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THE ANCIENT SITE OF KWIHA (TIGRAY)

by

BRETON JEAN-FRANCOIS¹

ABSTRACT

The town of Kwiha, some 10 km East of Mekelle, shows continuous human occupation from the Bronze Age (ca. third millennium) throughout Axumite times to the medieval period. Archaeological evidence suggests that the rock shelter in Kwiha, excavated in 1940, was the place where obsidian lithics and later ceramics were produced. Kwiha and its surroundings were occupied during the Axumite period (and maybe during the pre-Axumite period?). To the North-East of the city, a stone building with carved pillars may be a church (Enda Qirqos) or a domestic building, and to the North-West, three long stone pillars remain from an important building.

Because Kwiha is situated on the trade route linking the Afar depression with its traditional salt-mines, it was a trading centre, probably from Ancient times, and throughout the medieval period there were Muslim and Arab trading communities living side by side with the Christian community. From the Muslim cemetery come a substantial number of Islamic steles ranging from the 10th cent. to the 13th century.

Mekelle University has started a long-term program of surveys at Kwiha². From 2014 to 2016, Jean-François Breton, assistant professors and scholars from the Department of History and Heritage Management (MU) surveyed the site of Kwiha and collected a large amount of pottery³. This paper deals with the preliminary assessment of these surveys.

The aim of the study was an evaluation of Kwiha ancient territory, with its natural resources and land use. Therefore the study concentrated mainly on the western and northern parts of the site, irrigated by two permanent rivers, the May Bandera and Dollo-Gambela. In all the areas surveyed (nos. 1 to 20) pottery was found, in varying concentrations, but almost everywhere.

One preliminary conclusion can be emphasized. As all the surveyed areas display coarse-wares, this suggests that all these areas were probably occupied during Antiquity⁴. Therefore two types of agriculture probably coexisted: dry-farming and irrigated gardens. Dry-farming or plough cultivation was probably practiced on the slopes of hills 3, 4 and 5, down to the junction of the two rivers May Bandera and Dollo, but also on their southern banks.

The excavation of some buildings in the core of Kwiha is planned to begin in cooperation with the University of Mekelle, Tigray Culture and Tourism Bureau, the French Center for Ethiopian Studies (CFEE) and with CNRS (ArsCAN, MAE, Nanterre, France).

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² A protocol of Amendment to the Memorandum of Understanding between Mekelle University and the French Center of Ethiopian Studies (CFEE) was signed on 23th April 2014. The project aims to realize an interdisciplinary project, a capacity building and a full-fledged academic research and documentation of the archaeological site of Kwiha. The disciplines involved are ancient history, philology and linguistics (including Arabic epigraphy) and social anthropology and ethnohistory.

³ Reports about the 2014-2016 surveys were forwarded to the Department of History and Heritage Management, MU; A Preliminary Report was also published in Breton-Aytenew, 2017:46-49.

⁴ Preliminary conclusions as so far no excavation has ever been undertaken at Kwiha.

Introduction

The town of Kwiha⁵, some 10 km East of Mekelle, shows continuous human occupation starting from the Bronze Age (third millennium BP) throughout Axumite times to the Ethiopian medieval period. Archaeological evidence suggests that the rock shelter in Kwiha used to be the place where obsidian lithics and later ceramics were produced⁶. Kwiha and its surroundings were occupied during the Axumite period and maybe during the pre-Axumite period. To the North-east of the city, a stone building contains carved pillars from a possible church (Enda Qirqos) or a domestic building which is believed to have been destroyed by Ahmed ibn Ibrahim al-Ghazi (1507-1543) during his campaigns in 1533 against Tigray.

Because Kwiha is situated on the trade route linking the Afar depression with its traditional salt-mines, it was probably a trading center from Ancient times and throughout the medieval period and there were Muslim and Arab trading communities living side by side with the Christian community. Travellers and scholars in Kwiha have found a number of inscriptions in Arabic dating back to the 10th-13th century.

Both the Portuguese traveler Alvares as well the chronicler of Ahmed ibn Ibrahim, who came to the area in 1533, wrote that there were Muslim communities in Kwiha. Up to 1688, when Emperor Iyasu I eliminated the salt duty post in Kwiha, it was under the control of the Muslim traders living in the area.

1-Travellers at Kwiha: a short account

Francisco Alvares, entering Tigray ca. 1524, first visited Wuqro (Agroo), then Agula'. Following the track southwards, he mentions a place named Belete (or Bilet)⁷ on his way to Hegre Hariba where he met the governor of Inderta⁸.

