

■ GHANA

**Report on 2012/2013  
Preliminary Archaeological  
Survey of Hambuikong in  
Komaland, Northern Ghana**

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maland began in 1985 with the survey and excavation in the modern village of Yikpabongo; Yikpabongo-east and Yikpabongo-Bakodeng (Anquandah 1987, 1998). Since 2006, renewed archaeological surveys and excavations are ongoing at central Yikpabongo (Kankpeyeng and Nkumbaan 2008a, b, 2009) as well as Tando-Fagusa (Nkumbaan 2015). As part of the Komaland project, some archaeological works have been conducted by Zakari (2010) at Tando and Asamoah-Mensah (2012) in central Yikpabongo but none of these involved archaeological survey and mapping of surface features to undertake geospatial distribution analysis.

This investigation focused on walk, total station (TS) and GPS surveys of mounds, stone circle and house mounds at Hambuikong to understand the spatial distribution of these two main categories of mounds and their association with other natural features of cultural significance.

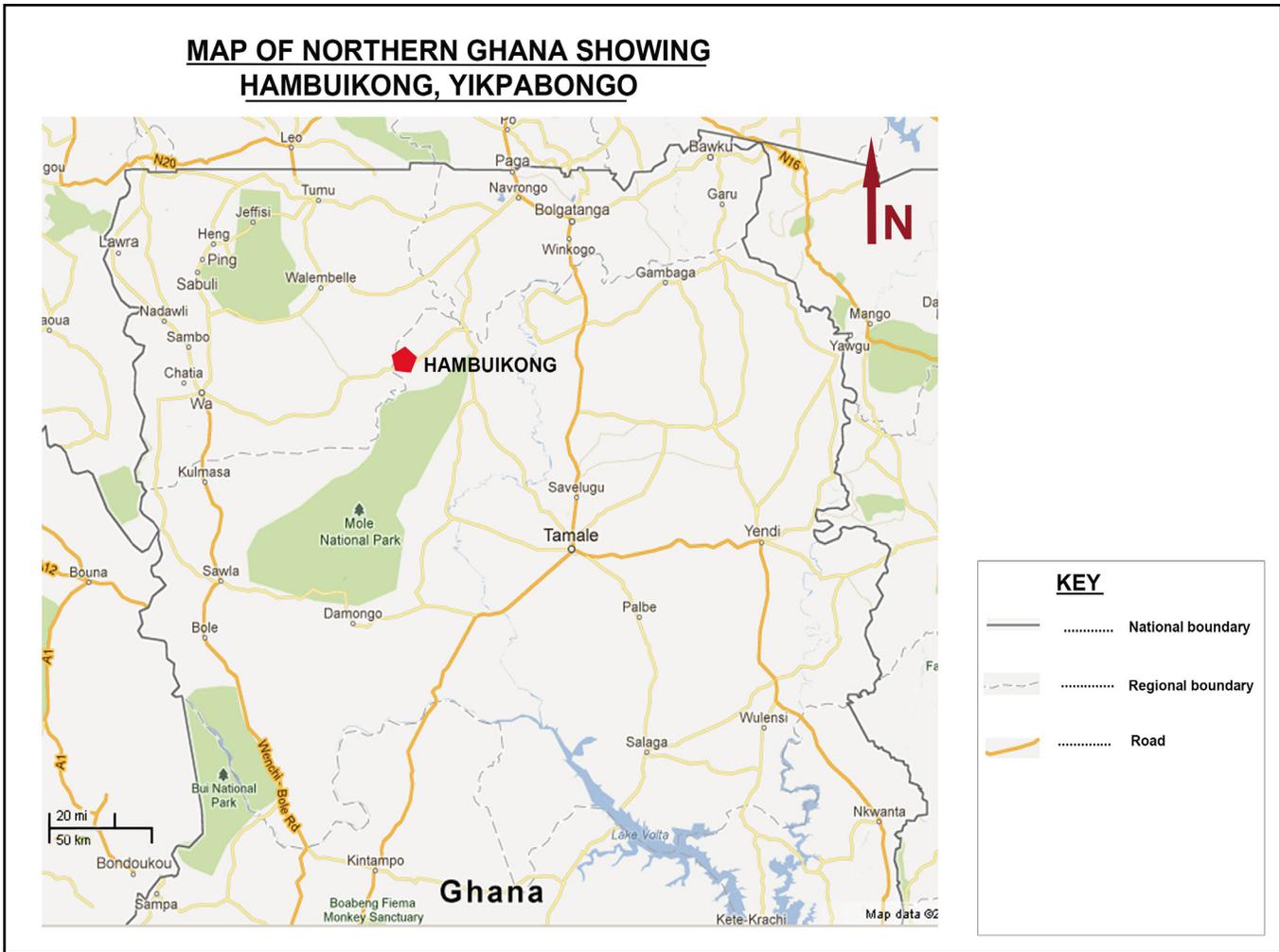
### Introduction

This preliminary archaeological investigation focused on Hambuikong, which is about 500m to the north of the modern village of Yikpabongo within Komaland, Northern Region of Ghana (see Figure 1). The site is located at latitude 10.24845°N and longitude 1.56606°W. Hambuikong was coined from two *Konni* words (the language of the Koma people): ‘Hambui’ and ‘Kong’. The former is a name of an elder of Yikpabongo while the later means “fallow”. Hambuikong therefore, means Hambui’s fallow land. It is located within the vast archaeological region in the northern region of Ghana called Komaland, which was discovered in the 1980s. Besides minor mapping conducted in 1985 within Komaland (Anquandah 1987, 1998), there has been no other site mapping within the region to help better understand the site from a spatial distribution analytic point of view.

The archaeological features visible during surface surveys within the Komaland archaeological region are stone circle mounds (Anquandah 1987, 1998) and house mounds (Kankpeyeng and Nkumbaan 2009). The archaeological investigation of Ko-

### In the Beginning: Komaland Archaeology

Notification of the existence of the Komaland archaeological landscape was received by Professor James Anquandah of the Department of Archaeology (now Department of Archaeology and Heritage Studies) of the University of Ghana, Legon in 1984 (Anquandah 1998). Archaeological investigation was initiated in 1985 at Yikpabongo. The first preliminary reconnaissance survey conducted at Yikpabongo area led to the recording of 600 stone circle mounds of which 105 situated at the eastern section of Yikpabongo were mapped and plotted (Anquandah 1986: 10-11, 1987: 173, 1998: 70-71). These 105 mounds, which covered an area of 151200m<sup>2</sup>, were categorized into three different groups based on the length of their diameter: first category, 18-30m; second category, 11-17m; and the last 4-10m (Anquandah 1987: 173, 1987: 173, 1998: 70-71). The 1985 research, however, did not mention the existence of house mounds. Material recovery during the 1985 excavations included remains of sheep, goats, fowls and monkeys. Other artefacts recovered included millers, potsherds, ceramic discs, figurines, cowry shells, glass beads and metallic objects. Bracelets,



