

# Gunda-Buche:

The curved wall of the enclosure known as Kipasi A. Modern houses can be seen just beyond the wall.



## The historical earth bank enclosures of western Kenya

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**An investigation into the distribution, design and origins of 'Gunda-Buche' — the Luo term for the bank-and-ditch enclosures unique to the northern Nyanza region of western Kenya. No archaeological work had been undertaken on these structures prior to this study. Pressure for land means these unique sites are now fast disappearing.**

**T**his article presents the spatial distribution, architectural features and historical and archaeological reconstructions of Gunda-Buche and their place in the migrations and settlement history of western Kenya.

Oral traditions of the Abakuria, Abagusii and Abaluyia provide conflicting information regarding the occupation of the region by different ancestors of the present societies in the region (Osogo, 1966; Ogot, 1967; Were, 1967; Ochieng, 1971, 1974, 1975, 1994; Abuso, 1980). These oral traditions are in conflict with the Luo traditions which claim occupation of the area during more or less the same period. Conflicting information from these oral traditions can only be validated through archaeological evidence such as investigation of the possible builders of the earthworks in the region. No archaeological work had

been undertaken on these structures in the area prior to this study. A survey and location of the structures was found necessary and therefore undertaken. The aims of this investigation were accomplished through survey and mapping of the enclosures as well as surface collections and analysis of ceramic materials. Other remains included grind stones, house floors and faunal material (Odede, 2000).

The earthworks are found in Bondo District along the shores of Lake Victoria. The lake was created by intense tectonic movements during the formation of the Rift Valley (Gregory, 1965). The Nyanzian system, which dates back to the early pre-Cambrian (Ojany and Ogendo, 1973), are the oldest exposed rocks in the region (Siaya: DDP 1994-1996). The study area has a relatively shallow soil except at Kipasi area, which has waterlogged soil. The typical soil material is *murram cuirass*. The soils developed from acidic igneous rocks in the area (Jaetzold, 1982). A complex of well drained, deep, dark reddish brown to black, firm silt-clay soil occur in minor valleys such as Aredo, Waringa, Kiseke, Nyakesi, Rawa and Miri valleys within the region.

The region has a modified equatorial climate with strong influence from local relief and the expansive Lake Victoria (Ojany and Ogendo, 1973). The southern parts of the area near Lake Victoria are dry. The region has an annual rainfall of 900-1200 mm. The study area is dry grassland with scattered acacia trees. Shrubs cover a major portion of the region. Domesticated animals include goats, donkeys, cattle and sheep. Fishing takes place at the beaches of Lake Victoria and along the streams. People also subsidise their economy by growing crops such as sorghum, millet, maize and cassava.

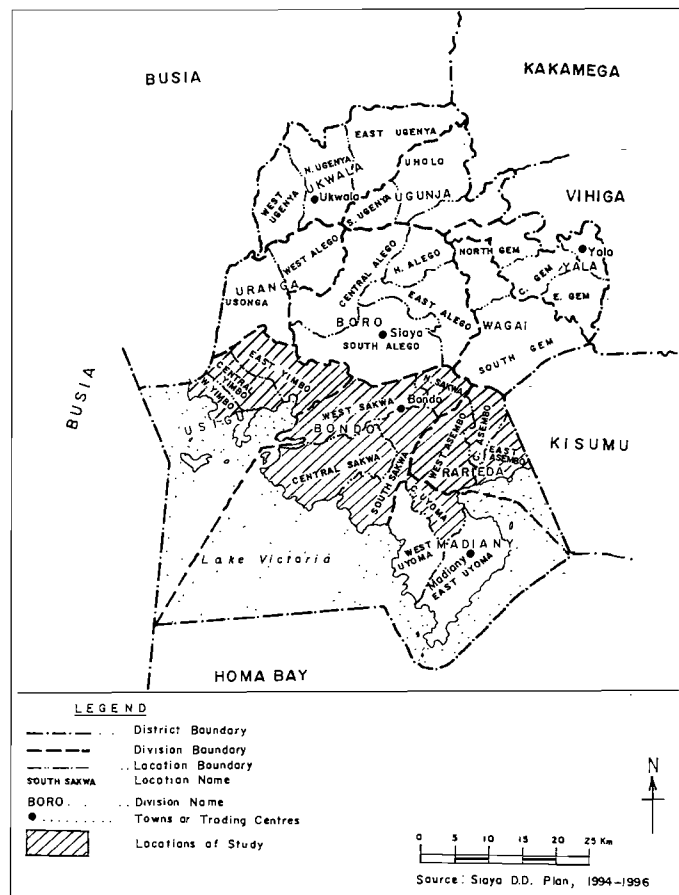
### Conflicting oral traditions

Prior to the arrival of the Luo in the region, Bantu and Highland Nilotic groups extended over the area between Lake Victoria and the Nandi escarpment but retreated inland

with the Luo invasion. Wagner (1970) and Evans-Pritchard (1949) used oral traditions of the Holo, Hayo and Marach clans of the Luhya tribe to ascertain the occupation of the region by the Luhya group. Gusii and Luhya traditions indicate Bantu migration from the area between Mt Elgon and Lake Victoria into their present day western Kenya territories. The first southern Bantu groups or clans who moved into western Kenya from Bunyoro and Congo through Buganda include the Ababubi, Abasiyemba, Abakuwana and Abamalenge who settled on Sigulu Island, the Ababulu who occupied Mageta Island, both in Lake Victoria (Kenya territory); and the Abalusere, Abalwani, Abakholo, Abatsipi, Abenge, Abalungo, Ababasi, Ababambw, Abakhweri and Abakaala who settled in Yimbo at Ugoye in Bondo District.

