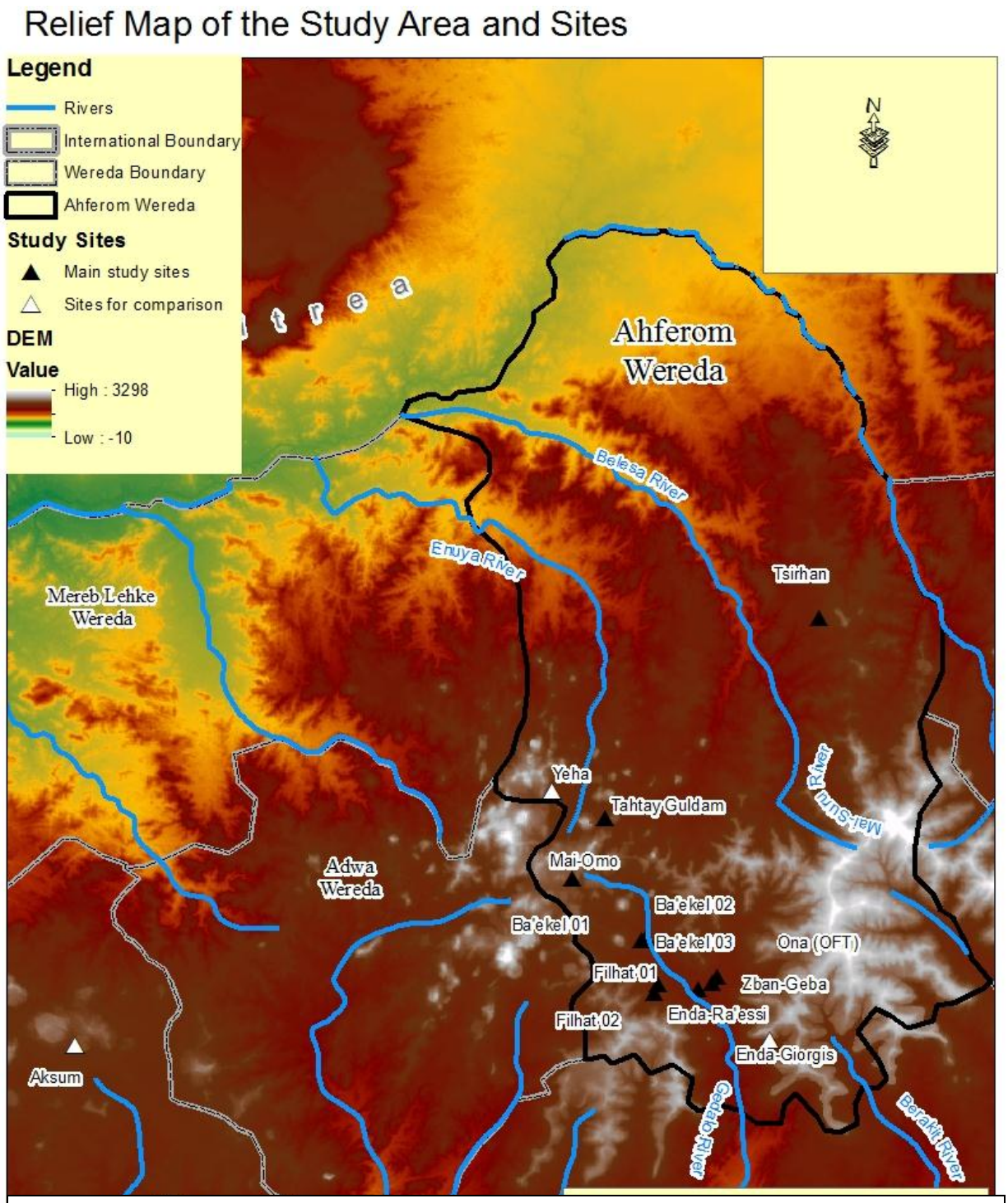


Fig 3.1: Map that shows distribution of archaeological sites in *Ahferom Woreda* and general relief characteristics of the study area and its adjacent woredas

3.1 Archaeological site of *Filhat*

Approximately less than 5 kilometers northwest from the town of *Feres-may*, across the main river basin of *Gedallo*, one can find the settlement site of *Filhat*. It is located within the *Adi-Yiekoro Tabia* administration under the same sub division administration of the *Woreda*. The gently sloped and rolling hills of *Kolageble* and *Adi-Yiekoro* dominate the site in the western section. The river basin of *Gedallo* which flows north-south axis, cut the site at the eastern part and isolated it from the flat plain of *Feres-may*. The gorges of *Zenguibeles* and *Tahtay-Filhat* that feed down to the main river basin of *Gedallo* are the borders of the tableland site of *Filhat* both at the north and south respectively. Looking southeast and northeast from the top of the site across the flat valley, one has a clear view of *Enda-Ra'essi* cultural mound and the site of *Adi-Ba'ekel* respectively at an estimated equivalent distance.

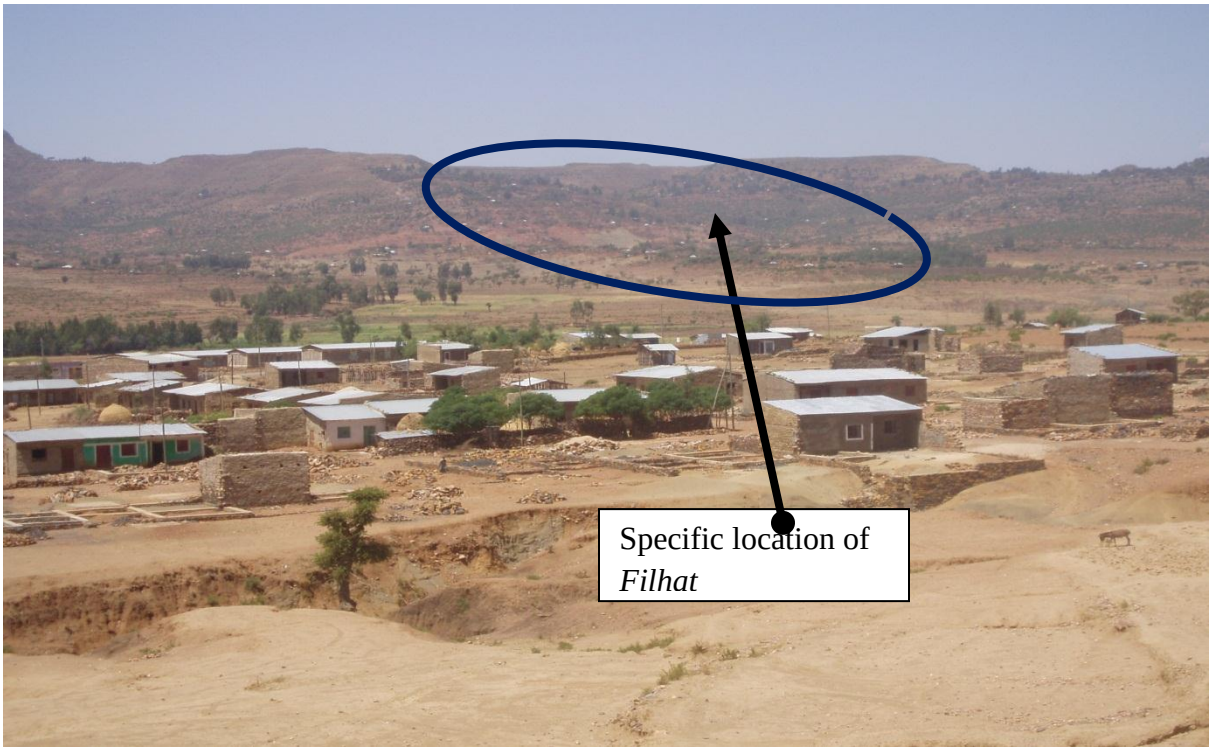


Fig.3. 2: Shows the location of *Filhat* settlement site viewed from the town of *Feres-may*

While the gullies at both sides of the site identified with almost white sand soil, the main site is rich with red colored silt intermixed with sandy soil solely at the western edge. However, the specific archaeological sites where traces of ancient humans, such as a mound, wall structures,

and pottery fragments are found are identified to be typical ashy soil. Highly dense concentrations of black stones of building rubbles (probably basalt?) are scattered abundantly at the edges and surface of agricultural land, notably, at the western limit of the site. The whole site is agricultural land owned by recently and sparsely resettled farmers. The site is also very clear of vegetation cover.

Covering an approximate area of 4 hectares, this gently up landed site offers an abundant archaeological evidence of settlement. These include artifacts, such as stone rubles, densely scattered potsherds, metal objects and stone tools; features such as mound structures, wall structures, burial features with circular slabs and stelae as well as eco facts of unknown bone fragments. Based on the material type, concentration, and location, the site can be divided in to a western part (*Fil* 01) where large numbers of archaeological data are scattering within an approximate area of three hectares and an eastern part (*Fil* 02) which has consisted moderately scattered artifacts and features in an estimated area of one hectare.

The geographic coordinates of the eastern part of the site, just at the most central part of *Fil 02* read as 39^0 04'.892 E, 14^0 10' .067 and an elevation of 2115 meter above sea level. The groups of stelae which were displaced at different times are one among several archaeological remains discovered from this portion of site. Currently all the stelae are not in their original context. Only one stela had existed in its original place until its complete destruction by a farmer in 2011. The tallest stele currently erected at the monastery of St. Giorgis, approximately 7 kilometers away from the site, was discovered by chance in 1996 while a farmer named Gebretnsa'e Gebre plowed his farmland. After exposing its top part by the plowshare, the full size of the stela was excavated by the farmer for construction purposes. Later on, other people continued digging the site and abled to found five additional stelae from the same location. The specific location of all the stelae is 12 meters apart from the steeply sloped and cut deep narrow stream of the northern edge of the site (see Fig.4.16 in chapter four).

Albeit the precise period of displacement was unable to ascertained, at present, the tallest stela which measured 4.2 meter height above the ground is erected at the monastery of St.Giorgis in *Adi Yiekoro*. The geographic coordinates of this location are 39^0 03' .940 E, 14^0 10' .277 N and an altitude of 2218 meter above sea level. It stands at the western entrance of the monastery just

inside the external fenced wall. It is characterized by a wide base of 80 cm, 60 cm at the middle and tapers towards the top with 30 cm length. Even though measuring each side is difficult because of damage, the stela is quadrilateral with a maximum width of 43 cm (see Fig. 3.3 a). According to the local informants, the stela was taken by human power from its original place of *Filhat*. Except in dimensions, no differences of form, color and material type exist between it and the stelae found at the private houses and church of St. Giorgis in *Filhat*.

a b

Fig.3.3: Stele one (a) and stele two (b) in the Monastery of St. Giorgis in *Adi-Yiekoro* and church of St. Giorgis in *Filhat* respectively

Excavated from the same location, the second tallest stela with a height of 3.8 m was transported and erected at the sites of *Fil* 01(western part) inside the fenced wall of the newly built church of St. Giorgis. The 3rd, 4th, and 5th stelae are located at the house of Gebretnsa'e Gebre in which the former was used as a threshold in the base of entrance door. Its ends are not visible as they are covered by built stones. Even though it became difficult to understand the exact dimension of this stela, the farmer had informed me to be 3 meters (?) of height while 50 cm length of the middle part was measured during the survey. The next two stelae are simply dropped inside the compound of the farmer and consequently, the 5th stela was broken in to three parts. While the 4th

stela measured one meter in height, the dimensions of 5th stela are not known exactly though assumed to be less than the former. At present, they are not part of the building rather part of the stela laid in the ground inside the compound. Only the last stela was in its primary context until it was destroyed by the farmer in 2011. Its top part was visible as a result of top soil clearance. Its top part lies slightly towards the north indicating that it could have been erected at one time in the past and later inclined on the terraced agricultural land due to different reasons.

Unlike the decorated monolithic granite stelae at Aksum, any symbolical representation and decoration is not shown with those which are located at the site of *Filhat*. In summary, the material type, refinement, and shapes design are the common characteristics of all the stelae. Even though these stelae have similarity with those which are located at nearby sites such as at *Adi-Ba'ekel* and *Da'ero-Anbessa*, the quarry site for these features is unable to recognize around the region because of absence of similar material type.

Ten meters apart from the stelae area to the northern edge of the same location and just 30 meters westward of the house of priest of Brhane Desta, one overlooks an east-west oriented deep gulley (seasonal stream) with a big side cliff. At this cliff, a relatively dense quantity of intact, and fragments of potsherds associated with bronze bracelet, nail (?) and cast like iron objects were collected by the priest.

For instance, an intact cup with a flat bottom, slightly convex profile, rounded rim with 18 cm diameter at the mouth, broken vertical handle of red-orange colored was collected by the farmer together with other materials from the same location. Moreover, varieties of fragments of pottery characterized by red-orange (dominant), black topped red polished (rare), roughly scattered brown and dark-red polished as well as other very small pieces of sherds are identified at the middle part of the cliff.

Fig.3.4: Intact and fragments of potteries were collected from the cliff at the *Fil* 02 site

Other artifacts such as closed ends of bronze bracelet (15 cm in diameter and 250 gram in weight) and one iron nail (?) are among the collections from the middle part of the eroded section approximately 7 meters height of cliff. As you can see in (Fig.3.5 b), two pieces of molded iron artifacts which have equivalent size with the shape of lunate holding circular hole at the middle part of the one piece and dot like feature inside the other piece which probably used for the cast of something are part of the collection. Each of the pieces has a diameter of 11 cm and 1.2 cm thick of rim edge with convex profile as well as 751 gram equal weight of each.

a

b

c

d

Fig.3.5: Different metal objects discovered from *Fil* 02 site and most of them are housed at the house of priest Brhane Desta.

Similarly, the western part (*Fil* 01) of this settlement site is characterized by the presences of densely scattered sherds, rubbles of stones, sparsely situated small mounds, disturbed burial and wall features, sandstone type slabs and fragments of bone (probably human). Towards the east, 35 m from the newly built church where the second stela is erected, a burial structure which was partially disturbed/ excavated/ by the local people has been recorded during the survey. It was dug in 2012 in searching of earth and stones for the church which is still in progress. Within this

disturbed burial, segment of masonry wall with 95 cm width is recorded. The exposed north-south oriented wall which cut at the middle part where the burial is existed indicated that it had built by a thick coarser stones. The horizontal and vertical limits/end parts of this wall are not determined as huge numbers of rubbles are overlaid above it.

a b

Fig. 3.6: Burial structure (a) and wall structure within the burial place (b) at *Fil* 01 site

As shown in Fig. 3.7 below, four medium sized slabs: one circularly shaped intact slab with a diameter of 1.2 m and 7.5 cm thickness and other three slabs with rectangular like shape were discovered inside the burial site. Even though the thickness of the rectangular shaped slabs is almost similar, their length ranges from 77cm-1.1 m. In addition, under the slabs, an intact cup with dark-red colored, flat based, slightly convex rim profile, and finely smoothed surface was collected during the excavation and preserved it in the church. Other artifacts such as grinding stones and bone fragments are also part of the archaeological evidence collected from that burial site.

Fig. 3.7: Slabs with different size, grinding stones and potteries of different size from *Fil* 01

If one walks towards the east of the site, circular shaped mound features that surrounded by densely scattered rubbles of stones can be found scattered over the large farmland area. At the northern edge of the site, approximately 100 meters from the burial site, another site excavated by rodent animals was identified during the survey. Different pieces of bone, stone tools (obsidian and chert), and a body sherd if not mistaken with oblique or cross like incised symbol (Fig. 3.8 b) are observed from the internal part of this by chance excavated site.

a b

Fig.3.8: Pieces of pottery and unidentified bones from the naturally disturbed site at *Fil* 01

3.2 *Ziban-Geba* Site in the *Feres-may* Valley

The broad valley of *Feres-may* that extends along a north-south axis is located at the south eastern edge of the town of *Feres-may* and extends to the foot of the rolling hills and mountains across the permanent river of *Berakit*. The upper head of the valley begins from the foot of the gently sloped plateau and chained hills of *Genadif*, *Mai-Hamber*, *Gezet*, *Adi-Agam*, and *Edaga-Hamus* in the north and northeast. The river gorges of *Mai-Tenketem, Mai-Keyhat, Mi'ala,* and *Agura* supplying a head water of a permanent river of *Berakit* (see Fig.3.1 above). In turn, this permanent river which passes along the middle of the valley of *Feres-may* flows down to the *Worri* as a primary source of Tekezze River. The high water table of the broad valley is sufficiently high to sustain the growth of green ecology in the large area of *Feres-may* during the dry season. Major stands of trees largely comprise planted eucalyptus confined to the flat valley, piedmont, and heads of gorges as well as at the edges of the river.

At the center of this broad valley two archaeological sites named *Ziban-Geba* and *OFT*-are identified. They are under the *Tahtay-Da'ereka* peasant local administration in the sub *Woreda* of *Hahayle*. The geographic coordinates of the site of *Ziban-Geba* are 39^0 06'.909 E, 14^0 10' .128 N at the most central point and an elevation of 2000 m above sea level. The boundaries and natural references are common to both sites. Specifically, the site of *Ziban-Geba* is located at the

foot of gently up sloped ridge of *Melgib* in the northwest. The steep knoll of *Adi Zi'amere*, just across the river of *Berakit* in the broad valley lies to the southeastern. Approximately, less than half a kilometer, the eastern edge of the town of *Feres-may* bordered to the west while the site of OFT demarcated it in the northward, see Fig.3.9.

Within the slightly down sloped southwestern edge of the site, an abundant concentration of pottery fragments was encountered during the survey. The permanent river of *Berakit* that drains

a b

Fig. 3.9: Location of *Zban-Geba* within the *Feres-may* valley

N-S axis passes close to the eastern edge of *Ziban-Geba*. Because of the high flood volume of the river, notably at the rainy season, a large cliff is formed. At the same time, another seasonal stream has cut the site in the NW-SE axis (see Fig.3.9 b) and joined to the main river basin of *Berakit* at the eastern end of the site. As a result, the site is divided in to a triangularly shaped eastern part (*Ziban-Geba*) and *Gramarya*-to the southwestern direction of the main site.

In the eastern periphery of *Ziban-Geba*, just at the natural horizon of 2.5 m depth of the steep cliff, (right side of Fig.3.9 b above), dense concentration of both diagnostic and non-diagnostic potsherds are found. The disturbed section of this cliff is rich in potsherds; however, they have been sadly washed by flood runoff. The southwestern edge of this site (see the left side of the same figure above) is equally characterized by the presence of rich concentrations of potsherds at a depth of 1.5 m exposed due to erosion as the figure below is also one section evidence of it.

a b

Fig. 3.10: The left side section of *Ziban-Geba* site where the potsherds are greatly disturbed and overlaid by different sizes of irregularly piled stones during the second survey in the summer (in June 2013) (a), but those artifacts were not found in their former place during the third survey of November 2013 (b) because they were moved by the runoff flood.

Albeit variation in color, size, and form exists, very interesting diagnostic pottery fragments are identified from this site. For instance, some of the diagnostic sherds that have black topped-red ware with a very flaring straight rim and slightly everted, probably a bowl (Fig.3.11 a) was identified. Another easily recognizable small black topped-red cup with a flat vertical handle (Fig.3.11 b) is found during the survey from the disturbed natural horizon in association to the other potsherds. A vertical rounded large handle with a red-orange color (Fig.3.11 c) is another diagnostic part exposed from the same section as a result of runoff flood.

a b c

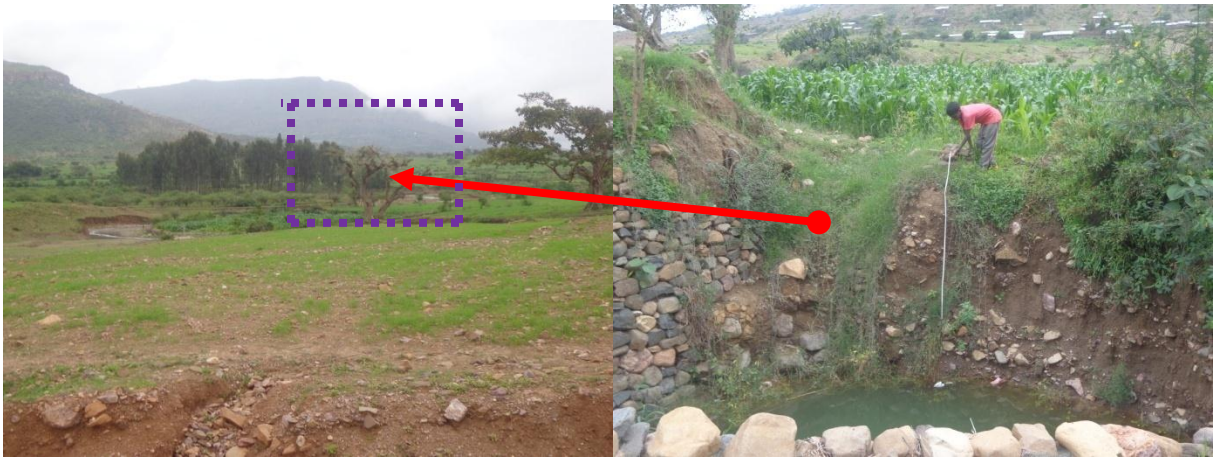
Fig. 3.11: Diagnostic parts of potsherds from the left side section of *Ziban-Geba*, in Fig.3.9 b.

Above this eroded section, the sherd scatter was significantly heavier. From the controlled surface collection conducted in a defined area of 100 meters squared, a sample of 564 sherds, where detail discussion provided in chapter four, was recovered. Going upward just up to the northeastern limit of this site where agricultural activity is evident, one can see a significant decrease of potsherd frequency. Therefore, the number of collected samples most probably could be from their primary context as the chance to come from elsewhere above it is almost rare. But this does not mean that a significant component of this remains are not moved down by the runoff flood. Equally, since the eroded section of the site is highly disturbed by seasonal runoff flood, recognizing the original context of the horizon where both the diagnostic and non-diagnostic shards are found is difficult. Very abundant worked stones that lay irregularly and collapsed wall like structure together with earth are intermixed with the numerous fragments of shards.

Across the small seasonal stream to the southwest at approximately 40 m, the site of *Gramarya* which is part of the main site of *Ziban-Geba* lies at the gently down sloped eastern tableland of *Beraziyo*. Irrigational agriculture has been intensively practiced throughout the year using the water-well spring dug at the center of the site. Covering approximately half a hectare, numerous potsherds and other archaeological evidence are scattered on the private farmland of Teklu Alemayehu.