**Figure 1:** Map of Northern Ghana showing Hambuikong archaeological site.

arrowheads, anklets, blades, rings or pendants made of either iron or copper were the types of metallic objects recovered (Anquandah 1998: 97).

**Current Archaeological Investigations in Komaland**

Until June 2006, Komaland archaeological project was at a halt after the last scientific investigation in March 1985 (Kankpeyeng and Nkumba 2008a: 2, 2008b: 95). Besides the first survey in June 2006 which aimed at assessing the state of the mounds and the archaeological landscape, other visits to the site were made between 2008 to 2012 (Kankpeyeng and Nkumba 2008a: 2, 2008b: 95, 2009: 195; Kankpeyeng *et al.* 2011, 2013). Current

archaeological investigations have been undertaken by staff and students of the Department of Archaeology and Heritage Studies at Yikpabongo Central (Asamoah-Mensah 2012), Zoboku (Dartey *in preparation*), Yikpabongo Central (Kankpeyeng and Nkumba 2008b), Tando-Fagusa (Nkumba 2015) and Tando (Zakari 2010).

Material culture uncovered during recent archaeological investigation is not strikingly different from that of earlier excavations (Kankpeyeng *et al.* 2013). The excavation of three stone circle mounds and three test pits have led to the recovery of ceramic sherds, complete pots, grinding stones and querns, terracotta figurines, metals and glass fragments (Kankpeyeng and Nkumba 2008a, 2008b: 97, 2009: 196; Kankpeyeng *et al.* 2011, 2013). Metallic

objects recovered during these excavations included bracelets and a razor blade. Terracotta figurines recovered during recent research are similar to the types excavated in 1985; zoomorphic and anthropomorphic figurines (Kankpeyeng and Nkumbaan 2009: 196). Excavation of house mounds have led to the recovery of local ceramic sherds, metal objects such as bracelets and anklet, ceramic disc, floors, postholes, human burials covered with large pieces of ceramic sherds and lithics (Asamoah-Mensah 2012; Nkumbaan 2015).

### Interpretations of Komaland Material Culture

The archaeological interpretation of Komaland material culture, in both earlier and current archaeological investigations, has been based on analogical reasoning. As noted by Tim Ingold “*the problem for archaeologists, it appears, is that they are always too late...*” (David and Kramer 2001: 1). Archaeologists therefore have to use their contemporary knowledge about living communities and knowledge that have been accumulated through generations, whether written or oral, in understanding past societies. Analogical inferences, therefore, are the bases for most archaeological interpretation (David and Kramer 2001: 1). Ethnoarchaeology deals with the study of contemporary cultures from an archaeological point of view. Archaeologists try to understand living cultures to help in the interpretation of material culture recovery of past societies. The closer the link between the archaeological past and its ethnographic analogue, the more likely the analogical inference will result in a positive and relatively easier interpretation while the *vice versa* is also true. For instance, material culture that was recovered from excavation at Tengzug, a Tallensi community in the Upper East Region of Ghana, has a direct connection with the living community (Eyifa 2007; Insoll and MacLean 2008).