These early Bantu immigrants preceded the Luo in Nyanza and did not have much contact with them until the 19th century (Ogot, 1967). Other pre-Luo Bantu groups

The study area in Bondo District, on the shores of Lake Victoria.



who were later assimilated by Luo invaders are today represented by the Kagwa in Uyoma peninsula (Madiany Division) in Bondo District, the Kanyibule in Rusinga Island and Waturi in South Nyanza. Kagwa, Kanyibule and Waturi oral traditions indicate they were the first inhabitants of Usenge Hill in Kadimo location, Bondo District, where the first Luo immigrants settled from Uganda and assimilated them.

The Luo also found the Highland Nilotes occupying Yimbo Kadimo location as indicated by the oral traditions of the Terik (Nyang'ori) of western Kenya who are related to the Nandi. Luo oral traditions also indicate the presence of Maasai groups during their arrival in the region. The Kamagambo and Kakraw clans in South Nyanza were originally Maasai people who accompanied the Luo from northern Nyanza and were later assimilated or incorporated by the Luo. Therefore, the pre-Luo settlers of northern Nyanza during the historic period comprised both Bantu and Nilo-Hamitic groups (Ogot, 1967).

These conflicting oral traditions make it impossible to determine the builders of the earthworks based on oral history alone, hence the need for archaeological research.

### **Previous research on settlement enclosures in the region**

Previous studies of earthworks did not receive much attention and focus was directed instead towards the stone-built enclosures\* of southern Nyanza (Gillman, 1944; Gillman, 1944; Chittick, 1945; Anthony 1972; Wandibba, 1986; Onjala, 1990, 1994). A detailed study was undertaken by Lofgren (1967) who surveyed the stone structures of South Nyanza. She listed 50 sites and described three of them in some detail. The three sites include Ogondon, Liare Valley and Marachi hill. These were place names, and her work was the

first attempt to name the structures. She identified two groups of the structures and attributed them to Luo-Abasuba and Nilotic Luo speakers respectively, on the basis of the size of the materials used and structure of the sites. She also asserted that there were similarities between South Nyanza structures and Great Zimbabwe and other Central African ruins. The first and only report of Gunda-Buche was carried in Cohen and Atieno-Odhiambo's (1989) anthropological study of the cultural landscape of Siaya District. The dating of some of the South Nyanza stone ruins has been based on oral traditions (Ayot, 1979). Charcoal samples recovered from Thimlich excavations by Wandibba (1986) produced radio carbon determinations of  $110 \pm 80$  and  $200 \pm 80$ , using the Carbon 14 dating method. When calibrated the two give a long range of about 1650 to 1900 AD.

The Luo intrusion into western Kenya from Uganda displaced earlier groups such as Early Iron Age Bantus, thus hastening human encroachment into the forested highlands (Leakey *et al.*, 1948; Ogot, 1967; Soper, 1969).

### **Methodology: general survey and ceramic analysis**

The survey aimed at mapping the locations of earthworks in Bondo, Rarieda, Usigu and Madiany Divisions. Mapping is the key to accurate recording of most surviving features and artefacts through foot survey (Frankhole and Heizer 1973; Hester 1976; Renfrew 1991). Foot survey was used during structure identification. The above together with 1:50,000 topographical map series of Yimbo (sheet no.115/1) and Asembo (sheet no.115/2) led to the identification and mapping of the enclosures. The positions of some of the enclosures were recorded using the GPS Magellan handset.

By the end of the general survey, a total of 17 sites and 34 structures had been

\* See Kenya Past and Present issue 36, *Secrets in stone: Who built the stone settlements of Nyanza Province?*

identified. Oral history was collected to provide information on these settlements. The names of the enclosures or sites are mainly place names where the enclosures are found, e.g. the name of a hill or area such as Kipasi area. According to oral tradition, some of the structures are named after the most elderly person who was in some way related to the former leader of the clan or lineage line. For example, Ramogo site is named after the clan elder of the inhabitants of the structure, whose name was Ramogo. In case a place had a number of structures without names, the name of the place was used for all the structures. Kipasi and Oiko sites fall under this category. To distinguish each structure in such cases, alphabetical letters from A-Z were assigned to the individual structures.

Ceramic analysis relied on ceramic attributes which are sensitive to change. The attributes considered were morphological characteristics, and decorations. Spaulding (1982) considered classification into types as a process of discovering non-random combinations.

