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## First Results of Archaeological Investigations Conducted at Laloi East, Greater Accra Region, Ghana

### Abstract

*This paper presents preliminary results from archaeological excavations conducted at Laloi East, a previously unknown prehistoric coastal settlement located in the Greater Accra Region of Ghana. The settlers of Laloi East subsisted primarily on animal husbandry, crop cultivation, hunting and fishing and molluscs' exploitation. It also appears that exchange, involving shellfish for pottery and other products may have been undertaken with neighbouring coastal and inland populations, and was probably central to facilitation of the local economy during the occupation period. The archaeological evidence revealed strong economic and cultural affinities between the settlers of Laloi East and Gao Lagoon, located almost two kilometers west of Laloi East. The research however could not establish if the current Dangme occupants of the area were progenitors of the Laloi East settlers.*

*Keywords: Cultural lifeways, Excavation, material remains, subsistence, prehistoric populations, Pottery*

## Erste Ergebnisse archäologischer Untersuchungen in Laloi East, Greater Accra Region, Ghana

### Zusammenfassung

*Dieser Beitrag präsentiert vorläufige Ergebnisse archäologischer Ausgrabungen in Laloi East, einer bisher unbekannten prähistorischen Küstensiedlung in der Greater Accra Region von Ghana. Die Siedler von Laloi East lebten vor allem von der Viehzucht, dem Pflanzenanbau, der Jagd und der Fischerei. Es scheint, dass darüber hinaus der Tausch von Schalentieren gegen Töpferwaren und andere Produkte mit den benachbarten Küsten- und Binnenpopulationen eine Rolle spielte und wahrscheinlich während der Besatzungszeit für die Unterstützung der lokalen Wirtschaft von zentraler Bedeutung war. Die archäologischen Befunde zeigen starke wirtschaftliche und kulturelle Affinitäten zwischen den Siedlern von Laloi East und Gao Lagoon, fast zwei Kilometer westlich von Laloi East. Die Forschung konnte jedoch nicht feststellen, ob die aktuellen Dangme-Bewohner des Gebiets Vorfahren der Laloi East-Siedler waren.*

*Schlüsselwörter: Kulturelle Lebenswege, Ausgrabungen, materielle Überreste, Subsistenz, prähistorische Bevölkerung, Töpferei*

## Introduction

This paper presents results of archaeological investigations conducted at Laloi East, an abandoned settlement located along the east bank of the Laloi Lagoon. The site is sandwiched between Kpone and Prampram which lie approximately 0.9km west and 0.7km east respectively of it. Kpoete, a small fishing hamlet also lies about 500m southeast of the site (Fig. 1). The site first came to my attention in the summer of 2015 when I discovered veritable quantities of locally manufactured pottery in sand I had purchased from a sand contractor to undertake repair works on my house. Until its discovery, the site had no name and was unknown, even to residents of the above named towns though they live close-by. The designation Laloi East was thus, coined by the writer to name, identify and facilitate future referencing of the site. The selection and designation of the name Laloi East was informed by the site's geographical location, along the east bank of the Laloi Lagoon.

The research had two objectives. The first was to demarcate and map the site. This was achieved by exploring the site to establish its geographical parameters after which a Global Positioning System (G. P. S.) was used to map it (Fig. 4). The second was to recover material remains to shed light on past socio-economic and cultural lifeways of the people who occupied it. This was achieved by conducting surface surveys and excavation of two units at different locations within the site. To derive additional information, the writer

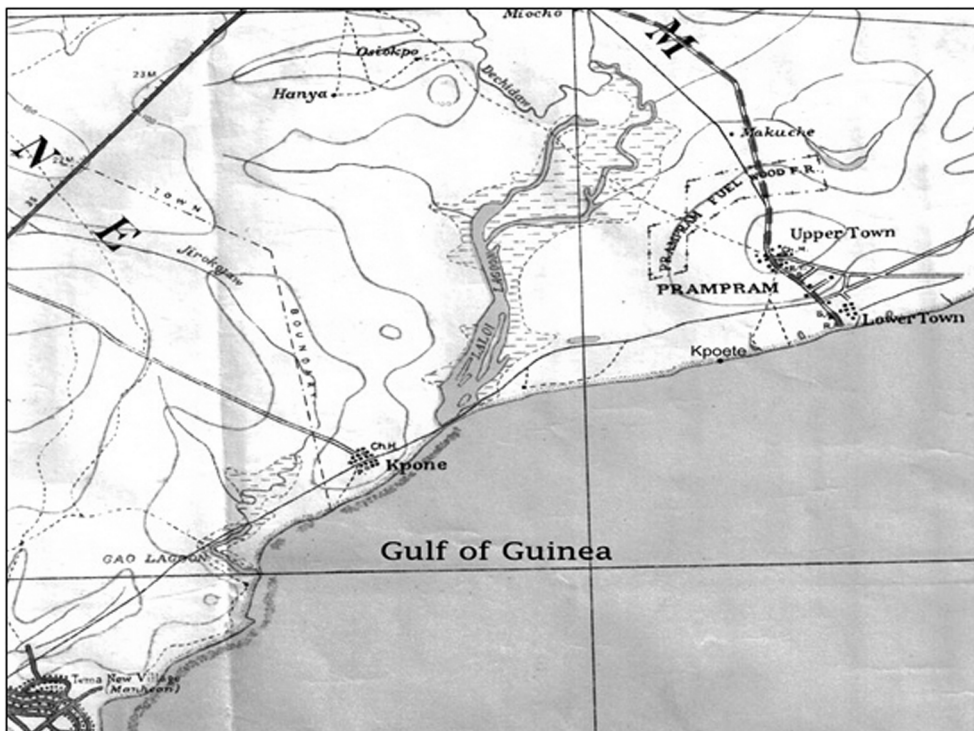


Fig. 1. Map of the research area showing Kpone, the Laloi Lagoon, Kpoete and Prampram (Ghana Survey Department 2014. Prampram West. Sheet No. 63).

also consulted and interviewed clan heads and residents who live close by at Kpone, Kpoete and Prampram to acquire information about the site.