One of the earliest scholars to take an interest in the archaeological ruins of Kwiha was the British scholar Nathaniel Pearce who lived in Ethiopia from 1809 to 1819. During his journey in Tigray, he visited Kwiha (Queha), a swampy village, with many springs irrigating the fruit gardens. He was also taken to see the ruins where he found broken "obelisks" as well large stones, curiously cut like those in Aksum. He also found stones with inscriptions in Arabic that the locals had dug out from the ground in order to show him⁹.

On the northern edge of the town are ruins, including a set of monolithic pillars, first described by Nathaniel Pearce in 1819. There are many carved pillars, possibly from a destroyed basilica. There is also a tradition that the ruins were part of a church dedicated to the Ethiopian Saint Chirqos, thus called Enda Chirqos, and that it was destroyed by Imam Ahmad bin Ibrahim in the 16th century. The

⁵ We write: « Kwiha » (in Tigrinya) and not "Qwiha"- was an italian transcription, following the latin one, KW for QU. The official toponym, as commonly used by the Institute for Ethiopian Studies, is KWIHA.

⁶ Barnett, 1999: 128-146.

⁷ Belete or Bilet should be near Kwiha (which did not exist at that time).

⁸ Lord Stanley Alderley, *Narrative of the Portuguese Embassy to Abyssinia during the years 1520-1527* (from) Alvares Francisco, *Historiale description de l'Ethiopie contenant vraie relation des terres et pays du Grand Roi*, 1881 : 97. See also Huntingford: 115. I am very grateful to W. Smidt for all this valuable information.

⁹ Pearce, 1831 : 125

ancient remains of Kwiha have also been documented by other scholars such as Conti Rossini¹⁰ and Mordini¹¹ in the 1930s and 1940s.

In 1937, Conti Rossini found remains of stone ruins at the locality called *Bilet*¹² in the north-eastern part of Kwiha. Among these ruins, he discovered four steles with inscriptions of which two were eroded while two were in good condition. All the four inscriptions on the steles were written in Arabic. Photographs of the four steles were studied by another Italian scholar, Pansera,¹³ who published the contents of the inscriptions.

2- A short history of Kwiha occupation

2-1- From the sixth to the third millennia BP

A rock shelter was excavated in the 1940s by Lieutenant-Colonel F. Moysey while he was serving with the British Armed Forces during the Second World War. A whole sequence of ceramic-bearing lithic assemblage was recovered from the site. The rock-shelter at Kwiha contains an interesting series referable on account of the presence of pottery, and the typology of the stone industry, to the Late Stone Age. The assemblage consists predominantly of microlithics, but contains large utilized blades, burins and scrapers reminiscent of the Hargeisan culture of the northern Somali plateau.

The ceramics found at the site consist of reddish non-decorated pots which were in use in the prehistoric period. The assemblage also contained limited faunal remains¹⁴. Following Moysey's excavation, the material was taken to Nairobi, where it is currently stored in the foreign collections of the National Museum of Kenya. Although the samples are small, possibly incomplete and constrained by the lack of contextual information, it is still important because it represents one of the few stratified sequences in Tigray.

According to Moseley's material, F. Barnett could classify

- Level 4, spanning from 6th millennium to 5rd millennium BP,
- Level 3: spanning from late 5th millennium to early 3rd millennium BP,
- Level 2 and top of Level 3: Pre-Axumite ca 3rd cent. AD.

Phase 1- 6th to 4th millennia BP

The collection from Kwiha has diverse affinities with ceramics from North and East Africa. The assemblage aspires to a typical African tradition with foreign elements. The similarity between decorative styles from Kwiha and from surrounding regions imply that the eastern edge of the Ethiopian Highlands benefited from persistent contact with the Nile Valley cultures from at least the 6th millennium BP and with East Africa from the 5th millennium BP¹⁵

Phase 2- 5th-3rd millennia BP

“The later occupation deposits at Kwiha suggest that contact may have become more focused on the Butana/Gash Delta and the Sennar/Jebel Moya areas to the South of the Blue Nile in Sudan during the 4th and 3 millennia BP, with a subsequent increase in foreign contacts. There is little evidence of

¹⁰ Conti Rossini, 1938.

¹¹ Mordini, 1946 : 150

¹² Probably the same place (Belete) mentioned by Alvares F.