While I made an archaeological assessment of this site in 2009, fragments of potsherds that overlaid one over the other existed at this site. By locating and recording the place where I had collected, an intact but little damaged at its rim part pottery was taken to Aksum university lab as a sample. After three years, however, the specific place previously identified was dug for water-well by the owner of the farmland. According to this farmer, the water-well has 4 m depth and was dug at 10 meter distance northwest from the main river of *Berakit* and 13 meter south of the seasonal stream. However, the visible depth of the water-well above the current water volume is 3 m while its diameter measures 2.8 meter. As one can see below, almost half of the circular section of the well is covered by purposely built (basalt?) stones. Unlike the techniques conducted on the other portion of *Ziban-Geba* site where controlled surface collection was completed, I divided the whole visible circular section in to 3 at one meter interval. The purpose of this technique is to count potsherds at each level which in turn to infer continuity based on

their typology (see Fig.3.12 b). Since the circular section below 3 is covered by spring water, access to examine the type and nature of archaeological data was impossible during the survey.



a b

Fig.3.12: The small site of *Gramarya* (a) and the water-well (b) all at the site of *Ziban-Geba*

No clear color differences was recognized at all levels: level one (upper), level two (middle) and level three (lower) as it had been damaged either during the excavation period of the well or by fetching of water by digging (scratching) later. Even though there was difficulty in identifying the diagnostic and non-diagnostic parts from the section of the water-well, some potsherds have been counted from each section. For instance, 10, 6 and 4 sherds were counted from the northern section of lower, middle, and upper levels respectively.

However, objects such as different forms of intact pottery, bronze bracelets, and grinding stones were collected by the farmer while he dug the well just between the lower and middle levels. The bronze bracelets which are now found at the house of the collector vary both in size, form, and weight. The largest bronze bracelet has a weight of 520 g. Unlike the bronze bracelets collected from other archaeological site of the region, this bracelet has a unique form. While the two side edges show flat smooth surface, see Fig 3.13, the middle upper most has hump like sharper shape and down gently sloped to both sides. With a diameter of 16 cm at the top opening, the flat surfaces of both sides measure 4 cm width while the height from the interior is 5 cm. Another unique feature of this object is the presence of a gap between the two ends. As you can observe from right side of Fig.3.13 b, the open space is wide at the external ends and narrowed at the

interior part with an average length of 3 cm. The second bronze bracelet that weighted 200 gram is lighter than the former. It has a very smooth surface with a circular shape and closed ends.

a b

Fig.3.13: Different sizes of bracelets collected during the excavation of the water-well

Measured with 3 cm width and 20 cm diameter (left side in Fig. 3.13 b), it is a little wider than bracelet number one. The third earring like small bronze is highly scratched and the surface is damaged. Its form is similar to bracelet number one. As shown between bracelet number one and two in Fig.3.13 b, the upper part of this very small earring ornamental object was removed probably while the farmer dug the water-well.

In addition to the bracelets, intact pottery with different form, size, and color were collected from the same level of the water-well circular section. For instance, foot washer basin with elevated pedestals, light red colored pottery was collected by the farmer. This foot washer is now located at the house of the farmer and has a diameter of 35 cm and 1 cm rim thickness. The everted body of this foot washing pot has outward inverted rim. Each of the three elevated pedestals has 4 cm length and 5 cm height from the floor of the deep basin while the length of the flat upper part of the pedestals (if not mistaken, incised with leaf of plant?) is measured 23 cm. The base of this pot is flat circular with a diameter of 11cm (Fig.3.14 a).

Together with the foot washer, another intact large jar was collected approximately from between the lower and middle level of the well. This jar is short necked with a cylindrical neck

basin, globular body and foot ring/pedestal base/, slightly convex rim profile and a thick flat vertical handle (Fig.3.14 b). It has 7 cm diameter at the mouth, 3 cm thick of rim, and a reddish pink color. Even though decorations are scarcely observed, both the inside and outside parts of this jar were finely made.

a

b

c

d

Fig.3.14: Intact of foot washer (a), jar (b), open bowl (c), and small cup (d) are collected from the well in *Gramarya* and at present most of them are housed at the house of Teklu Alemayehu-who is owner of the well.

Another open bowel with short straight neck (11 cm diameter at the mouth and 1 cm thick in the rim) was among the collections of the same site. With little damage at the rim, this pot is turned

outward while its handles are partially destroyed. The remaining part of the handles in Fig.3.14 c indicates that they were originally flat vertical. The external color of the pot is dark to grey while decorations are still absent. A rounded, straight neck and flaring rim, small and thin walled cup and slightly inverted mouth (8 cm in diameter) (Fig.3.14 d) was interestingly collected by the digger in association with the artifacts described above. At present, this cup is found with his relatives in the town of *Feres-may*. Albeit the handle parts are removed, its remaining part indicates that they were flat vertical. Except the finely made black- grey cup, any geometrical decoration is not viewed at both internal and external surfaces.

Generally, the farmer stated that the intact pottery and bronze bracelets were collected from the same level of the well and today, except one cup, all are housed at his house. Two meters above the well to the northwest a, N-S oriented disturbed wall structure is still visible. According to the farmer, at this specific location, fragments of human skeleton were discovered and reburied in its original place. Throughout the whole area including the well, at the level where intact pottery and bronze bracelets were collected, grinding stones of varying size were collected while some others are scattered on the agricultural farmland.

3.3 The Site of *Ona Enda Fitewrary Tareke* (*OFT*)

This site is located approximately 800 m immediately to the northeast of *Ziban-Geba* site. The main river basin of *Berakit* cuts the eastern limit of the site and separates it from the flat valley. The upper part of the valley of *Feres-may,* particularly, the dam of *Mi'ala* lies in the north while the gently down sloped ridge of *Melgib* dominates the northwest. The flood which begins from the upland ridge of *Melgib* and adjacent areas flows down close to the site through a deep narrow seasonal stream and joins to the permanent river basin at the southwestern corner of it. Both the Main River and temporary stream isolated the culturally terraced site and forms a saddle like shape.

Fig. 3.15: Physical location of the archaeological site of (*OFT*) in the valley of *Feres-may*

Recognizing by its prominences, the site stands out as a large mound against a relatively flat plain of its surroundings. Large amounts of scattered surface artifacts such as both intact and pieces of pottery, grinding stones, partially visible buried stone slab (?) like feature stone rubble and disturbed base wall structure are present on the estimated area coverage of 6 ha.

Fig.3.16: Small cup and partially visible slab at the top of the mound of *OFT*

Very interestingly, but also very sadly for the loss of the information, densely concentrated potsherds are found at the western edge of the site at an average depth of 3 m. They are found within a disturbed horizon formed by the seasonal flood of every year. Sixty cm above the bedrock and 3 m below the surface (Fig.3.17 a), big stones are arranged in the horizontal layer. Major soil differences marked between the bedrock and the subsequent depositions of horizons of the cliff. Moreover, small worked stones which arranged with a little N-S oblique are still existed at a depth of 40 cm below the top surface of the same horizon.

a b

Fig.3.17: Evidence of a horizontal wall structure at the bottom and top of the deep eroded section (a) and bone, sherds and irregularly laid stones from the same section (b) along the seasonal stream at the western limit of *OFT.*

Highly disturbed potsherds are abundantly placed in the horizontal section, just between the top and bottom where large and small stones are horizontally laid. Small bone (probably, human Tibia), and other irregularly intermixed stones are identified associated with the fragments of pottery. The type, form, and color of the sherds from *OFT* site have identical character with pottery found at nearby *Ziban-Geba* site. Although black toped-red wares are common, the thick body size, and red to orange colored shards are dominantly seen in the horizontal layer of the cliff and top surface of the farmland. One intact small cup- which is also found at the sites of *Filhat* and *Adi-Ba'ekel* was collected by the owner of the farmland from the top of culturally terraced mound.

Even though this site is still covered by densely concentrated debris of stones, at every agricultural season, considerable numbers of them have been collected and laid at the edge of the

terraced farmland of the site (mound). Approximately 50 m apart from the house of Abrha Tareke just on the gently down sloped terrace, N-S oriented disturbed wall structure lies on the eastern side of the site. At the southwestern edge of the site, immediately across the seasonal stream, another small mound with rich of pottery fragments and debris of stones was identified during the survey. A similar structure is observed at the northern end of the site. Hence, while the main mound with numerous of artifacts is positioned at the center, the remaining small mounds and wall structures encircled the site in the north and south, and eastern directions.

3.4 *Enda-Ra'essi*

Approximately one km west of the site of *Ziban-Geba*, a big cultural mound is situated at the southern end of the flat plain of *Feres-may* town. Currently, the site is located within the *Tabia* of *Feres-may* which is also a center for the sub *Woreda* administration of *Hahaile*. As described above, the town of *Feres-may* is surrounded by two permanent river basins. The *Gedallo* River flows through the eastern edge of the town while the *Berakit* River basin passes south ward close to the western side of the town including to the archaeological sites of *OFT* and *Ziban-Geba*. One and half a kilometer from the cultural mound, both rivers join each other in the southern end of the town at a specific place called *Midmar*. This cultural mound is thus, located at the center of the flat plain while other archaeological sites surround it both at the east and west sides.

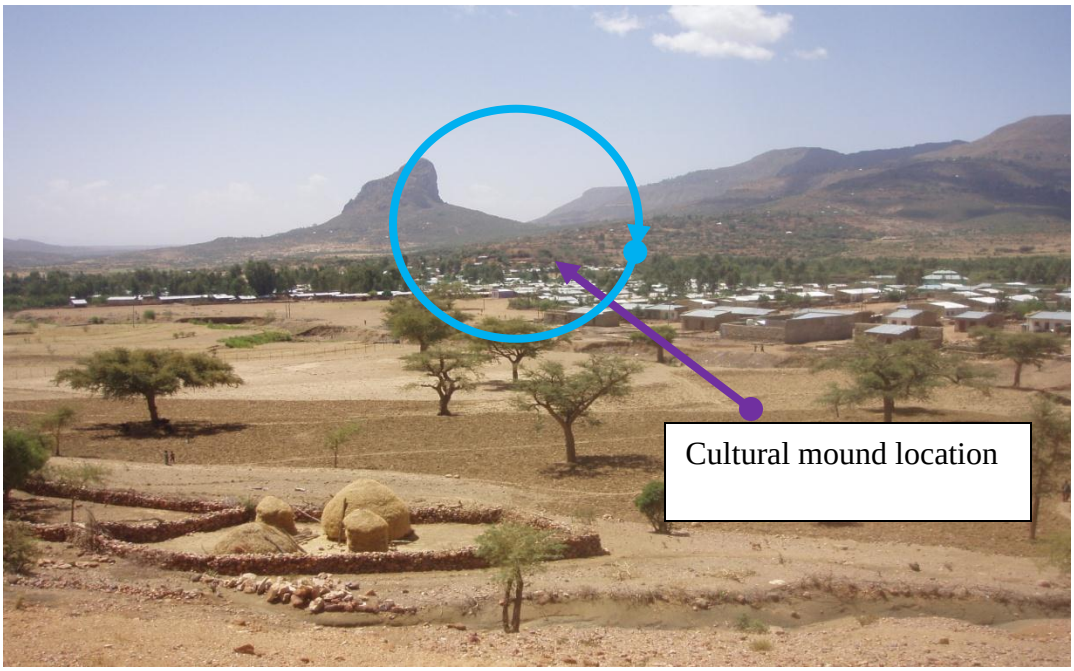


Fig.3.18: Location of the cultural mound of *Enda-Ra'essi* in the town of *Feres-may*

This cultural mound has a broad circumstance and narrows upward with a flat top. Even though the current top part of the cultural mound has been modified, it has a diameter of 25 meters and a height of 85 meters above the flat plain of the town (see Fig.3.19). The disturbed but still visible built steps which lead to the top give the cultural mound to have a pyramid geometrical shape. At the middle and upper part of this cultural mound, rare purposefully planted and naturally growing different types of plant species are found.

a b

Fig.3.19: Northern side view (a) and western top view (b) of cultural mound of *Enda-Ra'essi* at the southern end of the town of *Feres-may*

The general area of the flat plain is characterized by black colored soil. Unlike that color, however, the cultural mound has a red color earth intermixed with some sand like soil which is only possible to identify in the rainy season because of light flood dropping to the plain. The worked stone found scattered around the site has a black color and is not a local type. The most striking question that one can ask is where is the location of the quarry site for both the soil and worked stones; and how they were transported. To answer this question surveying other areas that have similar type of material and gathering the information that transferred from generation to generation within the community is necessary. Accordingly, even if unfinished similar type of objects are absent, survey results indicate that the archaeological site of *Filhat* which is located 5 kilometers northwest of it could had been the quarry site. The color of the soil is identical at both sites. Moreover, the size, type, and color of the worked stones are almost identical at both sites.

However, since this typological comparison is not enough to reach a firm conclusion, I decided to consult oral traditions of local community. Albeit remains of other archaeological evidences are not found in the mound, local informants believed that *Kellow-Bellow* was a local chief who built the cultural mound during the period of *Soba- Nowa.* By involving more than (300 people per year?), the cultural mound was completed within three years, but yet impossible to rich at conclusion. The means of transportation and quarry site, however, can be by man power just from the archaeological site of *Filhat*.

The former name of the town of *Feres-may* in which some elders also called at present is called *Belloho.* This name was derived from the cultural mound. Oral tradition indicates that because of the difficulty of work, the people who were transporting the earth and stones sang as "*Bellu-Ho*"- to make the challenge easy by obtaining abstract power during cooperation. Through time, however, the word *Bellu-Ho* which created during the period of construction of the mound was changed in to the former name of the town *Feres-may* called *Belloho* - similar to the Tigrigna word *Belehe*- means pointed or tableland area.

Although the name of *Belloho* has survived until the present day with very few numbers of elders of the area, the name of the cultural mound is replaced by *Enda-Ra'essi*, just after one leader of the imperial period had settled in this strategic place. The name *Enda-Ra'essi* was again derived from the title of "*Ra'essi*" whose name is not yet ascertained by the local elders. After the

decline of the imperial period, the Derg regime also had used this cultural mound as a camp although its name is continued until the present day. The purpose of construction of the mound is in detail discussed in chapter four.

3.5 *Adi –Ba'ekel*

*Adi-Ba'ekel i*s an area of approximately 8 hectares formed at the foot of the steep slope of *Amba Gedera* to the northwest. The name of *Adi-Ba'ekel* is derived from the soil color of the area which is identified as yellowish-white silt color mixed with sand. While the mountain of *Adi-Zata* dominates it in the northern sector, its gently sloped eastern side is cut by the river valley of *Dengollo*-which is the upper part of the main river of *Gedallo*. The western boundary of *Adi-Ba'ekel* is defined by the sharp drop off archaeological remains while the remaining perimeter is defined by a fertile small valley of *Mai-Genao*. A narrow river that passes between the gently sloped hills of *Adi-Yiekoro* and the mountain of *Gedera* to the east feeds the broad fertile valley and is cut by the main river of *Gedallo* at the southeastern edge of the site.

The administrative location of the area is similar to the archaeological site of *Filhat* found 5 km to the south. Accessed by vehicle, the site is about 19 km from Yeha and 5 km from the town of *Feres-may*. Specifically, it is located at the recently established tableland village of *Adi-Ba'ekel.* The road leading to Adwa- *Feres-may* bisects this village and all the archaeological sites and remains are found east of this recently built road. Close to the road in the east, the whole area is an agricultural land. While a small part of the farmland is owned by the government for demonstration of some selected crops, the remaining largest portion of the agricultural land is privately owned by residents of the area see Fig.3.20.

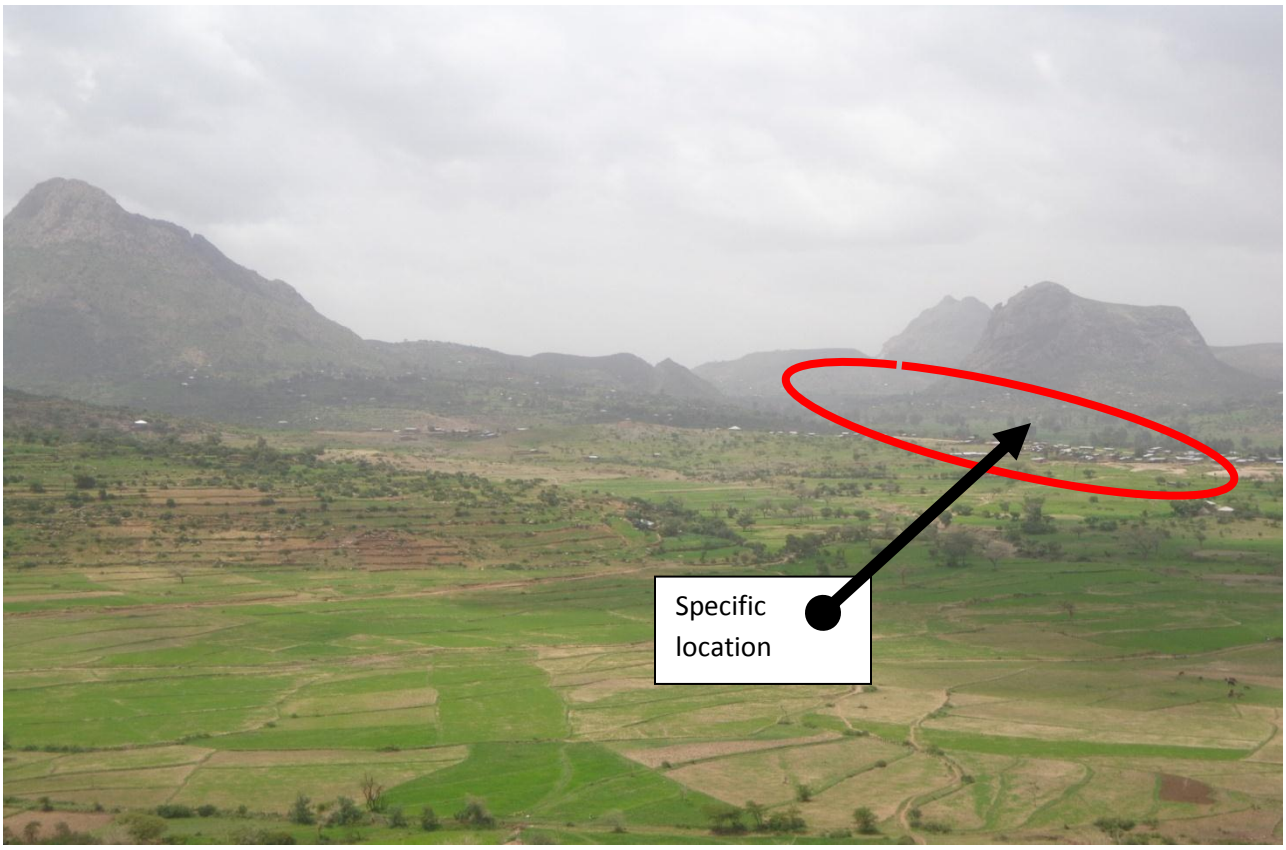


Fig.3.20: Geographical location of *Adi-Ba'ekel* settlement site.

The archaeological traces are found in three loci: western, eastern, and southeastern directions of the village. The inscription site is found at the western edge of the site, just 10 m to the east of the road. The geographic coordinates of this specific site are 39^0 03'.316 E, 14^0 11.688 with an altitude of 2042 m above sea level. Before 2002, the area was owned by individual farmers as agricultural land and not more than 20-25 householders were settled there. Later in the year, the plain was taken by the government for demonstration purposes. It was in 2008 that the farmers of the area exposed the upper part of a stone inscribed with Sabean script. *Meto Aleka* Gebremedhin Asefa is one among the farmers who told farmers to stop plowing the agricultural land where the inscription is found and took it to his house after he had carefully excavated it. The potential of the site was recognized for the first time in 2009 after I and my friend assessed and reported it to Aksum University. But nothing was done except reporting the inscription and stele field, and it is in this time that every specific documentation done besides the identification of another site in the southern part of it.

The bottom right side of the inscribed stone (Fig.3.21) is partially damaged while the remaining part of it is measured 46×25 cm. The letters are curved inward in five rows with the space between lines ranges from 1.2 to 2.5 cm and the height of the letters ranges from 4.8 to 7 cm. The result of the deciphered Sabean script is summarized in chapter four. Before the discovery of the inscribed stone, other many small worked stones, for example, one of them is measured 65×26 cm, were collected by the farmer from the same place. They are currently found at the house of the farmer used for fencing and others as a seat. In addition to the inscription and worked stones collected by the farmer, slightly scattered potsherds are identified during the survey.

Fig.3.21: A Sabean inscription from *Adi-Ba'ekel* settlement site, particularly at *AB* 01and keeps at private house

Less than half a kilometer east of the inscription site is another archaeological site recognized as a stelae field. The most central x/y coordinates of the site are 39^0 04'.328 E, 14^0 11'.724 N with a slight elevation difference to the inscription site. Approximately 200 m below this site one can overlook a very flat valley with a permanent water flow towards the south. At the agricultural land and house of Girmay Aregay, 14 stelae are sparsely distributed. Four stelae which are laid inside the compound of the farmer's house are purposely collected for construction from their original place outside the fence wall. One additional stela which measured 1.45 m height was taken and erected at the newly built church of St. Giorgis at the foot of the mountain of *Gedera,*

just northwest of the site (or town) across the road. The remaining 10 stelae of which 4 are partially visible are laid both on the edge and agricultural land surface and are dominant to the west of the house. However, some of the stelae are broken into two pieces; consequently, it was difficult to measure their accurate dimensions. Similar problems are faced in measuring the stelae which are partially visible above the surface see Fig.3.22. These groups of monolithic stelae are made from sandstone which are similar to those recorded at the archaeological site of *Filhat.* They are curved carefully with quadrilateral shape with board base and tappers upward to the top. Some examples of the stelae are shown in the picture bellow.

Fig.3.22: Different sizes of stelae laid outside the wall fence of *Ato* Girmay Aregay in *AB* 02.

Along the gently sloped edge, to the west side of the house of Girmay Aregay, burial structures faced the flat valley towards the east are exposed as a result of both anthropogenic and natural disturbances. Moreover, densely concentrated glass beads which vary in color and size; and fragments of potsherds are abundantly identified from this site. All the children of the residents collect the beads especially at the rain season and hence the site has got another name called *M'eray Enqui* in Tigrigna to mean quarry site of the beads.