Laloi East forms part of the low lying Eastern Coastal Plain of Ghana. This belt trends in a south-southwest to north-northeast direction before it enters Togo and has general altitude of 0–132 m above sea level. The underlying geology is the *Acid Dahomeyan* formation which has an average width of approximately 27 km from north to south. The *Acid Dahomeyan* belt constitutes part of the larger *Dahomeyan System*, estimated to cover a total area of about 7,000 km<sup>2</sup>. The major rocks forming this system are composed of quartz, feldspar, garnet and epidote. There are also substantial quantities of mica and hornblende (Kesse 1985, 33; 37). The overlying soils are largely clayey and generally do not easily hold water. They are thus, unsuitable for large scale crop farming except along river banks or by irrigation.

## A brief historical perspective of the research area

The research area and its neighbourhoods are currently occupied by the coastal Dangme (also spelt Dangbe). There are other Dangme groups settled inland, along the foothills of the Akwapim-Togo Range and at Agotime, Se Zogbedzi (near Lome), and in parts of Benin (Mate Korle 1952, 33). The language of the Dangme (also called Dangbe) has close linguistic/cultural affiliation with the Ga language. Historical linguistic research by Kropp-Dakubu (1976, 46) indicates that both languages are branches of the larger and archaic Volta-Comoe language group. According to renowned linguist Colin Painter (1966), the Dangme and Ga languages diverged from a parent proto-Ga-Dangme language stock sometime in the eighth century A. D. (cf. Fig. 2).

Early European records documented during the Atlantic contact era referred to the Dangme variously as „*Adampe*“, „*Dampe*“ and „*Alampi*“ (Bosman 1705, 326–327). These records also referred to Kpone and Prampram which border Laloi East as „*Ponnie*“ and „*Pompena*“ respectively.<sup>1</sup>

Oral traditions of the Dangme intimate that they migrated from Togo, Dahomey (now Benin) and Yoruba-land (Anquandah 1982, 113). The issue of migrating from external sources is unresolved and there is currently no concurrence among scholars. Ethno-historical studies by Anquandah (1985, 18–19) indicates that two related Dangme groups: *Se* (Shai) and *Le* (La) inhabited the Eastern Coastal belt in the past. The former, comprised about 15 villages and occupied an area about 9 km<sup>2</sup> in the Shai escarpment. The *Le* group occupied several settlements measuring approximately 1.5 km × 0.7 km in the open plains which lie below the escarpment.

Oral traditional data further assert that Dangme states in the past were theocracies headed by traditional priests called *Wulomei* (Field 1962, 79; Anquandah 1982, 115–116). Some major deities of Dangme-land include *Nadu*, *Gao*, *Asabli*, *Bone*, *Aya*, *Afiye*, *Tsawe*, and *Dinkra*. The *Wulomo* wielded political control over all lineage groups and was also the custodian of all lineage gods in Dangme-land. According to these narratives, intensive cultural exchanges between the Dangme and some inland populations, particularly

1 de Marees 1601; d'Anville 1729; Bosman 1705; Barbot 1732; Meredith 1812.

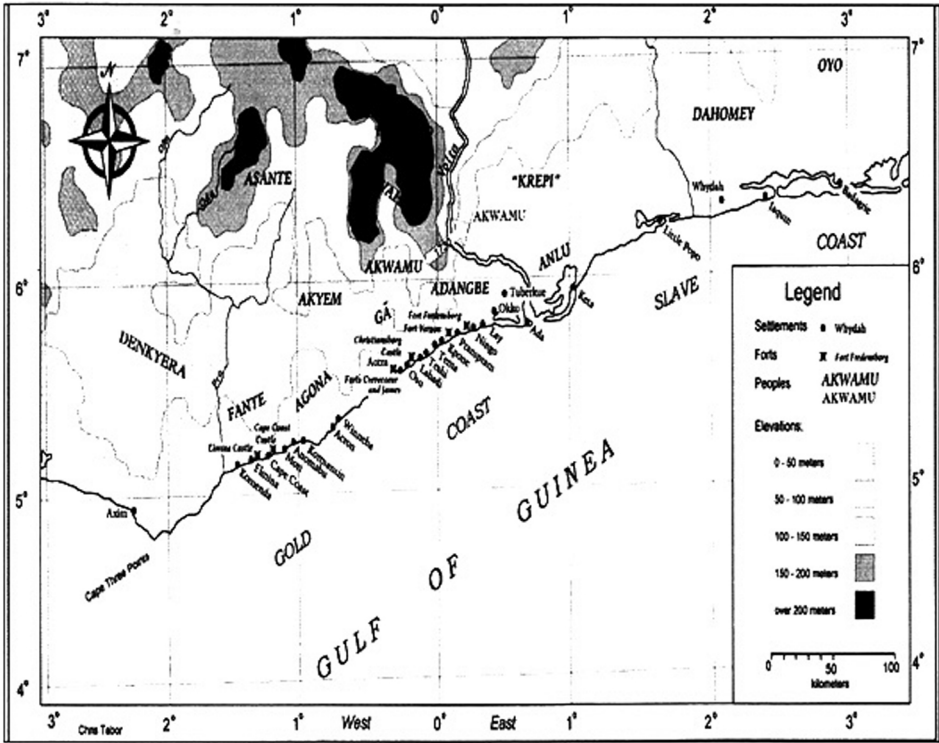


Fig. 2. Map of the research area during the Atlantic contact period (Source: Ludewig Ferdinand Romer, A Reliable Account of the Coast of Guinea 1760).

the Guan and Akan led to their being introduced to some non-Dangme „socio-political cultural traits such as the stool, drum, king-carrying in palanquins and Akan song types like *Kpanlogo*, *Siolele*, *Adowa* and *Tumatu*“ (Anquandah 1982, 125).

Historical sources<sup>2</sup> and archaeological evidence (Anquandah 1979; 1982; Biveridge 2005) indicate that crop farming, off-shore and on-shore fishing, shellfish exploitation and animal husbandry constituted the economic mainstays of early proto Dangme groups and the coastal Dangme in the past. Field studies by Anquandah (1982, 19) at some ancient abandoned and derelict Dangme settlements like Ladoku, Wodoku and Osudoku for example, indicated that proto-Dangme communities subsisted on an agricultural economy, based on the cultivation of millet (*nmaa*) and yam (*hie*), evidenced by the recovery of lithic devices like querns, mullers and grinding stones believed to have been utilized as food processing equipments during the period. The recovery of iron slag at upper stratigraphy levels at these sites also suggests that the Dangme later acquired the technological know-how of smelting iron and forging iron tools to facilitate the exploitation of natural resources in their biota.

