



Conscientious Achievements of the Dangme before the Atlantic Contact: Insights from Archaeological and Ethnohistorical Investigations at Sega and Kpone, Greater Accra Region, Ghana

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Abstract

This article summarizes results of archaeological research conducted at Sega and Kpone, two ancient Dangme settlements located along the Gulf of Guinea in Ghana. Ethno-historical narratives and written records constituted other data sources used. The objective of the study was to utilize data from the above sources to deepen and enhance our understanding of ancient cultural life-ways of the settlers of the two sites before their encounter with Europeans. The combined evidence indicated that the settlement population was relatively large and sophisticated, attested by the extensive occupational areas and the existence of several specialist vocations. Another significant development was that the indigenous populations were engaged in complex intra-regional exchanges with neighbouring polities which impacted positively on the local economy and appears to have facilitated urbanization and state formation processes.

Keywords: Cultural life-ways, Dangme, Ethnohistorical traditions, Subsistence practices, Intra regional exchanges, Cultural material remains

Résumé

Cet article résume les résultats de recherches archéologiques menées à Sega et à Kpone, deux anciennes colonies de Dangme situées sur le golfe de Guinée au Ghana. Les récits ethno-historiques et les documents écrits constituent des sources de données également utilisées. L'objectif de l'étude était, à partir des données et sources susmentionnées, d'approfondir et améliorer notre compréhension des modes de vie culturels anciens des colons des deux sites

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avant leur rencontre avec les Européens. Les preuves combinées ont indiqué que la population était relativement importante et sophistiquée, comme en atteste les vastes zones de travail et l'existence de plusieurs professions spécialisées. Un autre développement significatif est que les populations autochtones se sont engagées dans des échanges intra-régionaux complexes avec les administrations voisines, échanges qui ont eu un impact positif sur l'économie locale et qui semblent avoir facilité les processus d'urbanisation et de formation d'État.

Mots-clés : Modes de vie culturels, Dangme, Traditions ethnohistoriques, Pratiques de subsistance, Echanges intra-régionaux, Restes de matériel culturel

Introduction

This article presents results of archaeological investigations conducted at Sega and Kpone. The two settlements lie about 500 metres away from each other along the Gulf of Guinea, Greater Accra Region, Ghana (Figure 1). The study constituted Phase 2 of the Coastal Dangme land Archaeological Research Project initiated in March 2015 by the author. The goal of the project is to reconstruct cultural life-ways of the Dangme populations that settled in the eastern coastal belt prior to the advent of Europeans, using principally material remains retrieved from archaeological investigations. Other notable pre-Atlantic Dangme settlements along the belt which the author plans to investigate include Ladoku, Shai Hills, Kpone West, Kpoete, Prampram, Adwuku, Ningo and Ada. In view of the broad and very extensive nature of the area which extends about 95 kilometres east to west and to facilitate the collection and analysis of data, the investigations are being undertaken in phases, each focusing on one of the above-named towns.

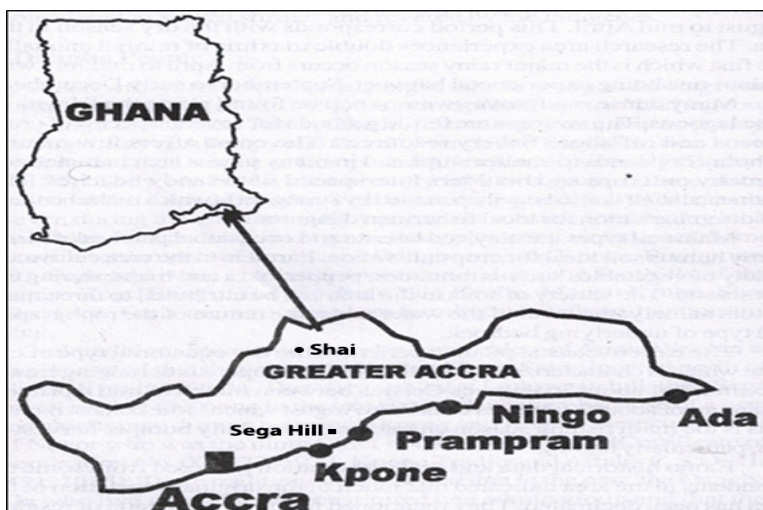


Figure 1: Map of ancient Dangme settlements

Under Phase 1, Laloi East, a Late Stone Age site along the banks of the Laloi Lagoon with over thirty scatters of calcified shell middens, was investigated and the results published in *Ethnographisch-Archäologische Zeitschrift* (56 (1/2), 2015).

Early European writers referred to Sega variously as *Chinke*, *Chiabra* and *Sinka* (Marees 1601; Barbot 1732; Meredith 1812; Pereira 1967). Sega lies on a ridge 18–40 metres above sea level and overlooks the Gao Lagoon to the north and the sea to the south. The site is large, spanning approximately 0.8 km by 0.5 km (Survey Dept. Sheet No. 0500A3 2000). This guesstimate was determined by measuring the extent of surface artifact scatter across the occupation area. Predominant artifacts unique to the site included veritable quanta of shards of local manufacture, stone grinders and thousands of what appeared to be solid hand-cut square and rectangular stones believed to have been utilised as floor tiles, building blocks and buttresses to support house foundations. The broad unbroken expanse of the Sega site suggests that the population in ancient times was significant. The site is currently desolate and derelict.