## Research findings

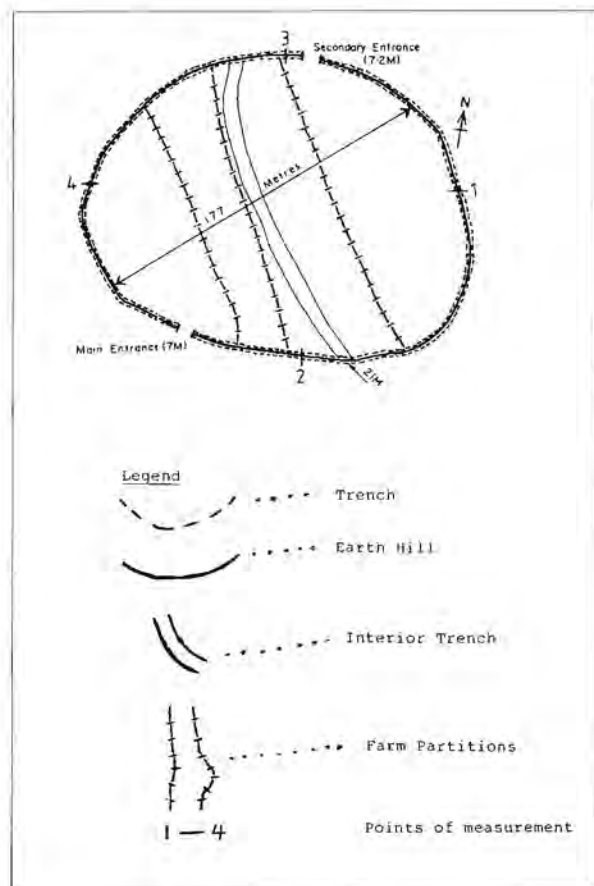
### Spatial distribution and architectural features of the enclosures

A total of 34 bank-and-ditch enclosures have been recorded in the region. The earthworks are unique to northern Nyanza. The enclosures are situated in Sakwa, Asembo, Yimbo and Uyoma regions of Bondo District. The earthworks are more or less circular in plan. Several different types are known. Most of the enclosures have entrances and are characterised by external ditch and internal bank. Some of the enclosures exhibit a single entrance. A few enclosures feature internal and external ditches with a bank in between. One earthwork at Kipasi site has only one ditch as its wall. Two of the larger enclosures, Oiko

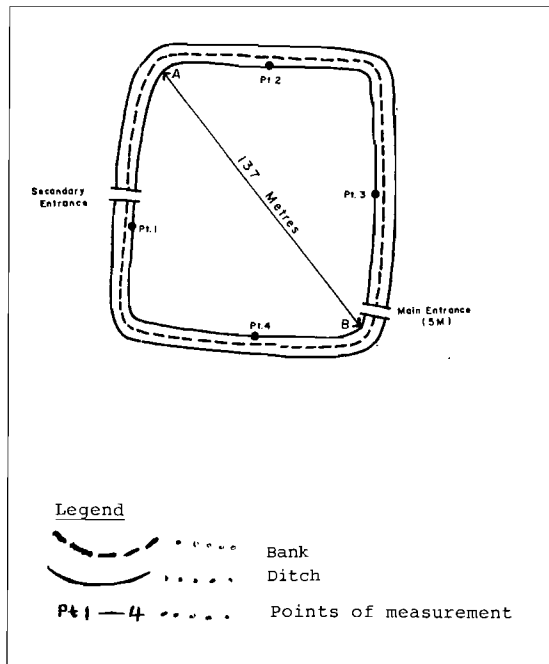


Bank and ditch (wall) at Oiko C.

B and Ajigo 1, have internal partitions. The width of the enclosures generally ranges from 80m to 120m. The largest enclosure (Ajigo 1) is approximately 280m wide. The earth-banks of the enclosures rise to 2.5m while the ditches are as deep as 2m. The enclosures are characterised by entrances whose shape is not clearly defined due to severe site destruction through human



Sketch map of Oiko B.



Sketch map of Kipasi B.

enclosure has relatively smaller entrances than the other enclosures within the site. The individual structures form a complex multiple site or a cluster of enclosures in the area. The main features at Kipasi (GqJb, 7) site include a cluster of three enclosures which constitute the site. The enclosures vary in size but are similar in their structural planning. The structures were also labelled as Kipasi A, B and C for identification. The three enclosures at Kipasi site are more or less circular. Kipasi A enclosure has a circular ditch on the outer surface of the earth-bank while Kipasi B structure has two ditches on either side of the roughly circular earth-bank. Kipasi C enclosure has only one circular ditch but lacks an earth-bank. The individual enclosures are simple structures within a complex multiple enclosure site.

activities. Most of the sites have more than one enclosure, indicating some form of cluster settlement pattern in the region.

Kipasi A has two entrances. Kipasi B enclosure exhibits two gates. Even though the gates are identifiable, their shape is not clear due to site destruction. Both the earth-bank and ditch form the wall of the structures at Kipasi site. The southern part of Kipasi C enclosure has no ditch because it was washed away. The inner sections of Kipasi C and B are currently under cultivation. The diameter of Kipasi A is 123m. Kipasi B and C are 137m and 89m wide respectively.