¹³ Pansera, 1945 : 3-6.

¹⁴ Clark : 1962

¹⁵ Barnett 1999: 137.

contact with Southern Arabia except relatively late in South Arabian contexts, and there is no suggestion of either an independent ceramic innovation or a simultaneous adoption of ceramics and domestic resources”¹⁶.

“The collection has a number of features that are distinct from ceramic assemblages elsewhere in Africa which are indicative of an indigenous Ethiopian tradition”¹⁷.

2-2 Pre-Axumite and Axumite occupation

The ancient site of Kwiha occupies a rocky spur, at an altitude of 2200m, dominating wide areas to the North, and May Bandera River (Italian: “Flag River”) to the East. This permanent water resource emphasizes the central position of the site and gardens are still cultivated in its narrow valley (Figure 1



1).

In the northern corner there stands the compound of the church of Enda Qirqos¹⁸ (or Enda Cherqos, Saint Qirqos) with its cemetery. The modern church under construction, built directly over the ancient mud-brick one, is a landmark visible from afar. All around the church there are remains of the ancient settlement of Kwiha.

Building 1

Some 300 meters east of the Enda Cherqos Church lie the ruins of a monumental building some 13.70m long by 7.5m wide (13° 29.198 N, 39°32.929 E.; altitude: 2192m) (Figure 2).

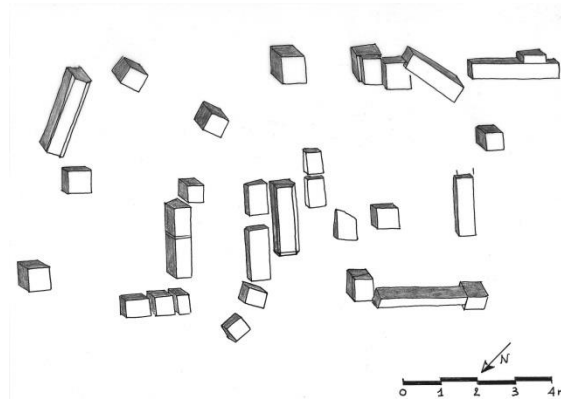


¹⁶ Barnett 1999 : 137

¹⁷ Barnett 1999: 137.

¹⁸ The church is supposed to be built by Emda Sion (1314-1344).

The plan was drawn in October 2014 with Y. Aytenev after cleaning of the whole eastern part. These remains consist of large limestone blocks lying on the ground which can be readily identified as stone bases, pillars with or without capitals and separate capitals (Figure 3).



From this plan, one can hypothetically reconstruct a three-aisles building, orientated east to west. Four rows of pillars delimit a central aisle (ca. 2.30- 2.50m) slightly wider than the two side aisles (ca. 2.00m). The eastern part of the building has been partly destroyed and some blocks have recently been removed for reuse in the new cathedral of Kwiha. Excavation of this building would be of great interest if a choir could be discovered.

Building 2

East of this monumental building, down the slope, there is a small stone building, visible along a canal, where recent earthworks have probably cleared the entire area. Along this canal, 5m of rubble stone wall is preserved up to 2m high, and there is a small opening, maybe a window, on the eastern side. It is reasonable to assume that this wall belongs to an ancient house and it would be useful to connect this house to the nearby building 1 as it is only 12m away. A narrow trench could be used to connect buildings 1 and 2, thus allowing a complete stratigraphy.

Building 3

On the western side of the tell, some 100m west of the new church, three monolithic pillars are lying. Two of them are the same size: 2.40m (by 0.50m by 0.50m), while the third one is 1.88m (by 0.50m by 0.50m). Because of their similarities, these pillars may have come from the same building¹⁹.

Wall Structures and other Artifacts

Several walls were found in different parts of the Enda Cherqos Church compound. One was uncovered as the road to the church was widened. The wall is about 1m high and several meters in length with some parts still covered by earth while other parts are exposed. The stones at the base are bigger and they tend to reduce in size with height. A second wall structure was also discovered accidentally as the workers constructing the new church dug to get some earth. The length of this wall was about 2m, but the place is now entirely buried.

¹⁹ We were told that some pillars had been taken to Mekelle in the sixties.