Like Sega, European traders also called Kpone by several names with *Ponnie*, *Poni* and *Ponny* predominating (Bosman 1705; Barbot 1732). It is presently a sprawling coastal industrial township, lying on a ridge 15–22 metres above sea level (Survey Dept. Sheet No. 0500A3 2000). Kpone can be divided broadly into two suburbs by chronological affiliation: an ancient settlement quarter which gradually slopes and merges with the sea to the south, and the modern settlement quarter which lies to the north. All eleven clans, which are the major sub-divisions of the Kpone state, are located in the former quarter. Various families make up a clan which are traditionally called *We* (plural *Wei*), with households constituting the smallest family unit. The following constitute the clans of Kpone: *Appia We*, *Adzeman We*, *Bediako We*, *Kojo We*, *Antieye We*, *Sanchi We*, *Nii Dune We*, *Osono We*, *Nueteytse We*, *Ofosu We* and *Sackey We*. Three of the above, namely *Sanchi*, *Bediako* and *Kojo Wei* comprise the reigning houses and are the direct descendants of the three sons of Dortei, the first chief of Kpone. Succession to the throne is by rotation and requires the consent of the remaining clans.

Data for the study can be classified broadly as field and library research. The former involved ethnohistorical and archaeological investigations. The collection of ethnohistorical data was derived from elders and family heads of *Appia* and *Bediako Wei* clans over a one-month period, while surface surveys and excavations constituted the main methods used to derive the archaeological data. The latter involved the examination of historical and archival records at Balme and the Institute of African Studies (IAS) libraries,

University of Ghana, Legon. The majority of these documents comprised old letters and correspondence between European mariners and trade representatives of the various national charter companies that operated on the Guinea Coast on the one hand and their parent companies in Europe on the other hand. The companies included the Guinea Company (Denmark), the Committee of Merchants Trading to Africa (England), the Royal Africa Company (England) and the Dutch West India Company (The Netherlands). The bulk of these documents spanned circa 1520–1680. Recourse to the use of early European records as source materials for this study was necessary because one of the primary limitations of ethnohistorical data is the tendency of narrators to over-emphasise and sometimes exaggerate aspects of their culture which portray them in good standing while being silent on aspects which denigrate their ethnic group. It was thus important to examine and integrate European sources to ascertain, verify and complement the ethnohistorical data.

There is currently a paucity of information on the cultural past of the coastal Dangme. A few aspects relating to ethnomedical practices and traditional religion are documented in folklore and *Klama* songs which by custom are the exclusive preserve of traditional priests and priestesses and are unknown to a significant proportion of the general populace. A few aspects relating to ancient subsistence strategies and intra-regional exchanges can also be glimpsed from early European records, the majority of which were documented by interloper captains, traders and explorers who visited the region and interacted with the indigenous population. The available data is thus patchy and obscure.

Historical background of the Sega and Kpone people

Kpone is inhabited by the Dangme who share close linguistic and cultural affiliations with the Ga who live west of them. The language of the Dangme is also called Dangme and belongs to the Kwa group of languages which is a sub-group of the Niger-Congo family group (Kropp-Dakubu 1976: 37). Lexico-statistical studies by Collins Painter, published in 1966, indicate that the Ga and Dangme languages separated from each other about a thousand years ago, from their precursor proto Ga-Dangme which itself diverged from Akan a thousand years earlier.

The indigenous population of Kpone constituted one of several Dangme groups that occupied the eastern coastal belt and atop parts of the Akuapem-Togo Range. Their ethnohistorical traditions posit that Ife in Nigeria was their ancestral homeland before their sojourn at Sega. However, what necessitated their migration and when it occurred are not divulged in these

traditions. Lolovo was their first major encampment before settling in Segá, previously called *Larkweitey*, after the chief who masterminded and led the exodus. According to the narrative, their westward journey was characterised by bitter in-fighting, regular hostilities and conflicts with ethnic populations settled along the migratory route. Segá itself was later abandoned because of a protracted chieftaincy dispute between two sons of Nanor, the ninth chief of Segá, after his demise. The sons named in the narratives are Akpeng, the eldest, and Angmo Keteku his junior sibling. Akpeng prevailed in the subsequent civil war which followed the violent acrimony, splitting the population into two groups with each supporting one party. The larger party, led by Akpeng, abandoned Segá and resettled at a new location which they named Kpone near the Dzorkor Stream (Certificate of Authentication. No. 000372 1972; Kpone Traditional Affairs C.S.O. 21/22/1421 1985). According to Field (1961: 18, 78), the choice of settling near the Dzorkor Stream was informed by the fact that it flowed all year round, a situation which guaranteed migrants regular availability of water.

Local traditions intimate that the name Segá was derived from a statement made in Dangme by Angmo Keteku at the shrine of *Nyan Komfre* (one of several state deities) after the desertion by the Akpeng-led group that '*emi Angme Keteku iwo see see gaa*'. Literally translated, this meant 'I, Angmo Keteku have given a bad advice.' It was the words '*see see gaa*' uttered in this statement that were corrupted to Segá (KPNA/CSO 21/22/142). The assertion that the Dangme migrated from external origins has been challenged by several scholars, notably Boahen (1977), Quaye (1972) and Kropp-Dakubu (1976). Boahen (1977: 94), for example, contends that the Dangme evolved in Ghana in the region of the Lower Volta Basin and that the claim of external origins are distortions of a fifteenth to sixteenth century West African coastal trade network between the peoples who occupied the area between Elmina and the eastern coast of Nigeria.

The various lineage groups (*Wei*) making up the Kpone state affirm in their oral traditions that the Kpone state was initially a theocracy headed by a *Wolomo*. Field (1961: 4), Anquandah (1982: 124) and Omenyo (2001: 10) point out that in ancient times, the office of the *Wolomo* was not only highly revered and profoundly venerated by the populace, but was also extended deferential honour. Field (1961) also noted, among other things that there existed another more powerful spiritual body called the *Agbafó* who unlike the *Wolomo* were not directly involved in state governance. She asserted:

This was a band of seven "medicine men" famous as curers of sicknesses, as masters of magic, and interpreters of the supernatural. Their reputation for knowing all about the supernatural is so great that their standing exceeds that

of the *Wolomo*. Indeed, the Head of the *Agbafo* (*Agbafoatse*) occupies in effect the position which in their towns is held by the Head *Wolomo* and the rest of the seven positions of lesser *Wolomo*. The *Agbafo* hold in their palm the power of all the gods. They are more powerful than the *Wolomei*. A *Wolomo* can only pray, the *Agbafo* can work wonders themselves. In short, the *Agbafo* can command where the *Wolomo* can only request (Field 1961: 36, 79).