At Oiko site there are three structures with each of them exhibiting two entrances. The gates have undergone site disturbance. The earth hill and the ditch constitute the wall of the enclosures at Oiko site. All the enclosures display roughly circular ditch and earth hill as the wall.

The height of the earth-bank from the bottom of the ditch to the topmost part of the enclosure varies from enclosure to enclosure. The average height of the earth-bank at Kipasi A is 1.1m while Kipasi B is 1.4m. The depth of the ditch in relation to the outside land surface also varies from structure to structure. The average height of Kipasi C ditch is 0.7m. The width of the circular ditch in all the enclosures varies slightly. Kipasi A ditch is 4m wide. The width of the ditches in Kipasi B and C are 4.8m and 4.9m respectively. The width of both the earth-bank and the ditch also varies from structure to structure within the site. The wall of Kipasi A is 9m wide, while Kipasi B has the widest wall of all the

Oiko A and C are 104m and 133m wide respectively, while Oiko B has a diameter of 177m. The height of the circular earth hill varies from structure to structure. The wall of Oiko A is 1.7m high. The walls of Oiko C and B enclosures are 1.5m and 2m high respectively. The average width of the wall of the structures also varies from structure to structure within the site.

The width dimensions of the walls at Oiko A and B are 7m and 11m respectively, while that of Oiko C is 14.6m. Gate space measurements did not include the height of the gates. The walls of the entrances have been destroyed. The main and secondary entrances of Oiko A are 7m and 4m wide respectively. The main entrance of Oiko B is 7m wide. The secondary entrance of the enclosure is 7.2m wide. Oiko C

enclosures at 14m. The ditch of Kipasi C enclosure has an average width of 4.9m. The gates of the structures were also measured, however vertical dimension of the entrances was not possible to measure.

The main entrance of Kipasi A enclosure is 7m wide while the gates of Kipasi B and C enclosures are 5m and 15m wide respectively.

Masala (GqJb 8) site features two enclosures. The enclosures vary in size but are similar in structural planning, and are known locally as Gunda Olang'o and Gunda Ramogo.

### Other earthwork sites in the region

Recent archaeological survey recorded more earthwork sites in the region. The expeditions took place between 1999 and 2004 and were funded by the British Institute in Eastern Africa. The sites are described in the following gazetteer.

**Iro earthworks** The enclosures are located at 0618.27 S, 99981.70 E in central Yimbo, Usigu Division, Bondo District. The site has two circular enclosures, each exhibiting an external ditch and internal bank. Associated archaeological material remains include numerous potsherds on the surface. They are currently suffering serious destruction through cultivation.

**Lwak earthwork** The site lies at 0008.12 S, 03414.38 E in East Asembo Location, Rarieda Division, Bondo District. The roughly circular enclosure has an external ditch and internal bank which constitute its wall (see photo on this page). The wall of the enclosure has been preserved by Lwak Catholic Church stationed inside the enclosure. The Catholic mission appreciates the value of this magnificent cultural heritage. Test excavations at the site in 2004 produced knotted strip roulette decorated pottery from the three test pits.

**Sigono earthworks** Sigono site is situated at 0009.65 S, 03421.19 E in South Asembo Location, Rarieda Division. The

site comprises three enclosures which are roughly circular in their structural plan. Each of the enclosures exhibits external ditch and internal bank. Potsherds litter the surface of their interior sections. The earthworks are currently being destroyed through farming activities.

**Asembo Bay earthworks** The site is located at 0010.84 S, 3423.19 E in East Asembo Location, Rarieda Division, Bondo District. It comprises two enclosures known locally as *Gunda Kochweda* and *Gunda Raliew*. The enclosures display an external ditch and internal bank as features of the wall. They are roughly circular in their layout. Farming activities in the enclosures threaten their preservation. Numerous potsherds occur on the surface within the enclosures.

**Ong'ielo earthwork** It is situated at 0010.82 S, 03422.18 E in East Asembo Location, Rarieda Division. The site has one circular enclosure which is currently occupied by a dispensary. Numerous potsherds litter the surface of the site. It comprises an external ditch and internal bank which serve as the wall.

**Kibuye earthworks** The site lies at 0008.13 S, 03416.61 E in central Sakwa Location, Bondo Division. There are two circular enclosures. One enclosure has two ditches and a bank as its wall. The wall of the other enclosure has external ditch and internal bank. Certain sections of the

Cultivation on the wall of Lwak enclosure.





Cultivation on the wall of the interior partition at Ajigo 1.

enclosures are under cultivation. Numerous potsherds and a few grindstones are present in the enclosures.

**Sigomere earthworks** The site is situated at 0005.14 S, 03415.26 E in west Sakwa, Bondo Division. The enclosures exhibit external ditch and internal bank as features of the walls. Surface scatters of potsherds occur in the enclosures. Farming activities are currently destroying the enclosures.