2 Pacheco Pereira 1967; Meredith 1812; de Marees 1601; Bosman 1705; Barbot 1732; van Dantzig 1979.

Excavations by Anquandah at Kpone, Ladoku, Sega, Cherekecherete and Shai Hills (all Dangme communities within a twenty kilometer radius of Laloi East) also indicate that the Dangme had an extant tradition of potting and exploited clay resources of the area to manufacture a wide variety of pottery to undertake different economic and social endeavours. Anquandah's research revealed that ancient Shai potters (renowned for their mastery craftsmanship in pottery manufacture) also exported wide varieties of pottery „profusely decorated with comb stamping, roulette impressions, grooves and high relief patterns“ to several Ga and Akan states on their south and north respectively during the pre-Atlantic contact period through to the post Atlantic contact period. These vessels were also characterized by coating with red hematite (red slipping) and „smoke glazing“ (smudging) (Anquandah 1982, 115; 118–119). Dangme vessels were also elegantly embossed with the „rising sun motif“, believed to be the trade mark of ancient Dangme potters (Anquandah 1993, 648). Some early coastal polities known to have imported Dangme vessels include Kpone, Ningo, Kpone West, Sega and Prampram (Anquandah 1979, 23; Anquandah 1985, 21; Biveridge 2005, 134). Except for iron working, all of the above vocations are still very important to their economic well-being and constitute the major lynch pins of the local economy.

Studies by the renowned English anthropologist, Margaret Field who in the early 1930's documented aspects of extant traditional religious and ethno-medicinal practices of various Ga-Dangme populations inhabiting the Eastern Coastal Plain indicated that they were well acquainted and knowledgeable about the healing and nutritional properties of several plants in their environment. Field (1962, 46) noted for example that:

„A great many ordinary bush people – farmers, hunters, old women and others – have a great knowledge of the ordinary pharmaceutical properties of herbs. Indeed, if a European were making a study of these herbs which, from the European point of view, are valuable, he would better to collect the recipes of ordinary people than of medicine men. The common peoples' use of herbs is always along tried and tested lines. They know the *sese* root will dull pain and induce sleep as they know that boiled yam and meat soup will cure hunger and restore strength“.

Practicing traditional birth attendants and medical practitioners at Kpone and Prampram have excellent working knowledge of herbal medicines and are able to treat several physical ailments including complications related to pregnancy and post-natal problems.

Several early European records assert that indigenous Dangme populations, especially the coastal Dangme also had extensive commercial relations with Europeans. To gain a foothold in the region and secure their trade with the indigenes, various European traders on behalf of their national charter companies built several forts and trade lodges on the Gold Coast (now Ghana). The Dutch for example, erected a trade post at Kpone in 1701. The Danes also built a fort there in the early eighteenth century. The English at about the same time built a trade post at Old Ningo (van Dantzig 1978, 90). The structural ruins of Fort Fredersborg (1734) built at Old Ningo, Fort Vernon (1745) built at Prampram, and the Dutch trades post at Kpone are some vestiges attesting to past Euro-Dangme socio-commercial interactions.

## Review of some historical archaeology investigations in Ghana's Eastern Coastal Plain

The Eastern Coastal Plains of Ghana has since the 1970's been the focus of extensive ethnoarchaeological investigations. These studies indicated that large parts of it were inhabited by prehistoric population groups during the „Late Stone Age“, and two related Dangme groups – *Se* (Shai) and *Le* (La) during the „Iron Age“ (Anquandah 1979; 1982). One such study which involved the excavation of two shell middens at Gao Lagoon by Joan Dombrowski in 1976 retrieved large quantities of shells belonging to various molluscs' species, potsherds, and „Late Stone Age“ micro-lithic tools. Dombrowski (1977a, 30) obtained two radiocarbon dates of  $4180 \pm 140$  B. P. and  $1260 \pm 90$  B. P. for the site. Based on the above evidence, she concluded in her preliminary report, published in *Nyame Akuma* that Gao Lagoon and its neighbourhoods was occupied during the „Late Stone Age“ by a pottery using community who exploited marine and freshwater resources of the area for their subsistence (Dombrowski 1977a, 31).

Kpone West which lies approximately 760m south of the Gao Lagoon site was in 1977 the focus of another archaeological investigation led by Tim Garrard and Joan Dombrowski. The two researchers were assisted by students of the Department of Archaeology, University of Ghana, Legon. The team opened one test pit and recovered several artifacts and ecofacts. They comprised over 400 potsherds which were characterized by grooved and incised decorations, a bead polisher, grinding stones, molluscs, mammalian and *Aves* remains. Other finds retrieved included a pottery disc, one piece of iron slag, one worked bone awl, stone and shell beads, several carbonized palm nut shells and one cowrie shell. Two radiocarbon dates of  $150 \pm 75$  A. D. and  $690 \pm 90$  A. D. processed from charcoal and shell respectively were obtained for the Kpone West site (Dombrowski 1977b, 32). According to the researchers, Kpone West was inhabited during the „Iron Age“ by a relatively sophisticated society which exploited/subsisted on various marine/freshwater resources of the area. According to the two researchers, the recovery of decorated ornaments (stone and shell beads) suggests the settlers also placed some value on body ornamentation and aesthetics.

## The archaeological investigation at Laloi East

The archaeological investigation was undertaken in three stages. Stage 1 began with five surface surveys, all undertaken on foot at different times at the site. I was assisted by Nii Oglietse, a subsistence farmer who has for over thirty years lived in a small wooden shack on the site and cultivated food crops inside portions of it. A recluse by nature, his in-depth knowledge of the site proved very helpful and I am most grateful to him.

Except for a few scattered patches of grasses interspersed with immature neem trees, ground cover at Laloi East was almost bereft of vegetation. According to Tetteh Appiah (personal communication 21 August, 2015), an elder of the *Appia We* clan at Kpone, and Nii Oglietse (personal communication 22 August, 2015), Laloi East was heavily forested, and interspersed with several varieties of luxuriant shrubs and trees some forty years ago. They named baobab (*Adansonia digitata*), coconut (*cocous nucifera*), neem (*Azadirachia*



Fig. 3. One of several shell middens littering the banks of the Laloi Lagoon (Photo: Fritz Biveridge).