Odotei (1976: 106) and Anquandah (1982: 124–5) contend that the theocratic system of governance changed with the coming of Europeans and development of coastal trade in the early sixteenth century. This was primarily because subsequent socio-economic and political exigencies arising from the coastal trade made it increasingly difficult for the *Wolomo* to competently combine administration of the secular affairs of the state with his spiritual and religious obligations. For example, custom forbade him to be regularly seen in public, wear sandals or travel afar. This situation necessitated the creation of a new state office which was designated *Mantse* (state ‘father’). The main duties of the *Mantse* were administration of the secular affairs of the state, promulgation of non-religious codes and laws, and dispensation of justice. Other primal duties included the institution and collection of taxes, supervision of coastal trade, and administration of state lands which he held in trust for the people (Field 1961: 4).

Anquandah (1982: 125) observes that ‘lower’ offices headed by sub-chiefs were created to assist the *Mantse*. They included the *Asafoatse* (military chief), *Mankralo* (state administrator), *Dzaasetse* (chief administrator), *Otsamie* (chief spokesperson) and *Shepee* (commander of the military wing). The new political arrangement allowed the *Wolomo* to fully focus on his spiritual obligations to the state’s deities, namely *Gao*, *Osabu*, *Tsawe* and *Aya*, as well as meeting the spiritual aspirations of the people. According to Omenyo (2001: 11), the transition of political and judicial authority of the *Wolomo* to the *Mantse* occurred about 350 years ago. The *Otufo* nobility rites observed to initiate young adolescent girls into adulthood and the *Kpledzo* rites were some of the annual cultural activities observed by the people in the past and are still relevant to the current population. The two rites were primarily to promote virtue, piety, fidelity to natural obligations (such as to parents) and spiritual sanctity in the community.

The archaeological research

The archaeological excavation was preceded by two surface surveys, each at Sega and the ancient settlement quarter of Kpone. The two settlements lie on the beachfront and are characterised by several rocky promontories which extend several metres off-shore and are visible at low tides. Apart from a few

scatters of shrubs, the entire Sega site is bereft of trees. Much of the topsoil had also been extensively disturbed, primarily by construction activities of the contractor who built the West African Gas Pipeline Limited (WAGPL) and subsistence farmers who annually cultivate maize and vegetables around the gas storage facility.

One striking observation at the centre of the Sega site were several bottle fragments of liquor and a knee-high sandcrete wall built around a baobab tree, tied with white and red calico cloth around the mid-section of the trunk. According to the current *Wolomo* of Kpone, Nummo Gao (personal communication, 24 July 2017), the prevalence of bottle fragments was a consequence of annual pacification rites offered to the *Gao* deity prior to the celebration of the *Homowo* festival. Ethnohistorical traditions of the people also intimate that this vicinity originally housed the shrine of the *Gao* deity, hence the choice of the area for pacification rites.

The dominant cultural materials discovered during the surface survey at Sega were veritable quantities of stone slabs of no identifiable shape and size which the people assert were used as floor tiles and buttresses to secure house foundations. Other notable finds included potsherds (9), mollusk shells belonging to different species (15), faunal remains (6), a fragment of locally made pipe (1) and fragmented ceramics (2). A small, undisturbed area, located 27 metres south-west of the WAGPL (GPS location: N.05° 40' 08.8', E.000° 02 11.9'), was selected for archaeological investigation. A trench designated Trench 1, measuring 2 m x 4 m was opened and the sterile level was 126 cm below ground surface.

Unlike Sega, the surface survey at Kpone was inconsequential and no material remains were retrieved. This settlement pattern was heavily convoluted and the entire ancient settlement quarter had been built upon by the current inhabitants. A few stone slabs similar in shape and size to those discovered at Sega and a few scatters of mollusk shells constituted the only material remains of significance retrieved. At the old settlement quarter, a unit designated Unit 1 and measuring 2 m x 2 m was opened. This unit was located 127 m south of the Kpone Methodist Church at *Apemamin*, a suburb of Kpone (GPS location: N 05° 41 14.7', E. 000° 03 25.6'). The unit also lay 41 m east of the ruins of an ancient Dutch trade post. The sterile level of Unit 1 was 100 cm below ground surface and an arbitrary level of 20 cm was used to control vertical provenience. A quarter inch mesh was used to sieve and recover material remains from soils collected from Trench 1 and Unit 1.

Two distinct cultural levels, based on the types of cultural material remains discovered, were discerned. The first designated *Cultural Level 1* contained

a mix of cultural material remains of local and foreign origins in varying proportions. At Sega, this stretched from the ground surface to stratigraphy Level 5 below ground surface (0–120 cm). At Kpone, Cultural Level 1 stretched from the ground surface to stratigraphy Level 4 below ground surface (0–80 cm). That Cultural Level 1 contained a mix of cultural material remains of both European and local origins suggests that the occupation period represented by that stretch of the stratigraphy corresponded to the Atlantic contact period when Europeans visited the region and interacted socio-economically with the indigenous populations of the area.

The second cultural level designated *Cultural Level 2* contained cultural material remains of local origin only. At Sega, this stretched from the level underlying Cultural Level 1 to the sterile level (120–160 cm, shaded area of Table 1). At Kpone, Cultural Level 2 stretched from the level underlying Cultural Level 1 to the sterile level (80–100 cm, shaded area of Table 2). That Cultural Level 2 contained only material remains of local origin is an indication that the occupation period represented by that stretch of stratigraphy predated the arrival of Europeans (pre-Atlantic contact period). It is also an evidence that the Sega and Kpone settlements pre-dated the arrival of Europeans.