Unlike Tengzug archaeological site, direct correlation between the cultures of current communities occupying the Komaland archaeological region and the ancient culture of Komaland has not been established. Anquandah (1998: 111) states that:

*In the case of Komaland, the relationship to the authors of the Stone Circle Complex, through a few isolated cultural traits, do not appear to have direct ethnographic linkages with the Stone Circle Complex.*

The Komaland culture however has been closely linked to the Balsa culture of the Northern part of Ghana (Anquandah 1998: 113).

Generally, the mounds of Komaland have been interpreted from the 1985 field work as tombs or burial mounds (Anquandah 1986, 1987, 1998). Although all mounds were described as burial mounds, there was a distinction between them. One type of mound was described to be akin to the megalithic culture of Senegal and Gambia (which have been described as stone circles by Palmer 1939) and the other type comparable to the earthen mounds of Tondidarou in Mali, Senegal and Tchad (Anquandah 1986: 11, 1998: 77). From the above distinction between stone circle mounds, it seems two main categories of mounds were noticed. It has been proposed that the mound that was excavated in 1985 at Yikpabongo Bakodeng is probably a house mound (Kankpeyeng, personal communication).

Current archaeological investigation and a re-examination of the Komaland mounds have led to the categorization of Komaland mounds into stone circles and house mounds. This investigation has also prompted a reinterpretation of the stone circle mounds as probably being associated with religious rituals and shrines and house mounds as remains of houses (Kankpeyeng and Nkumbaan 2009: 194).

### Dating of the Komaland Sites

Archaeological data are structured in three dimensions: time, space and behaviour (Sharer and Ashmore 1993). An archaeological investigation that gives results on the distribution and behavioural patterns without chronological values of the archaeological landscape leaves much to tell the reader. The research on Komaland archaeology has provided

some dates. The first dating within the region was obtained from Yikpabongo and dates to AD 1200 and 1800 (Anquandah 1998: 82). Anquandah made a frantic effort to provide accurate dates, but had to resort to dates based on samples that were inappropriately collected. As he noted (Anquandah 1998: 79):

*For the purpose of securing absolute age estimate for the complex, a number of archaeologically-excavated samples taken from tombs...were dispatched...for thermoluminescence determination. Unfortunately, the package went astray in transit”.*

Thermoluminescence (TL) dates were obtained from terracotta collected from the surface of the archaeological landscape and from terracotta in private collections and in brochures. This placed the site between 1200 and 1800 AD.

TL dates have limitations emanating from their inaccuracy (Renfrew and Bahn 1991). It is therefore advisable to combine TL dating with other forms of chronometric dating methods if available in order to obtain the chronology of a site (Renfrew and Bahn 1991). Secondly, the sample collected from Komaland for TL dating may not have produced the best TL result because they were collected from the surface. TL dating as a method is used to determine the time that has elapsed since selected samples were last exposed to sunlight or were last heated (Günes and Meriç 2011). Khasswneh *et al.* (2011), working on the site of Tell AL-Husn in Northern Jordan, collected pottery samples for dating under a reduced red light condition and packed them in opaque bags that did not allow light transmission. This is to ensure that no or minimum amounts of light get to the sample that is to be dated. Research by Wintle and Hunley (1980) revealed that sunlight reduces any previously accumulated TL. Thus the exposure of terra cotta figurines to sunlight for some time before being collected for dating may reduce the residual value of TL, hence arriving at an inaccurate date.

Recent archaeological investigation has provided a different range of dates. Both thermoluminescence (TL) and radiocarbon dates have been ob-

tained to establish a chronology for the site. TL dates of ceramic sherds from Yikpabongo placed the site to around the 10<sup>th</sup> century AD while four charcoal samples and one bone sample collected from Tando-Fagusa for Carbon-14 dating placed the site from the 6<sup>th</sup> to 10<sup>th</sup> century AD (Kankpeyeng and Nkumbaan 2009: 200). A much earlier radiocarbon date of 5<sup>th</sup> to 7<sup>th</sup> century AD has been provided from a charcoal sample collected from central Yikpabongo (Asamoah-Mensah 2012: iv). Based on the reliability and accuracy of radiocarbon dating over TL dating, the ancient cultural complex could be placed within the 5<sup>th</sup> and 12<sup>th</sup> century from more than four 14C dates produced (Asamoah-Mensah 2012; Kankpeyeng and Nkumbaan, personal communication).