*indica*) and acacia (*Acacia sp.*) as some major tree species which grew there. However, much of this primary vegetation cover has been decimated for fuel wood to smoke fish which is the main vocation of the womenfolk of Kpone and Prampram. Tree felling has also facilitated erosion of some of the top soil.

The surface survey also revealed that Laloi East had been extensively disturbed by activities of farmers and sand winners who for years had been collecting sand from the site and supplying to estate developers at Prampram, Ningo, Tema and Kpone. I noted twenty three very large gaping hollows, the result of sand wining inside portions of the settlement. The largest measured 13.20m across its horizontal axis and extended 1m. below ground surface exposing the underlying dark grey coloured clay base which was interspersed with granite boulders. According to Oglietse, the hollows become filled with rainwater after heavy downpours.

The activities of sand winners can be cited as the single most important factor which has facilitated the obliteration of much of the settlement's plan details. Further north and west of the site, estate developers are fast encroaching upon the settlement and indications are that at this current pace of sand wining and estate development, the entire settlement will be completely obliterated by the next two years. Except for a few places along the north-east bank of the Laloi Lagoon which appeared to be undisturbed, the entire site, especially the areas north and west of the settlement were the most affected by activities of the sand winners. Several middens located along the banks of the lagoon had also spread out and merged with nearby ones (Fig. 3), while rectangular granite blocks which I believe might have been utilized as house foundations in the past have been removed *in-situ* by farmers cultivating crops in the area and piled outside the settlement to increase available farm acreage.

Surface finds were dominated by locally manufactured pottery, grinding stones, molluscs' shells, stone blocks, bones and querns. Littering the banks of the Laloi Lagoon,

especially to the north and east were also several piles of calcified shell middens. Some stood over 1 m high above ground level and also contained veritable quantities of potsherds. In between the middens, on the ground surface and within mangrove swamps along the banks of the lagoon could also be found smaller scatters of molluscs' remains and potsherds.

Another undisturbed area located northeast of the site was a thick shrubbery grove which appeared to have housed a shrine in the past. Unlike the area bordering it, which had been cropped with vegetables, the disused shrine was deserted and appeared to have been abandoned many years ago. Six fragments of dark green imported alcoholic beverage bottles, bones, three unbroken pots and several potsherds constituted the only material remains littering this shrine. All respondents intimated that they had seen or heard about the shrine but were unable to provide its name. They appeared fearful of the place and would not be persuaded to come near or inside it.

Except for molluscs shells, the quantum, variety, and bulk of material remains recovered during the surface survey was of abysmally poor quality and scanty compared to other nearby abandoned archaeological sites like Kpone West, (Dombrowski 1977a), Gao Lagoon (Davies 1967; Dombrowski 1977a; 1977b), Adwuku (Anquandah 1996), Ladoku (Anquandah 1985) and Sega (Biveridge 2005). All of the above named settlements lie within a thirty two kilometer radius of Laloi East. Table 1 shows the various artifacts and ecofacts recovered during the surface survey at Laloi East as well as their quanta. Molluscs' remains have been designated unaccountable in the table because they were too numerous to be counted.

Tab. 1: Table showing finds discovered/recovered during the surface survey at Laloi East and their quantum

	Types of cultural materials	Total count
1	Local pottery	27
2	Grinding stone	2
3	Querns	3
4	Molluscs shells	uncountable
5	Bones	46
6	Granite stone blocks	32
7	Fragments of glass	6

Stage 2 involved identifying and delineating the boundaries of the ancient occupation area of Laloi East. An occupation area is defined as the settled area within an archaeological site which contain surface artifact scatter, while site boundaries are defined as areas bordering the occupation area with no artifact scatter. The boundaries of Laloi East were marked with stakes tied with red cloth at 3 m intervals to ensure only areas inside the demarcated boundary were covered during the delineation/mapping exercise.

This stage of the investigation also involved demarcating, mapping and measuring the entire area (constituting the site's boundary) using a G. P. S. A total distance of 748.1 m was covered. Fig. 4 puts the estimated size of the settlement at approximately 4.1 hectares.



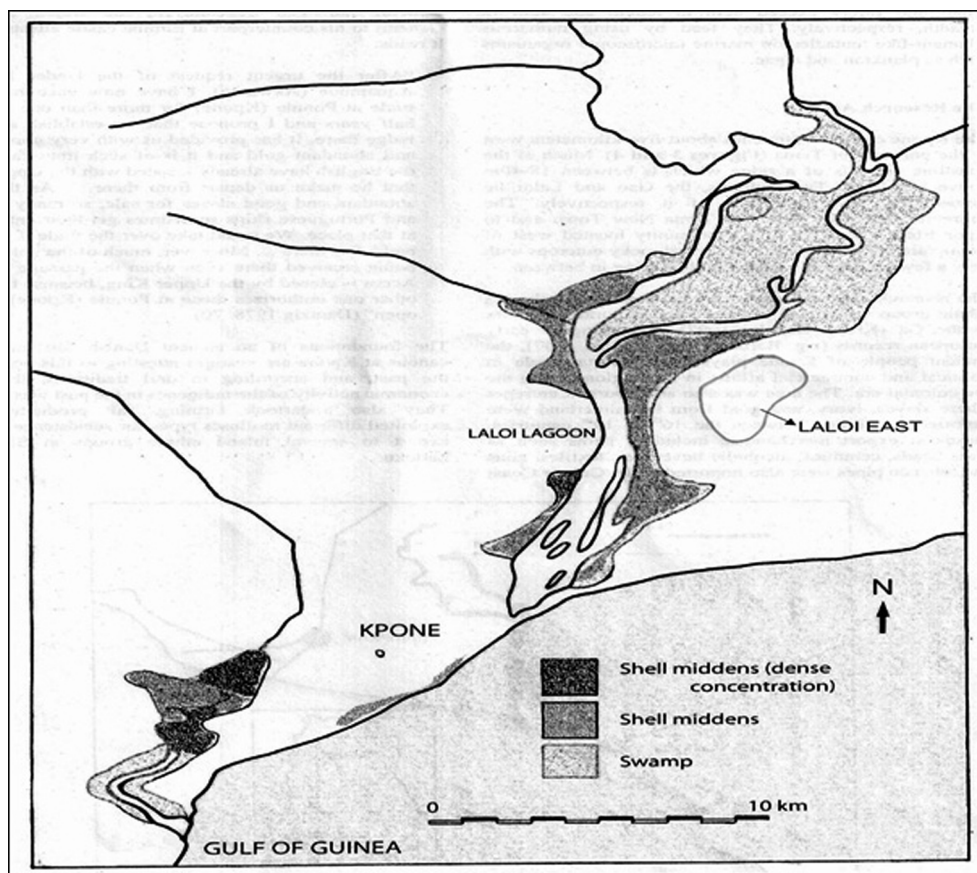


Fig. 4. Map showing the demarcated ancient site of Laloi East and location of shell middens (Source: Fritz Biveridge).