A total of 234 artifacts, 472 botanical remains, 213 mollusk shells and 457 bones were recovered from Trench 1. At Unit 1, 204 artifacts, 108 botanical remains, 56 mollusk shells and 46 bones were retrieved (Tables 1 and 2). A significant proportion of the bones from the two sites, totalling 171, comprised *Pisces* remains. All the finds were sent to the Department of Archaeology and Heritage Studies Laboratory to be analysed. This was undertaken in three phases with assistance from Mr Bosman Murrey, a former Chief Technician of the facility. The first phase of this aspect of the study involved soaking the finds in clean water for some time to soften soils and rootlet attachments, after which they were gently cleaned with a soft hand brush and sun-dried. Under phase two, all the finds were quantified and labelled with ink. The site name, recovery date, unit/trench name, stratigraphy level and name of the person effecting the documentation constituted important information inscribed on each find. This was done to facilitate site identification, record provenience and finds quantification. Phase three involved identification of all the faunal remains according to their respective phyla and species. This aspect of the work was undertaken with assistance from some colleagues in the Department of Marine and Fisheries Sciences, University of Ghana. The types/quantum of cultural remains retrieved from the two sites are shown in Tables 1 and 2. Tables 3 and 4 show the types/quantum of bones retrieved.

Table 1: Types of material remains (excluding fauna) retrieved at Sega, Trench 1

Cultural material types		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Total	Percentage values
1	Grinding stones	-	1	1	-	-	-	-	-	2	0.15
2	Imported smoking pipes	1	2	6	3	1	-	-	-	13	1.01
3	Alcoholic beverage bottle fragments	2	9	23	19	27	41	32	3	156	12.18
4	Imported ceramics	-	4	11	21	9	-	-	-	45	3.51
5	Metal objects	3	12	21	9	11	8	7	15	86	6.71
6	Botanical remains	23	63	111	132	49	61	20	13	472	36.87
7	Daub	1	-	12	7	3	-	-	5	28	2.18
8	Dress buttons	-	-	1	-	-	-	-	-	1	0.07
9	Glass beads	1	6	15	21	9	-	-	-	52	4.06
10	Iron slag	-	-	2	4	11	23	29	17	86	6.71
11	Medicinal suppositories	3	11	39	21	14	17	61	47	213	16.64
12	Slate pencils	-	-	2	1	-	-	-	-	3	0.23
13	Bauxite bead	-	-	-	1	-	-	-	-	1	0.07
14	Belt buckle	-	-	1	-	-	-	-	-	1	0.07
15	Querns	-	-	1	-	-	-	1	-	2	0.15
16	Cowry (<i>Cypraea moneta</i>)	-	-	-	-	1	-	-	-	1	0.07
17	Local pottery	5	13	7	33	28	12	9	11	118	10.15
Total according to the strata level		39	121	253	272	163	162	159	111	1280	100

Table 2: Types of material remains (excluding fauna) retrieved from Kpone, Unit 1

Cultural material types		Level 1	Level 2	Level 3	Level 4	Level 5	Total	Percentage values
1	Local pottery	11	27	32	19	9	98	23.5
2	Imported ceramics	7	11	3	-	-	21	5.04
3	Stone grinders	-	1	-	-	-	1	0.2
4	Smoking pipes (local)	1	-	-	-	-	1	0.2
5	Smoking pipes(imported)	-	3	7	-	-	10	2.4
6	Querns	-	3	1	2	1	7	1.6
7	Metal ring	-	1	-	-	-	1	0.2
8	Alcoholic beverage bottles	9	13	11	17	6	56	13.4
9	Bauxite beads	-	1	-	-	1	2	0.4
10	Mollusk bead	-	-	-	1	-	1	0.2
11	Botanical remains	7	27	33	27	14	108	25.9
12	Medicinal suppositories	5	13	9	14	7	48	11.5
13	Iron slag	-	-	1	5	9	15	3.6
14	Glass beads	2	9	11	-	-	22	5.2
15	Metal objects	6	2	4	11	2	25	6.0
Total according to the strata level		48	111	112	96	49	416	99.34

Table 3: Count of mollusk shells/bones recovered at Sega

Strata level	Mollusks remains	Pisces remains	Bovid (goat)	Bovid (sheep)	Bos (cow)	Aves	Total	Percentage values
1	---	2	---	---	---	-	2	0.4
2	---	8	---	---	---	-	8	1.8
3	31	24	9	11	3	2	80	18.8
4	54	53	7	10	9	1	134	31.5
5	61	14	13	8	7	6	109	25.6
6	61	7	3	2	2	2	77	18.1
7	3	1	1	2	1	1	9	2.1
8	3	-	-	2	1	-	6	1.4
Total count by strata	213	109	33	35	23	12	425	99.7

Table 4: Count of mollusk shells/bones recovered at Kpone

Strata level	Genus (species)						Total	Percentage values
	Mollusks remains	Pisces remains	Bovid (goat)	Bovid (sheep)	Bos (cow)	Aves		
1	5	14	14	5	-	-	38	13.6
2	4	9	11	9	6	-	39	13.9
3	25	21	23	15	4	3	91	32.6
4	16	11	41	3	11	2	84	30.1
5	6	7	12	-	2	-	27	9.6
Total count by strata	56	62	101	32	23	5	279	100

Discussion

The large quantum of *Pisces* remains retrieved is direct evidence that exploitation of aquatic fisheries was an important vocation of peoples of the study areas in the past. The total number of *Pisces* remains retrieved was 171, and these constituted 20.28 per cent of bones recovered from the research area (843). Of this number, 15 were recovered from *pre-Atlantic contact cultural levels*, compared to 156 at the *post-Atlantic contact cultural levels*. The pre-Atlantic contact cultural level was represented by stratigraphy Level 5 at Kpone, and stratigraphy Levels 6, 7 and 8 at Sega. The post-Atlantic contact cultural levels were represented by stratigraphy Levels 1, 2, 3 and 4 at Kpone, and stratigraphy Levels 1, 2, 3, 4 and 5 at Sega.