During the 2014 survey, the most remarkable find, according to Y. Aytenew, was a wall exposed on the eastern side of the Kwiha site as result of terrace building by famers, who integrated it into the wall supporting the terrace. The wall length varies as it is not homogeneous but in some parts its height was about two meters. The terracing has exposed a section of the stratigraphic layers. “While it is possible to find remains of pottery, bones and obsidian on the surface of the site; here at the terrace, we see exposed not just the wall but also a number of artifacts, such as pottery, bones, charcoal and obsidian, undisturbed and in their original context. The fact that they are found on different ground layers in their original context will help archeologists to study the cultural sequence that different generations living in the area have left throughout the centuries. Another important finding is identification of the remains of bricks at specific layers”²⁰.

South East of Enda Chergos church, a deep hole was recently excavated in order to build a burial vault; works were stopped in 2016. But the trench shows evidence of stratified layers of occupation and walls built in rubble stones.

2-3:Islamic Period

A large number of inscribed steles testify to the occupation of Kwiha and its surroundings during the early Islamic Period. In addition to the steles discovered by Conti Rossini, twelve more were found in 1962 and taken to the National Museum in Addis Ababa and to Mekelle. In the sixties renewed research on the steles was carried out by M. Schneider²¹.

All of these inscriptions were engraved on basalt that abounds in the region, although some of the steles were broken and others eroded to the point where the inscriptions are partially or totally illegible. M. Schneider also tried to compare the Arabic writing styles in the inscriptions with steles from the Dahlak Islands. It was found that the Kwiha inscriptions were not of high quality in terms of calligraphy as they have no regular shape and in terms of decoration. Translation of the inscriptions reveals that they are funerary steles describing the genealogy of the deceased person with Koranic quotations (Surat al-Ikhlās)²².



²⁰ Hiruy, Berhe and alii, 2014 :26-27

²¹ Schneider, 1967.

²² Schneider, 1967.



Later, more Islamic inscriptions were discovered²³. Two more steles, discovered in 1980-1985, were deposited at the Tigray Culture and Tourism Bureau (TCTB) at Mekelle but remain unpublished²⁴. In 2004, W. Smidt published another funerary stone (26 by 19 cm) (Figure 4) that was kept in a sacristy near Enda Cherqos church and could be dated to the early 10th to 12th century²⁵.

These steles should be integrated into the medieval context of an Islamic community trading along commercial routes (Figure 5, and note 24). The most important route, South to North, links Kwiha north to Wuqro, Nagashi and Adigrat. Another funerary slab, published by W. Smidt,²⁶ was kept in the church of Wuqro for a long time and Nagashi is well known for its former Muslim community, dating back to the 7th century.

Hegre Hariba (Wogar Hariba or Igre Hariba) was also mentioned by F. Alvares when passing through the wider Kwiha area to the south, describing Be'algada, and it is clear that the centre of the Be'algada area was Igre Hariba, located some 7 Km south-east of Kwiha. It was here that the salt customs office was established during the 18th-19th century and where the governor of Inderta (or Entarta) province had a house.

3- The landscape around Kwiha

²³ See unpublished report of Muluberhane Adane, Department of History and heritage Managment, Mekelle University, about Kwiha cemetery (2016).

²⁴ The text of one of these two inscription could be translated:

1. [...] /2. pour le rendez-vous d'un jour connu, O Dieu, que Tu réunisses /3. Ja'far bin Omar avec les prophètes /4. les véridiques, les martyrs et les vertueux (ou saints ou pieux) /5. Et quels bons compagnons que ceux-là. Il est décédé qu'Allah lui accorde sa miséricorde /6. le 4 de Jumada al-'Ula/7. en 361 de l'Hégire, qu'Allah lui accorde sa miséricorde (361 Hïgra = 972 AD).

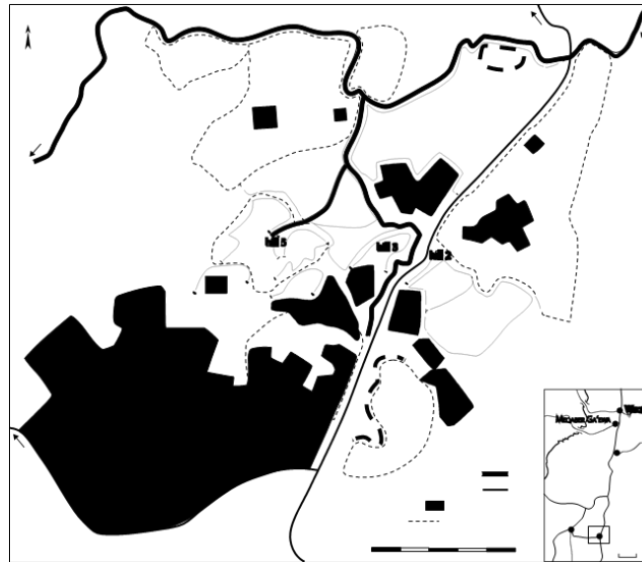
Inscription en cours de publication. Photo by permission of TCTB.