This area is quite expansive and does suggest that population levels during the occupation period may have been significant.

The excavation of two units, designated Units 1 and 2 at different locations, constituted stage 3 of the archaeological investigation (cf. tables 2–4). Unit 1 was located 21 m northeast of the Laloi Lagoon. It measured 1.5 m × 1.5 m and the sterile level was 120 cm below ground surface. Unit 2 was located 27 m northwest of the Laloi Lagoon. It measured 1.5 m × 1.5 m and the sterile level was 83 cm below ground surface. An arbitrary level of 20 cm was used to control vertical provenience of both units. A 4<sup>2</sup> mm mesh was used to sieve/screen excavated soil and soil colours were determined by use of the *Munsell Soil Color Charts*.

Tab. 2: Total count of artifacts retrieved from Unit 1.

Name of cultural material retrieved	Stratigraphy Level/count						
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Total
Grinding stone	–	1	–	–	–	–	1
Bones	2	6	2	6	3	1	20
Locally manufactured pottery	5	12	9	13	4	9	52
Querns	–	–	1	–	–	–	1
Molluscs remains	23	16	11	9	9	4	72

Tab. 3: Total count of artifacts retrieved from Unit 2.

Name of cultural material retrieved	Stratigraphy Level/count					
	Level 1	Level 2	Level 3	Level 4	Level 5	Total
Grinding stone	–	–	1	–	–	1
Bones	–	6	9	5	2	22
Locally manufactured pottery	9	7	13	9	2	40
Querns	–	1	1	–	–	2
Molluscs remains	7	21	6	4	3	41

## Description of the stratigraphy of Units 1 and 2

Three natural stratigraphy levels were discerned at Units 1 and 2. The differentiations were based on soil type, colour and texture and are described below. At Unit 1, the upper part of Level 1, measuring 9cm from ground surface was characterized by dark loose humus (7.5R 3/1). The lower part of Level 1 (9–20 cm) which merged with Level 2 was composed of light grey humus (7.5R 5/1). The soils of Level 1 were mildly wet and contained rootlets of grass and decomposing leaves. The stratigraphy of Levels 2, 3 and 4 (20–80 cm) comprised a mix of loose light brown laterite (10R 4/2), few fragments of molluscs shells and several aggregations of angular granite stones of no definite size or shape evenly spread out in the soil. The stratigraphy of Levels 5 and 6 (100–120 cm) was composed of hard almost compacted brown laterite soil (10R 4/2). These layers also contained substantial quantities of granite and gneiss blocks and boulders embedded in the soil. The exterior colouration of the granite blocks was similar to those described above at Levels 2, 3 and 4. A patch of charcoal measuring approximately 1.4 cm (width) × 9 cm

Tab. 4: Table showing faunal species, genus, name of bone part, the unit, stratigraphy level from where they were recovered, and their quantum (Note: Pisces remains were too fragmented to be identified. They were thus designated non diagnostic).

Unit 1	Stratigraphy level (cm)	Name of Body part / count	Mam-mal (species type)	Aves (species type)	Pisces (species type) Non diagnostic	Count
	1. (0–20 cm)	–	–	–	–	–
	2. (20–40 cm)	<i>Femur</i> (2), <i>Vertebra</i> (4)	Bovidae	–	21	27
	3. (40–60 cm)	<i>Vertebra</i> (1), <i>maxilla</i> (3)	Bovidae	–	18	22
	4. (60–80 cm)	<i>Fragment of scapular</i> (1), <i>rib</i> (1)	Rodentia	–	6	8
	5. (80–100 cm)	<i>Astrulugus</i> (2), <i>Tibia</i> (3), <i>teeth</i> (1) Non diagnostic (5)	Bovidae –	– –	– –	9
Unit 2	1. (0–20 cm)	Non diagnostic (4)	–	–	–	4
	2. (20–40 cm)	<i>Phalanges</i> (2) <i>Stewal rib</i> (1) <i>tibiotarsis</i> (1) Non diagnostic (7)	Bovidae	– Gallus gallus	32	43
	3. (40–60 cm)	<i>Rib bone</i> (2), <i>Phalanges</i> (2), <i>Metatarsals</i> (1)	Bovidae	–	5	10
	4. (60–80 cm)	Non diagnostic (5)	–			5
Total count						128

(length) was found along the lower section of the north wall of Unit 1. The stratigraphy from Level 5 down to the sterile level (120 cm) consisted of light grey soft rock (7.5R 5/1).

Level 1 (0–20 cm) of Unit 2 was composed of dark loose humus (7.5 R 3/1). Like Level 1 of Unit 1, this part of the stratigraphy was mildly humid and also contained copious quantities of decomposing leaves and a few rootlets. The stratigraphy of Level 2 (20–40 cm) consisted of a mix of loose light brown laterite (10R 4/2) soil and fragments of molluscs shells. The soil profile of Level 2 was complex and consisted of several interrelated parts interspersed with granite stone boulders and patches of charcoal along the north wall. Two of the charcoal patches were long, measuring 37 cm and 25 cm respectively and extended into the west wall. Level 3 (40–60 cm) to the sterile level (83 cm) contained a mix of light grey (7.5R 5/1) compact clayey soil which also contained several aggregations of angular granite stones of no definite size or shape evenly spread out within.