It appears from the ethnoarchaeological evidence that fishing had its antecedents in antiquity. It was probably the lynch-pin of the local economy in ancient times because several early European accounts underscored its economic importance. Jean Barbot (1992: 519), for example, noted that: 'after that of merchant, the trade of fishermen is the most esteemed and commonest.' The exploitation of onshore aquatic resources appears to have been more relevant than offshore resources in ancient times because, as Barbot (1732: 186) observed, among other things, 'the fishery on the sea is inconsiderable because the shore is high and difficult to access, but the want of sea fish is abundantly taken care of by the great plenty there is in the lakes and rivers'. Barbot also noted that 'they have 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 of a sort of fierce burning wood. The fish generally make towards the light and so are taken in the baskets' (1732: 186).

The bulk of the *Pisces* remains retrieved could not be scientifically identified with their species types primarily because they were heavily fragmented, extremely denuded and without established biological reference marks. They were thus designated undiagnostic. However, a total of fifteen, comprising mostly larger bone parts (notably skulls and vertebral columns) were scientifically identified as belonging to both onshore and offshore species. The former included *Alecti alexandrinus* (*Anteyaa* or *Fonfo*), *Caranx crysos* (*Kpetome tsiyi*), *Prionoce glauca* (*Tsaflobi*), *Istiophorus albicans* (*Onyankle*) and *Decapterus rhonchus* (*Emule*). *Clarias gariepinus* (*Adwene*), *Arius heudeloti* (*Kokote*) and *Clarias gariepinus* (*Adwene*) were identified as belonging to the latter. The words in bracket are their Dangme names. Some species of *Prionoce glauca*, a wild carnivore, can grow to significant lengths at maturity (Kwei and Adu 2005; Fowler 1986) and would have required specialised skills to trap, hull overboard onto canoes and transport onshore.

Fishing probably stimulated the development and growth of the salt production industry in Kpone and Sega because salt is integral to fish processing and preservation. Though there was no archaeological evidence directly supporting salt production, it is instructive to note that several early European traders operating in the region alluded to its importance in ancient times. Barbot (1732: 187) for instance asserted ‘the sea along the coast, affords no less variety and plenty of excellent fish, and yields abundance of salt, by boiling its water to a consistence, both which turn to a very considerable profit and advantage, not only to the Blacks inhabiting the coast, but to innumerable multitudes for several hundred leagues further up’. Reindorf (1966: 63) corroborated this assertion when he also intimated, ‘towns along the coast applied themselves to the salt making industry. Those who did this acquired great riches because the demand from the interior was constant and if peace could be attained the coastal towns could have been the most prosperous on the Gold Coast’. Barbot (1732: 205) also noted that ‘the proper season of the year to make salt, especially in the pits, is from the latter end of November till the beginning of March, the sun being then in the zenith and consequently, its force is greater than at any other time of the year’.

Ethnohistorical narratives recounted to me by some elderly respondents of the *Appia We* clan indicated that their forebears produced substantial quantities of salt the natural way along the shallow fringes of the Gao and Laloï Lagoons. According to them, the methodology involved deliberately digging troughs along the banks of the above-named lagoons and connecting the troughs via channels to the shoreline. This allowed in-flow by gravity of sea water into the troughs during high tides after which the channels were blocked when filled by rocks and soil. The exceptionally high daily

temperatures experienced in the study area during the peak dry season (approximately 32–35° Celsius) facilitated rapid evaporation of sea water trapped in the troughs, leaving a thin fine film of salt crystals at the base of the troughs after some weeks. Sixteen roughly circular depressions were noted along the west bank of the Laloï Lagoon which appeared to be man-made on account of their almost standardised shapes, depths and sizes (10 cm deep by 1 m across). However, it would be premature and contestable for now to adduce that they served as salt producing troughs until their functions have been scientifically established.

Unlike fishing, it was difficult to glean the nature and practice of crop farming in the archaeological record because much of the tangible evidence required to support it was scanty, patchy and indirect. This situation can be attributed to the poor preservation regime of soils in the study area which have high concentrations of humic acid which promotes rapid decomposition and decay of botanical remains (Dickson and Benneh 1982: 32). This handicap notwithstanding, veritable quantities of charred remains of palm kernel shells (*Elaeis guineensis*) and some fossilised rootlets which could not be scientifically identified constituted the only plant remains retrieved during the research. The former, which directly supported this subsistence strategy, totalled 580, of which 108 were recovered from Kpone and 472 from Segá. The bulk, mostly recovered from upper levels of the stratigraphy (0–40 cm), was relatively well preserved, with their nuts intact. However, those underlying them were characterised by multiple minute pores which extended about 2–3 mm into the shells, apparently the result of insectivore action to reach the nuts within. Millet was probably another crop cultivated alongside oil palm because ethnoarchaeological investigations by Anquandah (1982: 19) in the late 1970s, which also involved the collection of Dangme oral traditions and historical linguistics, indicated that proto-Dangme populations occupying the eastern coastal belt subsisted on an economy based on millet (*nmaa*) and yam (*hielyele*) cultivation. The word *nmaa* was in the past used to refer to corn, millet and food. This archaic word where it refers to food presently has been replaced by another word, *niyeni*. Slash and burn farming appeared to have constituted the principal method used by the indigenous population to clear and prepare the land prior to planting because, as Barbot (1732: 196) observed:

When the seed time is at hand, every Black marks out a spot he likes, which is usually on rising grounds near their towns and villages and having promised to pay the usual rent to the officers appointed to that purpose, the kings being lords of all the lands, the head of the family, assisted by his wives, children, slaves, if they have any, sets fire to the shrubs and bushes, which for the most

part overspread the earth or else cut them close to the ground, for they will seldom bestow the pains of grabbing up the roots for which reason they soon sprout up again, yet they think it sufficient for sowing their seed to turn up the ashes of the shrubs and bushes with the earth slightly, which they do with a sort of tool or spade call'd *loddon* and are so dexterous at managing it that two men will dig as much land in a day as one plow can turn over in England.