### Archaeological Reconnaissance Survey

A reconnaissance survey was conducted at Hambuikong in January and in July 2012. The survey provided both a better understanding of the size of the site and a more efficient method to obtain effective results within the time frame of the project. It was necessary to collect spatial data of the entire site with GPS, which is relatively faster, while the TS is used to collect geospatial data (spatial and attribute data) of a section of the site for detailed analysis. Geospatial analysis of the site revolved around the main archaeological features, stone circle and house mounds, while taking into consideration natural features that may have had cultural significance.

The importance of using TS over GPS lies in its precision and accuracy (Kamermans *et al.* 1993; McPherron 2004). TS can give the measurement of a location with a combined error of less than 5mm in all dimensions, X, Y and Z coordinates (McPherron 2004; Sisk 2010).

### TS and GPS Survey

TS and GPS surveys were initiated in July 2012 but proved unsuccessful. This was due to the dense vegetation cover that hindered clear visibility of surface configuration necessary for the identifica-

tion and classification of mounds into stone circle and house mounds.

Survey was conducted in December 2012 and January 2013, a period of the year marked by the dry season when the surface of the archaeological landscape was cleared through the unfortunate activity of bush burning. A datum was established and used at the first base station to begin the TS data collection. The base station was the point where the TS was fixed and from where measurements were taken. The base station was continually changed as the survey progressed. This procedure of changing base stations was adopted because all parts of the site could not be viewed from the first datum. In all, nine base stations, including the datum point, were established. Each of these base stations were, however, related to the first base station or datum.

To ensure that each mound is measured once, they were tagged with pink coloured tags. Tags were not used only for the purpose of easy visibility, but also to label the mounds. A coding system was used in labelling the mounds. Stone circle mounds were coded **S** with a digit while house mounds were labelled **H** with a digit. Data on the circumference as well as heights of mounds and the levels on landscape in general were collected with the TS.

## Results

The TS was used to collect data from an area coverage of 684mx520m mapping 24 stone circle mounds and 29 house mounds, while the GPS covered the whole site (800mx600m) mapping 30 stone circle mounds and 46 house mounds.

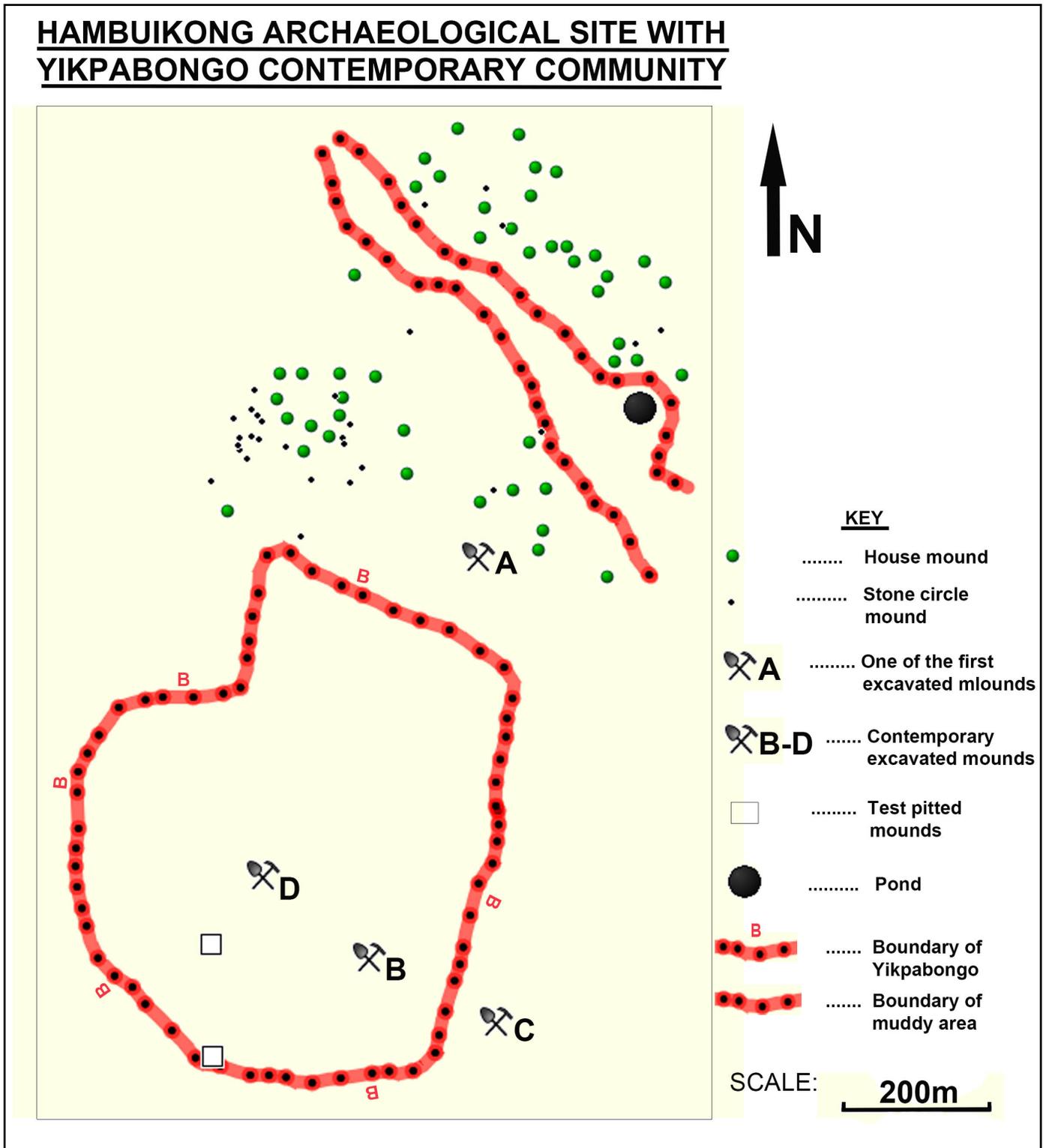
Observation of Figure 2 shows that the site (Hambuikong), is located to the north of the current Yikpabongo community. Boundaries of a muddy but dried stretch of land were mapped. The muddy stretch of Hambuikong was used as a reference line in the spatial analysis of features on the site. The northern half and southern half of the muddy area were used in the description of the location of features mapped on the site.