²⁵ Smidt, 2004: 259-268.

²⁶ Smidt, 2009 : 126-135.

Kwiha village faces north, crowning a group of hills at a general altitude of 2250m. The crest is totally occupied by Kwiha town with its market, municipality, shops, churches, hospital and schools. It is said to have been initially developed during the Italian occupation (1930-1940). The old western villages topping limestone outcrops are now connected to Kwiha center by modern roads forming a continuous line of dwellings.

All these hills dominate, to the north, the gently sloping plain irrigated by three rivers, joining at different points (Figure 6).



Stretching from east to west, there are about five main hills:

The most easterly hills (n°1) dominate the new city of Kwiha at an altitude of 2275-2285m. As some cliffs could have been strongholds, such as Amba Fekadu, a survey was conducted in November 2015, but no fortifications were recorded.

Below Amba Fekadu is hill (n°2), reaching 2230-2240m, and ending on its western side in a steep cliff over the river May Bandera. The slopes and the top of this hill are covered with terraced fields and small rocky spurs but as a large military camp occupies most of its south-western part, survey is impossible.

The central hill (n°3) (Figures 4 and 4) is separated by a rather deep gorge in which flows the Bandera River whose source is near the Elementary school. The old asphalt road Mekelle-Maimekeden-Wuqro, probably constructed in the thirties, runs through this gorge. A large part of the hill is occupied by houses, small fields and eucalyptus. On its north corner stands the compound of the church of Enda Cherqos (Saint Qerqos) with its cemetery; the modern church, under construction and built on top of the ancient one, is a landmark (altitude: 2197m) visible from afar. All around the church are remains of the antique settlement of Kwiha. The northern flanks of this hill show terraces, roughly following the contour lines, used nowadays for dry-farming agriculture and animal grazing.

In the west, there are two more hills with steep slopes and flat rocky summits.

Hill n°4 stands above a spring (altitude: 2218m) whose scarce water is used for gardens below. All this area is covered with eucalyptus forest and densely occupied by houses and gardens.

In the west, a ravine, where a small seasonal river flows, separates hills n° 4 and 5. There again, gardens are laid out around water canals, from 2210m down to 2180m. This river joins May Bandera River some 500 meters to the north. Hill number 5 has a flat rocky top with abrupt slopes all around but is now fenced and survey is not allowed.

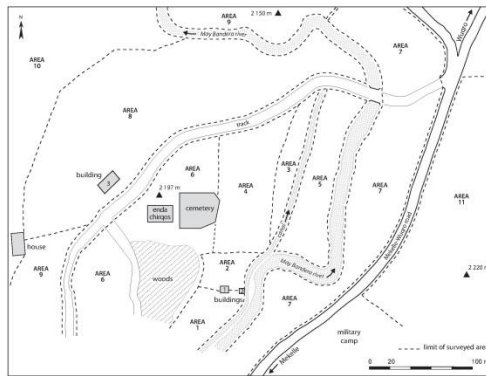
The May Bandera River flows north-west in small gorge cut into alluvium and, in places, into limestone. Small-sized pebble and stone walls, probably recently built, perpendicular to the river course, are intended to reduce the effects of the floods. At an altitude of 2125 meters, May Bandera joins Dollo River, flowing from east to west. Before reaching the junction, the Dollo River flows among gardens and this is probably the largest cultivated zone of all the Kwiha neighborhoods.

Further down the river (now currently named Gambela or Gembela), small gardens are also to be seen along the eastern side and limestone is gradually replaced by schist and granite. Small waterfalls alternate with pools. A long canal supplies water to a large agricultural area (altitude: 2115m) and some meters below, another canal on the west side irrigates more gardens. In the valley of the Gambela the altitude of 2110m seems to have been the ancient limit of Kwiha irrigated territory, further West is Enda Gabir village where no pottery was ever collected. Gardens continue down the valley to Elala, now one of the northern suburbs of Mekelle. Both sides of the river are dominated by rocky spurs deprived of trees, and irrigation canals are still used for watering the gardens.