The recovery of stone grinders (Figure 2), mullers and querns from the archaeological record is germane and can be cited as indirect evidence to support crop cultivation and traditional medical practice because they are utilised in the research area primarily to pulverise vegetables and process medicinal herbs. All the grinders appeared to have been extensively used because the central areas which constituted the main pulverisation areas were lower on average by about 1 cm, compared to the outer surrounding ends. Close examination of the working surfaces with a magnifying glass also revealed a concentration of several non-standardised indefinite abrasive lines.

Bosman (1705: 305) noted that farming was an integral aspect of the local economy in ancient times. He asserted that 'besides trade, the inhabitants employ themselves in agriculture and fishing, the first of which proves reasonably profitable'. Barbot (1732: 185–6) also intimated that, 'the land affords plenty of provisions and abundance of fine large oranges'.



Figure 2: Part of a grinding stone from Segá

The recovery of cowrie shells identified as *Cypraea moneta* supports the notion that intra-regional exchanges were central to the facilitation of the local economy prior to European contact. Garrard (1980: 4, 12) who investigated early intra-regional exchange systems on the Gold Coast noted that *Cypraea moneta* was used not only as currency but also as a store of

value prior to the Atlantic contact era. The recovery of bauxite beads, locally called *Akyem te*, (Figure 3), from the archaeological context at Segá is germane and clear attestation that exchange with neighbouring polities was an important commercial enterprise undertaken by peoples who occupied the study area. Ethnohistorical narratives of the people of Kpone did not intimate the existence of an extant bauxite bead production industry. Kpone and Segá also have no bauxite reserves to facilitate production of bauxite beads. Their recovery is thus indicative that they were procured from an external source, most probably via exchange. The source area was most likely Akyem Abompe, located approximately 132 kilometres north-west of the study area, which has extensive bauxite reserves and is renowned for its extant bauxite bead manufacturing industry. Archaeological investigations conducted at several ancient coastal and hinterland sites in Ghana have yielded bauxite beads, sometimes in veritable quantities (Biveridge 2005; 2011; 2014; Anquandah 2008).



Figure 3: Some recovered bauxite beads from Segá

Indigenous populations of the study area may have produced mollusk beads as well in the remote past. The recovery of one such bead at Segá bears testimony to this assertion (Figure 4). The shell of *Sepiella ornata* (cuttlebone) was identified as the species used to manufacture this bead. The flesh is also a delicacy in the research area. That only one was found however suggests its production was probably more of a leisure activity than a full-time one.



Figure 4: A mollusk bead from Sega

The result of petrographic analysis undertaken on twenty potsherds randomly selected from different stratigraphy levels at the two sites is yet more evidence to support the existence of an intra-regional exchange network in the remote past. The results indicated that quartz, garnet, orthoclase, plagioclase and kaolinite constituted the principal minerals in the potsherds. The percentage compositions of the above-named minerals in the sherds are shown in Table 5.

Table 5: Minerals composition (%) of potsherds selected for petrographic analysis

Mineral type		Percentage of mineral composition
1	Quartz	10
2	Garnet	40
3	Orthoclase	5
4	Plagioclase	12
5	Kaolinite	20

All of the above-named minerals are synonymous with the *Basic Dahomeyan Geological System*, the major rock formation underlying the Akuapem-Togo Range which has for centuries been occupied by Dangme populations renowned for their extant potting traditions (Anquandah 1982: 115). The major minerals constituting this system are quartz, feldspar, garnet and epidote. There are also substantial quantities of mica and hornblende (Kesse 1985: 33, 37). Meanwhile, mica, epidote and hornblende constituted the principal mineral constituents of clays from the study area; their glaring absence in the body fabrics of the sherds is clear attestation that they were

procured from an external source, while the presence of quartz, garnet, orthoclase, plagioclase and kaolinite is a strong indication that the vessels were procured from Shai country. That the peoples of Shai and the study area live only 21 kilometres away from each other and speak the same dialect of the Dangme language would have facilitated exchanges between them. Salt, shellfish and smoked and salted fish were probably the principal items exchanged for Shai pottery.

Two physical attributes of the vessels recovered from the study area are also strongly supportive of their Shai origins. First, two sherds retrieved from Sega were embossed with the 'rising sun' insignia. According to Anquandah (1993: 648), this motif was the trademark of ancient Shai potters. Second, thirty-seven of the sherds (representing 17.1 per cent of the pottery assemblage) were coated with red hematite (red-slipped), while twenty-one were smoke glazed (smudging). The remaining 158 sherds (representing 73.1 per cent of the pottery assemblage) were plain surface hand-polished. According to Anquandah (1982: 118–19), the above three surface treatment types were distinctive attributes of ancient Shai potters. It can thus be safely postulated that the peoples of the study area sourced their pottery needs from Shai.

It is also worth noting that several early European traders to the Gold Coast, some of whom visited the research area and interacted with the locals, corroborated the existence of an ancient exchange network with outlying polities. Describing trade at Ningo and Lay, Barbot, for example, noted that the inhabitants were pretty civil and fair traders who conducted profitable trade at Spice, a large inland town. He further asserted that 'the Blacks of this village and the country about it, drive a trade of cattle, which they fatten in their pasture grounds and either the Gold Coast Blacks come for it or they carry it along the said coast and to *Acra*, where they make thirty crowns of a bullock' (Barbot 1732: 186).