Along the edge approximately 300 m south of the stelae field, a large mound lies on a gently sloped of land jutting out over a broad valley to the west. The primary identification of this site is the north-south axis oriented rough rectangular artifactual mound. The geographic coordinates of this site are 39^0 04'.559 E, 14^0 11'.609 with an elevation of 2020 masl. Seeking stones and soil as mortar for house and wall construction, part of the mound is currently being excavated by the farmer called Kahsay Welegebriel. As you can see from Fig.3.23 a, two newly built houses are visible on top of the mound while its surrounding is fenced using the rubble stones collected from itself. Compared to the inscription place and stelae field of the same site, the mound site covers the largest portion both in terms of physical site size and debris concentration of archaeological remains.

a b

Fig.3.23: Location of the mound where houses are built up on it (a) and partially visible potsherds near the mound (b) at *AB* 03 site.

Immediately about 100 m east of the mound, outside the house compound of Kahsay Welegebriel, one almost intact with little damage at the rim part, darkly smoothed, short necked, vertical handle and rounded base pot (Fig.3.24 top left) was collected by the farmer while he plowed his farmland. The entire round neck of this pot is decorated with vertical inward molded lines as well as a single large hole among the lines. Similarly, fine diagnostic sherds include a rim of cup with convex profile of 18 diameters at the mouth and arc like shaped large rounded vertical handle with mica inclusions were also recorded from the agricultural land during the survey. Half of a small cup with a flat base and finely polished surface, rounded rim of 14 diameters at the mouth and red to orange colored was part of the collection kept at the house of the farmer. However, in addition to these chance discoveries which were collected by the farmer, densely scattered fragments of pottery are still recognized in the site.

Fig.3.24: Different artifacts such as, broken bracelet (top right), almost intact decorated pot (top left), obsidian tools (bottom left) and glass beads (bottom right) recorded from the site of *AB* 03

A broken with phallus like symbol at the one end (?) (Fig.3.24 top right) of thin bronze bracelet with a diameter of 16 cm was another archaeological remains collected by the same farmer at the gently eastward sloped agricultural land. Obsidian artifacts are equally identified from the entire surrounding of the mound, particularly west side of the house of the farmer named above. More surprisingly, at the surface of the ground just 10 m east of the mound partially visible densely overlaid potsherds (Fig.3.23 b above) formed a circular shape. The distribution of beads is significantly heavier again in this southern portion of the settlement site of *Adi-Ba'ekel*. Similar to the archaeological sites described above, many grinding stones which abundantly scattered at the mound site of *Adi-Ba'ekel* were identified during the survey.

3.6 *Mai-Omo* Archaeological Site

Fourteen kilometers away from the site of *Adi-Ba'ekel* to the north and approximately 2 km to the east of the small town of *Gendebta*, the site of *Mai-Omo* is situated in a flat agricultural plain area with gently up sloped towards the east. The main road leading to Aksum-Adigrat passes between the mountains of *Wazga* and *Tsegarom* via the north limit of it. The steep mountain of *Wazga* and twins *Ambas* of *Tsegarom* dominated the site in the northwest and northeast respectively while its western side is bordered by the small knoll of *Barot*. The eastern end of the site is cut by a steep very large escarpment descending to the valley floor and if one stands on this eastern edge, it is very easily to overlook the fertile, well-watered narrow valley to the east. Looking north from the site, across the fertile *Gendebta* flat plain, one has a clear view of the archaeological and historical place of Yeha within not more than 7 kms away. At present the eastern and northeastern boundary of the site is belonging to the *Adi-Zata* local peasant administration under *Hahaile* sub-district of *Ahferom Woreda*. On the other hand, a large portion of the site is administrated by the *Gendebta* peasant local administration under Adwa *Woreda*.

a b

Fig.3.25: Location of *Mai-Omo* with north view (a) and south view (b)

The soil of this site is an excellent clay/*Walka/* variety and it exhibited no vegetation cover except very rare bushes are found at the eastern end. Within the top part of the eastern limit of the site about 11 residents/householders are settled. Nevertheless, at present the whole area also locally called *Kuma Enda-Michael* and is actively used as agricultural land both during the summer and in the winter through irrigation. Part of this area was roughly surveyed by Gebriela Hailemariyam who was doing her BA thesis in 2011. She tried well to communicate with local people about the history of the area and most importantly assisted me to get the people who have better knowledge about the area.

According to local informants the name of *Mai-Omo* was derived from two words *Mai*-water and *Omo*- the name of a cow. At one time, there was drought and the cow named *Omo* went far away searching for water. After long time searching, the owners of the cow had gotten it within the water area and the nomenclature of *Mai-Omo* was given during this undetermined time.

Lying on an estimated area of 6 ha, densely concentrated building rubble covered the ground, along with pottery fragments and grinding stones. Surface archaeological structures, such as carefully dressed stone masonry and mounds are recognized at the middle part of the site. Twenty meters above the main site, the house of *Merigeta* Negash Gebretsadkan) (Fig.3.26 a) was built using the finely carved building rubble collected from the site. The center of the main site where slightly up landed mound like structure located is enclosed by the pile of ruins.

Approximately 150 m above the house of *Merigeta* Negash, one roughly shaped stele measured 97×30 cm lies in a north-south axis.

The stone bearing a Sabean script is interesting but badly damaged. It is difficult to translate its meaning at present because the inscription is marred by scratches but its study is still in process and it represents important data for the future, see Fig.3.26 b). The inscribed stone was used as a masonry facing outward in the house of *Merigeta* Negash. The stone with the script measures 57×35 on the outer surface. Like the inscription at *Adi-Ba'ekele*, the letters from this site were curved inward and arranged in two rows with the space between lines ranges from 1.3 to 3 cm. The height of the letters also ranges from 5 to 8 cm. According to local informants there were tother stones inscribed by similar script but they were stolen.

A b

Fig.3.26: Carefully curved stones collected from the main site and built at private house (a) and an inscribed stone with Sabean script (b) which is now part of the building.

Within the compound of the house, one circular shaped slab with inward curved symbols (?) at its center part was collected from the same site. The slab has a diameter of 1.15 m with a slight damage at one edge. Moreover, high concentrates of sherds are present, as for instance, a diagnostic body sherd which is highly washed, thick rough surface with coarser tapper inclusions and horizontally incised lines on its surface is identified from the site. Almost 200 m east of the main site above the house of *Merigeta* Negash, disturbed burial and wall structures and bone fragments were exposed due to disturbance. Even though lightly scattered, potsherds and worked

stones are laid in the artifactual mound like structure. The specific quarry site for the sandstone like rubble of masonry both at the house of *Merigeta* Negash and those laid at the actual site is still in question although the elders suggested to be very far south of the site across the flat valley of *Feres-may*.

Local informants stated that the site was established before Yeha. The local elders strongly claim that the people at *Mai-Omo* were the founders of Yeha. They argued that before the construction of the palace at Yeha, there was small polity and the leader had settled at the palace of *Mai-Omo*. Until the polity shifted to Yeha and some years after that both palaces were administrated from the previous center at *Mai-Omo*. Although the palace at Yeha had begun operating, the former palace at *Mai-Omo* was not completely abandoned; rather it remained in service until the Aksumite period. Later on, after the introduction of Christianity in the 4th c AD, the palace was changed to church with four arks/ *Tabots:* named St. Medihanialem, St.Michael, St. Maryam, and St. Kidanemhret. However, like other Ethiopian orthodox churches, the church was burned and destroyed during the war of Gudit. While some remaining church materials were taken to the nearby church St. Michael of *Gendebta*, the site was left completely abandoned.

3.7 The Site of *Tsirhan*

According to the oral tradition of the local people, the name *Tsirhan* is derived from the Tigrigna word *Tserehe* to mean dividing the area into small pieces of land. It is located some 17 km northeast of *Entcho* town and less than one km east of the road leading to *Entcho-Gorhusrnay.* Approximately 150 m to the northeast of the recently established small town of *Edaga-Robu'e*, is found the archaeological site of *Tsirhan*. It is situated 30 m from to the base of the steep knoll of *Qomoqorae* in the south. The gently sloped hill of *Contoro* with very rough terrain descending to the base lies into the north. The *Contoro* and *Qomoqorae* hills at the northern and southern directions of the site respectively- which also could have been previously joined together, are separated by a narrow east-west oriented erosional stream and passes down close to the northern most end of the site.

The current rain fall characteristics of this region which is administrated under the *Gorhusrnay* subdivision administration of *Ahferom Woreda* is relatively less than other sites located in the same district. It is the hottest semi-arid region of the study area. Unlike the vegetational features

of the sites located in the *Dega* and *Woyna-Dega,* the site of *Tsirhan* is characterized by the presences of bare land. More scrubby trees are found on the steep rocky slopes while the flat land is poorly covered with very few acacia plants. However, very few ever green large plants and cactus trees are located to the eastern side of the site at the stream edge. Much bare rock is exposed on the steep knoll sides, notably in the southeastern part of the site where soil is limited to stony sandy coarse sized preserved in the hollows. The flat plain which extends westward from the site across the newly established settlement area is covered with reddish silt type altered by white and yellowish color. But it is also better to explain that even if the sub-district administration of *Gorhusrnay* is generally categorized as low land area (Kahsay 2013), this specific area has a higher elevation than adjacent *Tabias*, particularly those which are located around the Mereb River (see relief/altitudinal difference in Fig. 3.1).

Currently, the site and its surrounding region are characterized by the presence of low fertility and crust prone soil as well as erratic climatic conditions with frequent periods of water-shortage. The communities of the area possess an agricultural economy. Sorghum and finger millet are the dominant crops cultivated in this semi-arid environment. Tef/ *Eragrostic-tef/* is cultivated rarely. The current settlement pattern surrounding the site is too sparse while about 70 householders are settled close the site around the edge of stream.

Fig.3.27: Physical nature of *Tsirhan* archaeological site

Covering an estimated area of 3 ha, the site of *Tsirhan* has produced abundant material remains such as finely dressed rubble stones, rectangular wall structure, carefully curved impressive pillars, and fragments of scattered potsherds. The recently built village rests upon the site of *Tsirhan*. The devastated complex structures with distinctive stepped walls at the ground are covered by the modern houses and compounds. Even though the original wall structure was disturbed, the orientation of the structure is still recognized to be east-west. Most importantly, the color of the soil with in this specific site is ashy which is quite different from the soil located outside the main archaeological site zone.

Very narrow disturbed wall structures that connected the main site to the pillar field or mound site are still visible. At the eastern end of the main site, one cylindrically shaped undressed stela is erected near to the entrance of the house of Kiros Asefa. It had been present for many years in that area.

Fig.3.28: The main site of *Tsirhan* where new houses are currently built above it.

The quarry site for the stela is still unascertained but it seems to be either a granite or basalt type of stone with a height of 1.6 m. Close to the stele three stone slabs are laid out on the ground surface. According to local informants, the slabs were collected from western side of the main site.

a

b

Fig.3.29: Stele (a) and stone slabs (b) found at the main site of *Tsirhan.*

Narrow base and wide top part, the roughly rectangular stone slab was erected between the two other fallen slabs. The slab measures 53, 46, and 11 cm of height, length, and width respectively. The shortest slab is located at the right side while the tallest with 88 cm height, 45 cm length, and 19 cm width is laid at the left side of the erected slab. Except for the modern scratch marks, any indication of art work or symbolical representation is completely absent in all slabs.

Some 50 m from the main site to the eastern end, near the stream is found a mound. Similar to the main site which yielded important archaeological evidence, the mound site also exhibits ruins of dressed stone. Moving 10 m outwards from the center to all sides, one can find a rectangular wall structure that surrounds the mound. Keeping a straight line, this disturbed wall is oriented east-west which is similar to the structure found at the main site. This distorted wall, particularly, at the northern side has a width of 1.1 m. The internal complex structure is difficult to measure each dimension while the external part is 28×20 m. Even though the internal part of the wall where the mound is located exhibits very concentrated stone rubble, lightly scattered worked stones are identified equally at the external side of the wall structure in all directions.

Fig.3.30: E-W oriented disturbed base of wall where the mound and pillars are found inside it.

Inside the east-west oriented rectangular structure, impressively curved six monolithic pillars rest upon the elevated mound. All the pillars have the same reddish color, shape and seem to be limestone. Except for the largest still intact standing pillar, the remains are greatly damaged at the top part and others are inclined to the south. Nevertheless a slight dimensional difference is recorded, which may be due to the pile of rubble stones and soil, the base of the currently standing pillars is stepped with a quadrilateral shape.

The pillars are arranged in two parallel lines: three at the left and three at the right side. They are oriented in an east-west axis keeping the line of the rectangular wall in the outside part of both sides. The tallest pillar with 1 m height and 60 cm length at the base is located at the left side of the eastern corner. At the top of this pillar recently scratched holes marks are clearly visible. Two meters west of pillar number one and 3.5 meters east of pillar number three of the same line, is erected pillar number two. The top part of this pillar is greatly damaged while more than half below the step is buried by the ruins. The visible dimensions of this pillar are 80 and 60 cm in height and length respectively. The upper flat part of this pillar is marked by recently made local game called *Gebeta*. The western end left corner of the pillar field is placed by pillar number 3. Unlike the other pillars, the corner sides of this pillar have very interesting shapes. While base measurement of this pillar is similar to pillar number one and two, some portion of the southwestern side is covered by deposited soil and stones.

Fig.3.31: East-West oriented pillars up on the mound of *Tsirhan* archaeological site.

At the western end of the right corner just four meters south of pillar number three, the fourth pillar is found. A large part of this pillar is buried and no visible step is shown like the other pillars. The inclined but with partially buried step and smooth surface pillar number 5 is found east of pillar number 4. Sharp corners are almost absent with this pillar. It is the second smallest to be visible above the ground next to pillar number 6. The last shortest visible pillar is located at the eastern end, right corner of the same line and just at four meters south of pillar number one. This pillar is almost buried and neither sharp corners nor visible 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.

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 land and hence due to the running flood, the potsherds were moved down to the current secondary location.

3.8 *Tahtay-Guldam* and the Bronze-Kettle from *Feres-may*

Although knowledge regarding the nature, origin and the general symbolic representation bears on it was not at hand, I had a clear view of the custodian and physical appearance of the bronze kettle since my childhood during the 1990s. Fifty meters from the house where I was born and raised, the bronze kettle had been used for cooking at the house of *Ato* Tesfuhuney Hailu and his relatives. Sometimes the residue of *Suwa*- locally called *Hatela* and *Gillet* had been given to the cattle and sheep through this object. A long time later, the value of the bronze kettle was recognized for the first time after I joined the department of Archaeology in Aksum University. With little previous knowledge, great attention was given to this object since the time where I and Dr. Yohanns able to assess it in 2011 and it became another significant archaeological artifact of the area. Onwards from that period, every piece of information with regard to the object was gathered from the custodian Tesfuhuney Hailu who is also my uncle.

After careful cross-checking both the archaeological data from the site and the local informant's report, I found that the original place for the bronze kettle is *Tahtay-Guldam*. This site is located in the *Dbdibo* peasant local administration of *Ahferom Woreda*. The geographic coordinates of the site are 39^0 03'.015 E, 14^0 16'.225 N and an altitude of 2047 masl. The site is reached after one hour gentle foot walk from the site of *Mai-Omo* in the south and half an hour from the archaeological site of Yeha.

Tahtay-Guldam is located less than 5 km to the west of the small town of *Dibdbo* and at about 1 km to the southeast of the road leading to *Enticho*-Adwa. The steep mountains of *Adekirs* dominate to the east while the gently up sloped knoll of *Da'ero-Arat* lies to the west. A small stream that originated from the foot of the mountain of *La'elay-Guldam* in the south flows down northeast ward along the church of Aba Libanos.

Fig.3.32: Physical location of *Tahtay-Guldam*

The lower part of *Tahtay-Guldam* exhibits highly abraded fragments of potsherds. While the western side of the stream provides abundant pieces of potsherds, the eastern side is rich with metal slags exposed during plowing. The specific name of the site where pieces of slags are found is *Adi-Wahsom*. An old man whose name is *Kegnazmach* Tesfay Teferi is among the local informants and stated that the name of the site was derived from the Muslim people who had settled there in ancient times. Unlike the general name given by the German Archaeological Institute directed by Gerlach (2013), whom they fail also to find the specific site, the original place of the bronze kettle is at *Adi-Wahsom*. Moreover, the presence of pieces of slags matches with the idea of the local informants of both at *Tahtay-Guldam* and those who are from *Feres-may*.

As to the idea of the local informants, during the imperial period the whole of the study area including Yeha was under territorial administration zone of *Dejach* Araya Meshesha. The central place for his administration was in the town of *Feres-may* just 27 km away from the site. In the 1940s, one farmer whose name is not yet known had gotten the bronze kettle by chance while he plowed his farmland. As soon as he reported it to the local chief at nearby, immediate action had taken in turn by *Dejach* Araya to bring it to his house in *Feres-may*. For the next two decades,

the caldron was on the hand of the leader resided at the foot of the cultural mound of *Enda Ra'essi*.

During the period of Derg, however, the bronze kettle had taken by the resistant ghters of the Tigray People Liberation Front (TPLF) to the most inaccessible areas of *Adi-Agam*, just east of the town. It had been primarily used for cooking and consequently, as you can also see from Fig.3.33 b, part of its base was sadly broken and formed a hole with a dimension of 26 cm ×15 cm. When the resistant ghters won at the region of *Feres-may* in 1982, Tesfuhuney Hailu had gotten it from TPLF as a custodian until the last month of 2012.

The caldron has bears a Sabean inscription, bull head and very impressive figurine symbol with a diameter of 78 cm at the mouth. The bronze kettle is characterized by an everted body, convex profile of rounded rim with a 1.3 cm see Fig.3.33 a. At the uppermost part of the rim of the bronze kettle, two arc-shaped handles are facing each other. Both handles have equal dimensions with 16 cm length and 10 cm height at the middle part. The diameter of the flat external base of the bronze kettle including the damaged part has measured to be 59 cm.

a b

Fig.3.33: Bronze cauldron with inscription (a) and its broken base (b) which is originally from *TG-Feres-may* but currently displaced from the former custodian and found in private house at Adwa.

Two centimeters below the handle of one side and just between the bull heads, a decorated monogram (with five right hand fingers) is shown inside the rectangular shape. Other pyramids like two features are connected above the single horizontal line that separates them from the tip of the fingers below it. The lower arm is curved first to the right side and then turned down perpendicular to the fingers with the total height of 8 cm and 4 cm length.

Fig.3.34: Bronze Cauldron which consisted bull head at the foot of one handle and decorated monogram in the foot of the other handle.

At the bottom end part of the handles (i.e., at both left and right ends) of both sides of the bronze kettle, two bull head features are facing outward with a similar dimension. In addition to this, on one side of the bronze kettle, Sabean inscription is marked. The line space between the letters ranges from 3.4 to 6 cm. Understanding the exact weight of the bronze kettle was impossible because of the unwillingness of the current owners. But it has been estimated to have a weight of 45-50 kg. Information concerning the translated meaning of this inscription and the current location of the bronze kettle is explained in chapter four.

CHAPTER FOUR

DATA ANALYSES AND DISCUSSION

4.1 Typological Analyses of Ceramics

Most of the time field archaeologists are dependent on the physical properties of pottery or on the description of technological features such as color, hardness, and texture standards. However, in this study such composition and marks of technique have not been used extensively as criteria, I rather focus on color. The importance of color in pottery description is attested to by the frequency with which color adjectives are used in naming types. However, color alone is not still necessarily used as a reliable criterion for pottery naming and classification. This is because variation in pottery color could be caused by composition of clay, and the atmosphere, temperature and duration of firing as well as deposition of carbon in cooking over the fire, wear, deposition of subsistence from the soil after discard. Irrespective of the fact that color does not afford an accurate key to chemical composition of clay, it serves as a simple, direct criterion for classification and for comparative purposes (Shepard 1956).

Hence, by adopting the techniques of pottery analysis used by Fattovich (1990), the pottery sherds examined in this study have been classified into five groups of colors. For instance, surface collections of sherds from 10 × 10 m area at the site of *Ziban-Geba* have revealed a total of 564 pieces from which diagnostic specimens constituted 81. Among the diagnostic sherds, the rims comprise the largest number 49 while the bell parts consists a small number.

No	Types of diagnostic sherds	Number
1	Rims	49
2	Neck	10
3	Handle	12
4	Bell	4
5	Base	6
6	Total	81

Table 4.1: Classification of diagnostic sherds collected from *Ziban-Geba* site

All these diagnostic elements have been generally sorted by a color type category and surface treatment sub category. The general ceramic categories by color from surface collection are summarized in table 4.2 below.

No	Color type of diagnostic sherds	Number
1	Red Orange Ware (ROW)	19
2	Red/Grey Brown Ware (RGBrW	6
3	Black topped Red Ware (BTRW)	4
4	Red Ware (light red, reddish, pinkish (RW)	26
5	Grey Ware (GW)	26
6	Total	81

Table 4.2: Diagnostic sherds collected from *Ziban-Geba* site and classified by a general color

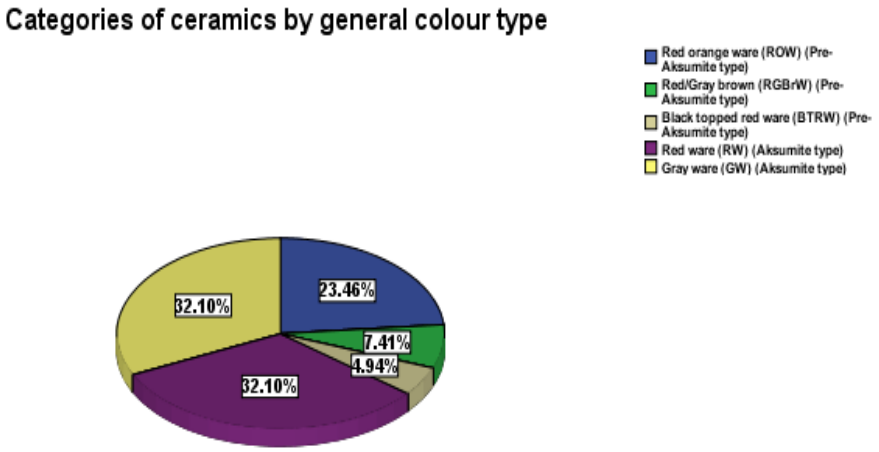


Fig.4.1: Ceramic type categories by general color and percentage value of total surface collections (n=81) from *Ziban-Geba*

As indicated in Fig. 4.1, 23.5% of the total surface collection ceramics are represented by red-orange ware, 7.4% by red/gray brown ware, 4.9% by black topped red ware, 32.1% by red (light red, reddish, and pinkish) ware, and 32.1% by gray ware. Surfaces of most red ware sherds are neither well slipped nor fairly burnished. However, as sherds from surface collections often have lost surface material through wear or erosion, the non-decorated sherds and the non-slipped and non-burnished red ware type may be over-represented in the sample. Each of the general categories described above encompasses other various sub-categories relating to differences in surface treatment (polishing or roughly smoothing) and related sub colors. This is organized in detail in table 4.1 and in Fig. 4.2.