Stone circle mounds are highly concentrated to the southwest of the site (Figure 2). Out of a total of 30 stone circle mounds recorded, 22 were noted to be clustered to the southwest of the muddy stretch. Only six stone circle mounds were recorded at the northern half of the muddy stretch. Unlike stone circle mounds, house mounds are distributed evenly at the northern half and southern half of the muddy stretch (Figure 2). Twenty-two house mounds were counted at the south and 24 at the north. Attribute analysis of mounds based on the TS data collected indicated that most of the large stone circle and house mounds, in terms of their volume and area coverage, are located within the area with high concentration of stone circle mounds, thus the southwest of the muddy stretch.

Analysis of the cross section of the boundaries of the muddy stretch (Figures 3a and 3b) indicate a slope from the northwestern end of the stretch to the southeastern end. The northern boundary (Figure 3a) of the stretch slopes from an elevation of 187.2m from northwest to 178.8m to the southeast within a distance of 822m while the southern boundary slopes from an elevation of 184.4m from the northwest to 177.4m to the southeast within a distance of 824m.

Data collected from the TS made possible the delineation of some detailed information. The area coverage and volumes of mounds were known from the total station data. Volumes of mounds refer to the size of the mound as seen from above the surrounding ground level. Volumes of mounds as calculated based on the TS data, using the area coverage and height of the mounds, does not take into consideration the content of the mound beneath ground level. Mounds were categorised based on their volumes (Table 1).

Data from the TS enabled the generation of a 3D modeled view of Hambuikong archaeological landscape. The 3D model of the Hambuikong site shows the valley-like nature of the landscape. The base of this valley-like landscape, which slopes from the northwestern section to the southeastern section, is where the muddy stretch is located.



**Figure 2:** Map of Yikpabongo current community and Hambuikong archaeological site (data collected with GPS).

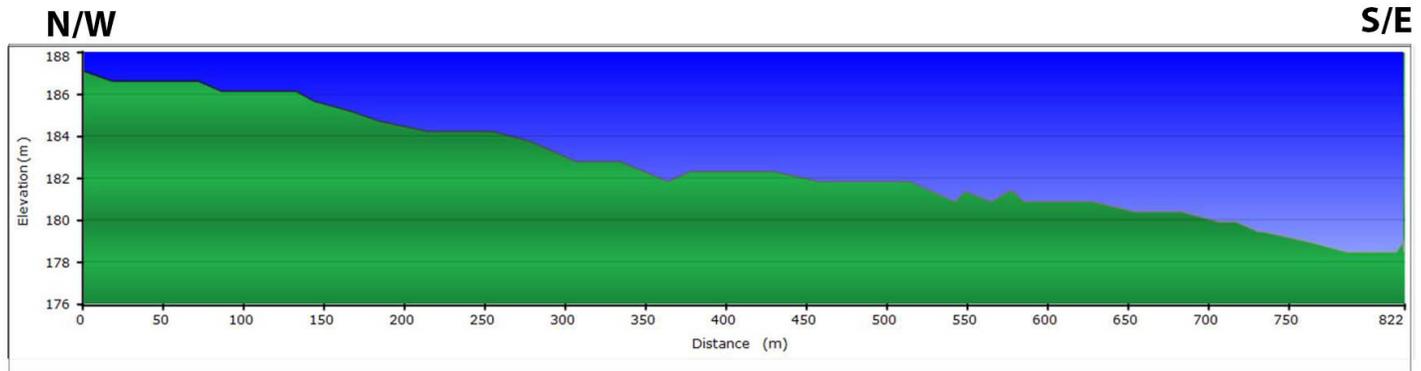


Figure 3a: Cross section of north boundary of muddy stretch.