**Bondo earthwork** The enclosure has partly been destroyed through the construction of Bondo District Hospital. It is located in Bondo town at 0005.94 S, 03416.19 E. The wall of the enclosure has an external ditch and internal bank. A few potsherds are present on the surface of the site.

**Mahaya earthworks** The site lies at 0009.00 S, 03420.39 E in west Asembo Location, Rarieda Division. The wall of each of the enclosures has a bank between two ditches. Associated archaeological remains in these enclosures are dominated by potsherds and a few animal bone fragments. Farming activities are currently destroying the enclosures.

**Sangla earthwork** This is a single component site. It is located at 0007.92 S, 03417.62 E in west Asembo Location, Rarieda Division. The wall of the enclosure is characterised by an external ditch and internal bank. Surface archaeological

materials were not observed. The farmers had cleared the material remains during farming seasons.

**Siger earthworks** It is located at 0006.82 S, 03418.72 E in west Asembo Location, Rarieda Division. The site comprises two large circular enclosures. Each of the enclosures exhibits an internal bank and external ditch as features of the wall. Associated archaeological material remains include potsherds and two grindstones. The enclosures are currently being destroyed through cultivation.

**Ajigo earthworks** The site lies at 0005.95 S, 03419.79 E in north Sakwa, Bondo Division. The site has five enclosures. Four of the enclosures display an internal bank and external ditch while one of them exhibits a bank between two ditches.

Ajigo I is extensively wide, approximately 280m in width. It has an interior partition comprising of an earth bank. Numerous potsherds are scattered in the enclosures. They are currently undergoing serious site destruction due to farming activities.

**Mitiro earthwork** The site has one circular enclosure which lies at 0005.96 S, 03418.76 E in central Sakwa Location, Bondo Division. Its wall features an external ditch and internal bank. The enclosure is occupied by a primary school.

**Nyamira earthworks** The site is situated at 0005.96 S, 03416.18 E in west Sakwa Location, Bondo Division. It has two roughly circular enclosures, characterised by external ditch and internal bank. Archaeological material remains include surface scatters of potsherds in the enclosure. Cultivation within the enclosures is a serious threat to their preservation.

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## Discussion

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This study has considered sites as places where artefacts, features, structures, organic and environmental remains are found together (Renfrew and Bahn, 1991). In this approach, a site is studied in relation

to geomorphological forms (Zvelebel and Macklin, 1992). The paper has also incorporated the study of Gunda-Buche in relation to the immediate environment. Certain physiological factors are particularly useful in understanding the concentration and construction of the enclosures. A total of 17 sites were identified by the end of the investigations in 2004, incorporating both approaches to the study of sites as either spatial concentrations of human traces or their intimate relationship with the environment. However, a total of 34 enclosures were recorded from the 17 localities in the area. To add a regional perspective, the earthworks in northern Nyanza are similar to the earthworks at Munsu and Bigo in Uganda in terms of their architectural features. Comparative analysis of ceramics from the earthworks in northern Nyanza in relation to those from the Thimlich dry stone-walled enclosures was undertaken in order to establish their relationship.

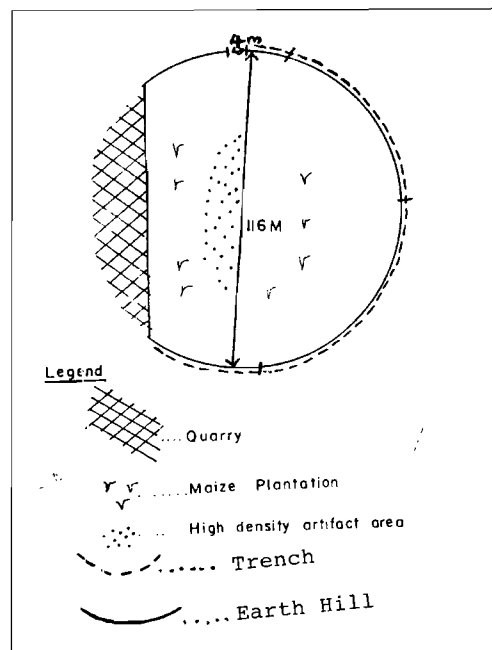
### Gunda-Buche in oral history

The collection of oral history about the earthworks was aimed at illuminating major archaeological questions, such as the identity of the builders of some of the enclosures and, to an extent, underlying factors behind their construction. During interviews, open-ended questions were employed based on the above issues. Individual or group respondents were visited repeatedly to determine the consistency of their information. Discussions on certain aspects of the earthworks such as their origin, choice of location, and abandonment were employed. The discussions revealed important information about these structures as indicated below.

All the local informants provided names of the sites on the basis of the most elderly and first person to acquire land and on whom other members of the clan were dependent over land-ownership claims in their place of settlement. However, some

enclosures were given names of the area where they are located. The earthworks at Kipasi and Oiko area were given place names. Ramogo enclosure was named after its clan elder who led the inhabitants in securing land ownership over the area. The occupants of Ramogo are today represented by the Asembo people who trace their origin to the Joka-Lee migrant group. Joka-Lee was one of the many Luo immigrants during the second wave of Luo migrations into northern Kavirondo (Ochien'g, 1974). Gunda Olang'o was named after a spiritual clan elder, Olang'o, who led its occupants in securing land ownership over the area. The inhabitants of this enclosure were members of the Joka-Owila Luo migrant group who are represented today by the Uyoma people. Joka-Owila was a Luo immigrant during the second wave of Luo migrations into northern Nyanza.