No	**Ceramic divisions with their corresponding (relative) periods**	**F**
1	Red orange ware (ROW) external only polished (Early-Pre Aksumite type)	14
2	Red brown ware (RBrW) both external and internal unpolished (Early Pre-Aksumite type)	4
3	Red-Gray brown ware (RGBrW) external only polished (Early Pre-Aksumite type)	2
4	Black topped red ware (BTRW) both external and internal polished (Middle Pre-Aksumite type)	4
5	Red orange ware (ROW) both external and internal unpolished (Late Pre-Aksumite type)	5
6	Red ware (RW) both external and internal unpolished (Late Pre-Aksumite type with little possibility to Early Aksumite)	2
7	Light red ware (LRW) both external and internal unpolished (Late and/ or Early Aksumite type)	4
8	Light red ware (LRW) both external and internal polished (Early Aksumite type)	10
9	Light red ware (LRW) external only polished (Early Aksumite type)	2
10	Pink/reddish pink ware (PRPW) both external and internal polished (Early Aksumite type)	6
11	Red Ware (RW) external and internal polished (Early Aksumite type)	2
12	Reddish/pink/light (GW) external only polished (Early and/or Middle Aksumite type)	4

13	Reddish/pink/light (GW) external and internal polished (Early and/or Middle Aksumite type)	3
14	Gray ware (GW) external only polished (Middle Aksumite type)	4
15	Gray ware (GW) internal only polished (Middle Aksumite type)	2
16	Gray ware (GW) both external and internal polished (Middle Aksumite type)	7
17	Gray ware (GW) both external and internal unpolished (Middle Aksumite type)	3
18	Dark gray ware (DGW) both external and internal polished (Middle to Late Aksumite type)	3
19	**Total**	**81**

Table 4.3: Classification of ceramics based on specific color and surface treatment from surface collection of *Ziban-Geba* site

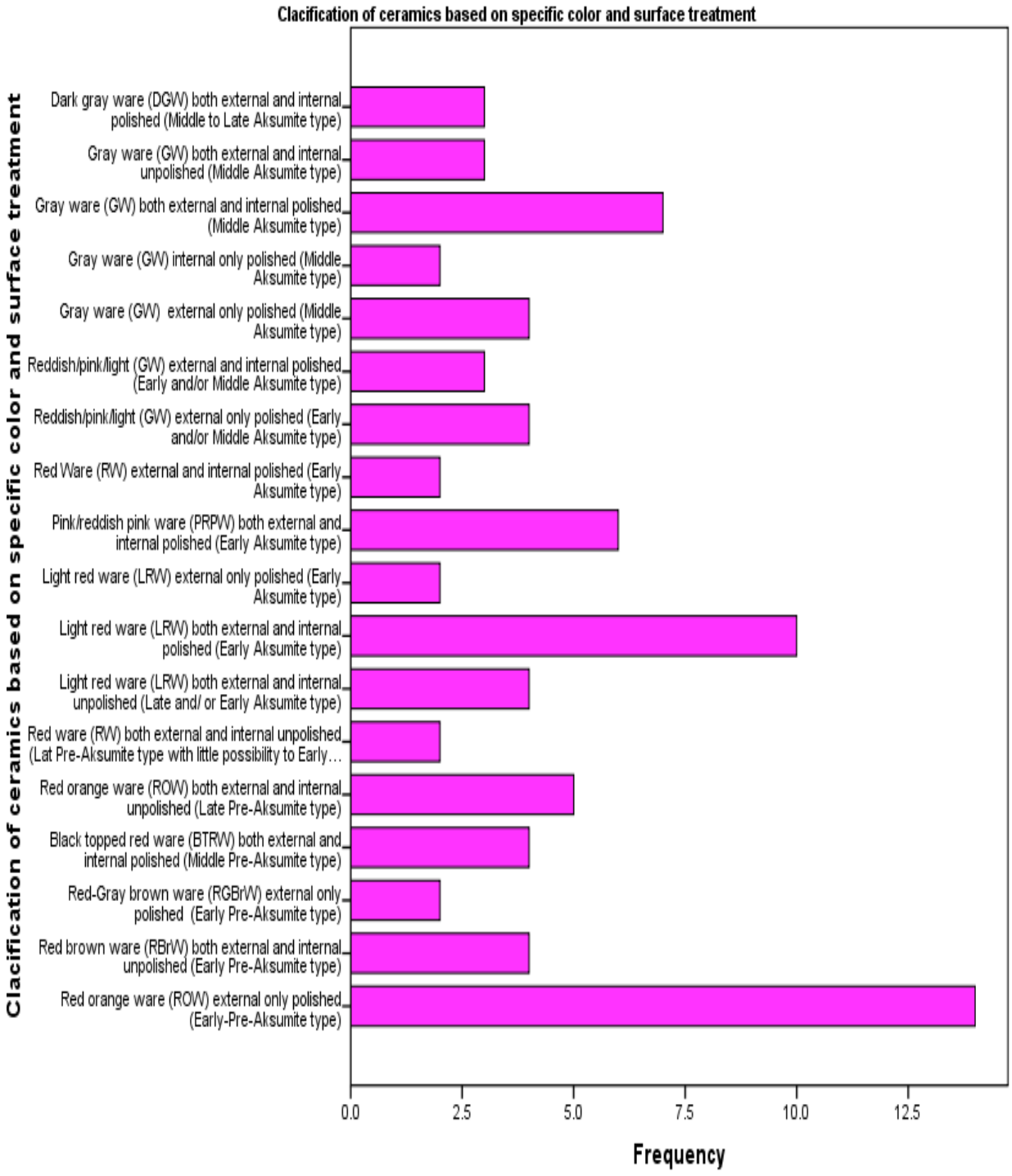


Fig.4.2: Classification of diagnostic sherds by subcolor categories and surface treatments and development of relative chronological periods of *Ziban-Geba* site.

Beside the clue found from pottery color, ceramic decoration elements have become the most important and reliable features to understand the interaction of peoples of different regions, social organization, relative chronology of settlement sites and contemporaneity of occupations, economy, and belief systems (Fattovich 1990, Curtis 2005). From the total number (81) of diagnostic surface collections, only 26 sherds (32%) are represented by decorated parts dominating at the rim, neck, and shoulder of easily identifiable bowls, jars, and cups (*see appendix 4*). Decoration elements that dominate the *Ziban-Geba* assemblage include: combinations of design elements, raised boss and strip appliqué, circular perforations, rare horizontal lines, incised, or molded lines into a ridged pattern, applied dot, and a single cross like decoration. Therefore, based on the general color type, decoration features and some easily identifiable forms and surface treatments, the ceramics have been analyzed and gave indisputable information as described below.

The ceramics that recorded in many sites of the study area and those in surface collection assemblages from *Ziban-Geba* site are characterized by finely produced wares, such as thin and thick walled red-orange fabric and red slipping and burnishing black topped red ware type. Red-orange colored wares have been discovered in almost all surveyed sites. These wares are decorated on the rim and/or shoulder/neck area with simple combinations of design elements and raised boss and strip appliqué. The majority of these types of wares are, however, not well incised and burnished. Red-orange wares, black topped red wares and brown wares together with these sub types make up 36% of the total ceramic sherd number analyzed from the surface collection assemblages at *Ziban-Geba*.

These red-orange wares show a similar stylistic character with sherds discovered from the lowest layer (stratum II) at Grat Be'al Gibri in Yeha and Matara in strata III-VIII (see Fattovich 1990, 2010). Raised boss, circular perforations, and strip appliqué decorations vertically incised or molded into a ridged pattern on the external surface occurred near the rim and along the shoulder of bowls and cups. Such types of decorations occurred on micaceous red-orange, red-brown, and gray brown wares. The sherds decorated by applied strip appliqué, small raised boss elements, and circular perforations from the surface collection assemblages at *Ziban-Geba* site (Fig.4.3) are similar to decorated vessels discovered from 'D site' in *Kidanemhret* Aksum dated to the Early

phase of Pre-Aksumite period (Phillipson 2000; Phillips 2004, Fig. 26) and to sherds in Eritrea (see Curtis 2005, Fig. 4.96 and 4.99).

Fig.4.3: Decorated sherds include: Circular perforations, raised bosses with perforations and dots around the neck or shoulder of the vessels from *Ziban-Geba* site.

Thick, coarse ware sherds (red to reddish brown coarse wares and brown coarse wares) are largely devoid of decoration, except for occasional simple or parallel incising and small raised bosses on upper portions of the vessel body, including shoulder areas. Such types of thickened, colored, and decorated sherds resemble sherds discovered from the very early phase of Pre-Aksumite sites in Gobodura at stratum II b and 'D site' in *Kidanemhret* at Aksum (see Phillipson 1977: 75-81 and Fig. 16. 4-12; Phillips 2004). Other very small numbers of coarse gray brown sherds that are characterized by brown burnish on surfaces have been identified from *Ziban-Geba* and these have been compared with the sherds discovered at stratum II b, in Gobodura. Some of the red-orange and light red ware with typical Pre-Aksumite type paste and decorations are roughly polished and this can be due to weathering and erosion. Comparing to the red, grey, and dark type pottery, larger numbers of red-orange and brown type sherds are roughly polished. Handles with outward curving strips of clay applied to the exterior vessel, wares decorated with circular perforations designed on both vertical (dominant) and horizontal variants are also part of the collections ascribed to this category. Other internally incised thick and thin sherds and ring based, probably a small sherd of cup were documented from the site.

Fig.4.4: Vertical handles with circular perforations, internally incised rims, and ring based cup sherd of Pre-Aksumite type identified from surface collection assemblages at *Ziban-Geba* site.

Analyses of such ceramics from many settlement sites of the study area are, therefore, characterized by distinctive decorations and fabrics. For instance, some finely made ceramic vessels have distinct decorative motifs and are largely restricted to simple scrapping-incising, rowed punctuates, circular perforations and dominantly raised boss and strip or molded appliqué with very little evidence of foot rings on bases. Sections of some newly broken sherds in many sites and notably from the surface collection assemblages at *Ziban-Geba* indicate that the red-orange wares are almost similar with the paste.

Ceramics that are characterized by finely produced wares such as thin-walled red fabric black topped red ware type were observed at many sites of the study area. The fragments of small bowls and cups recorded from the disturbed western section of *Ziban-Geba* (see Fig. 3.12 a and b above) and *OFT* reflects insights on red slip and burnish vessels which commonly referred as black topped red ware type (Fattovich 1997; Phillipson 2000). These type of sherds are stylistically similar to those discovered from other Pre-Aksumite sites such as OAZ I and Ona Nagast in Biete-Giorgis near Aksum (Bard *et al.* 1997), in stratum I b at Yeha and Matara in Eritrea (Fattovich 1990; Curtis 2005). However, a low frequency of red slipped and burnished wares (BTRW) have been identified from surface collections at *Ziban-Geba.* For instance, this type of ware represents only 4.9% (*n*=4) of surface collections while large number of similar sherds were recorded at the lower part (1.5 m depth) of the disturbed horizon.

Some other intact pots observed in the field and sherds which have identified in the lab showed typological resemblance with those documented at OAZ (Biete-Giorgis), (Bard *et al*. 1997). For

instance, cups of a variety of sizes that have distinguishable features, such as both rounded and flat bases, straight neck, relatively thin wall, flat vertical handles, finely made (most evenly fired while few others unevenly fired), rounded rim and occasionally with convex profile are recorded. These occurred on black rough ware, red rough ware and micaceous red-orange wares. Most such vessel types have been compared to those that reflect a similar typology dated to 2nd to 1st century BC at Biete-Giorgis, Hawelti, Seglamen and Melazo (see Fattovich 1990, 1994, and 2010) and few of them resemble those dated to 1st - 3rd century AD (Wilding 1989; Bard *et al.* 1997). Particularly, the large rough red ware basins with incised decoration on the ledge are stylistically comparable to similar vessel types dated to 2nd century BC (see Manzo 2003, Fig. 6.d). What is unique here is that different type wares, (both in color, form and surface treatment) have been found together in a particular site.

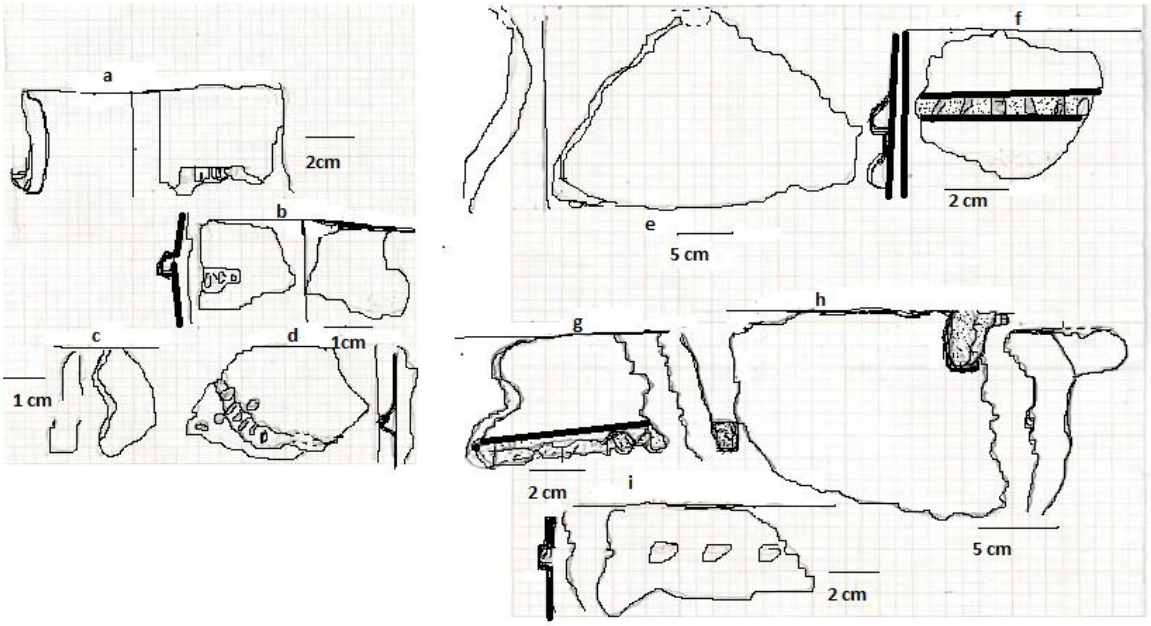


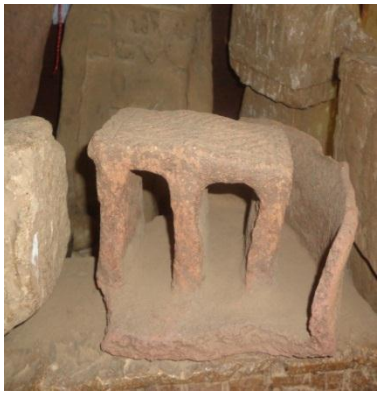
Fig.4.5: Decorated sherds of Pre-Aksumite types (c, d, f, g, h and i) and Aksumite types (a, b and e) from the site of *Ziban-Geba.*

Detailed site survey and systematic surface collections have also recovered red wares (RW) and gray wares (GW) at three settlement sites *(OFT, Ziban-Geba and Filhat*) mixed with red-orange and brown wares. From the total analyzed surface collection sherds from Ziban-Geba, the red

and gray wares are present in equal numbers and percentage of 32.1% (*n*=26) Finely polished red, light red to reddish and pinkish surface colors of intact pottery and sherds have been discovered at most of the sites. Large intact jar characterized by a short and cylindrical neck, globular body, thick and flat vertical handle, finely made, short raised bases supporting the vessel on an applied thin outward flaring ring with a dot inside the ring that occurred in a reddish pink and micaceous red ware is very informative among the collections of this type. This jar type is exactly the same as pottery found in the Gudit Stele Field (GT II tomb) at Aksum dated to 3rd to 4th C AD (see Phillipson 1977; Wilding 1989, Fig. 16. 237). Moreover, intact foot washers (dish like general form) characterized by a flat circular base with outward inverted rim (1 cm thick and 35 cm diameter) and horizontal platform lying on three vertical elevated pedestals in the middle, often bearing an incised and/or impressed decoration has been collected from the same site together with the jar. Such fine and thick walled vessel with a light red and or reddish pink color has similar shape and paste, with a well-known foot washer type recorded in Gudit Stele Field (GT II tomb) at Aksum (see Wilding 1989, Fig. 16.197).

Foot washer from GT II tomb in Aksum. Now, it is found at the archaeological museum of Aksum

Foot washer from *Ziban-Geba* site, *Feres-may*. Today, it is found in the private house of Teklu Alemayehu



Foot washer from Yeha museum-collected by a farmer from behind the site of Grat Be'al Gibri

Fig.4.6: Comparsion of foot washers from different archaeological sites on the central Tigray plateau

The gray ware types are of a high quality with a color range from light to a dark gray as well as red to reddish grey along the rims. They encompass fine grained quartz inclusions and are burnished and incised on the external surface. Closed bowls with short necked, globular body,

thick vertical flat handles, rounded base, evenly burnished and dark polished with vertically molded or incised decorations along the neck are identified at *Ziban-Geba*. In addition to this, open bowls which have outward inverted rim with (11 cm diameter at the mouth and 1 cm thick of lip), flat vertical handle occurred on dark to gray core were recorded from *Ziban-Geba, OFT* and *Filhat*.

Fig.4.7: Examples of highly abraded and scratched gray to dark-gray Aksumite type sherds from surface collection assemblages at *Ziban-Geba* site.

Deep and some shallow bowls with thin walls and rounded bottoms, miniature cups with both rounded and flat bases as well as upright or slightly inverted rims were recorded at *OFT*, *Ziban-Geba (Gramarya)* as well as at *Filhat (Fil*01*)* and these are similar to 4th to 5th C AD vessels discovered by Bard and her colleagues (1997) at OAZ, in Aksum. Both the fabric and the surface color of the sherds are almost the same. A variety of other small vessel forms including thin walled and conical-shaped cups are present at *Filhat* and *OFT*. A small reddish gray colored sherd with applique like deeply incised or a crisscrossed line at its exterior part has been uniquely recorded at *Filhat,* just from the northern edge of *Fil* 01.

4.2 Discussion

4.2.1 Ceramics

Pottery analyses along with other archaeological evidence allow me to suggest the nature of social organization, size and nature of settlement sites, economic strategies, relative dates, exchange of ideas, and other related topics. Based on their site coverage, both intact vessels and sherds are more widely distributed in the survey area of seven sites than other artifacts and features. This most ubiquitous artifact category which is intensively observed and recorded on a number of sites during the survey has become most relevant archaeological evidence for the existence of permanent settlement in the remote past. They break with astounding frequency, and thousands of years later, the pieces are still around, some of them even in the same condition they were the day the pot was discarded. Compared to potsherds, I found few intact pots from disturbed burial areas along with architectural remains which indicate that people were permanently settled and intentionally placed whole pots, perhaps filled with mortuary offerings with the body of the deceased. But most of the findings are sherds-the detritus of pots broken during daily use or after they were discarded for other reasons.

Even if estimating population size of those who settled at each site is difficult, the presence of abundantly concentrated sherds suggests that the region had been occupied permanently. Such abundantly scattered sherds are found in a range of physiographic places including farmland and pasturage areas. Hence, there is no reason to doubt that these settlements varied in size as a hamlet, village, or isolated compound and are the former center of activities of the former inhabitants. Moreover, the apparent existence of sherds and intact pots along with architectural features, for example, masonry stones and piles of building rubbles; slightly up landed mound structures with rubbles; variety size of upper and lower grinding stones; metal objects, glass beads and few lithic artifacts exist to suggest strongly that people had been settled permanently.