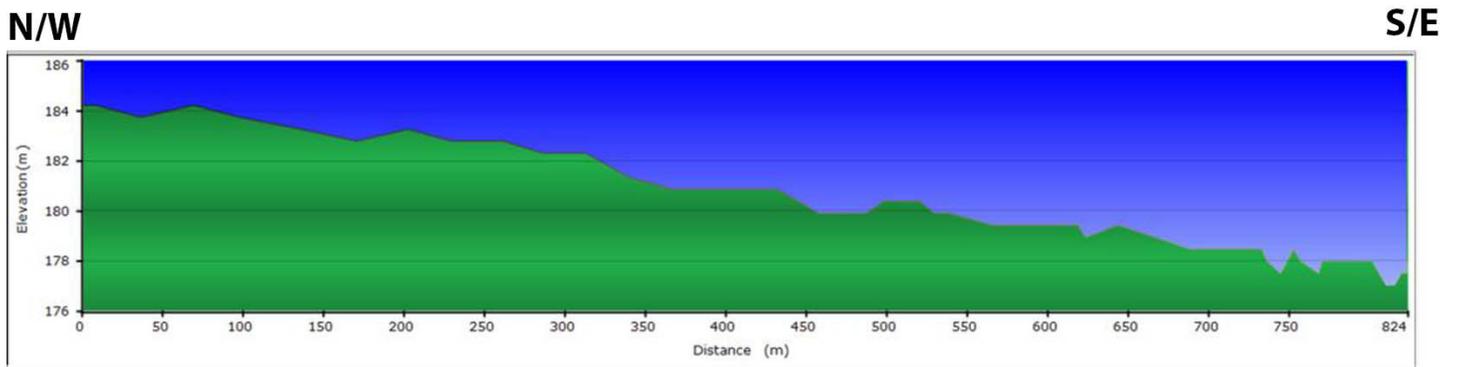


Figure 3b: Cross section of south boundary of muddy stretch.

<b>Category A (25 mounds) ----- Volume &lt; 100m<sup>3</sup></b>		<b>Total</b>
House mounds	H1, H5, H7, H8, H11	<b>5</b>
Stone circle mounds	S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, S17, S18, S19, S20, S23, S24	<b>20</b>
<b>Category B (15 mounds) ----- Volume 100m<sup>3</sup> – 500m<sup>3</sup></b>		
House mounds	H2, H6, H13, H16, H17, H18, H19, H20, H22, H23, H27, H28	<b>12</b>
Stone circle mounds	S1, S16, S22	<b>3</b>
<b>Category C (11 mounds) ----- 500m<sup>3</sup> – 1000m<sup>3</sup></b>		
House mounds	H3, H9, H10, H14, H15, H16, H19, H21, H24, H25	<b>10</b>
Stone circle mounds	S21	<b>1</b>
<b>Category D (2 mounds) ----- &gt; 1000m<sup>3</sup></b>		
House mounds	H4, H12	<b>2</b>
Stone circle mounds	-----	<b>---</b>