4- The survey (Figure 7)

As far as we know, the archaeological ruins on top of Hill n° 3 around Enda Cherqos Church were the only known remains recorded by previous studies, but the ancient city of Kwiha was connected with its territory and its natural resources such as water, wood, building stone, gardens, etc. Daily food was produced all around, cattle were bred and wood or stone had to be taken from nearby places, so the aim of the survey consisted of associating Kwiha ancient city with its surroundings. It was also important to document any architectural remains around Kwiha such as buildings, cemeteries, quarries and fields.²⁷

²⁷ The preliminary surveys in 2014, 2015 and 2016 were financed by Mekelle University (MU) and CNRS (UMR 7041, ArsCAN, Nanterre). They were made possible with the help of the Institute of Paleoenvironment and Heritage Conservation, Department of Heritage conservation, Department of Geography, MU. We must thank particularly Yohannes Aytnew, Yohannes Gebreselassie and Gidey Ghebreziaber (TCTB) for their assistance and help during these surveys. The pottery collected during these surveys is stored at the Department of History of Mekelle University, it has been fully drawn.



A general map of Kwiha has been drawn by the Municipality Authority which aims to plan the development of the town. During a preliminary topographical mission in October 2014, with the help of the Department of Geography of Mekelle University²⁸, a map of the core of the site was drawn (Hill n°3) with new GPS points on monuments, stone buildings, terrace walls, tombs in the cemetery, etc. and this is the basis of the preliminary topographical map of Kwiha. As that map did not cover the north and northeast part of the territory, we extensively used GPS during following surveys. It would have been scientifically correct to collect information on the basis of square meters (GIS or IGS) and to use a 10 square (or 100 m) meter basis for survey, but the GIS system will only be operating next season. Finally, different types of evidence have been integrated using GPS to generate: a map of the archaeological area of Kwiha within a radius of 3 km and a preliminary study of the pottery.

Delimitation of areas according to topography and the main contours lines was suggested (Figure 5). The estimated surveyed surface is about 3 km East to West and 2.5 km north to south, so totals 7.5-8 km². The areas have different sizes, according to the topography, and extensive GPS use allows, as often as possible, indication of the surveyed areas. Some twenty areas have been surveyed and each one documented with visible buildings. On each of the selected areas, pottery was systematically collected²⁹. In order to have a statistical view of the collection, the amount of sherds was divided approximately like this:

A- 10 sherds per m²,

²⁸ Thanks to Yonas Getane, Head of the Department of Geography, Mekelle University (MU) and to Solomon Hisha, Department of Geography, MU.

²⁹ The study of the pottery is under printing in: Breton, "Surveys around Kwiha: an ancient and medieval city. Surveys. A Preliminary assessment", *Proceedings of the International Conference on the archaeology of ancient Ethiopia, Paris, 2016*

- B- 1 sherd per m²,
- C- 1 sherd per 10 m²,
- D- 1 sherd per 100 m²,
- E- 1 sherd per 1000 m².

The core of the site (Hill n° 3) has been divided into six areas (1-6) according to natural boundaries and modern buildings (Figure 5).

AREA 1: Hill 3. South of building 1. A small cultivated field delimited by woods. Altitude: 2190 m. Pottery density A.

AREA 2: Hill 3. North of building 1. A small cultivated field partly delimited by woods. Altitude: 2190 m. As it is located close to building 1, as for Area 1, they are possible zones of ancient occupation. Pottery density: A.

AREA 3: Hill 3. Further North of building 1, above the canal. Building 2 is located along this canal. Cultivated lands. Altitude: 2195 m. Pottery density B.

AREA 4: Hill 3. North of the cemetery to the track leading up to the summit of the tell. Large areas of dry-farmed lands. Much obsidian. Pottery density: B

AREA 5: Hill 3: East of the canal. Terracing with lane fields. Altitude: 2190 m. Pottery density C.

AREA 6: Hill 3: This area extends around the new church, the summit of the hill and its adjacent tracks. That area is partly destroyed area by tracks and partly occupied by private properties (non-surveyed), the pottery is scarce (Pottery density D). There are remains of three long fallen pillars at 2197m (on the west side). Pottery density: D.