## Discussion

Potsherds registered a total count of 119 at Laloi East. With a usage history of over ten thousand years, pottery have been recovered at the lowest occupation levels at some of the earliest known settled villages and cities worldwide and constitute the most abundant and commonly analyzed artifact available to archaeologists. Pottery also facilitated sedentism and was one of the earliest artifacts to have originated with humanity's first attempt at new subsistence adaptations like fishing, gathering and early experimental agriculture. Other notable areas of human endeavours with extensive history of pottery use include religious worship and its associated rituals, food preparation, water and item storage, mining, and transport of a wide range of consumables and valuables.

Of the 119 sherds recovered, 116 comprised lower body sherds. The remainder potsherds (3) consisted of neck/shoulder sherds and there was a glaring paucity of base sherds in the pottery assemblage. All the Laloi East vessels were surface smoothed (plain) and there was a clear absence of smudged and slipped vessels. All the sherds also appeared to be poorly fired, exemplified by their easily friable nature. Physical examination with a hand magnifying glass revealed the absence of grog within their fabrics.

Average sherd size was only 5 cm. across their longest axis, while thickness of body fabric ranged from 8 mm–1.2 cm. It was thus, difficult to reconstruct vessel form, size and assign functions. This difficulty notwithstanding, the body curvature of the bulk of the sherds indicated that they were bowls. A total of 29 sherds (representing 24.3 % of total pottery assemblage) had their lower bodies soot-blackened, an indication that they had been utilized in the past as cooking devices over open fires. The remainder 90 sherds, without soot blackened bodies were probably used as storage devices.

The bulk of the sherds (116 representing 97.4 % of total assemblage) were undecorated (Fig. 5) and only 7 among the lot (representing 5.8 % of total assemblage) were decorated with single circumferential grooves which constituted the only decorative pattern identified in the assemblage. The decorative field of all the vessels was the upper shoulder area of the vessels.

Another notable characteristic feature of the Laloi East vessels was the strong similarities in their physical attributes namely, colour, surface treatment type, body fabric thickness, porosity and luster. This suggests that the vessels may have been manufactured and procured from the same potter groups domiciled in a specific geographical location on the Eastern Coastal Plain. The writer designated the pottery recovered from Laloi East as *Laloi Ware*. This was to differentiate it from other pottery types like Cherekecherete pottery which have been recovered at upper stratigraphy levels at nearby archaeological sites like Ladoku, Sega and Wodoku.

To ascertain the veracity of the above assertion that they were made/procured from the same region, 10 sherds were randomly selected from both surface and excavation context and sent to the Department of Earth Sciences laboratory, University of Ghana, Legon, to determine their mineral constituents. The term mineral as used above refers to the ore constituents of rocks which differ from one another in either chemical composition or physical properties like colour, luster and hardness. According to Sharer and Ashmore (1995, 246), establishing mineral constituents of sherds retrieved from archaeological excavations can shed light on the geographical area of clays used for their manufacture.



Fig. 5. Some potsherds recovered from Laloi East (*Laloi Ware*) (Photo: Fritz Biveridge).

Table 5 below shows the 10 sherds, the unit and stratigraphy levels from where they were recovered and their identification labels.

Tab. 5: Table showing archaeological context from where the sherds were retrieved, unit number, stratigraphy level, and their identification labels.

Archaeological context	Count	Sherd identification label/Unit name / Stratigraphy Level
Potsherds from surface context	1	<i>Laloi East. S.S – 25</i>
	2	<i>Laloi East. S.S – 6</i>
	3	<i>Laloi East. S.S – 31</i>
Potsherds from excavation context	4	<i>Laloi East. Unit 1. L – 3</i>
	5	<i>Laloi East. Unit 1. L – 3</i>
	6	<i>Laloi East. Unit 1. L – 4</i>
	7	<i>Laloi East. Unit 1. L – 5</i>
	8	<i>Laloi East. Unit 2. L – 2</i>
	9	<i>Laloi East. Unit 2. L – 3</i>
	10	<i>Laloi East. Unit 2. L – 5</i>

The result of the mineralogical analysis indicated that quartz and garnet constituted the principal mineral constituents of *Laloi Ware*. Minute quantities of mica were also detected in 9 out of the 10 sherds presented for the analysis. Quartz and garnet incidentally constitute two of the principal mineral constituents of rocks associated with geological formations of the Eastern Coastal Plain of Ghana. Other minerals unique to this geological system are hornblende and gneiss (Kesse 1985, 33–35).

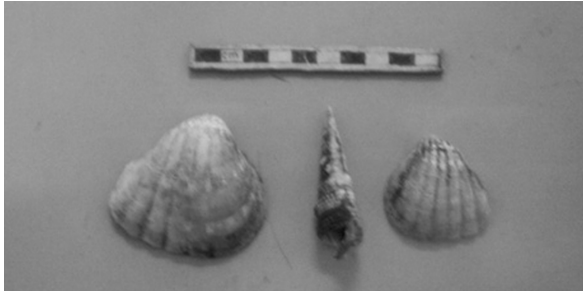


Fig. 6. The three molluscs types recovered from Laloi East, *Arca senelis* (left), *Turrella annulata* (middle) and *Arca afra* (right) (Photo: Fritz Biveridge).

The above finding is suggestive of one of two things: First, that a prehistoric settler community occupied Laloi East and probably other sites in the Eastern Coastal Plain; and exploited the abundant clay resources in their environs (which contain the above minerals) to manufacture various vessel forms to facilitate their adaptive strategies like fishing, farming and molluscs' harvesting. This notion that prehistoric populations were indigenous to the Eastern Coastal Plain has been the long held view of notable scholars like Davies (1961), Anquandah (1979; 1982), Quaye (1972) and Odotei (1976). Anquandah for example, used archaeological evidence from Ladoku hill which he excavated over a two year period (1977–79) to support this assertion. At the lowest occupation level there, above the sterile level, he discovered in association with stone flaked tools and bones a unique pottery type which was devoid of decorations. Overlying this cultural level in the same unit up to ground surface level were copious quantities of elaborately decorated *Cherekecherete* pottery (a radiocarbon date of c. 1325–1855 A. D was derived for this cultural level). Based on the glaring disparity in physical attributes of the two vessel forms, he postulated in his final report that those from the lowest occupation level were made by unknown prehistoric potter groups ancestral to 14<sup>th</sup> century Dangme potters who are known to have created *Cherekecherete* pottery (Anquandah 1985, 19). Incidentally, this ancient pottery type from Ladoku bears similar physical attributes with *Laloi Ware* and may have been made by these same prehistoric potter groups. Alternatively, the settlers of Laloi East may have procured their pottery via exchange, from another neighbouring prehistoric group. Aquatic resources, notably fresh or processed molluscs and fish may have constituted some items unique to this exchanged system.