Exchange along the Sega and Kpone coastlines appeared to have attracted peoples of other ethnic affiliations to relocate there because four clans (*Wei*) at Kpone, *Appia*, *Ofosu*, *Bediako* and *Sackey*, have Akan-designated names. Integration of migrants probably impacted the local economy by enhancing urbanisation and facilitating rapid population growth. This is because the quantum of cultural material remains retrieved from the upper stratigraphy levels which constituted Cultural Level 1 increased significantly, compared to Cultural Level 2 which constituted the lower stratigraphy levels.

The recovery of remains of domesticated sheep, cattle and goats bears testimony to the importance of animal husbandry. The following constitutes some parts retrieved from the excavations: fragmented pieces of skull (6),

parts of rib bone (9), parts of *scapula* of Bos (2), parts of *phalanges* of sheep (3), *metapodial* (10), teeth (2), parts of *astrugulus* of Bos (2), parts of *phalanges* of goat (6), parts of *humerus* of sheep (6), parts of *phalanges* of sheep (3), lower jawbone and *metapetal* of Bos (1), *metapodial* (2), and part of the *neural spine* of sheep (1). Other parts included part of the *metapodia* of goat (1), the tooth and *astrugulus* of sheep (1), part of the *metapodial* of sheep (1), *humerus* (1), part of a rib (1) and part of the *neural spine* of a Bovidae (1).

Animal husbandry and pastoralism were probably practised alongside fishing and crop farming because several early European records alluded to it. Bosman (1705: 304) noted the following about pastoralism: ‘the country hereabout is indifferent, populous and fertile but extraordinarily stored with cattle, as cows, hogs, sheep, besides chicken, all of which are here bought very cheap by the blacks of the Gold Coast to transport to the upper coast’. Barbot (1732: 186) also corroborated its importance positing that, ‘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 faunal inventory also included significant quantities of remains of a variety of undomesticated *Mammalian*, *Aves* and *Reptilian* species, suggesting that hunting and trapping were hitherto important vocations undertaken alongside animal husbandry. Some of the parts comprised the lower jaw, *humerus* and *astrugulus* of cane rat (*Thyonomys swinderianus*), *humerus* of wild pig (*Potomochoerus proms*), *testudinata*, *caviapice* and *plastron* of tortoise. Others included *metapodial* of duiker (*Cephalophus niger*, *maxiwelli*) and the *vertebrae* and fang of an unidentified serpentine. The ends of broken bones showed a pattern consistent with forceful disarticulation, attested by their fractured jagged edges, an indication that butchering was the common preferred trapping technique of ancient Dangme hunters. There was also evidence of marrow extraction exemplified by the fine ‘V’ shaped cut marks on bone. The continued reliance on wild game reflects a subsistence strategy which extended into antiquity.

It can be inferred from the large quantum of mollusk remains retrieved from excavations (269) and their wide scatter overlying several portions of the ancient settlement, quarter that the exploitation of mollusks was a major adaptive technique of the peoples of the research area. This excludes twenty-one calcified shell middens concentrated along the southern end of the settlement, close to the shoreline. Unlike mollusk remains from archaeological contexts, which were species identified and quantified, shell constituents of the middens could not be quantified because the bulk were

calcified or heavily fragmented. Quantitatively, mollusks constituted the most exploited *Phyla* of which five were identified (*Mammalia*, *Mollusca*, *Pisces*, *Reptilia* and *Aves*) in that order of significance. Mollusks were classified broadly into two classes: *Bivalvia* and *Gastropoda*. Table 6 below shows the *Phyla* types, various species identified, and their natural habitats.

Table 6: Phyla type, species, their vernacular names and natural habitats

<i>Phyla</i> type	Species name	Vernacular name	Natural habitat	
1	<i>Bivalvia</i>	<i>Pectin</i>	<i>Ngler</i>	Marine
		<i>Arca afra</i>	<i>Nshor adordey</i>	Marine/freshwater
		<i>Arca senilis</i>	<i>shinnie</i>	Marine/freshwater
2	<i>Gastropoda</i>	<i>Nassa semistriata</i>	<i>Waah</i>	Terrestrial
		<i>Thais haemastoma</i>	<i>Aglorb</i>	Marine
		<i>Turritella meta</i>	<i>Momochiley</i>	Marine
		<i>Semifusus morio</i>	<i>Nshor waah</i>	Marine

Their large quantum is a strong indication that the community derived a substantial proportion of their protein requirements from mollusks. It is also indicative that the exploitation of mollusks probably engaged a substantial number of the local populace, undertaken alongside animal husbandry, hunting and trapping of game. Respondents intimated that they were not only exploited for food but for other purposes as well. According to Jonas Engmann, an established goldsmith at Kpone, the shell of *Sepiella ornata* constituted an important tool in a goldsmith's kit in the remote past (personal communication, 21 July 2017). Its importance lay in the fact that the shell is not hardy like other mollusk shells and therefore allowed the goldsmith to carve out hollow moulds of the projected designs to be made. Molten gold was poured in and the ornament removed after solidification. Engmann (*ibid.*) also posited that shells of some mollusks, notably *Pectin* and *Arca senelis*, were commonly used as dishes to weigh gold dust. Unlike baked clay crucibles in which tiny grains of sand making up the body fabric could disintegrate and adulterate the gold dust, the above-named mollusks are not friable and hence are well-suited for the above purpose.