The following areas 7-10 are located all around the ancient site:

AREA 7: Hill 3. This area extends between Bandera River and the asphalt road. It is mainly occupied by gardens and houses (altitude: 2127-2137 m). Only a part has been surveyed, north of this zone, on both sides of the track. Area 7 ends to the East by an Islamic cemetery (13°29' 343 N., 39°32' 967 E.). Pottery density: C.

AREA 8: Hill 3: Steep slopes of the hill, following the contour lines at the West of hill. There are rows of anti-erosion systems recently laid out along contour lines with rectangular holes, some 0.40 m deep. This area is now used for dry farming and grazing cattle. This area ends close to a farm at an altitude of 2179 m. Pottery density: C.

AREA 9: Hill 3. West and south slope of the hill. This area is now used for dry farming and grazing cattle. Altitude: 2170-2175 m. Similar characteristics as Area 8. Pottery density: C.

AREA 10: This area is situated below area 9. It is delimited to the East by May Bandera River, to the west by Hill 4 and to the north by a modern track running east to west. It is mainly occupied by fields. Modern quarries exist on its western side. There is, on the south side, one building of about 6 by 7m made of massive granite boulders (13°29' 385 N., 39°32'656, altitude: 2170 m), but with no associated pottery. Pottery density: D.

Along May Bandera river, there is one highly concentrated zone of pottery (13°29' 532 N., 39°32' 779 E.) but no pit trench was possible. A large area on the west has no surface pottery.

AREA 11: Hill 2. East of the old asphalt road Mekelle-Maimekeden-Wuqro. It ends by a steep cliff over this road. Pottery is abundant just on the crest (near the TV antenna) (density A) with a high density of obsidian. On its south side, there is an ancient building, rectangular and made of flat stone, ca. 6 by 7m and preserved up to 2m high (13° 29'118 N., 39°32'990 E.; altitude: 2218 m). Little pottery has been recorded.

AREA 12: East bank of May Bandera River, north of Area 10, East and South of Area 11. On the west, a military camp extends down to May Bandera and to Kwiha town where survey is not allowed. This area consists of fields set along contour lines. Average altitude: 2235- 2220 m.

AREA 13: East of May Bandera river. This area is divided into two parts: a southern part with a few fields and a northern one where May Bandera River meets Dollo River. Dollo River comes from the east and its permanent waters irrigate many gardens but survey is difficult³⁰. North of the Dollo gardens are some hills, with no pottery, ending above waterfalls and pools (altitude: 2118 m). Pottery density: D.

AREA 14: West of May Bandera River. This is a hilly zone with some fields, modern quarries and factories. It ends at the waterfalls and pools above mentioned. Little ceramic has been recorded. Pottery density: D-E.

AREA 15: This is a large area around hills n° 4 and n° 5. All around Hill 4 are gardens irrigated by a small watercourse whose source, May Ayni, is located at an altitude of 2218 m. The water is used mainly for gardens and does not have a permanent supply. The summit of Hill 5 is now occupied by a cement block factory, so survey is impossible. Pottery density: D-E.

South of Area 15, there flows another river whose water is also used mainly for gardens. Close to this river, abundant ceramics exist in some places (13°4881° N., 39° 54258 E) but no buildings are visible (altitude: 2185 m). As the summit of Hill 4 is fenced, survey is impossible.

AREA 16: A large area in the plain of Dollo at an average altitude of 2160-2180 m, largely occupied by a military camp and a brick factory.

AREA 17: A densely occupied zone inside Kwiha town (houses, schools, military camps, shops, etc.). Some pottery.

AREA 18 (Hill n° 1): It was supposed that the hills east of Kwiha, commonly named Amba Fekadu, with very steep cliffs, some 50-60 m high, could have been used for strongholds or fortifications, but no ancient walls were recorded, and no significant pottery was documented.

AREA 19: Left bank of the Dollo River. General altitude: 2150- 2128m. All along, canals irrigate fields and gardens. Dollo River flows east to west and meets May Bandera River at an altitude of 2127m. To the North is a small hill circled with terrace walls, of an uncertain period.

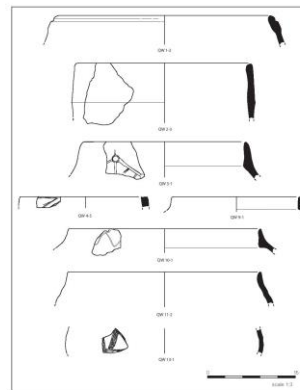
AREA 20: West of the confluence of the Dollo and May Bandera Rivers, Gambela River (or Dora' River) flows westward. All along, on both sides of the river, there are irrigated banks with water channels of uncertain periods documented on both sides (Figure 6). East of this zone (altitude: 2110 m), no pottery was collected, so the eastern limit of Kwiha territory was probably located there, near

³⁰ Alluvial deposits, rather thick: 10 cm, covers ancient perimeters.