Molluscs' shells like potsherds have played a primal role in reconstructing paleo-environmental conditions (Mozley 1982) and dietary patterns of several societies (Meighan 1969, 415). Their relevance can be attributed to their hardy shells which enable them to withstand vagaries of tropical weather conditions and other destructive elements like bushfires, sometimes for several millennia. The wide scatter of molluscs' remains and shell middens littering the banks of the Laloi Lagoon is clear attestation that molluscs' exploitation was a major subsistence strategy of the indigenous population that occupied the site in the past. The middens comprised a mix of three species – *Turretilla annulata*, *Arca senelis* and *Arca afra* (Fig. 6).

*Turretilla annulata* belongs to the *Turritellidae* Family and commonly occur all around the coast of West Africa. It has a pale brown colour with occasional mottles of white which give the shell an irregular transverse pattern on its fine long and pointed spiral whorls. Height is 50–80 mm while width is 10–15 mm. Apertures are rounded and

measure about a fifth of the height of the spire. *Turretilla annulata* are filter feeders which thrive well in deep water although they can do well in shallow water where they burrow into sand (Edmunds 1978, 28). *Arca senelis* and *Arca afra* are bivalves and constitute part of the large *Arcidae* family. Natural habitats are lagoons and estuaries. Except for their anterior end which is rounded, the shape of *Arca senelis* is almost square with total length being equal to height which is about 20–150 mm. Its thick shell is coloured white with a smooth dark brown periostracum (Edmunds 1978, 64). *Arca afra* are white coloured and are usually found under stones on rocky shores. They have long straight hinges with many small teeth of similar shape and sizes (Edmunds 1978, 63–64).

Early European writers, notably, Barbot (1732), Bosman (1705), and Pieter de Marees (1601), posited that molluscs' exploitation was integral to the local economy of coastal communities in the past. The middens at Laloi East should therefore be regarded as food related waste.

While there was a wide scatter of veritable quantities of molluscs' remains along the banks of the Laloi Lagoon, there was scanty recovery inside the occupation area. This suggests that the lagoon's banks were probably the main processing zones of the people. The removal of the edible parts after harvesting as well as disposal of the shells was all undertaken there before journeying to the settlement to cook and consume the meat. Deep seated earthenware bowls (evidenced by the inward curvature of the bulk of lower bodies of the sherds found) probably constituted the main receptacles used by the people to harvest and store processed shellfish because all the middens investigated contained significant numbers of potsherds. Pottery also would have facilitated exchange with neighbouring communities because they are ideal devices for transporting shellfish and other items.

There was no direct evidence supporting the vocation of crop farming at Laloi East. This can partly be attributed to the generally high temperature and humidity levels in the tropics which facilitate easy and early disintegration and decay of botanical resources once they die and enter the archaeological record. The situation had also been exacerbated by removal of the top soils by sand winners, substantially depleting botanical remains yet to be obliterated and destroyed by decomposition. It was thus difficult to glean the type of vegetation and the practice of subsistence farming at Laloi East. This situation notwithstanding, the discovery of lithic devices, namely grinding stones (x 2) and querns (x 3) is germane because they provide indirect clues/insights about how some edible plants were processed during the prehistoric and historic periods. Archaeological excavations along the Eastern Coastal belt have yielded substantial quantities of the two devices in the past (Anquandah 1979; 1982; Biveridge 1985; 2010). Some of the earliest European traders to have visited the Gold Coast (now Ghana) also intimated in their writings that they encountered indigenous coastal peoples busily engaged in crop farming and fishing on their arrival. William Bosman and Jean Barbot who operated on behalf of their national charter companies in the research area for example, testified to their importance. The former noted that „besides trade, the inhabitants employ themselves in agriculture and fishing, the first of which proves reasonably profitable“ (Bosman 1705, 305), while the later intimated, „the land affords plenty of provisions and abundance of fine large oranges“ (Barbot 1732, 185).

The use of grinding stones to pulverize and process edible plant foods and medicinal herbs is currently common practice among all the ethno linguistic groups occupying the study area. There is thus, historical, ethnographic and archaeological evidence to support the notion that pre modern populations inhabiting the study area cultivated food crops in the past which required the above named artifacts to process.

The importance of in-shore/off-shore fishing can be inferred from the large number of fish bones retrieved from the archaeological record at Laloi East (Table 4). It was probably undertaken alongside molluscs' exploitation and crop farming in the past. Pertaining to on-shore fishing, Jean Barbot who visited the research area in the seventeenth century noted that „the fishery on the sea is inconsiderable because the shore is high and difficult to access, but the want of sea fish is abundantly made amends for by the great plenty there is in the lakes and rivers“ (cited in Hair/Jones/Law 1992, 186). Describing one strategy used by coastal populations to catch fish on-shore, Barbot (1732, 187) asserted:

„They have also a peculiar way of catching fish in the night time, along the strand, by means of round wicker baskets fastened to long poles. Holding the pole in one hand and in the other a lighted torch made out of a sort of fierce burning wood. The fish generally make towards the light and are so taken in the baskets. Among other sorts of fish taken are extraordinary large thornbacks“.

Regarding off-shore fishing, Barbot (1732, 226) asserted that „there are everywhere vast multitudes of them between the tropics and more particularly on the coast of Guinea and they are of all sizes, some vastly big, and other small according to their ages“. He also observed that in-shore and off-shore fisheries were not only exploited for food but constituted an important item of trade. He commented for example that:

„The flesh of the shark is commonly tough and therefore not much liked by Europeans, but the blacks in general eat it as a dainty, after it has lain rotting and stinking eight or ten days, according to their custom, and a great trade of it is driven into the inland country. The smaller sharks of about six or eight feet long, are the best to eat, boiled and preserved, and then stewed with vinegar and peppers, which way many Europeans seamen eat it, when they are in want“.