Another respondent Abladu Ashon, intimated that the shells of *Arca afra* which has medicinal properties, were in the past pulverised into a smooth powdery talc and applied to the body after bathing to beautify it (personal communication, 21 July 2017). This was also mixed with specific medicinal herbs, which were not disclosed to me for esoteric reasons, and used for the treatment of eczema. According to Abladu Ashon, grounded shells of some

mollusks were also exploited as paint and a bonding agent in traditional architecture while the inedible offal was used as bait to catch fish. The deputy chief fisherman (*Wolieatse*), Tetteh Mensa, also intimated that some mollusks were used in pacification rites and as musical instruments in the past. The said rites and accompanying rituals were dedicated principally to the *Gao* deity and specific marine spirits (*Gyema worgin*) for spiritual protection over the town's fisher-folks and to guarantee bumper harvests prior to the 'opening' of the new fish season every year. According to Mensa, the shell of *Thais Haemastoma* was used as a musical instrument in the past. The height of this mollusk species at maturity ranges from 70–110 mm while the width is about half the height. The brown to fawn coloured outer lip is toothed with some 2–3 rows of rounded tubercles and several spiral bands. Converting the empty shell into a musical instrument involved two stages. The first involved removing pieces of the pointed apex with a cutting device after which the rough jagged edges created were abraded on a flat levelled stone to smoothen the surface of the rounded hole. It gave a sharp shrilling sound when air was forcefully blown into the hole and by properly controlling the pitch sweet music was generated. According to Mensa, it was one method employed by early fisher-folks to entertain themselves during extended fishing expeditions which could be boring.

Substantial recoveries of iron slag totaling ninety-six, with a total weight of 307 kg at the two sites, is a testimony that people settling in the research area had developed the technological know-how of smelting iron and forging tools. Their discovery at both pre-and post-European contact cultural levels is also indicative of the fact that the people were engaged in this vocation prior to European contact and that the tradition continued into the Atlantic contact era. The production of iron weaponry and other tools which are more hardy, stronger and durable would have enhanced the settlement's security. This probably boosted development and growth of other sectors of the economy because iron tools would have expanded cultivation areas significantly, guaranteeing food stocks in the long term. Macroscopic analysis of forty-six pieces of iron slag, randomly selected from different stratigraphy levels, revealed the presence of several tiny vitrified shiny glassy-like structures of what appeared to be trapped air bubbles on their exterior surfaces. Further investigative work will be required to establish the smelting processes employed, as well as their chronological implications.

Some early European traders operating along the eastern coastal belt testified to the dexterity, deftness and proficiency of Dangme traditional medical practitioners. Their reports suggested they had profound in-depth knowledge of some medicinal plants and herbs. Bosman (1705: 224), for

example, intimated that ‘the chief medicaments here in use are first and more especially lime and lime juice, malagots (otherwise called the grains of paradise) or the cardamom, roots, branches and gums of trees, and about thirty several sorts of green herbs which are impregnated with an extraordinary sanative value.’ He was so impressed and enthused by their astuteness that he advised Europeans with physical ailments to consult them. He posited:

the green herbs, the principal remedy in use among the Negroes are of such wonderful efficacy that it is much to be deplored that no European physician has yet applied himself to the discovery of their nature and virtue; for I do not only imagine but firmly believe that they could prove more successful in the practice of physick than the European preparations especially in this country, because before they reach us, they have lost all their virtue and are mostly corrupt. Besides, our constitution is in some measure changed here by the climate and therefore this country remedies in all probabilities are better for our bodies than the European is (Bosman 1705: 225).

Bosman further reiterated, ‘those who are to come to this country may if they please, endeavour to explore these plants. For my part, I shall here take my leave of them with only informing you the better to evince the strange efficacy of these herbs, that I have several times observed the Negroes cure such great and dangerous wounds with them that I have stood amazed thereat’ (1705: 226).

Anquandah (1985: 13; 1996: 18; 2003a: 11; 2003b: 12) has since the late 1980s consistently argued that archaeological recoveries of two distinctive vessel types, locally called *tsofa kukwe* and *likor likor* in Dangme-land, should be considered as indirect proof to support Dangme traditional medical practices. He noted that their physical attributes are very similar to current ethnographic models utilised in traditional herbal preparations and should therefore be designated as medical accoutrement.

The recovery of a gaming disc (Figure 5) is attestation that the indigenous population used their pastime in a variety of ways. It appeared to have been strung in the middle with twine and vigorously rotated spirally in a clockwise fashion. Halting the rotation process caused the disc to speedily spin reversely.



Figure 5: Gaming disc from Sega

Conclusion

The relatively expansive occupation areas of Sega and Kpone (approximately 64,680 and 39,224 square metres respectively) represented by wide surface artifact scatters and veritable quantities of stone blocks suggest that the two polities were densely peopled theocracies superintended by *Wolomei* in ancient times. Their close proximity to the coast and two large freshwater lagoons was significant and geographically strategic, and appears to have rapidly facilitated socio-economic development. The archaeological and historical evidence indicates that the local economy was mixed, based on a variety of specialised workforces which could be broadly classified into two economic groupings. The first comprised those engaged in primary activities (fishing, crop farming, pastoralism, animal husbandry, hunting and trapping); while the second consisted of those engaged in secondary activities (exchange, traditional medical practice, portaging, traditional priesthood, iron smelting and forging). Other vocational specialists who may have existed and played primary roles in the facilitation of the economy probably included weavers, saddlers, canoe and thatch builders. However, it must be emphasised that there is no material evidence in the archaeological record supporting the existence of these vocations. The recovery of remains of very large fish such as *Prionoce glauca*, which are naturally adapted to very deep oceanic habitats and can grow to lengths of over three metres at maturity, is also a clear manifestation that indigenous fisher-folks of the study area had developed highly advanced technological and navigational systems which enabled them to exploit this deep-sea fishery resource.

The archaeological study and analysis also indicate that intra-regional exchanges were central to the facilitation of the local economy. Needs like pottery and bauxite beads, which were not produced locally, were procured via exchange from other polities; while salt, processed fish and mollusks constituted some items exported from the research area. The ability of Dangme traders to safely transport the above-named commodities, some of which are weighty, over long distances attests to their resourcefulness and dexterity. Wealth generated from exchanges, iron smelting and other craft industries probably led to social stratification in the community. Exchange also appears to have facilitated ethnic heterogeneity, attested by clans with Akan-designated names. The combined evidence (socio-cultural and economic data) suggests that urbanisation and state formation processes had been initiated and were probably underway at ancient Segra and Kpone prior to Atlantic contact.

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