Enda Gabir village. Downstream, the Gambela/Dora' river flows westwards in steep gorges with gardens on the banks at Elala.

5- The pottery

In each area pottery was systematically collected. The collection comprises sherds with specific forms or decoration. Cleaning, inventory, drawings and photographs by areas were done at Mekelle University by Jean-François Breton and Yohannes Aytenew



(Sample: Figure 8 by Graphic: Rozeen Douaud, CNRS).

Here are some preliminary remarks. The coarse-wares of uniform type, being hand-made with brown and orange slip on both faces, the body being red paste tempered with crushed limestone or decayed basalt. Forms are mainly bases, handles and jars. There were a large number of pierced handles in areas 12 and 15. There were very few fine wares. Grey and Black pottery is rare: there is a single black paste sherd with decoration (area 13). There were no red Aksumite basins, pot stands, basins with deeply-incised decoration or globular jars.

Decoration is rare, comprising mainly crossed lines and finger prints. There was one image of an animal on a sherd (QW-7-1).

6-Preliminary assessments

The aim of the study was an evaluation of Kwiha ancient territory, with its natural resources and its land use so the study concentrated mainly on the western and the northern parts of the site³¹. The two permanent rivers, May Bandera and Dollo-Gambela, are the main geographical characteristics of the surroundings of Kwiha.

One preliminary conclusion can be emphasized. As all the surveyed areas (1 to 20) display pottery in various percentages, it is probable that all of these areas were occupied during Antiquity³². Therefore two types of agriculture may have coexisted: dry-farming and irrigated gardens. Dry-farming or plough cultivation may have been practiced on the slopes of hills 3, 4 and 5, down to the junction of the two rivers May Bandera and Dollo, but also on its southern banks. Irrigated perimeters appear also in two main places. Firstly, on the slopes between Hills 3 and 4, using permanent or seasonal waters

³¹ The south one is occupied now by Kwiha village and the east part by a huge military camp and buildings (see fig. 1).

³² Preliminary conclusions as far as not any excavation has been ever undertaken at Kwiha.

from the springs and secondly in the lower course of the Dollo, after it joins May Bandera River, and then further down in the floor of the Gambela valley as far as the village of Enda Gabir.

As far as we know, the double agricultural system seems unique to Axumite sites at Tigray. Axum and Matarâ do not display such diversity. Axum displays some similarities with Kwiha, with hills forming a crown delimiting a roughly circular plain, gently sloping, about 10 km in diameter. From this plain a number of streams drain to the south, southwest and west³³. That plain, with a low gradient and highly fertile land, is optimal for plow cultivation but as far as we know no archaeologists mention permanent rivers and thus there are no irrigated perimeters. At the late Axumite site of Wakarida, in eastern Tigray, the geographical conditions seem similar and no permanent river irrigates its nearby territory³⁴.

Completion of a multidisciplinary preliminary investigation of the whole area of Kwiha is planned, including archaeological study of the pottery, excavations, geoarchaeology, paleoethnobotany and ethnohistory. Excavation of some of the buildings in Kwiha is intended to start soon in cooperation with the University of Mekelle, Tigray Culture and Tourism Bureau (TCTB), the French Center for Ethiopian Studies (CFEE, Addis Ababa) and with CNRS (ArsCAN, Nanterre, France).

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³³ Fattovich, 2000 : 13.

³⁴ Benoist, 2016: 25-40

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LIST OF ILLUSTRATIONS

- 1- General view of Kwiha, seen from the East (Photo J.-F. Breton)
- 2 Building 1: view to the North (Photo. J.-F. Breton)

- 3 Plan of building 1 (by J. -F Breton and Yohannes Ayteneu)
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- 6- General map of Kwiha area (drawing: Breton-Ayteneu; graphic realisation: Rozenn Douaud)
- 7- Map of the site of Kwiha with buildings and areas of pottery (drawing: Breton-Ayteneu; graphic realisation: Rozenn Douaud)
- 8- A plate of pottery of Kwiha: closed ware (graphic realisation: Rozenn Douaud)