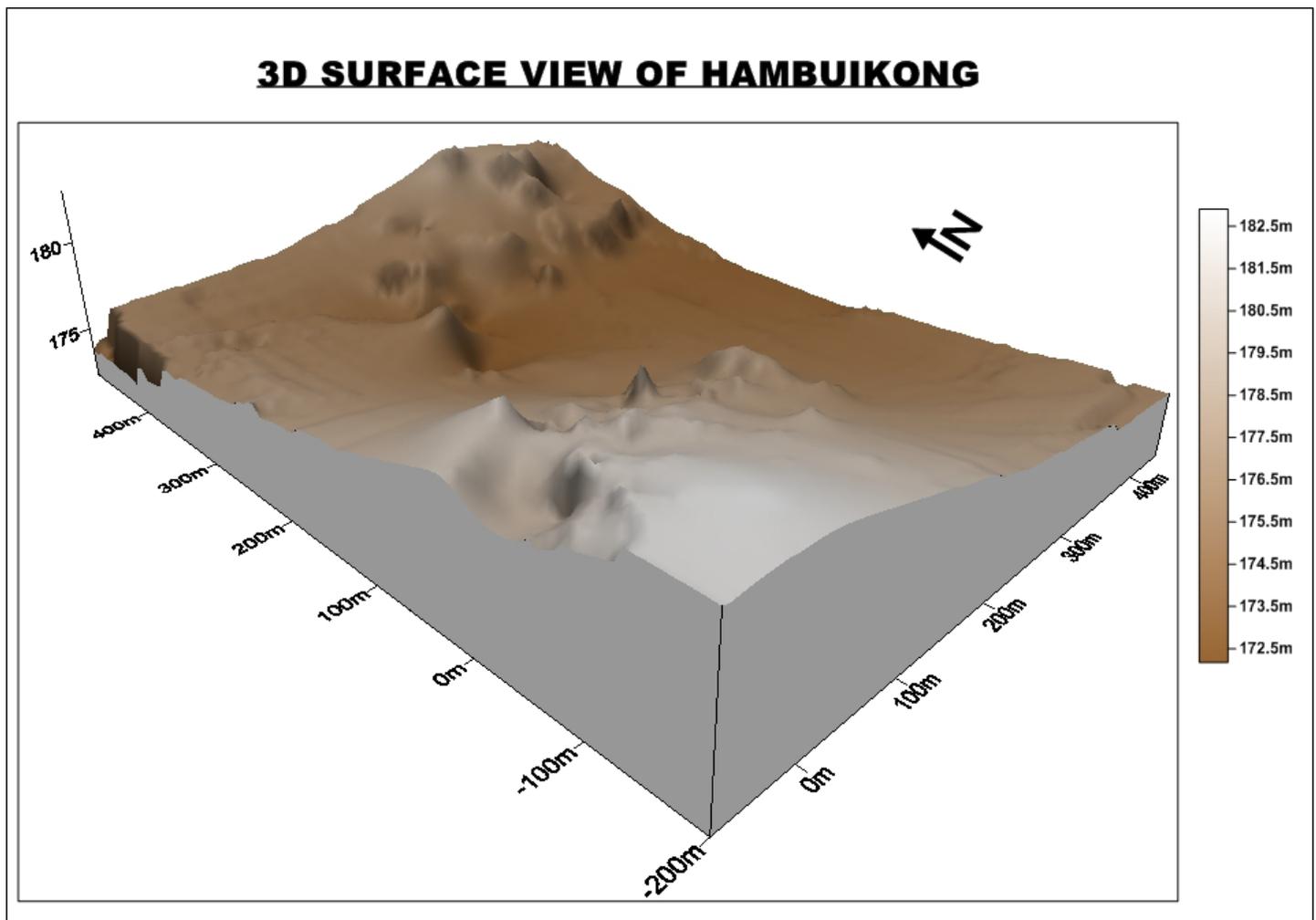
Table 1: Categories of mounds.

**Discussion and Conclusion**

The distribution of mounds along the muddy stretch indicates that the ancient community may have settled close to a water source. Beside the dried pond that was mapped, a recently dug pit within the course of the muddy stretch, which measured about 3m in diameter and less than 1m deep, was observed. This shallow pit, dug by the people of contemporary Yikpabongo community contained water for domestic use, even during the January field work that is marked by the dry season. A decline of rainfall pattern for the past 60 years in sub-Saharan Africa (Nicholson 1985: 1388-1389), West Africa (Le Barbe *et al.* 2002: 189) and Ghana (Owusu and Waylen 2009: 118-119) has been recorded. The availability of wa-

ter on the muddy stretch in present years of declined rainfall coupled with the evidence of sloping surface within the base of the valley-like landscape (Figure 4), indicates that this water source may have flowed in the past. It may have been an important source of water for domestic activities of the ancient Hambuikong settlement in the distance past.

Observation of large house mounds from TS data (in terms of both volume and area) to the south of the muddy stretch as compared to the north indicates that there was probably a higher concentration of population to the south than to the north of the muddy stretch. The high and nucleated concentration of stone circle mounds to the southwestern section of the site (22 out of a total of 30 stone



**Figure 4:** 3D surface view of Hambuikong archaeological landscape.

circle mounds) still remains a mystery which may be resolved through extensive excavations of sampled mounds within the site. I have the hypothesis that these highly concentrated stone circle mounds may have reflected communal use in terms of their function, while the rest of the stone circle mounds that are dispersed to the remaining section (north, northeast and southwest) of the site may be reflective of individual and family use. The huge house mounds coupled with the dense concentration of stone circle mounds at the southern part of the muddy stretch may signify a region comprising of people of high social authority as compared to the people of the northern half.

### Bibliography

Anquandah, J.

1986 Investigating the stone circle mound sites and art works of Komaland, N. Ghana. *Nyame Akuma* 27: 10-13.

1987 The stone circle sites of Komaland, Northern Ghana. *The African Archaeological Review*. 5: 171-180.

1998 *Koma-Bulsa: Its Arts and Archaeology*. Rome: Istituto Italiano Per L’Africa e L’Oriente.