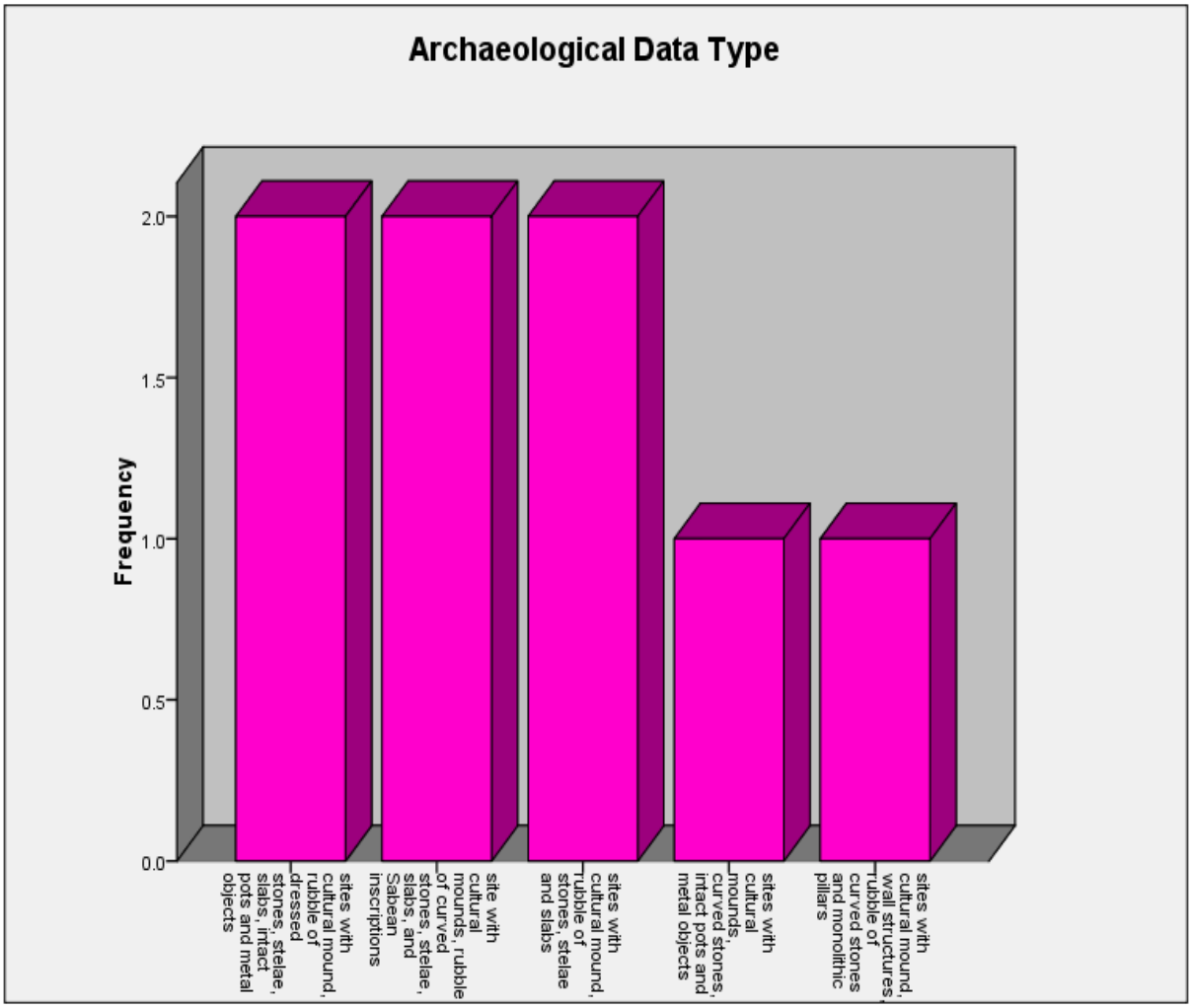


Fig.4.8: Categories of archaeological data type discovered from surveyed sites and their implication

The nature of settlement in the *Feres-may* area was characterized by more closely spaced villages and hamlets. The available evidences largely from pottery suggest that the settlement nature of the region was characterized by large and small villages, hamlets (less than 1 ha in size (Michaels 2005) along with burials, and ceremonial centers. The sites, such as *Adi-Ba'ekel*, *OFT, Filhat, Mai-Omo,* and *Tsirhan* were large settlement villages. The presence of depth of sherds and dense building rubble associated with burials indicating artifacts laid in an area of about 1 hectare, on the other hand, suggest that *Ziban-Geba* was a small village settlement. Therefore, the distribution of archaeological data recorded in the sites, notably, the sherds, along with

mounds, and building ruble support the presence of varying size village settlements occupied in periods ranging from the early phase of the last millennium BC up to the Middle or Late first millennium AD.

The potsherds that occurred in great abundance exhibited many variables and afford a primary means for setting up a relative chronology of the sites. That is, qualitative ceramic comparisons can provide indisputable value in evaluating the time assignment of a particular site identified in this investigation. New styles are adopted, developed, discarded, and replaced and therefore, it is reasonable to suggest that pottery can be used to establish relative dates (Shepard 1956). Based on the ceramic typological comparison along with other associated evidence, three settlement sites appear to have been continuously occupied beginning at least in the earliest phase of Pre-Aksumite time up to Middle and/or Late Aksumite periods. This is because these settlement sites are marked by continuities of the various occupation periods which in turn delivered information on continuity of land use. For instance, these and the remaining other archaeological sites which are dominant in the *Feres-may* valley overwhelmingly hold archaeological clues that tightly associated with settlements of both Pre-Aksumite and Aksumite periods. According to the ceramic evidence documented during pedestrian survey and lab analyses, occupation of these settlement sites began during the Pre-Aksumite time/early phase of the last millennium BC. This is confirmed by the presence of Pre-Aksumite period characteristic pottery, such as red-orange ware (ROW), brown ware (BrW), and black topped red ware (BTRW) associated with mounds or other abundantly scattered architectural features such as stone rubble. Hence, while the sites, such as *OFT, Ziban-Geba* and *Filhat* reflect evidence of continuous occupation from early phase of the last millennium BC up to the Middle or Late first millennium AD, the sites of *Adi-Ba'ekel, Mai-Omo, Tsirhan, Tahtay-Guldam* and artificial mound of *Enda-Ra'essi* exhibit cultural traces of only Pre-Aksumite period occupation. Besides the clues, however, deep information concerning continuity of site occupation needs further investigation by excavation.

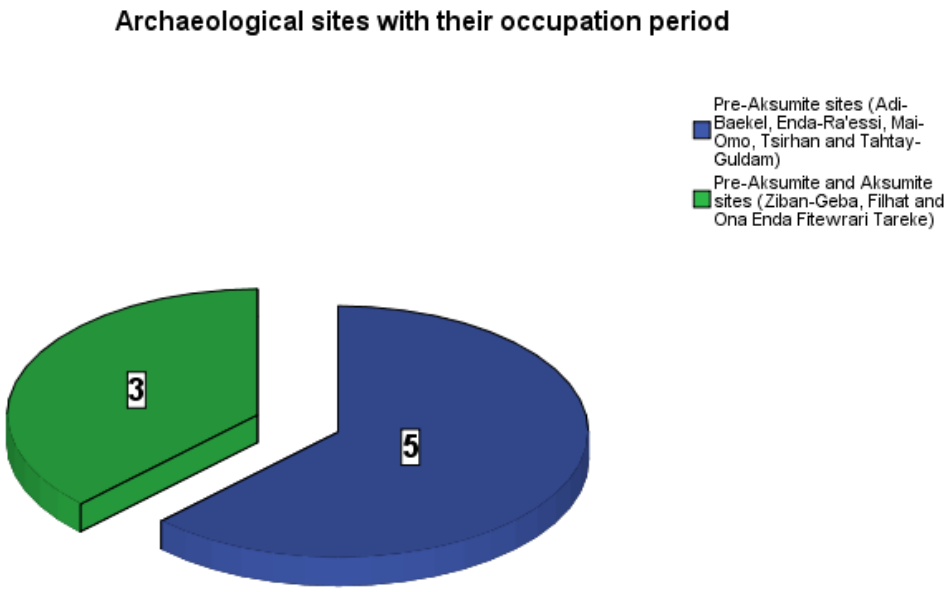


Fig.4.9: Number of Pre-Aksumite; and Pre-Aksumite and Aksumite archaeological sites

Detailed site survey and systematic surface collections have also exhibited traces of Aksumite period occupation. Early to Middle Aksumite period occupation indicators, such as red ware (RW) and gray ware (GW) are present at three settlement sites *(OFT, Ziban-Geba and Filhat*) mixed with Pre-Aksumite representative pottery. The percentage value of Aksumite type sherds from *Ziban-Geba* is greater than the Pre-Aksumite potsherd which suggests the domination of Aksumite period site occupation, but in fact, such implication should also be viewed from other parameters such as site context irregularity. This is because that the site where pottery was collected was highly disturbed and reaching at conclusion is a little bit difficult.

Whatever the difference in sherds quantities, the apparent existence of sherds and intact vessel types collected from *Ziban-Geba* which are stylistically similar to those documented at Gudit Stele Field (see Ayele 1997; Phillipson 1998, 2000), suggest that this settlement was continuously occupied up to the Early Aksumite period. Several similarities especially in the paste, decoration, and form existed in both Pre-Aksumite and Aksumite pottery indicating that the transition period was not brief and therefore, both may coexisted for many years. For

instance, doted decorations were documented from Pre-Aksumite sites and continued in the Aksumite period. Applied rim exterior wall bosses largely existed in Early Pre-Aksumite times (see also Curtis 2005) and continued to the Aksumite period (Wilding 1989) and most of the bosses shown on simple open bowls. Hence, continuity of these pottery decorative styles may be taken as evidence of continuity of population from the early phase of the last millennium BC up to the Middle and/or Late first millennium AD.

In addition to the chronological sequence (site occupation continuity), comparison of pottery style similarities from different sites can demonstrate contemporaneity of site. The presence of red-orange wares largely from surface collection assemblages at *Ziban-Geba* settlement site indicates that the site was contemporaneous with previously documented Pre-Aksumite sites, such as Yeha, Seglamen, D site, Hawelti-Melazo, in central Tigray and Matara in Eritrea (see Wilding 1989; Fattovich 1990, 1994, 2010; Phillips 2004). In addition to those, a lower frequency of both thin and thick brown wares has been identified from *Ziban-Geba* surface collection ceramic assemblages. Their significant typological/decoration/similarity with the Early Pre-Aksumite phase pottery documented by Phillipson (1977) at Gobodura (stratum II b) indicates contemporaneous occupation of the site. The appearance of few thin walled red ware vessels that exhibited red slip and burnishing often a characteristic black topped red ware type are typical indication of site occupation in the Middle Pre-Aksumite time. Moreover, this type of vessel are typologically similar to those reported by Fattovich (1990) in stratum I b, at Yeha and Matara. This is again another evidence of contemporaneity of settlement occupation in the central Tigray plateaus and Eritrea.

The distribution of pottery types can provide insights into site context irregularities or disturbances. The location of different types of pottery anomaly seems to indicate that the site of *Ziban-Geba* could have been experienced disturbance of some kind. Based on the current location of potsherd types, questions such as why there is a small number of BTRW type identified in surface collections while large number of this type observed at the lower eroded horizon? In contrast to this, why is the ROW type more abundantly found on the surface? Or could it be re-deposited from elevated areas? Or did a land slide taken place there or around the area? What oral history does the area as a whole have? What does the physical setting of the area looks like? And another important question related with the implication of the presence of these

different types of pottery at a specific site should be raised at least to have some insights about the original context of the site. Even if the sample size is small, the potteries which are observed and recorded at the eroded section are enough to compare each other so as to understand context of the site.

In a normal circumstance, the number of BTRW types from surface collections should exceed the ROW ones and at the lower horizon the ROW should exceed the BTRW. But the existing situation of the potsherds does not follow this pattern. As discussed in detail in chapter two and three, the site is neither steep sloped nor gorge but very slightly sloped gently towards the north. This indicates that possibility of erosional deposition from elsewhere is unlikely. Moreover, concentration of sherds towards the north end of the site reduces apparently. At present, the site and its nearest areas are not occupied as a settlement in which possibility of finding site disturbance from current settlement pattern is unlikely. So what possible factor could have been attributed for the disturbance of the sites?

Around ten years ago, I remember repetitive local landslides took place in the area some 10-11 km away east of the site across the permanent river of *Berakit* in the flat plain of *Feres-may*. Another land slide was also experienced at about 15-20 km southwest of the sites, most likely, at the same year. Oral tradition is another key component in understanding the general history of the area as a whole and the sites (*Ziban-Geba* and *OFT*) in particular. Even if the cause of disturbance stated by the local community is not from the scientific point of view and strongly associated to religious parameters, their view exists to support the notion that the area was disturbed in the remote past. Hence, similar to those recently shown local landslides around the area which most likely also support the oral history about the site, there could have been small local movement.

From an archaeological point of view, the presence of many sherds of BTRW inserted/laid in the lower horizons at the sites of *OFT* and notably at *Ziban-Geba* and their reduction in comparison with the relatively large amount of red-orange wares at the top surface suggest site disturbance, may be due to local endogenic forces. The presence of big horizontal wall structure at a depth of three meters just in west side of *OFT* along with pottery type of Pre-Aksumite and Aksumite time associated with fragments of human bone (see Fig.3.17 above) also supports the point that

the area may have been deformed by small local endogenic force. Thus, giving great emphasis to the physical setting of the area, location, and context of the archaeological evidence as well as oral history about the area, it is possible to suggest that these settlement sites may have been disturbed in the past. Whatever the cause of site disturbance; and frequency and location of the archaeological data which is also a task of future investigation by excavation, the presence of pottery of all phases of Pre-Aksumite and Aksumite period implies that the sites have been occupied beginning from the early first millennium BC up to the Middle or Late first millennium AD.

Cautious analyses of the study areas' ceramics indicates a great typological resemblance with those ceramics found at Yeha (Grat Be'al Gibri), D site- in *Kidanemhret*, Gobodura and Biete-Giorgs, Hawelti, Melazo, Gudit Stele Field and Ona Enda Aboy Zegwe (OAZ) around Aksum vicinity in Tigray as well as Kaskasse and Matara in Eritrea. The apparent resemblance in vessel form and pattern of decoration demonstrate that there was significant and continuous regional interaction in both Pre-Aksumite and Aksumite times. Ceramic decoration, form, and surface treatment appear to be the most informative evidence to have an overview of the interaction of communities on a regional scale. The existence of stylistic similarity (example the ROW) between most of those currently identified sites and those collected from the sites found in central Eritrea (Kaskasse) and southern Eritrea (Matara); central Tigray (Biete-Giorgis and Yeha) as well as Eastern Tigray (*Gulo-Makeda*) of the Pre-Aksumite period, seem to suggest that there could have been regional interaction during Early Pre-Aksumite times. Moreover, this red-orange ware is reminiscent of those collected from Early Pre-Aksumite sites, such as Gobodura–Yeha II-Matara (Fattovich 1990) and indicates the presence of interaction among different communities. The discovery of black topped red ware in all the sites described above indicates that interaction among the communities who settled particularly in the study area and generally in the central Tigray plateau and Eritrea may had been existed in the Middle Pre-Aksumite period. The presences of ceramic typological similarities between the people who occupied the Aksum plateaus and the *Feres-may* areas may also indicate that there was regional contact and exchange of ideas both in the Pre-Aksumite and Aksumite times. These interactions may be existed largely due to the geographical proximity of the sites in Tigray and Eritrea through trade.

Nevertheless, it is better to look into the notion that communality of material objects and traditions found in different areas do not necessarily imply that there was exchange of ideas through interaction. This is because physical similarity of cultural elements across societies may appear not only through interaction but may also be independently invented across space and time due to technological choice (eg., see Trigger 1967; Curtis 2005). The communities who share similar cultural traits should not necessarily be considered as receivers or donors of ideas and tradition; instead communities can invent and use similar elements according to their own understanding and integrate these components into their cultural context in a particular way. Therefore, it is difficult to say that the presence of common material culture in different Pre-Aksumite, and Aksumite sites of different areas resulted due to solely to the exchange of ideas.

The presence of significant amount of sherds distributed in the settlement sites contributed important role to infer the economic and social aspects of the region's inhabitants. Even if the types of crops which ancient inhabitants cultivated could not be determined from the sherds, they were most certainly agriculturalists. Depending on their size and form, these pottery vessels may have been used for various purposes such as cooking, storage (liquid and grains), as well as burial repositories. This concept is supported by the inscription discovered from *Adi-Ba'ekel* that gives clues for the presence of irrigational agriculture. The geographical location and ecological potential of the area is additional evidence that supports the existence of agricultural economy practiced by ancient societies of the area. Therefore, the Pre-Aksumite and Aksumite communities must have stored their agricultural products or the crops in the most available and durable material of pottery. On the other hand, any intrusive pottery evidence, for example amphora, present due to trade was not discovered in any of the sites. However, this does not mean that trade did not exist in both periods. As discussed in detail below, the settlement sites were found in both the N-S and W-E traditional trade routes and hence it is highly possible for people to have exchanged their cultural goods. Thus, the apparent absence of intrusive or non-local pottery from surface collections does not discount the presence of trade.

In addition to the ample evidence derived from other archaeological data, the collected and recorded sherds and intact vessels provide pertinent information concerning the social organization of ancient communities. Unless well-organized societies had lived within these currently identified sites, such a significant amount of pottery would not be produced and

distributed in the area. Although the nature of work division both in sex and age is unable to be ascertained, as usually exhibited in other pre-Aksumite and Aksumite sites, pottery had been used as social status marker. Those importantly refined intact foot washers and big jars collected from burial sites at *Gramarya* along with the bracelets belongs to wealthy person and are clear indicators of individuals of higher social status. Pottery that shows the nature of political administration and relations with other peoples as well as religious indicators were not discovered in all sites. Except for a cross like symbol incised in a potsherd from *Filhat* site, none of the ceramic collections exhibited decorative art that reflects the communities' religious belief and political administration systems. The cross like symbol in grey sherd may indicate the introduction of Christianity and occupation of the site in the Middle Aksumite time although this does not necessarily allow us to reach such a conclusion from this information. Therefore, except the clues concerning both the economic, social, and religious aspects of ancient societies of the area, full information could not be obtained from this preliminary archaeological investigation using pottery evidence and other settlement indicator structures, such as mound structures and piles of building rubbles.

4 .2.2 Mound and Wall Structures and Masonry Architecture

Mound structures, ancient bases of wall features and anthropogenic soil deposits associated with abundantly scattered potsherds are found at both Pre-Aksumite and Aksumite settlement sites, especially at *OFT*, *Ziban-Geba*, *Filhat*, *Adi-Ba'ekel*, and *Tsirhan*. These mound features appeared as a result of abandoned buildings and indicate where ancient settlement places were located. Moreover, the mound areas are surrounded by dense and extensive areas of architectural rubble. Scatters of rubble stones were frequently among the first indication of the presence of a settlement site. Hence, as indicated in Fig.4.8, the sites that exhibit mound features, building rubble and linear wall features associated with potsherds, grinding stones, metal objects, and other artifacts and features are solid archaeological evidence of ancient hamlet and village settlements. This general archaeological evidence along with pottery collectively confirmed the existence of village settlements in turn discerned with a fairly large complex settlement of Early Pre-Aksumite time that documented at the D' site of *Kidanemhiret* in Aksum (Phillipson 2000; Schmidt and Curtis 2001; Phillips 2004).

The remains of dressed-stone masonry architecture elements of which were used to build the modern house of *Merigeta* Negash in *Mai-Omo* are similar to those found at the Grat Be'al Gibri in Yeha. Masonry architectural elements some of them with Sabean inscriptions (but difficult to decipher its meaning at present) were removed from the main site of *Mai-Omo* and used for private house construction of the farmer. In this case, if one could have observed the rebuilt worked stones and other remains of dressed-masonry architecture at the original site location, they have great resemblance to the built monuments at Yeha. Since the site is greatly disturbed, potsherds that can give clues about the relative date of the site are not easily identifiable in the surface. As mentioned above the slab with a depression at the center, probably after its removal and other associated artifacts were collected illegally by destroying the original context of the site. Therefore, at present, the most possible way to understand the period of site occupation and construction of the monument from the dressed stones by comparing the architectural techniques employed at both sites. In addition to this great consideration has been given to the oral history of the area which is the basis for this interpretation (see chapter three above). Even if it is very problematic to conclude its date and is the task of future investigation by excavation, several considerations from the local informants and architectural similarities of the masonry with the structures at Yeha (Michaels (2005), give insights that the site may have been assigned relatively to the Early Pre-Aksumite time.

Fig.4.10: Comparison of architectural works (top left) dressed stones, (top middil) dressed stones bearing Sabean inscription and (top right) circular slab with hole at the center all from Mai-Omo at the house of *Merigeta* Negash and (bottom left) dressed stones from Grat Be'al Gibri at Yeha.

4.2.3 Burial Sites (localities) within *Adi-Ba'ekel, Filhat, and Ziban-Geba* Village Settlements

Many sites in northern Ethiopia, particularly, in the central Tigray plateau have provided evidence for a tradition of erecting small, roughly carved stelae, commonly at burial places (Munro-Hay 1989, 1991; Ayele 1997). These curved hewn stones associated with circular and rectangular shaped stone slabs and poorly preserved human remains (example teeth),as well as intact and sherds of ceramic, bronze bracelets and metal tools, have been discovered at many burial places in the settlement villages. These were dominantly documented at the sites of *Ziban-Geba, Filhat,* and *Adi-Ba'ekel*, and are comparable with those found at Yeha, OAZ, Seglamen, and Gudit Stele Field (see Chittick 1976; Ayele1997; Phillipson 1998, 2003). Such indisputable evidences show that Pre-Aksumite and Aksumite settlement places have been comprised burial places commonly at some portions of the sites.

All the stelae found in the sites (*Fil 02, AB 02, Mai-Omo* and a single stele at *Tsirhan*) are similarly characterized by simple, rough-hewn stones with rectangular-shaped and tapered upward or pointed tops. A total of 22 stelae have been recognized at the sites described above in which *Adi-Ba'ekel* has the largest number with 64% (*n*=14), Filhat 27% (*n*=6), and *Mai-Omo* and *Tsirhan* each 4.5% (*n*=1). The height of the stelae ranges from 1 to 4.2 m and both the shortest and tallest stelae have been recorded from the disturbed site at *Filhat*. While all of the stelae found in *Adi-Ba'ekel* and *Filhat* are made of a sandstone like material type which are comparable with those erected at the south west of the temple at Yeha, the stele from *Tsirhan* do not resemble any of those described above both in terms of material type and shape.

Fig.4.11: Comparison of stelae; top right and left from *Filhat*, bottom left from Yeha, and bottom right from *Adi-Ba'ekel*.

Research conducted at Aksum and its vicinity indicating that the earliest tradition of erecting stelae in central Tigray has been roughly dated to Pre-Aksumite times (Ayele1997), nonetheless, is followed by discontinuity of this tradition during the Middle Aksumite period. Phillipson (2003), for instance, states that after the introduction of Christianity in the first half of 4th C AD, the tradition of erecting stele at royal burials was ceased albeit the tombs themselves (as observed in burial site of *Fil*01) held many features of their former traditions, example the slabs**.**

Munro-Hay (1989), for example, states that the small roughly carved stelae that are erected at many Pre-Aksumite sites certainly precedes the well dressed and decorated stelae types in Aksum erected in Early Aksumite times. Moreover, the view in which stelae evolved from simple roughly-carved stones (perhaps in Pre-Aksumite times) to well-dressed monoliths and gradually to decorate monuments (certainly Early Aksumite times) have been confirmed by many researchers (e.g., Munro-Hay 1991; Ayele 1997).

The burials at *Fil* 02and *AB* 02 settlement sites were characterized by originally erected burial marker stelae along with grave goods similar to those recorded at the tomb of OAZ III (Bared *et al.* 1997). In addition to the burial markers, goods found associated with the stelae may have been dated to Late Pre-Aksumite and possibility to earlier periods. The typology and size of the stelae and pottery technology from *AB*02 and *Fil*02 burial places which is stylistically comparable to a ware documented at the Grat Be'al Gibri in Yeha, also suggests that the stelae may have been erected during the Late Pre-Aksumite time. The discovery of Pre-Aksumite features such as well carved masonry and rare pottery types in *Mai-Omo* and pillars in *Tsirhan* generally give insights of similarities with those Pre-Aksumite structures at Yeha in general, nonetheless, the exact period of the stelae erected at these sites is difficult to know as associated materials are lacking.