On the basis of oral information, the architectural history of the region covers up to the first decade of the 20th century when abandonment of the enclosures began. No structures were built after the First World War. Instead, the inhabited ones were being abandoned as people opted for settlements with homesteads fenced by timber. The earthwork tradition came to



Sketch map of Ramogo enclosure.



an end basically due to the establishment of peace and order by white colonialists in the region. Communal life was broken down in the colonial era, leading to a shortage of labour for structure construction. A drastic reduction of wildlife as natural habitats were destroyed through indiscriminate farming practices and settlement activities also hastened the demise of the earthworks.

On the basis of both the previous interpretations and oral information regarding the earthworks, the following issues are outlined below:

The Gunda-Buche earthworks are probably a consequence of multiple immigration into the area from the 16th century onwards; these groups had one cultural tradition related to their Luo origin. The structures are thus evidence of places of human occupation and land-ownership claims during migration and settlement in northern Kavirondo. Construction was possible as the inhabitants usually moved in large groups under one clan elder, which ensured clan unity and labour mobilisation useful for their establishment.

Security is a theme that runs through these interpretations and is indeed evidenced in the architectural techniques already discussed above. Insecurity was posed by the presence of wild animals in the region (Stigand, 1909; Thomson, 1985). All the elders interviewed agree that the structures were defensive mechanisms. The enclosures protected domestic animals against wild animals such as leopards and hyenas (still present) that could not escape with their prey once inside the enclosures.

The enclosures were also used to ward off human enemies (Ogot, 1967; Ochieng, 1985). Clan antagonism, which increased as more immigrants entered the region, sparked land disputes leading to insecurity as groups sought to dislodge others. During such occasions, the enclosures acted as fortresses. The earthworks had advantages over wood-built settlements, being durable and not easily destroyed or burnt down

by invaders. The enclosures also offered solid earth-banks without gaps for spying or shooting arrows at the invaders. The ditches trapped the invaders, who would fall into them and then be captured or speared to death.

A number of environmental conditions also played a key role in the construction of the enclosures. First, the availability of local murrum cuirass soil limited transportation cost and enhanced structure construction, which was communally undertaken. No strict building methods were employed, the local murrum soil being often used for the construction of the walls. This was an important consideration together with other requirements such as raised ground for good visibility of the surrounding landscape.

Oral information regarding the earthworks in the region is supported empirically by architectural features exhibited in the enclosures and the surrounding environmental conditions. Insecurity is a prominent theme in oral history (Stigand, 1909; Ogot, 1967; Ochieng, 1985), clearly manifested by the few entrances, high thickened walls and location of the enclosures on raised ground for clear visibility of the surrounding landscape to check against easy entry by human foes. From oral information, it is clear that people lived in large groups to enhance security as competition for land intensified, and for provision of cheap labour during construction and maintenance of the enclosures.

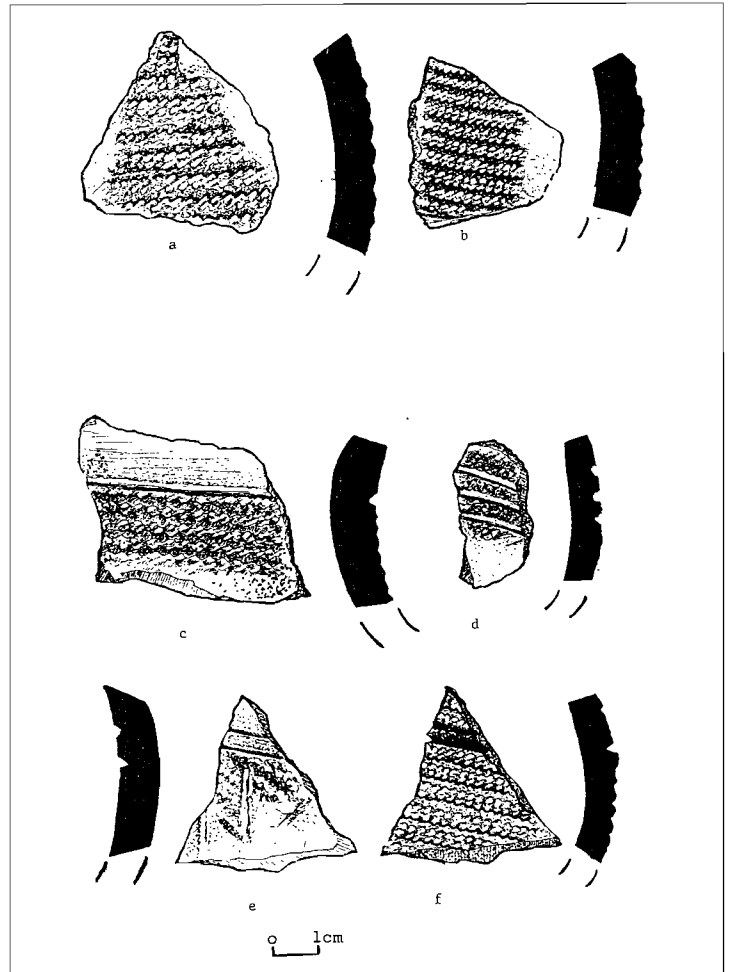
The construction of these earthworks for security purposes was enhanced by the availability of building material (murrum cuirass soil), together with good drainage and proximity (200m) to water sources such as the Miri and Rawa streams. The immigrants preferred to settle on raised ground leading to a concentration of the enclosures on gentle rolling terrain. Thus, the natural environmental conditions facilitated the construction of earthworks in the region.