Unlike crop farming, there was direct evidence in the form of bones to support the vocation of animal husbandry at Laloi East (Table 4) which several early European records also alluded to its importance in the research area. Bosman (1705, 304) asserted: „The country hereabout is indifferent, populous and infertile but extraordinarily stored with cattle, as cows, hogs, sheep, besides chicken, all of which are here daily bought very cheap by the blacks of the Gold Coast to transport to the upper coast“. Barbot (1732, 186) corroborated its importance and intimated that it was also an integral trade item during the period. He opined: „The country of Ningo, Lempy, or Allampy (Dangme country) is flat and low, populous and fertile and particularly stored with cattle, cows, sheep and swine, besides poultry which are continually brought up there to be carried along the Gold Coast“.

The bones recovered were broadly categorized into two main groups: domesticated and undomesticated species. Some species identified as belonging to the former include sheep (*bovidae*), goat (*bovidae*), cow (*bos*) and chicken (*Gallus gallus*). Together, they constituted 29%, 33%, 9% and 29% respectively of domesticated faunal assemblage.



The bulk of the bones identified as belonging to domesticated species were found on the ground at the abandoned shrine. Only two species were identified as belonging to the latter at the shrine. These were giant rat (*Cricetomys gambiansis*), turtle (*Testudinata sp.*) and land tortoise *Kinixys sp.* all retrieved from excavation inside the occupation zone. The recovery of remains of undomesticated species is strongly indicative of the importance of hunting and trapping to the local economy. Like crop farming and animal husbandry, some early European writers also alluded to this activity. Meredith (1812, 223) for example, posited that „many acclivities crowned with trees and shrubs not only gave the country a picturesque appearance but afforded the concealment of a variety of game such as deer, antelopes, hares, pheasants, guinea fowls, partridges, pigeons and doves“.

Except for the small area incorporating the derelict shrine and its contents of 6 fragments of alcoholic beverage bottles and bones, there was a clear absence of European trade goods at the larger Laloi East site. This can be cited as evidence that the settlement was abandoned before the arrival of Europeans to area. The Portuguese, in 1492 were the first Europeans to have visited the Gold Coast (Elmina). This presupposes that occupation and abandonment of Laloi East predated the above date. The shrine however postdated the site's abandonment, attested by the fragmented European alcoholic beverage bottles recovered.

In her book „*Religion and Medicine of the Ga People*“, Margaret Field (1962, 78–84), noted that ethno-linguistic populations living along the Eastern Coastal belt believed that venerated spirit beings inhabited thickets, shrubs and water bodies like lagoons, rivers, and streams in their areas of jurisdiction. It is thus most probable that the above mentioned shrine at Laloi East represented one such deity in the past. She further noted that Ga-Dangme states in the research area, in addition to belief in the above spirit beings had „state gods“ which were also highly revered and worshipped by the people. These spirit beings were represented by specific deities headed by priests traditionally called *Wolomie*, and priestesses (*Woryie*), who were supported by acolytes who understudied them. She asserted for example, that the principal god of Kpone was *Gao*, believed to reside in the Gao Lagoon. Other equally important „gods of the people of Kpone were *Aya, Klan, Osabu, Dinkra, Nyankom* and *Afiye*“.

## Conclusion

Cumulative evidence from the research suggests that the settlers of Laloi East subsisted primarily on molluscs. It appears exchange, involving shellfish for pottery and other products with neighbouring coastal and inland populations was also central to facilitation of the local economy during the occupation period. Animal husbandry and crop cultivation indirectly gauged from the archaeological record were equally important vocations practiced alongside the exploitation of molluscs in the past.

The non-recovery of iron slag/iron tools at Laloi East is clear indication that the occupants had not acquired the technological know-how of smelting iron and forging iron tools. This view however, should be considered tentative for now, till further investigations have been conducted because of the extensive damage to the site's stratigraphy.

The clear absence of European trade goods is testimony that occupation and abandonment of Laloi East predated the arrival of the Portuguese, the first Europeans to have visited the Gold Coast. The abandoned shrine on the settlement however was built sometime during the post Atlantic contact period, attested by the recovery of fragments of European alcoholic beverage bottles which constituted an integral aspect of the coastal trade during the period.

Archaeologically, there are strong economic/cultural affinities between the settlers of Laloi East and Gao Lagoon. For example, both settlements were occupied by prehistoric populations who used poorly fired potteries which were largely undecorated and probably procured from the same source. Both groups also subsisted primarily on molluscs' and other aquatic resources of the area, alongside the practice of animal husbandry and hunting of wild game. It is thus, reasonable to infer from the above that settlers of the two communities probably existed contemporaneously. It can also be argued, based on the above cultural affinities and the fact that Laloi East and Gao Lagoon lie only 1.5 km of each other that the two sites were occupied by the same settler group who exploited aquatic resources at the two sites. Dombrowski obtained two radiocarbon dates of  $4180 \pm 140$  B. P. and  $1260 \pm 90$  B. P. for Gao Lagoon. Chronologically, this places the occupation period there to the „Late Stone Age“. Granted that Gao Lagoon and Laloi East were occupied contemporaneously by the same settler group, then it is safe to postulate that the occupation period at Laloi East also dates to that period. However, this assertion for now should be considered tentative, pending further excavation work at Laloi East and derivation of radiocarbon dates.

It was not possible to gauge and establish from the available evidence ethnic identity of the occupants of Laloi East. Evidence deduced from the investigation appears to suggest that the settlers were an appendage of a prehistoric group which settled and abandoned the site before ancestors of the current Dangme occupants arrived. What is incontrovertible is that they were non Dangmes, evidenced by dissimilarities in physical attributes of pottery made by the two groups.

The writer plans to conduct archaeological investigation during the next summer break. Three issues will guide and inform the conduct of this phase of the research. The first will be to excavate at least two of the middens to establish if their contents contain other cultural materials apart from potsherds. The second will involve the recovery of charcoal samples to enable the site to be dated by the radiocarbon technique; and third, a concerted effort will be made to locate the settlements ancient incinerator. Incinerators contain significant quantities of discarded cultural materials which when analyzed can facilitate the reconstruction of past socio-economic, cultural and technological activities of the settlers.

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