Archaeological evidence from surveyed and excavated sites in Aksum and its vicinity give insights that stelae as a whole were erected to mark burials or underground tombs (Munro-Hay 1989; Ayele 1997; Tekle 2001). Hence, it is reasonable to suggest that the stelae in the sites of *AB*02, *Fil* 02, and *Mai-Omo* may were originally erected as burial markers. Like the tomb marker single stele found at the site of Hamed-Gebez (Tekle 2001), many roughly carved hewn stelae at Gudit Stele Field associated with grave goods and human bones (Ayele1997) and at OAZ III (Bard *et al.* 1997), the roughly hewn stelae found at *AB* 02, *Fil* 02 and *Mai-Omo* have been connected to those that seem to be burial structures. For instance, the stelae associated with the pottery, bracelet-like broken bronze and other wall structures in *AB* 02, particularly, those found east of Kahsay Welegebriel's house are similar to those found at OAZ III tomb suggesting that these stelae were burial markers. The presence of different metal objects, Pre-Aksumite type intact bowls, cups and sherds as well as very disturbed fragments of undetermined bones within a

10 m radius of the stele area at *Fil* 02 also suggest that the stele were certainly used as burial markers.

Some of the structures which were excavated by the local community for construction purposes, such as the sites at *Fil* 01 and *Ziban-Geba (Gramarya)* both in*2012)* also exhibit evidence of disturbed burials. What makes them unique is that burial marker stela are not found inside or close to the disturbed burials. However, this does not mean that all burials should have marker stelae rather it depends on the social status of the person in the burial. While a stele was not found, the intact pottery, such as jars, foot washer and bowl collected from *Gramarya* at the well are similar to the Early Aksumite period pottery documented from burials at Gudit Stele Field indicating that they seem to be burial objects. Along with the pottery, other precious bronze bracelets, human teeth, fragments of bone, and wall structures were recorded and collected from this burial site. The absence of a stela in this site is, therefore, can be due to long time site disturbance. The well where the burial site is found is also located between the tableland edges of *Ziban-Geba* and *Beraziyo* which indicates that this lower site may have been disturbed in the past almost two millennia years due to both anthropogenic and natural factors. Regardless of the disturbance, , this burial site exhibits clear archaeological traces, such as grave goods and such evidence is extremely valuable in determining the period of deposition, even if all the objects do not represent the same date.

A similar phenomenon has been shown in the case of *Fil* 01. Even if a burial marker stele is not found inside the burial or close to it, unquestionable burial indicator artifacts were discovered beneath the slabs within the disturbed structure. Four rectangular and circular sandstone type slabs have been found in this disturbed structure indicating that it must have been used as burial site. Moreover, all the slabs are laid below the disturbed N-S oriented wall while the artifacts, such as the intact cup, fragments of bones and undetermined age and human teeth found beneath the slabs and all demonstrate that it was a burial site.

The absence of grave marker stele and the presence of a piece of reddish gray colored sherd with appliqué or cross like incised decoration exposed by rodents at nearby uniquely appeared to suggest that this burial site may have been dated, probably, to Middle Aksumite times where erecting stele ceased after the introduction of Christianity. On the other hand, the apparent

absence of stelae and precious objects, such as iron and bronze bracelets and other tools could have been due to robbers as shown at *Ziban-Geba* site and, therefore, its precise date is only possible through excavations in the future.

The presence of social diversity is expressed and reproduced in differences in artifact use. The repetitive association of distinctive material culture objects reflects activities of specific social groups (Ayele 1997). Thus, artifacts and other aspects of material culture (slabs and stelae) serve as markers of social identity. Similarly the connection between stele and burials documented from the tombs at OAZ (Bard *et al.* 1997) and Gudit Stele Field (Phillipson 1996, 2003; Ayele 1997; Chiari 2009), the associations of stele and burials together with grave goods found at *Adi-Ba'ekel* and *Filhat*, may point to a segmentary society, most likely with middle classes and/or little possibility to low-class lineages. This is because most of the stelae are characterized by simple rough-hewn stones carved with a height ranging from 1 to 4.2 m. The presence of two bronze bracelets of which the one with unique hump like surface feature and a weight of 520 gram collected associated with Early Aksumite period type pottery and poorly preserved bones at the water-well of *Gramarya* site seem to suggest that it was a burial site of a wealthy person. Similar to those cultural traditions observed in burial sites of the Aksumite period (see, Ayele 1997, Fattovich 2010, Bard *et al.* 1997; Gerlach *et al*. 2013), the appearance of such personal ornaments including refined vessels, seems likely that they signify rank for inhumed individuals from the wealthy class of that community.

The largest stele associated with grave goods originally found at *Filhat* may belong to a wealthy person suggesting that the burial was either occupied by a wealthy individual or it could be center of political administration for the surrounding area. However, the presence of large numbers of stelae associated with other traces of past human activity including the inscription from *Adi-Ba'ekel*, it likely seems that a segmentary society could have been settled at this core area and administrated the regularly spaced villages nearby. This is because unless a large and wealthy society had lived in this large settlement site, such a large number of burial marker stelae would have not been existed along with the mounds and inscription. Local informants also stated that a non- local leader called *Quazen* made his residence at this place and the presence of trace of the buildings and other artifacts supports that this was a large and central village. Even if the information is incomplete, because one part of the inscribed stone was broken, clues from the

inscription indicate that there were some groups of people who supported each other and constructed a structure in this area.

Continuous and detailed observation has been conducted to understand the presence of a homogenous cultural tradition reflected in the currently recorded burials and those previously documented in Aksum and Yeha by looking at the way they were built, the type of materials buried with and to which social class they represent and the direction the corpse was laid. Unfortunately, no single burial has been recovered that is not disturbed, destroyed, or looted and consequently, the overall internal context of the burials and the orientation of the corpse were not examined. Nonetheless, the clues from coarsely hewn stone slabs, stelae, bronze objects, datable vessels, bone fragments, and wall features shows a resemblance with those found at Pre-Aksumite and Aksumite burial sites in Aksum and Yeha and vicinity. This suggests that there was significant cultural interaction locally with those settled at nearby and regionally between the people who had occupied the central Tigray plateau in general. For instance, the roughly curved stelae, ranged from 1 to 4 m and found associated with flat slabs in the burial structures at *Adi-Ba'ekel* and *Filhat* were reminiscent of the Biete-Giorgis stelae suggesting for the existence of contact between different settler groups.

4.2.4 Metal objects

Artifacts such as bronze bracelets that exhibit distinctive forms have been documented from three burial sites of ancient village settlements and are typologically similar to those previously discovered from both Pre-Aksumite and Aksumite sites (see Munro-Hay 1991; Phillipson 1998; 2000). For instance, the bronze bracelets discovered from A*B* 03 and *Fil* 02 are the same as those collected from Pre-Aksumite burial sites at OAZ I (Biete-Giorgis) (Munro-Hay 1991) suggesting that the sites were dated to 3rd to 2nd C BC. On the other hand, the bronze bracelets collected from *Ziban-Geba (Gramarya)* are similar to those found at burial places of Aksumite sites. The presence of datable intact pottery associated with the bronze bracelets and other objects in the site of *Gramarya* are similar to the bronze bracelets, pottery and other burial objects collected in Gudit Stele Field (see Chittick 1976; Ayele 1997; Phillipson 1998; Michaels 2005). This shows site occupation continuity as well as contemporaneity of cultural developments in different areas have been confirmed even from objects that date to 3rd - 4th C AD and placed as grave goods.

Fig.4.12: Comparison of bronze bracelets from different Pre-Aksumite and Aksumite archaeological site: left top, from Pre Aksumite site of OAZ –in the hill of Biete-Giorgis at Aksum, now displayed at the archaeological museum of Aksum; middle top, from Aksumite site of Gudit stele field tomb and now displayed in the museum of Aksum; right top, from Pre-Aksumite site of Adi-Ba'ekel (AB 03); left bottom, from Ziban-Geba (Gramarya) and right bottom, from Filhat (Fil 02).

Even though the site of *Tahtay-Guldam* provides very small fragments of slags, which are easily identifiable during the rainy season, bronze bracelets were not documented during the survey. However, the bronze caldron, which is the most exceptional bronze object so far discovered in Ethiopia (see Fig.3.33above), has been recorded from *Tahtay-Guldam-Feres-may.* Other metal objects made from iron were discovered only from *Fil* 02. Unlike sites in Yeha and Gudit Stele Field which provide evidence of many iron tools (Munro-Hay 1991; Phillipson 1996, 2003)), only one tiny nail like tool and two pieces of iron which have equal shape and weight were collected in the disturbed site (burial site) of *Fil* 02. Generally, the metal objects, notably the bronze bracelets, are found associated with those most commonly burial indicator goods, and other burial structures.

Except for the rare pieces of the slags in the site of *Tahtay-Guldam* where the bronze caldron is found, no insight vis-a-vis metallurgical technology was found during the survey. That is, the bronze bracelets that could be used as jewelry and documented at regularly spaced village settlements in the *Feres-may* area may have appeared either by donation from an outside group or distributed because of the presence of trade contact. Because clues for local metallurgy production are not found in the places where these ornaments were discovered, for the time being, the emphasis is sided to the notion that their distribution may have been a result of trade contact both locally and regionally. However, whether these metal objects, especially, the bronze ones could have been produced locally or appeared as a result of regional contact of trade notably with Meroe, is a topic of future investigations.

4.2.5 Stone Tools

Obsidian tools documented during the survey are derived from surface contexts of *Adi-Ba'ekel, Filhat* and *OFT* sites. Stone tools made of chert also are recorded at the sites of *Filhat* and *Adi-Ba'ekel* and present in small amounts with an irregular form. Although it is difficult to assign their exact chronological period, they are determined based on associated potsherds (example, red-orange ware) and may be ascribed to least to the late prehistoric and co-existed with pottery of the Pre-Aksumite and Aksumite periods. According to Fattovich (1990), the obsidian tools discovered form the Yeha, which is contemporaneous to the sites in the study area, were ascribed to the late prehistory while Michaels (2005) noted the reduction of the use of this cultural tradition during Early Aksumite times of the same region. Regardless of their exact date, the presence of yellowish chert and obsidian tools provide indisputable evidence for the existence of settlements in the *Feres-may* valley of both Pre-Aksumite and Aksumite sites. The presences of these stone tools in some settlement sites suggest that those village communities utilized lithic traditions, for a variety of purposes. However, as they were recorded from the surface and small in amounts, future archaeological excavation, and use--wear analysis will examine whether these lithic tools were made and used by the Pre-Aksumite people or earlier by Later Stone Age (LSA) communities.

4.2.6 Ceremonial Places

So far, the available archaeological evidence for the tradition of erecting hewn pillars in central Tigray has been recorded only from the sites of Grat Be'al Gibri and Hawelti (Phillipson 1998), but today, the settlement site of *Tsirhan* exhibits a similar tradition. The site of *Tsirhan* comprises a series of carefully curved square sectioned monolithic pillars. These impressive pillars are similar to those most prominent features of a series of square sectioned hewn pillars located at Grat Be'al Gibri in Yeha as well as with those located at Hawelti-Melazo in the vicinity of Aksum. As you can see from Fig.4.13, the orientation of the pillars inside the E-W oriented disturbed wall structure, the type of stone, and the way they were shaped are quite similar to those erected at Grat Be'al Gibri in Yeha. Even the space between erected pillars both to the left and right side; in those at Yeha and Tsirhan archaeological sites are almost similar. The only difference between these erected at *Tsirhan* and that at Yeha is that the height of the former is shorter than the later.

Fig.4.13: Series of square sectioned monolithic pillars oriented E-W (left side) at *Tsirhan* site and (right side) at Grat Be'al Gibri in Yeha.

Although future intensive archaeological investigation is needed to determine the precise period, it was shown that the impressive square sectioned monolithic pillars which were partially covered by the building rubble at the site of *Tsirhan* could had been contemporaneous with the pillars found at Yeha. Because of their short size, one can also suggest that the pillars may have been erected earlier than those at Grat Be'al Gibri in Yeha. With regard to function, any

indication either of a palace such as a stamp seal or for a temple such as incense burner were not discovered during the surface survey. The only available archaeological evidence is the presence of abundant building rubble that formed a pile of rock intermixed with earth piled at some sections of the pillars. The apparent absence of temple or palace signer artifacts can be, however, due to site disturbance or buried by the piles of building rubble. Although determining a convincing function needs further investigation by excavation, at present it is possible to suggest that the site may have been used as a temple similar to the original structure at Grat Be'al Gibri which was used as a religious sanctuary (Michaels 2005). From its general layout and rectangular form with a longer East-West axis that is also possible to compare with the temple at Yeha, one can suggest that this pillar site may have been used as a ritual place. In addition, its resemblance to those located at Yeha, and Hawelti dated to Middle Pre-Aksumite times, demonstrates the presence of exchange of ideas or contact among the communities who settled in different places in Tigray.

Similarly, the cultural mound of *Enda-Ra'essi* which is situated on a flat plain, at the southern end of the town of *Feres-may* could have been constructed for religious purposes. Except for the evidence that shows the feature was really man made, solid archaeological evidence that reflects the purpose of its construction is unclear. To fix this gap, therefore, considerations concerning the overall physical setting of the area, the cultural developments within the nucleated sites at nearby (*OFT, Ziban-Geba, Filhat,* and *Adi-Ba'ekel*) as well as the legends that are retold in the area have been comprehensively reviewed.

As discussed in chapter two and three, this cultural mound is geographically situated on a flat plain of *Feres-may* and is central to the other sites located both at the west and east side. It is also should be understood that the current environmental conditions might not represent those present during the occupation of the cultural mound; instead, it could had been covered by a thick forest and swamps. This in turn indicates that the cultural mound could have been built as a strategic place to control and administer the places at nearby which still has better overview from the top than at the flat plain.

In addition to this general concept, an alternative parameter with regard to the function of this artifactual mound can be seen from different angles. Accordingly, the group of sites found in the

Feres-may area, particularly the cultural mound is 22 km away from the religious sanctuary at Yeha in the north and two hours by foot from the Pre-Christian rock cut temple of *Enda-Giorgis* in *Da'ero-Anbesa* to the south. Hence, by giving especial emphasis to the artifactual mound's long history and to the oral history about the site, it is likely that there could have been a temple on top of the mound although evidence that supports the long time existence is absent. Moreover, any other Pre-Aksumite religious place used by the settlers for worship has not been discovered in the *Feres-may* area and this again supports the hypothesis that the cultural mound was the location of a temple. Whatever the function of the construction in the remote past, the means of construction of this cultural mound was almost certainly accomplished by a large labour-force and in any event, the cultural mound is a solid evidence for the presence of socially organized communities in the *Feres-may* area during the Pre-Aksumite period.

4.2.7 Sabean Inscriptions: on Rock from *Adi-Ba'ekel* and *Mai-Omo*; and on the Bronze Cauldron in *Tahtay-Guldam*

Because of the damaged state of the inscriptions and the uncertainty of the meaning of certain words, what they can tell us about the remote past is uncertain. Because of this situation, the translations cannot be thought of as absolute certainties in this archaeological interpretation. Some of the words are vague and do not by themselves tell us whether something was established at the site , indicating that bias of meaning may be occurred. Hence, any interpretations of those inscriptions, notably, the ambiguous inscription at *Mai-Omo,* must remain uncertain. Although offering a definite view on such fragmentary text is quite impossible and even if some of the inscriptions are now so tantalizingly removed from providing a piece of information, one of them has offered a clue to the understanding of ancient agricultural practice and mutual support between unknown groups centered at the site of *Adi-Ba'ekel*.

As discussed in chapter three, the ancient Sabean inscription discovered from *Adi-Ba'ekel* is written in epigraphic South Arabian. It is written in what is called Boustrophedon style (runs left to right and then right to left). Its grapheme can be categorized to style A of J. Pirenne's paleographic classification.[1]

Transcription

[1]Pirenne 1956, table 1 and 2.

1) ...] rdᵓt / t

2) rdᵓw / [---

3) ---] bm/ wk

4) / smrm [---

5) ---] (ḥ) ds / w

6) [---

Tentative Translation

1) ---] with the
2) mutual support rendered to [---
3) ---] them (?) and
4) all the harvest [---
5) ---] have constructed / is caused (?)
6) [---

According to the translation by Nebes (2011) the cauldron discovered from *Feres-may* and originally from *Tahtay-Guldam* consists of an inscription of a Sabean mason of the Yasran clan, which settled around the Gabalal-'Amud in Saba'. According to the study conducted by Gerlach and her team (2013), the monogram on the cauldron resembled the monogram documented in the rock of the Gabalal-'Amud and appears there two times as large. With regard to the bull's heads, no information appeared in the inscription but like the ibex at the temple of Yeha, they may be associated with religious aspects. What is not yet known and unincorporated to this investigation as vital component is the inscription from *Mai-Omo*. Since it became so difficult to decipher its meaning, information from this inscription is not useful for the time being but crucial for future study and interpretation as it is in the hands of professionals.

4.3 Ecological and Socio-Economic Factors as Key Components for the Establishment and Development of Village

Settlement locations and distributions in the study area could have been the result of various factors. As commonly experienced in other areas of northern Ethiopia and Eritrea (see Curtis 2005) ancient humans who settled in the *Feres-may* and its surrounding areas must have been adapted to this specific environment either by the choice of socio-economy, access to water, physiographic, or availability of raw material resources. These variables have been appeared as key components to understand settlement patterns and behaviors, especially in the *Feres-may* area. Even if my explanatory framework with regard the development of village settlements in *Ahferom Woreda* is generally related to multi-causal elements, ecological factors and resources must have been privileged, as the local landscape, hills, valleys and rivers may predetermine the nature of a settlement.

4.3.1 Ecological Factors

Detailed surface survey results show that the study area exhibits archaeological sites clustered particularly in conducive ecological zones better suited for irrigational farming in the flat plain valley and highland areas. The presence of such a cluster of sites along the *Feres-may* valley (see archaeological site distribution in Fig.3.1) and others along temporary stream courses suggest that principal ecological factors affected past communities to settle in areas which are potential for irrigation, ease of plow cultivation, availability of grazing land for livestock, and proximity to a domestic water supply. For instance, five of the eight sites documented in this investigation are located in the *Feres-may* valley where the potential for irrigation and livestock grazing supply seem to be high. Similarly, the *Mai-Omo* site in *Gendebta* and *Tahtay-Guldam* near *Dbdibo* are located near streams which suggest that ecological factors may have influenced ancient people to settle permanently.

Most of the settlement sites are located on the plateau over 2000 masl in elevation which are geographically similar to the Aksum and Yeha region (see table 3.1 or topographic similarities in Fig.3.1). This shows that Pre-Aksumite village communities, especially, in the *Feres-may* Valley could take advantage of soils and water in the flat plain. Moreover, the landscape as a whole comprises wealthy of permanent rivers leading some of them to the Tekezze in the south and

others to Mereb in the north. That is why I stressed on this situation where nucleated village settlements established on the plateau adjacent to the agricultural fields. Thus, as similar conditions appeared in the ancient settlement developments in central and northern Tigray plateau suggested by (Butzer 1981; Bard *et al*. 2000; Michaels 2005; D'Andrea *et al.* 2008); presumably, site locations (physiographic conditions) and substantial water supply must have been considered as a momentous factor in the establishment and growth of settlements in the *Feres-may* valley, particularly, during the 1st millennium BC.

It has been unconvincingly speculated that farming based on irrigation diffused into the northern Ethiopia by South Arabian colonists. Nevertheless, the choice of placement and settlement pattern of ancient people in the study area, as also shown in the Pre-Aksumite sites, such as Yeha (Smoons 1960; Michaels 2005), stream-fed systems (irrigational agriculture) may have been appeared much earlier. For instance, Michaels (2005) stated that irrigation farming has been invented by indigenous peoples while maximization of irrigation area was assumed to be the role of South Arabians. But, I strongly argue that if the indigenous people had already the knowledge of irrigation farming at the earliest phase of Pre-Aksumite period, there could have not been any ground to restrict them from maximizing it. Though the translated ancient Sabean inscription from *Adi-Ba'ekel* provides incomplete information, because part of it was removed during plowing, its clues *"----and all the harvest [-------] have constructed…. /"* (Pirenne 1956) indicating that irrigational agriculture may had been practiced by the community who made their central sit at *Adi-Ba'ekel*. Of course, the word "constructed" may refer to different other structure, but the statement "all the harvest" has the most nearest relation with a kind of constructed structure which was possibly used for irrigational agriculture. Therefore, as shown in other Pre-Aksumite archaeological sites, for example, in the valley of Yeha, topography, hydrology, and settlement pattern can support irrigational practice and maximization of area by the local people who settled in the sites notably in the *Feres-may* valley. Hence the villages may have been established due to the presence of available resources in the environment supported by other socio-economic factors, such as trade.

4.3.2 Socio-Economic Factors

As usually appeared elsewhere, it is possible that settlement locations were selected because of their placement along the traditional trade routes beginning from lowland areas in the Ethio-

Sudanese border and passed through Aksum-Yeha in central Tigray and extend to Matara in Southern Eritrea. For instance, some of the sites include *Mai-Omo, Tahtay-Guldam* and *Tsirhan* are found along the route that presumably connected the lowland areas in the western Tigray to the plateaus and then to Matara through Gulo-*Makeda* in eastern Tigray. Moreover, the clusters of sites in the *Feres-may* valley are 15 to 22 km far from the well-known Pre-Aksumite settlement site of Yeha and one hour by foot from the Pre-Aksumite and Aksumite settlement site of *Hinzat.* This general location may have been selected to ensure that the village settlements would not be outside the trade routes. Many archaeological research results indicate that ancient sites in eastern Tigray are located within the main north-south trade route from Kohaito in Eritrea to the *Gulo-Makeda* and *Mekelle* area in Tigray (Fattovich 1990; D'Andrea *et al*. 2008). Similarly, the clusters of sites that are now discovered in the *Feres-may* valley may have developed as a result of N-S trade along a Yeha-*Feresmay-Hawzen route* supported by the optimal environment and resources.

In a broad explanatory framework, since the study area which is part of the central Tigrayan plateau is located along the traditional routes, it could have been connected the sites to the trade circuits in the Nile valley and Red Sea coast. For instance, Fattovich (1988) states that because of the Yeha's geographical proximity to the Mereb/Gash valley during Pre-Aksumite times, the lowland was connected to the central Tigrayan Plateau which is a strategic position to command the resources of the western lowlands. If Nubian objects have been discovered from Yeha (the most closet to the study area), Matara and Hawelti which indicate the presence of contact with the Kingdom of Kush in the middle Nile Valley (Phillips 1995; Fattovich 2010), it seems likely that the currently identified settlement sites must have been within this trade route circuit. In turn, the existence of similar pottery types in Kaskasse, Yeha and *Feres-may* sites, also suggests that the sites of *Hawzen-Feresmay*-Yeha-Kaskasse which are located along the N-S traditional route could have been connected to the coast during Pre-Aksumite times and Aksumite period as well.