## Archaeological inference

Ceramic attributes, styles and types have been identified as useful indicators of cultural affiliations and relationships (Matson, 1966; Egloff, 1972; Soper, 1985). They are important in reconstructing the underlying factors behind cultural relationships such as migrations, trade or exchange, and intermarriage (Kraober, 1944; Willey, 1945; MacNeish *et al.*, 1970) that can lead to sharing of ceramic traits, and subsequent resemblances in their styles (Cruxent and Rouse, 1958; Rouse and Cruxent, 1963). In view of this, ceramic analysis was geared towards the identification of the possible builders of the earthworks. Among the attributes, decoration is the most likely accurate reflection of social distinction (Soper, 1985) and especially in the Lake Victoria region (Wandibba, 1977). The study depended mainly on roulette decoration identified in this work as the means of identifying the possible builders of the enclosures.

The first clear distinction between classes of roulettes was made by Soper and Golden (1969) while Sutton and Roberts (1968) had already identified the difference in the “intensiveness” of rouletting at Uvinza. Soper (1985) finally provided a framework for identification of the different roulettes. In the study area, only knotted strip and composite roulette decorations (often executed on the body and neck of jars but less substantially on rims of bowls) were identified.

Knotted strip roulette decoration has previously been referred to as plaited cord roulette (Soper and Golden, 1969; Soper, 1971), knotted cord roulette (Soper, 1979), and plaited fibre roulette (David *et al.*, 1981). However, this work has used the term knotted strip roulette for purposes of distinction, useful in the identification of social group affiliations. Knotted strip roulettes and their resulting impressions vary with tightness, nature and thickness of the strip used in their execution, the number



of times it is rolled back and forth, and the direction of rolling the strip (flat-sectioned element). The resulting impressions and bands from knotted strip roulette decoration identified in this work include parallel linear bands, oblique lines of roulette impressions and parallel lines of roulette impressions. Oblique lines of roulette impressions are mainly associated with neck and rim potsherds, while parallel lines of roulette impressions are predominantly found in these sites. This may be attributed to the fragmentary nature of sherds which has possibly reduced further identification of the orientation of oblique lines of roulette impressions.

Knotted strip roulette decorated pottery from the earthworks.

Converging patterns of knotted strip roulette have also been identified together with overlapping patterns of the same decoration. These patterns of knotted strip roulette decorations have produced oblique

lines of impressions on the sherds. Azere (1978) also confirmed the production of overlapping patterns of this decoration through the use of knotted strip roulettes, which is in conformity with the outcome of this work.

### **The builders of the earthworks**

On the question of the possible makers of ceramic materials associated with these earth-built enclosures, it is important to include previous information related to this work in East Africa and the lake region in particular. Although Wandibba (1977b) associated the emergence of roulette decoration in East Africa and western Kenya, in particular, with Bantu immigrant groups, Soper (1985) has connected the introduction of this decoration with the various branches of Nilotic languages. However, it is important to note that Soper (1985) based his assumption on archaeological evidence, while Wandibba (1977b) relied on oral information rather than archaeological proof. Recent archaeological work done by David *et al.* (1981), Robertshaw and Mawson (1981) in southern Sudan failed to indicate the use of rouletting before the Iron Age. In East Africa, no rouletting is associated with Neolithic or Early Iron Age (Soper, 1985), a period when Bantu immigrants were already settled in northern Nyanza as indicated by the presence of dimple-based pottery at Urewe site, which further disassociates the Bantu speakers from the origin of roulette decoration in the lake region.

Recently, Herbich (1981) asserted that ethnic distinctions in the lake region would be hard to infer on the basis of ceramic material alone, due to similar pottery traits between Luo and Bantu-speaking Luhya communities. However, in this work we intend to consider roulette decorations to be useful in the identification of ethnic groupings in the study area.

Although knotted strip roulette is present in the western Bantu ceramic decorations, especially among the Luhya,

Bukusu and Teso (Wandibba, 1995), other predominant forms of roulettes among these Bantu groups include curved-wooden (Barbour 1989) and knotted string roulettes (Soper, 1985). Moreover, the body of vessel forms among these Bantu groups are often left plain, while curved-wooden roulette decorations are concentrated on the neck/rim position of the pots (Barbour, 1989; Soper, 1985).