Asamoah-Mensah, H.

2012 *Ceramic as Product of Technology and Art: A Case Study of Archaeological Remains at Yikpabongo*. MPhil thesis: University of Ghana.

David, N., and C. Kramer

2001 *Ethnoarchaeology in Action*. Cambridge University Press.

Eyifa, G.A.M.

2007 *House Construction and the Role of Women in Tongo Tenzug: An Ethnoarchaeological Study*. MPhil thesis: University of Ghana, Legon.

Günes, Ç., and N. Meriç

2011 Comparison of sample preparation techniques used in luminescence dating methods. *Çankaya University Journal of Science and Engineering* 8(1): 15-25.

Insoll, T., and R. MacLean

2008 Excavations and surveys in the Tongo Hills, Upper East Region, and Birifor, Upper West Region, Ghana. March-April 2008. A Preliminary Fieldwork Report. *Nyame Akuma* 69: 11-22.

Kamermans, H., M. Verbruggen and J.A. Schenk

1993 Who Will Make the Drawings. In J. Wilcock and K. Lockyear, editors, *Computer and Quantitative Methods in Archaeology*. Oxford: BAR International Series 598, pp 127-131.

Kankpeyeng, B.W., and S.N. Nkumbaan

2008a *Committee’s Report on State of Koma Sites, Northern Ghana*. Unpublished manuscript, University of Ghana, Legon.

2008b Rethinking the Stone Circle of Komaland. A Preliminary Report on the 2007/2008 Fieldwork at Yikpabongo, Northern Region, Ghana. In T. Insoll, editor, *Current Archaeological Research in Ghana*. BAR international Series 1847. Oxford: Archaeopress, 95-102.

- 2009 Ancient Shrines? New Insights on the Komaland Sites of Northern Ghana. In S. Magnavita, L. Koté, P. Breunig and O.A. Idé, editors, *Crossroads/Carrefour Sahel. Cultural and Technological Developments in First Millennium BC/AD West Africa. Journal of African Archaeology Monograph Series, Volume 2*. Frankfurt: Africa Magna Verlag, pp. 193-202.
- Kankpeyeng, B.W., S.N. Nkumbaan and T. Insoll
- 2011 Indigenous cosmology, art forms and past medicinal practices: towards an interpretation of Ancient Koma Land sites in northern Ghana. *Anthropology and Medicine* 18(2): 203-216.
- Kankpeyeng, B., N. Swanepoel, T. Insoll, N. Nkumbaan, S. Amartey and M. Saako
- 2013 Insight into past ritual practices at Yikpabongo Northern Region, Ghana. *African Archaeological Review* 30(4): 475-499.
- Khasswneh, S., Z. Al-Muheisen and R. Abd-Allah
- 2011 Thermoluminescence dating of pottery objects from Tell All-Husn, northern Jordan. *Mediterranean Archaeology and Archaeometry* 11(1): 41-49.
- Le Barbe, L., T. Lebel and D. Tapsoba
- 2002 Rainfall variability in West Africa during the years 1950-90. *Journal of Climate* 15(2): 187-202.
- McPherron, S.J.P.
- 2004 Artifact orientations and site formation processes from total station proveniences. *Journal of Archaeological Science* 32: 1003-1014.
- Nicholson, S.E.
- 1985 Sub-Saharan rainfall. *Journal of Climate and Applied Meteorology* 24: 1388-1391.
- Nkumbaan, S.N.
- 2015 *Archaeological Investigations at Tando-Fagusa, Komaland, Northern Ghana*. PhD dissertation: University of Ghana.
- Owusu, K., and P. Waylen
- 2009 Trends in spatio-temporal variability in annual rainfall in Ghana (1951-2000). *Weather* 64(5): 115-120.
- Palmer, H.R.
- 1939 Stone circles in Gambia Valley. *The Journal of Royal Anthropological Institute of Great Britain and Ireland* 69(2): 273-283.
- Renfrew, C., and P. Bahn
- 1991 *Archaeology: Theories, Methods, and Practice*. London: Thames and Hudson.
- Sharer, J.R., and W. Ashmore
- 1993 *Archaeology: Discovering Our Past*. Mountain View CA: Mayfield Publishing Company.

Sisk, M.L.

2010 Three-dimensional Gigapan views of archaeological sites and artifacts: examples from the paleolithic of southwest France. In *Fine International Conference on Gigapixel Imaging for Science*. Carnegie Mellon University, pp. 20: 1-8. (<https://repository.cmu.edu/gigapixel/20>).

Wintle, A.G., and D.S. Huntley

1980 Thermoluminescence dating of ocean sediments. *Canadian Journal of Earth Sciences* 17(3): 384-360.

Zakari, J.M.

2010 *Archaeological Investigation of Tando, Northern Ghana*. MPhil thesis: University of Ghana.