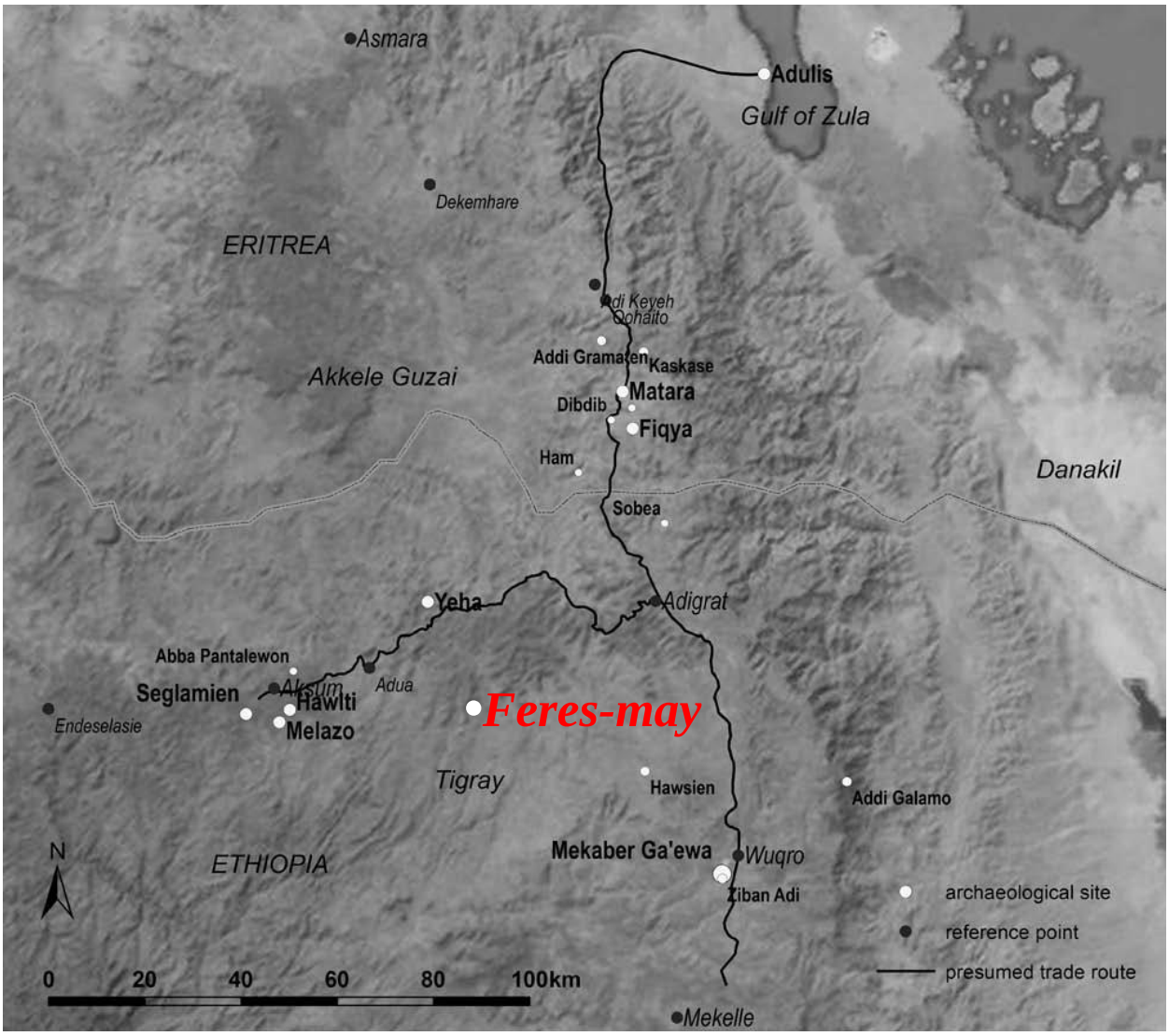


Fig.4.14: Significant sites with archaeological evidence of the early first millennium BC in the Ethiopian and Eritrean highlands; Modified after Wolf and Nowotnick (2010).

4.4 Current Challenges and Trends of Archaeological Sites and Material Remains

Although the cultural patrimony of my study area is rich and seemingly inexhaustible, it suffers from accelerated deterioration and depletion. These archaeological sites and material evidence are found in a poor condition and many residents do not readily see the value of their ancient heritage. As discussed in detail below, many anthropogenic and natural processes combine to erode site's riches.

4.4.1 Developmental and Expansion of Settlements

The expansion of villages and towns is the most dominant threat to the archaeological sites. For instance, without conducting any rescue archaeology, it is easy to see that potential archaeological sites such as the cultural mound of *Enda-Ra'essi*, the settlement sites of *Adi-Ba'ekel, Filhat* and *Tsirhan* are greatly threatened through expansion of towns, villages and construction of public services like churches The houses which surround the cultural mound of *Enda-Ra'essi* begin at its foot and extended up to the middle part is tangible evidence for the destruction of the site as they were built by the removal of worked stones from the mound. Then, the shape of this cultural landscape is altered and its top part has been used as a midden. Consequently, the removal of such worked stones has facilitated to erode and move the earth down notably during the rainy season.

A similar problem exists at the site of *Filhat.* The resettlement pattern over the formerly abandoned area has highly affected both the material objects and the site. For example stele number 3 has been used as a beam in the base entrance of the house door of a house. While stele number 6 was completely destroyed during the construction of the house of residents, stele number 4 and 5 are being prepared for the same reason. The overall context of all stelae was changed and they are located in different areas as discussed in chapter three above. Moreover, their initial symbolical value has changed and they represent different types of symbols to local people. For instance stele number 2 which is currently erected at the church of *St.Giorgis* was painted with a green color forming 93 cm height of cross symbol. Thus, removing from its original context without any description and the symbol of cross within this carved monolithic stele are evidence of site and material destruction. Notably the symbol may change the original functional representation of the stelae. A new church was built over the site without conducting any rescue archaeology. The construction of this public church at the settlement site of *Filhat* has caused extensive damage to the underlying archaeological site as the place where the church is located was not examined for its archaeological potential. While the site was dug and earth was taken away, significant quantities of objects were shoveled and destroyed. For instance, a portion of one mound at *Fil* 01 has been dug by farmers seeking soil and stones for the church and unfortunately a burial site and wall structures were found by chance and exposed to a new environment and to looters.

Adi-Ba'ekel was recently re-established as a small village and this presented a series challenges to the preservation of the archaeological site and material remains. The stelae were the worst victims of destruction. The inscription was excavated for construction purpose but saved by chance. Still new houses are being built over archaeological sites (example see, Fig.3.23). Another evidence for the loss of archaeological information was excavating of the *Mai-Omo* site and removal of worked stones and inscription from their primary context to be used as masonry in a private house. Desiring for settlement purpose, the town of *Edaga-Robue'* became radically expanded, and consequently, the archaeological site of *Tsirhan* is badly threatened by building construction. A significant number of worked stones both from the pillar and main sites were exploited and taken to the town for house construction. Moreover, most of the recently built houses rest upon this archaeological site. From this general concept, estimating how many archaeological remains were lost during the construction of the buildings is difficult.

4.4.2 Agricultural Practices

Many of the archaeological sites in the study area are located in farmlands and most objects have lost their significant information because they were cracked, broken, scratched, and exposed to the surface during plowing. Agricultural intensification for destruction is much wider in its extent. For example, after local farmers had plowed the uppermost surface of the sites, and after the summer rain had washed the surface to expose the artifacts, the surface of the materials can become highly damaged. Different archaeological objects, such as pottery, metal objects, and others located at the sites of *Filhat* and *Ziban-Geba (Gramarya)* were exposed during plowing the land; therefore agriculture has a long term more destructive effect. The stones with Sabean script were discovered at the sites of *Adi-Ba'ekel* and *Mai-Omo* and became exposed during plowing and are equally scratched and partially damaged. As the local informants indicated, the bronze kettle was also exposed during plowing from the site of *Tahtay-Guldam*. Furthermore, plowshares have an effect of crushing objects which in turn destroys the information within them. For example, some of the decorated materials from *Filhat, Ziban-Geba,* and *Mai-Omo* are badly scratched and deteriorated by the plowshare. Nevertheless agriculture sometimes gives clues for site potential, and comparing with digging of pits for searching masonry, plowing affects uppermost surface of a site and is a less site destruction factor than illegal digging.

4.4.3 Looting of Archaeological Objects

There is a local secrete trade for archaeological objects practiced in different ways in the area where study is carried out. For instance, *Ato* Tesfuhuney Hailu has been the custodian of the bronze kettle for about two decades. However, at present this bronze kettle is located in Adwa. The main reason that the second owners took this object was because they assumed that it would be sold in the market. This was intentionally done after the object's archaeological significance had been assured or confirmed. Therefore, this looted object is one that is now found in other home having gone through the literal aspect of conservation, but in fact, it is a pretext and was illegally taken.

Most of the objects that are kept in private houses were not, however, intentionally looted. Even if the farmers collected the archaeological objects, most of them were not viewed from a marketing perspective. Precious objects were selected and collected simply to display them in their house. This phenomenon is common to all villages located near the archaeological sites identified in the study area. Nevertheless, this does not mean that some objects were not taken to the market largely because of lack of awareness about the value of the materials from an archaeological point of view. For instance, someone attempted to sell to artisans of *Feres-may* bronze bracelets from *Filhat*. I asked the woman who took the bronze bracelet to the market and the response was she had brought it to exchange for a knife and knew nothing about what it represents. This indicates that as the community knew nothing, they do not develop and feel a sense of belongingness about the cultural materials, and sites rather run for their private business. Generally, most of the objects housed in private houses are taken unintentionally as the collectors were not aware of their heritage value.

4.4.4 Natural Agents; Erosion

Many actions of human beings facilitate further destruction of the sites through natural factors. For example, flooding erodes the sites and exposes the objects to the fresh surface to react with oxygen. Reclamation schemes are transforming the nature of some sites (Phillipson, 1998), so that lands are being flooded which can lead to the destruction of the site and artifacts, especially, on the original location of the stelae at *Fil* 02, *Ziban-Geba* and *OFT* through drainage and a newly created cliff. Similarly, the pillars at the site of *Tsirhan* are partially covered by down-

washed stones and soil. In each case the result is the vanishing of remarkable archaeological evidence due to erosion. With no doubt, significant information has been lost from *OFT, Ziban-Geba* and *Filhat* as ample potsherds and other objects were exposed, washed and transported by flood waters down to the main river basins. No observations or measurements have been taken because the local people including the governing bodies are unaware of the knowledge and the importance of the preservation of cultural heritage.

Fig.4.15: Archaeological sites where archaeological associations were recorded badly affected by erosion include, the left section of *Ziban-Geba* (Top left), *OFT* (top right) and the northern end of *Fil* 01 (bottom)

4.4.5 Measurement during the Survey: Direct Education to the Local Community and Informing Authorized Institutions

A meeting with the local community at the church of *St. Giorgis* led to a much more direct method of intervention. This church serves the entire surrounding area for many kilometers. I gave a lecture in Tigrignya on what I was doing, what I was looking for, a short history of the area as I understood it, and emphasized how historically important the *Feres-may* area is, for both Ethiopia and the world. Following this I described what everyone should do if they find anything on their land like what some farmers and priests did and I had brought and invited them to look the burial site including the artifacts (see Fig.4.16) at the site of *Filhat*. Similar activities have been conducted at all sites at individual level. *Tabia* administrators, polices and elders (priests) were among the most responsible persons and we discussed repeatedly about their heritage. Previously, no one made an effort to preserve the sites from destruction even from the administrative organizations but after such direct educational work, they seem to have understood what they have to do concerning their riches and to keep and report every new find to the concerned body nearby.

Fig.4.17: Kifle Zerue in awareness creation forum to the local people at the church of *st.Giorgis* in *Filhat* and in the burial site

Informing and communicating with concerned bodies of all levels was another task completed during the survey. Because making dialogue with Municipality on issues concerning site protection is incredibly important for the preservation of cultural patrimony. As discussed in detail above, all sites are not protected and no effort has been made by the responsible authorities. All the sites and their riches need to be managed sustainably, yet there are hardly any offices with such a responsibility in the area, who would respond to all the sites' individual needs. This is because the patterns of concerned institutions over patrimony are insufficient for safeguarding sites from day to day destruction and loss of information. Weak organizational structures for protecting sites are frequent and such weaknesses in realizing the archaeological potential of sites is followed by the severe destruction of sites. So, as all the sites are far from the minds of the concerned authorities, it is my duty, based on professional ethics and as a citizen as well, to report the potential and current condition of the sites at least to have some understanding about their richness.

Based on such considerations, the wealth and importance of the archaeological sites of the study area has been reported to the concerned bodies at all levels such as Tigray Culture and Tourism Agency, Culture and Tourism Cluster of Aksum, *Ahferom Woreda* public relations and communication office and different local/*Tabia* administrators. For instance I wrote a report to Culture and Tourism Cluster of Aksum and equally discussed a number of issues with the regional Culture and Tourism Agency concerning the sites and the protection of their riches. Archaeological responses, for example to damage done by the looting of objects must be to try to limit private collecting. For the archaeologist, they represent sources of information about the past but for the dealer they represent valuable commodities.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Monumental and complex ceremonial sites of the elites of the Pre-Aksumite past have received most archaeological attention in the history of research in the Tigrayan highlands largely from the assumption of interpretive frameworks stressing simple acculturation and exogenous processes (Bent 1893; Munro-Hay 1991; *Gerlach et al*. 2013). Despite the fact that the area under study has remained far out of the attention of scholars, currently, new sites that exhibit important archaeological significance have been discovered outside the repeatedly researched center of elite towns and villages of Aksum-Yeha. In fact, the systematic survey work that aimed to document previously uninvestigated sites and material culture largely based on considering aspects of artifact distribution has been able to identify eight potential archaeological sites just beyond the urban centers of Aksum and Yeha.

Generalizations concerning the spatial and temporal distribution of settlements including their inhabitants are suggested by the type and depth of their material culture presented at each site under investigation. Most of the sites documented during the survey demonstrated evidence of Pre-Aksumite and Aksumite settlement largely from, abundantly scattered pottery, some lithic tools, architectural structures, grinding stones, metal ornaments and tools as well as burials and burial marker goods. The presence of burials in the some portions of the settlements is evidenced by the existence of grave goods, such as intact pots, bronze bracelets and earnings, human teeth, slabs, wall structures and stela. The documented cultural mound and impressively curved monolithic pillars in *Tsirhan* and *Enda Ra'essi* respectively also indicate the existence of ceremonial places.

Ceramic artifacts (especially, ceramic forms and decoration styles) indicate that *Ahferom Woreda* (study area) was integrated into Pre-Aksumite and Aksumite cultural spheres. Hence, those and other indisputable archaeological evidence documented from these sites which are clustered around areas with high water potential demonstrate that some of the sites in the region have been inhabited since at least the early first Millennium BC, perhaps earlier, with continuous occupation at some sites up to the Middle and/or Late first Millennium AD. The presence of elite groups/wealthy people/ is shown by the discovery of intact pots (eg. foot washer and big jars)

and bronze ornaments (eg. bracelets and earnings) from a possible tombs context at *Filhat*, and *Ziban-Geba*, marked by a stela. The presence of strong social organization is also evidenced from the built cultural mound of *Enda Ra'essi* because it is impossible to construct such a large mound by unorganized community.

Ecological factors must have contributed significantly in the growing of village settlements. Availability of natural resources, for example, water for irrigation is one among those widely recognized factors which attracted people to settle permanently around the *Feres-may* optimal environmental zone. While it is clear that no single factor can fully account for settlement origins and development particularly along the *Feres-may* area, irrigation played an important role in food production. The topographical location of sites along the edge of riverine areas is a clear indication that people had resided there permanently due to resource availability. Apart from its significance in identifying ecological and socio-economic factors as a key component for the development of village settlements, the solid archaeological evidence has further important implications of interregional, regional, and local interactions through trade networks than unidirectional process.

Many past including extant interpretations concerning the development of complex societies in the northern part of the country are steeped in the notion that cultural developments were attributed to foreign influence and innovations by stressing on one way donor/recipient (diffusionist) relationships. However, those who believe the Sabeans were the donors did not answer many questions and, therefore, they need to move beyond the misconception understanding that the local people of Ethiopia were passive recipients in interaction (see also Phillips 2004, 2005; Curtis 2005; Fattovich 2010). Some inscriptions in Tigray, for example, from Mekabir Ga'ewa mentions the name of king's mother beside the name of his father (Wolf 2010) and those from Yeha mention the name of the local king including his mother name (Gerlach 2013) which is completely unusual in inscriptions found in South Arabia supporting that it was not an exogenous development. Similarly, even if the bronze cauldron from *Guldam-Feres-may* bears inscriptions of unspecified name of a Sabean mason of the *Yasran clan*, the presence of the "Sabean word name" does not necessarily imply that they were inscribers and do not represent their colonial imprint. The bulls' heads on the cauldron which could be like the ibex found in the temple of Yeha and associated with religious dedications may have occurred

because of interactions by the endogenous elites for their socio-economic and political consolidations. Munro-Hay's (1991) archaeological evidence also indicates that by the time the inscriptions were produced, the majority of the material in fact represented the civilization of Ethiopia.

In view of the significant considerations concerning cultural development in northern Ethiopia, the Tigray plateau must be sought to show the presence of more localized process including regional events and patterns of relationship and exchange of ideas. Although archaeological research works of a century in the past focused on the elite centers because the scholars have a one-sided view, the sources were often incomplete and require careful scrutiny in interpreting the finds. Recent archaeological research for example (see Phillips 2004, Curtis 2005) also provided substantial suggestions of indigenous cultural development and incorporation of exotic components by the elite endogenous so as to strengthen their socio-economic and political influence in the Tigrayan plateau.

Therefore, rather than focusing archaeological research in a very limited towns and villages and instead of assuming simple Pre-Aksumite assimilation of Sabean traditions, technologies, and innovations, it would be better if scholars re-examined that South Arabian material culture and consider whether it could have appeared as a result of close contact between two groups sought out a strong social and economic network. The pottery, pillars, and bronze ornaments also strongly support the presence of interaction at local, regional, and interregional level. Without doubt, South Arabian elements could not appear overnight rather they must be viewed as products of many generations suggesting that they cannot be incorporated because of the assumed limited number of south Arabian colonizers but by continuous interactions. Hence, scholars should not discuss the significance of archaeological evidence based on limited elite site descriptions for larger interregional patterns and process without first assessing the cultural manifestations of Pre-Aksumite ordinary people at regional and local level.

Finally, but very important work of this investigation is about the current condition of the irreplaceable material remains and the archaeological sites in which they are under great threat induced by natural and human-caused processes. The relentless natural factors account for the destruction of most archaeological remains once in the soil but the overwhelming threat to sites

and material remains come from human activity; and consequently, much is being lost forever. The rapid growth of settlement villages, towns, and roads combined with declining pasture land and more intensive forms of agriculture are largely responsible.

5.2 Recommendations

Even if this investigation has made an effort to identify potential archaeological sites and attempted to outline possible description and explanation of the finds from the surface of sites, a significant amount of information concerning the socio-economic, political, belief and cultural developments of the peoples who occupied the region in the remote past still lies beneath the sites. It is now opened the way and, therefore, professionals should arrive at the place and conduct intensive investigation by excavation. Thus, based on the major findings of this study which has shown solid insights of the archaeological potential of the region and seeking out detail and deep information, I have listed some pertinent recommendations below.

- ☞ It is hoped that by providing full data sets in appendices and some in chapter tables, future investigators can work with these data and/or use them in comparative studies with other material culture from the within sites in particular and outside the study area in general. An effort to present archaeological data is attempted here with the intent that more interpretation of archaeological data attributes will be carried out in the future by interested scholars

- ☞ Scholars' extensive archaeological assessment should include the area that beginning from Yeha-*Feresmay*, and extends southward up to the *Hawzen* area following the valley of *Feres-may* with the aim to understand the presence of trade routes and local and regional interaction.
- ☞ Based on the important clues observed in all currently identified sites, archaeology (survey and excavation) should be carried out to generate detailed archaeological evidence of ancient communities.
- ☞ Geological, geomorphological and geoarchaeological studies will provide a better understanding of a process of cultural site formation (example, the cultural landscape of *Enda-Ra'essi* through careful soil and stone discoloration analysis …etc), the chemistry of

the pillars and well curved masonry stones, environmental hazards which erodes the sites and other artifacts/ and conservation of the sites.

- ☞ Palynology: this also supports the study in outline the past forest covers for paleo-environmental reconstruction as well as wood/charcoal study to develop absolute chronology of the sites based on radio carbon dates.

- ☞ Metallurgical study is another vital discipline that should develop in the area to examine the origin and technology of metal production, notably, the bronze cauldron, and the slags.
- ☞ Ethnoarchaeology: This also contribute great role to generate models for better interpretation of archaeological evidence on the living culture of producing pottery at nearby.
- ☞ As written sources are still scant to the area, oral history of the region must be surveyed and investigated properly as it contributes a key role along with the archaeological evidence.

- ☞ As indicated above, archaeological sites are important ancient settlement sites occupied by people since the remote past. Their geographical location, along an ancient trade route and optimal ecology, contributed a lot for this. Nevertheless, recent developmental activities and the very fast growth of the small towns have begun to threaten sites as a whole. Therefore, the concerned body should handle the sites by approaching the *Woreda* and zonal administration offices. This is because the governing bodies basically those who administered the area should protect the sites from the destruction agents. For instance, it is the duty of the concerning body who should handle site erosion problems either by diverting the direction of the flood completely, or minimizing the energy of the flood by creating strong check dams and terraces.