Ceramic analysis in this work has only identified the presence of knotted strip and composite roulette decorations, mainly executed on the body and neck of the vessel forms, while curved-wooden and knotted string roulette decorations are virtually absent in these earthworks. Twisted string roulette decoration is typically used by Kalenjin speakers in the highlands of the Rift Valley, while knotted strip roulette decorations have fairly close correlations with western Nilotic Luo communities (Soper, 1985). The presence of knotted strip and composite roulette decorations mainly on the body and neck of vessel forms alone and the absence of curved-wooden, twisted string, and knotted string roulette decorations in the earthworks do not indicate any association of these enclosures with Bantu or Kalenjin migrant groups who, according to oral history, are claimed to have invaded or inhabited the region.

It is possible from ceramic analysis to infer that the possible builders and occupants of these earthworks are the makers of vessel forms executed on the body and neck by knotted strip, and composite roulette decorations — here identified as Western Nilotic Luo social groups or immigrants. This claim is further supported by correlations between modern ceramics in the study area with archaeological pottery remains from these structures. They are very similar showing some form of continuity from prehistoric times to the present. The lack of outside influence on ceramics within and around these sites indicate that Luo pottery has been conspicuously insensitive and resistant to change during the migration

period and subsequent interactions through marriage, war or exchange, making them distinctive. Similar situations had been previously identified among Amarya pottery in Peru (Shepard, 1956; Tschopik, 1950).

However, not all ceramic assemblages produced by the same community through time need to be identical, as in the case of modern ceramics in Bondo. New and diverse pot forms such as flower, tea and sugar vessels indicate a response by the same people to different social needs, and probably represent copying from immigrant cultural values, especially the western influence, rather than direct importation of wares. Matson (1966) has suggested that analysis of a ceramic corpus may show the actual cultural impact of either a conquering, dominant political power, or the solidarity of the group — a view consistent with the result of ceramic analysis from the earthworks. Oral information supports the idea of settlement in the region and within some of the enclosures by Luo invaders who either pushed away other migrant groups from the region or incorporated them.

Bantu speakers who use rouletting are all concentrated in the lake region, and the technique is unlikely to have ever been practised by any common ancestral Bantu group (Sopef, 1985), suggesting that the technique was copied by western Bantu groups from the Nilotes and not the opposite as indicated by Wandibba (1977b).

The ceramic attributes useful in the identification of the builders of the earthworks include parallel linear bands and oblique and/or parallel-knotted strip roulette decorations on the body and neck of the vessels. The makers of these vessel forms were Nilotic Luo migrant groups.

### **The dating: cross-dating**

Typological correlations between ceramic attributes from the earthworks in northern Nyanza and those from the dry stone walled enclosures in South Nyanza (Thimlich Ohinga) do suggest that these two different kinds of architecture were built in the same

period of the Later Iron Age (Odede, 2000). The earthworks in the region are undated. On the other hand, the Thimlich site complex was dated to the Recent Iron Age, based on radio carbon determinations of  $110 \pm 80$  and  $200 \pm 80$  B.P. (Wandibba, 1986). Although oral information provides slight variations in the settlement of the regions under study, comparative ceramic analysis indicates similarities in the attributes and motifs of pottery from the two areas, pointing to the occupation of these sites during the same period of Recent Iron Age (Odede, 2000). The differences in structure preservation among the sites suggest slight variations in site abandonment in the regions under study, during the same period of the Recent Iron Age.

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## **Conclusion**

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The Gunda-Buche earthworks are evidence of land ownership rivalry by migrant sub-groups. The earthworks are located on raised ground and acted as defensive mechanisms against wild animals and human invaders, in particular against the threats posed by inter-clan land disputes and by cattle raiders. Environmental conditions such as the abundance of murrum cuirass soil, good drainage and the presence of water sources together with the communal lifestyle facilitated the construction and maintenance of the earthworks.

All the earthworks in the region exhibit similar architectural features, which signify one construction tradition widely spread along the eastern side of the Lake Victoria basin in northern Nyanza. Analysis of ceramics from these enclosures has proved that the construction and occupation of the enclosures can be attributed to Nilotic Luo-speakers who shared one cultural tradition. The earthworks are thus evidence of Luo migrations and settlement in the Lake Victoria region. The traditional Luo pottery repertoire has been resistant to external influence or change for a long time,

indicating the predominance of Luo speakers during the migration and settlement of the Lake Victoria region.

The earthworks are currently under serious threat from human activities such as cultivation, quarrying and re-use of the archaeological materials by the local people.

Further archaeological work is needed in the region, including excavation of the enclosures to establish their internal organisation, an investigation into their socio-political and economic organisation, a study of their cultural practices such as burial rituals and finally, radiocarbon dating of the enclosures. Conservation measures need to be put in place by the National Museums of Kenya in order to prevent their further destruction, which is happening at an alarming rate.

#### PHOTOGRAPHS AND DIAGRAMS BY THE AUTHORS

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