- ☞ Moreover, I recommend creating greater community awareness towards the value and significance of the precious objects with in their area. Neglect and ignorance of what is irreplaceable information cause much loss. Many people are actually living in or use sites and objects that are part of the cultural patrimony, without being aware of their significance. This is the most severe risk facing the sites and their riches and requires in

depth understanding and concerted responses. Naturally public attention focuses on threats of famous monuments and exciting discoveries; nonetheless, a significant amount of archaeological information continues to disappear with little protest. This is why I emphasized the issue of awareness of development because the materials will be preserved for posterity if and only if the public has enough knowledge about heritage resources. For instance, many different objects are now sheltered at the individual houses of the farmers who live around the site. Collecting those items to the museum by purchase may result destruction of site by illicit excavation. Therefore, the key method for the preservation of these archaeological data should be by developing awareness on the owners of the heritage (the general public), consistently by using different media such as radios, pamphlets and workshops.

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APPENDIX 1

Field recording and Data collecting sheet forms at the site of *Ziban-Geba*

(A) Photo documentation form used during survey in the field

Site name	Field #	supervisor	photo#	date	File name	Description

(B) *Ziban Geba* surface collection List Form

Site Name	Bag ♯	supervisor	Site size	Date of collection	Site type	remarks

(C) *Ziban-Geba* Pottery Serial Number Summary Form

Site Name	Identification number	Super visor	Date collection	Total Diagnostic Sherds	Total Sherds	Total Registered	Total Drawn	Total Bucket	Remark

(D) The tag (Catalog Form) attached to the container has the following information

IDENTIFICATION TAG

Super_____ site name_____ site no_____ Date_____

SAMPLES
□ Ceramics

COUNT
Diagnostics_____
Non-diagnostics _____ □
Total_____
Other_____

PRESENT CONDITION:

□In situ

Disturbed

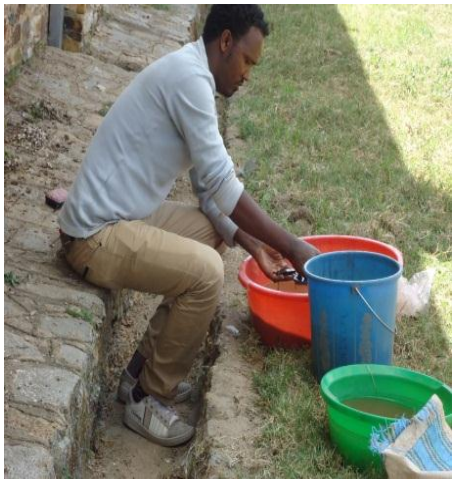
REMARKS:

_____

_____

Serial Number_____

(E) Washing, sorting, registering, and analysis of *Ziban-Geba's* potteries at the museum of Aksum




APPENDIX 2

Site Inventory form used during the reconnaissance survey in the study area

Site, Artifact, and features record/Inventory form

General site address

Site name_____Site #_____Survey #_____surveyor _____Date of survey____
Country____Region_____
Zone_____Woreda_____Kebele/Tabia_____ Present owner_____Addres of owner_____ Phone_____
occupant_____ Phone_____Attitude toward excavation _____
Geo-coordinates: X-Coordinate_____Y-Coordinate_____ Z-Coordinate____Previous owners, if known_____Previous use of the site_____current use of site _____Modifications if known_____Dimensions of the sites_____Local land marks_____Visibilty from public road_____Accessiblity_____

Previous evidences:

persons with memory of site_____Existing photographs_____
Prvious excavation, if any_____Present location of collections, if any_____

Topography:

Ecological zone_____Climate_____Vegatation _____Geology (soil type, color etc)_____Geomorphology (erosion)_____

Cultural affiliation:_____

Type of survey_____ Collection method_____ Instruments used_____photograph number_____

Measurements: height_____ lenght_____width_____thicknes_____ diameter_____

Types of Evidences recorded during survey: Settlements_____Cultural mounds_____
Stelea_____Pottery____Beads____Stone tools_____Metal tools_____Inscription_____
Temple?_____ Palace?_____

Dating method:

Absolute methods_____Relativemethods_____

Site Description

Location/grounds	Site integrity
Flood plain	State of preservation
Never cultivated	Destroyed
Pastureland	Major disturbance
Previously cultivated	Minor disturbance
Sustaining erosion	Redeposited
Under cultivation	Measurements taken
Upland	Undisturbed
Wetland	Vandalism
woodland	

APPENDIX 3

(A) Codding and measuring the diagnostic parts of ceramics from *Ziban-Geba* site

NO	*ID NO*	*Vessel type*	*Thickness*	*Diameter*	*Decoration*
1	ZG13.61	rim of bowl	1.5 cm	-	hori –applique
2	ZG13.13	rim of bowl	1 cm	-	hori -applique
3	ZG13.12	rim of bowl/cup	1.5 cm	-	hori -applique
4	ZG13.72	rim of bowl/cup	1.5 cm	-	-
5	ZG13.3	rim of bowl	1.5 cm	-	-
6	ZG13.37	rim of bowl	1.5 cm	-	-
7	ZG13.11	rim of bowl/cup	0.9 cm	-	-
8	ZG13.50	rim of bowl/cup	1.5 cm	-	-
9	ZG13.67	rim of cup	0.8 cm	-	-
10	ZG13.31	rim of cup	1 cm	-	-
11	ZG13.44	rim of cup	0.8 cm	-	-
12	ZG13.70	rim of cup	0.6 cm	-	-
13	ZG13.81	rim of bowl/cup	1.5 cm	-	-
14	ZG13.60	rim of cup	0.7 cm	-	-
15	ZG13.39	rim of bowl/cup	1.5 cm	-	-
16	ZG13.59	rim of cup	1 cm	-	-
17	ZG13.27	rim of bowl/cup	1.5 cm	-	-
18	ZG13.29	rim of bowl	1.4 cm	-	-
19	ZG13.51	rim of bowl/cup	1.6 cm	-	-
20	ZG13.30	rim of bowl/cup	1.5 cm	-	-
21	ZG13.55	rim of bowl	1.3 cm	-	-
22	ZG13.35	rim of bowl	1.5 cm	-	-
23	ZG13.45	rim of bowl	0.9 cm	-	-
24	ZG13.69	rim of cup	0.5 cm	-	-
25	ZG13.65	rim of cup	0.5 cm	-	Notches
26	ZG13.34	rim of bowl	1.2 cm	-	-
27	ZG13.66	rim of cup	0.5 cm	-	-
28	ZG13.68	rim of cup	0.7 cm	-	hori-incised
29	ZG13.79	rim of cup	0.6 cm	-	-
30	ZG13.75	rim of bowl/cup	1 cm	-	-
31	ZG13.41	rim of bowl/cup	1 cm	-	-
32	ZG13.9	rim of bowl	1.5 cm	-	-
33	ZG13.25	rim of bowl	1 cm	-	-
34	ZG13.6	rim of bowl/cup	1.2 cm	-	-
35	ZG13.77	rim of cup	0.5 cm	-	-
36	ZG13.71	rim of bowl	1.5 cm	-	-
37	ZG13.76	rim of bowl	1 cm	-	-
38	ZG13.78	rim of cup	0.5 cm	-	-
39	ZG13.80	rim of cup	0.3 cm	-	-
40	ZG13.16	rim of bowl	0.9 cm	-	-
41	ZG13.15	rim of bowl	1.4 cm	-	-

42	ZG13.10	rim of bowl	1.5 cm	-	-
43	ZG13.20	rim of bowl/cup	1 cm	-	-
44	ZG13.73	bale of body sherd	2 cm	-	app+ 3 perfarations
45	ZG13.2	rim of cup	1.2 cm	-	incised
46	ZG13.21	neck of bowl	1.4 cm	-	4 hori perfarations
47	ZG13.36	bale of body sherd	0.8 cm	-	applique
48	ZG13.17	bale of body sherd	1 cm	-	applique
49	ZG13.57	neck of closed bowl	1.7 cm	-	dot
50	ZG13.14	neck of closed bowl	1.5 cm	-	dot
51	ZG13.74	neck of closed bowl	1.2 cm	-	applique
52	ZG13.49	neck open bowl	1 cm	-	applique
53	ZG13.53	rim of bowl/cup	1 cm	-	applique
54	ZG13.32	neck of bowl	1 cm	-	dot
55	ZG13.18	rim of cup	0.6 cm	-	dot
56	ZG13.63	rim of cup	0.5 cm	-	dot
57	ZG13.47	neck of jar	1.5 cm	-	perfaration
58	ZG13.46	neck of bowl/cup	1.5 cm	-	applique
59	ZG13.40	rim of bowl/cup	1 cm	-	
60	ZG13.33	rim of bowl/cup	1 cm	-	-
61	ZG13.7	neck of closed bowl	1.9 cm	-	-
62	ZG13.8	neck of jar	2.4 cm	-	-
63	ZG13.42	base of open bowl	1.7 cm		-
64	ZG13.4	base of open bowl	2.5 cm	-	-
65	ZG13.23	base of open bowl	3 cm	11cm	ring
66	ZG13.28	base of jar	2 cm	10cm	ring
67	ZG13.56	base of bowl	2.5 cm	3cm	ring
68	ZG13.43	base of bowl	2.5 cm	-	-
69	ZG13.52	bale of body sherd	1.8 cm	-	perfaration
70	ZG13.1	handle of bowl	-	13 cm	perfaration
71	ZG13.5	handle of bowl	-	11 cm	-
72	ZG13.19	handle of bowl	-	11 cm	-
73	ZG13.24	handle of jar	-	11 cm	-
74	ZG13.64	handle of cup	-	7 cm	-
75	ZG13.27	handle of jar	-	15 cm	incised
76	ZG13.54	handle of bowl	-	11 cm	-
77	ZG13.26	handle of cup	-	7 cm	-
78	ZG13.82	handle of cup	-	6 cm	-
79	ZG13.58	handle of jar	-	9 cm	-
80	ZG13.62	handle of bowl	-	8 cm	-
81	ZG13.48	handle of bowl		9 cm	-

(B) Sorting the coded diagnostic parts of sherds based on color type, surface treatment, shape and firing nature collected from *Ziban-Geba* site

NO	*ID NO*	*Color External*	*Color Internal*	**External Surface**	*Internal Surface*	*Firing*	*Shape*
1	ZG13.61	grey	grey	polished	polished	oxidation	everted
2	ZG13.13	light grey	dark	polished	polished	uncomp..	everted
3	ZG13.12	light grey	dark	polished	polished	oxidation	everted
4	ZG13.72	grey	dark	polished	upolished	Oxidation	everted
5	ZG13.3	Red orange	red	unpolish	upolished	uncomp..	incurving
6	ZG13.37	red	reddish	unpolish	upolished	reduction	incurving
7	ZG13.11	BTRW	blak	polish	upolished	uncomp..	incurving
8	ZG13.50	dark gray	dark	polished	polished	uncomp..	vertical
9	ZG13.67	grey	dark	unpolish	upolished	oxidation	everted
10	ZG13.31	grey	dark	unpolish	upolished	oxidation	incurving
11	ZG13.44	grey	dark	unpolish	upolished	oxidation	vertcal
12	ZG13.70	light gray	dark	polished	upolished	uncomp..	incurving
13	ZG13.81	pink-gray	pink-gray	polished	unpolished	reduction	incurving
14	ZG13.60	light red	light red	polished	unpolished	reduction	incurving
15	ZG13.39	pink	redish yel	polished	polished	reduction	everted
16	ZG13.59	reddish pink	redish yel	polished	polished	reduction	everted
17	ZG13.27	red brown	dark gray	unpolish	unpolished	uncomp..	vertical
18	ZG13.29	Red orange	red	polished	unpolished	reduction	everted
19	ZG13.51	Red orange	light red	polished	unpolished	reduction	incurving
20	ZG13.30	red	light brow	polished	polished	reduction	vertical
21	ZG13.55	light red	pink	polished	unpolished	reduction	incurving
22	ZG13.35	Red orange	red	unpolish	unpolished	reduction	everted
23	ZG13.45	light red	pink	polished	polished	reduction	everted
24	ZG13.69	dark gray	dark	polished	polished	oxidation	vertical
25	ZG13.65	redish gray	redish gray	polished	polished	reduction	vertical
26	ZG13.34	light gray	light gray	polished	unpolished	uncomp..	incurving
27	ZG13.66	grey	blak	polished	polished	oxidation	vertical
28	ZG13.68	grey	dark	polished	polished	oxidation	incurving
29	ZG13.79	grey	blak	unpolish	polished	oxidation	incurving
30	ZG13.75	grey	blak	polished	polished	oxidation	vertical
31	ZG13.41	light red	light red	polished	polished	reduction	vertical
32	ZG13.9	Red orange	light red	unpolish	unpolished	reduction	incurving
33	ZG13.25	Red orange	red	unpolish	unpolished	reduction	everted
34	ZG13.6	Red orange	light red	unpolish	unpolished	reduction	vertical
35	ZG13.77	grey	blak	unpolish	polished	oxidation	incurving
36	ZG13.71	grey	blak	polished	unpolished	oxidation	everted
37	ZG13.76	grey	blak	polished	unpolished	oxidation	vertical
38	ZG13.78	grey	blak	polished	unpolished	oxidation	everted
39	ZG13.80	grey	blak	polished	polished	oxidation	vertical
40	ZG13.16	light red	light red	polished	polished	reduction	everted

41	ZG13.15	light red	light red	polished	polished	reduction	everted
42	ZG13.10	redish gray	D-R-Gray	polished	unpolished	uncomp..	vertical
43	ZG13.20	pink	light red	polish	polished	reduction	everted
44	ZG13.73	BTRW	Brown	polished	polished	uncomp..	undetermined
45	ZG13.2	red brown	grey brown	unpolished	unpolished	uncomp..	straight
46	ZG13.21	light red	light red	polished	polished	uncomp..	everted
47	ZG13.36	BTRW	red	polished	polished	uncomp..	undetermined
48	ZG13.17	BTRW	red	polished	polished	uncomp..	undetermined
49	ZG13.57	Red orange	reddish	polished	unpolished	reduction	everted
50	ZG13.14	reddish	reddish	polished	polished	uncomp..	everted
51	ZG13.74	grey brown	dark gray	polished	unpolished	uncomp..	slinder like
52	ZG13.49	grey	gray	polished	polished	oxidation	straight
53	ZG13.53	light red	red	polished	polished	reduction	straight
54	ZG13.32	grey	gray	polished	polished	oxidation	silinderical
55	ZG13.18	light red	red	unpolished	unpolished	uncomp..	everted
56	ZG13.63	Red orange	Red orange	polished	unpolished	uncomp..	straight
57	ZG13.47	light red	light red	polished	polished	reduction	slinder like
58	ZG13.46	light red	light red	polished	polished	reduction	slinder like
59	ZG13.40	light red	red-blak	unpolish	unpolished	reduction	incurving
60	ZG13.33	light red	light red	unpolish	unpolished	reduction	incurving
61	ZG13.7	light red	blak	unpolish	unpolished	uncomp..	silinderical
62	ZG13.8	red-brown	blak	unpolish	unpolished	uncomp..	incurving
63	ZG13.42	pink-white	pink	polished	polished	reduction	incurving
64	ZG13.4	Red orange	red	unpolish	unpolished	reduction	straight
65	ZG13.23	Red orange	light red	unpolish	unpolished	reduction	straight
66	ZG13.28	red	light red	unpolish	unpolished	reduction	rounded
67	ZG13.56	Red orange	red	polished	unpolished	reduction	outward curved
68	ZG13.43	Red orange	Orage	unpolish	upolished	reduction	incurving
69	ZG13.52	Red orange	Red orange	unpolish	unpolished	reduction	undetermined
70	ZG13.1	red-brown	brown	unpolish	unpolished	uncomp..	ver- handle
71	ZG13.5	Red orange	Red orange	unpolish	unpolished	uncomp..	hori- handle
72	ZG13.19	Red orange	Red orange	unpolish	unpolished	uncomp..	ver- handle
73	ZG13.24	Red orange	orange	unpolish	unpolished	reduction	ver- handle
74	ZG13.64	dark gray	dark	polished	polished	uncomp..	hor-handle
75	ZG13.27	red	red	polished	unpolished	uncomp..	ver-handle
76	ZG13.54	Pink	reddish	polished	polished	reduction	ver-handle
77	ZG13.26	light red	light red	polished	polished	reduction	hor- handle
78	ZG13.82	light red	reddish	polished	polished	reduction	hor-handle
79	ZG13.58	red brown	bla-brown	polished	polished	uncomp..	ver-handle
80	ZG13.62	Red orange	Red orange	polished	unpolished	reduction	ver- handle
81	ZG13.48	Red orange	light red	unpolish	unpolished	uncomp..	hor- handle

(C) Calcification of ceramics based on specific color and surface treatment collected from *Ziban-Geba* site

No	Ceramic divisions with their corresponding (relative) periods	F
1	Red orange ware (ROW) external only polished (Early-Pre-Aksumite type)	14
2	Red brown ware (RBrW) both external and internal unpolished (Early Pre-Aksumite type)	4
3	Red-Gray brown ware (RGBrW) external only polished (Early Pre-Aksumite type)	2
4	Black topped red ware (BTRW) both external and internal polished (Middle Pre-Aksumite type)	4
5	Red orange ware (ROW) both external and internal unpolished (Late Pre-Aksumite type)	5
6	Red ware (RW) both external and internal unpolished (Late Pre-Aksumite type with little possibility to Early Aksumite)	2
7	Light red ware (LRW) both external and internal unpolished (Late and/ or Early Aksumite type)	4
8	Light red ware (LRW) both external and internal polished (Early Aksumite type)	10
9	Light red ware (LRW) external only polished (Early Aksumite type)	2
10	Pink/reddish pink ware (PRPW) both external and internal polished (Early Aksumite type)	6
11	Red Ware (RW) external and internal polished (Early Aksumite type)	2
12	Reddish/pink/light (GW) external only polished (Early and/or Middle Aksumite type)	4
13	Reddish/pink/light (GW) external and internal polished (Early and/or Middle Aksumite type)	3
14	Gray ware (GW) external only polished (Middle Aksumite type)	4
15	Gray ware (GW) internal only polished (Middle Aksumite type)	2
16	Gray ware (GW) both external and internal polished (Middle Aksumite type)	7
17	Gray ware (GW) both external and internal unpolished (Middle Aksumite type)	3
18	Dark gray ware (DGW) both external and internal polished (Middle to Late Aksumite type)	3
19	**Total**	**81**

Appendix 4
List of informants

No	Full name	sex	Age	Location	Date of Interview	Remarks
1	Ataklti Atsbaha (Formor *Tabiya* administrator)	M	50	*Feres-may*	Aug 29/2013	All these religious intellectuals, current and former local and Tabiya (Kebele) administrators including polices, agricultural experts, and young and elder farmers including women have been provided an indisputable information concerning the location of settlement sites, distribution of archaeological findings, history of the sites as well as destruction agents of the sites and the finds.
2	*Ato* Gebrehat Yhdego (farmer)	M	71	*Gendebta/Mai-Omo/*	Aug 21/2013	
3	*Ato* Gebrehawerya Abraha (farmer)	M	62	*Tsirhan*	Aug 25/2013	
4	*Ato* Gebretnsae Gebre (farmer)	M	88	*Filhat*	Aug 08/2013	
5	*Ato* Girmay Aregay (farmer)	M	87	*Adi-Ba'ekel*	Aug 14/ 2013	
6	*Ato* Kiros Asefa (local chief)	M	49	*Tsirhan*	Aug 25/2013	
7	Brhane Hailu (former *Tabiya* administrator)	M	56	*Filhat*	Feb 10/2009 and Aug 08/2013	
8	Dajazmach Woldumaryam Gebru(farmer)	M	90	*Tahtay Guldam*	Aug 23/2013	
9	Gebriela Hailemariyam (Archaeologist)	F	28	*Gendebta*	Aug 21/2013	
10	Gebrekidan Berhe (agricultural expert)	M	51	*Feresmay (main office*	Aug 29/2013	
11	Hadera Abraha (police)	M	55	*Feresmay (main office*	Aug 29/2013	
12	Haleka Brhane Belay(farmer)	M	46	*Gendebta/Mai-Omo/*	Aug 21/2013	
13	Haylemicael Welehariyat (agriculture expert)	M	53	*Tahtay Da'ereka*	Sep 07/2013	
14	Kegnazmach Tesfay Teferi (former leader of the *Tabiya*)	M	87	*Tahtay Guldam*	Aug 23/2013	
15	Keshi Brhane Desta (farmer)	M	70	*Filhat*	Feb 09/2009 and Aug 08/2013	
16	Keshi Dagnew Atsbaha (farmer)	M	47	*Tahtay Da'ereka*	Sep 07/2013	
17	Keshi Gebremeskel	M	75	*Adi-Ba'ekel*	Aug 14/ 2013	

	Gebremedhin (farmer)					
18	Keshi Gebrewahid Hailemaryam (farmer)	M	85	*Tsirhan*	Aug 25/2013	
19	Keshi Kahsay Welegebriel (farmer)	M	70	*Adi-Ba'ekel*	Aug 14/ 2013	
20	Keshi Tsegay Wolu (farmer)	M	50	*Filhat*	Aug 08/2013	
21	Keshi Zemichael Gebrehaweriyat (farmer)	M	42	*Gendebta/Mai-Omo/*	Aug 21/2013	
22	*Meto Aleka* Gebremedhin Asefa (local administrator)	M	46	*Adi-Ba'ekel*	Feb 09/2009, Aug 14/ 2013 and Nov10/2014	
23	*Mirigeta* Moges Gbrehans (farmer)	M	55	*Feres-may*	Aug 29/2013	
24	Negash Hailu (current *Tabiya* administrator)	M	40	*Filhat*	Aug 08/2013	
25	Teklu Alemayehu (local administrator)	M	45	*Tahtay Da'ereka*	Sep 05/2013	
26	Tesfay Gebrihat (local chief)	M	55	*Gendebta*	Aug 21/2013	
27	*W/ro* Awetash Meles (farmer)	F	60	*Filhat*	Aug 08/2013	
28	*W/ro* Letmaryam Kinfe (farmer)	F	65	*Tahtay Guldam*	Aug 23/2013	
29	*W/ro* Meselech Tareke	F	70	*Feres-may*	Aug 27/2013	
30	*W/ro* Mulu Gebreslassie (farmer)	F	52	*Gendebta/Mai-Omo/*	Aug 21/2013	
31	W/ro Rigbe Mokenen (farmer)	F	37	*Adi-Ba'ekel*	Aug 14/ 2013	
32	*W/ro* Zufan Kassa (farmer)	F	57	*Tahtay Da'ereka*	Sep 05/2013	
33	Zerue Fissaha (police)	M	45	*Adi-Ba'ekel and Filhat*	Aug 20/2013	