

u AN INVESTIGATION INTO STONE STRUCTURES AND  
EARTHWORKS OF BONDO DIVISION, LAKE VICTORIA BASIN,  
KENYA. 4

A THESIS SUBMITTED TO THE DEPARTMENT OF HISTORY IN  
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE  
OF MASTER OF ARTS IN ARCHAEOLOGY, THE UNIVERSITY OF  
NAIROBI.

BY

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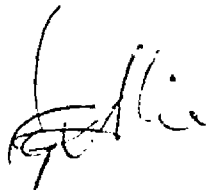
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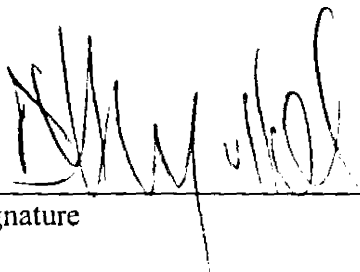
## DECLARATION

This thesis has not been presented for any degree in any University and unless stated in the acknowledgments or in the text, the work is entirely based on my own original research.

Fredrick Z. A. Odede   
Signature

This thesis is submitted for examination with our approval as University Supervisors.

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Signature

## DEDICATION

Dedicated to my loving mother Silvia Amollo Odede, my dear sisters, brother and Mrs. Louise Adhiambo Odede for their great assistance, concern and encouragement.

## ACKNOWLEDGEMENT

This work owes much to the close scrutiny, comments and sound advice of my supervisors Dr. Ephraim Wachira Wahome and Mr. Mwanzia David Kyule who were not only patient enough but also made themselves available when the going was tough to save me from errors that could have ruined this work. Their wise suggestions and tough criticisms saw this thesis to its current shape. They do not share any responsibility for errors which may still be present.

Other scholars who made useful suggestions, alterations and proved quite helpful in shaping the direction of my research include the Director of Regional Museums, Sites and Monuments, Dr. George H.O. Abungu, the Director of The British Institute In Eastern Africa, Dr. J. E. G. Sutton, the Deputy Principal, College of Humanities and Social Sciences, University of Nairobi, Professor Henry Mutoro, and Mr. Isaya O. Onjala a research scholar at the National Museums of Kenya.

A number of organisations also contributed to the success of this research. The University of Nairobi provided me with a scholarship which got me through my M.A. studies. The British Institute In Eastern Africa provided financial assistance in the course of field research. The National Museums of Kenya allowed me to use their archaeological laboratory facilities during ceramic analysis.

I must also thank Mr. Nyandega, Mr. Ouma and other computer operators in Geography Department for their support. I am also thankful to my mother, Mrs. Silvia Odede, my younger brothers and Mrs. Louise Adhiambo Odede for their encouragements in the course of this work.

Finally, everything mentioned above could only be possible through the spiritual guidance of the almighty God that bestowed His spirits and love upon all the above personalities and myself for mutual understanding and success of this work.

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## ABSTRACT

This study is an investigation into Bondo stone structures and earth works in Northern Kavirondo. The objectives of this research include detailed description of the structures, their location and possible builders to Thimlich complex site in South Nyanza.

To establish the builders of these stone structures, the current study capitalises on a corpus of ceramic material recovered through surface collections and excavations. It utilises their potential attributes and attribute combinations to cover several aspects of ceramic characterisation. The interpretation of the data is based on the idea that similarities or dissimilarities of ceramic attributes from one group to another are proportional to the degree of interaction between them or are a reflection of cultural group affiliations. Comparative analysis has been important in establishing similarities or dissimilarities in both architectural evidence and ceramic attributes between the sites.

Through such studies, it has been established that most of the stone structures are located on hilly areas mainly for security purposes while their construction and maintenance was facilitated by the availability of natural resources such as loose surface volcanic gneiss rocks. Good drainage and water sources were important factors in the choice of site location. The stone structures in Bondo and Thimlich regions exhibit similar architectural characteristics indicating one construction tradition widely spread along the eastern side of Lake Victoria basin from Northern Kavirondo to South Nyanza District.

This study has established that the makers of knotted strip and composite roulette decorated pottery were the occupants of Thimlich and Bondo *Ohingni* during the recent Iron Age period. These occupants had one cultural tradition as opposed to different cultural backgrounds such as previously suggested by some scholars on the basis of oral history.

The limitations of this study calls for excavations to recover charcoal samples for carbon 14 dating of the site. Further archaeological investigation into the sources of clay using xeroradiography is required to clarify any exchange of vessel forms between the sites. An assessment of the structures by an architect and more archaeological survey is necessary

## CHAPTER ONE

### BACKGROUND INFORMATION

#### 1.0 Introduction:

This chapter contains a summary of this project, literature review, statement of the problem, objectives, justification of the project and theoretical framework.

The work is an attempt to establish the origins of Got Abiero Stone Structures in Bondo Division, Siaya District. The major issues addressed in this work include: the builders of the structures, the characteristic architectural features and location of the enclosures.

The aims of this project are accomplished through survey and mapping of the structures as well as surface collections and analysis of ceramic materials. Other remains include grind stones, stone cairns, house floors and faunal material. The sites covered during the study include Got Abiero (GqJa 1), Rasoti (GqJa 3), Orwa (GqJa 2), Oiko (GqJb 6), Kipasi (GqJb 7), Ramogo (GqJb 9), and Masala (GqJb 8).

The study falls within Madiany and Bondo Divisions, Siaya District, which is one of the seven districts in Nyanza Province (see Fig. 1.1). The locations of the study area are central and south Sakwa. Part of central Uyoma location was also included (see Fig. 1.2). Siaya District lies between latitude 0°-26' South to 0°-28' North, and from longitude 33°-58' East to 34°-34' East. The district is 3,523 Km<sup>2</sup>, out of which about 1,005 Km<sup>2</sup> is under water in lakes Sare, Kanyaboli and Victoria. It is the largest District in the province (DPP 1994-1996).

Scattered highlands rising up to about 1,280 metres above sea level occur near the shores of Lake Victoria in parts of Sakwa and Yimbo locations in Bondo and Usigu Divisions respectively.

Got Abiero and other related earth structures are found in Lake Victoria basin. The

lake was formed by intense tectonic movements during the rift valley formation (Gregory 1965). The Nyanzian system which dates back to early pre-Cambrian (Ojany and Ogendo 1973) are the oldest exposed rocks in Siaya District (Siaya: DDP 1994-1996). Got Abiero and the other surrounding hills are covered with rock boulders of gneiss type.

The study area has a relatively shallow soil except at Kipasi area, which has water logged soil. The typical soil material is marrum cuirass. The soils developed from acidic igneous rocks (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.

Siaya District has modified equatorial climate with strong influence from local relief and the expansive Lake Victoria (Ojany and Ogendo 1973). The southern parts of the district near Lake Victoria are dry. Bondo Division has annual rainfall range between 900-1200 mm. Temperature varies with altitude from 21 degrees in the north-east to about 22.5 degrees centigrade along the Lake Victoria shores (Jaetzold, 1982) where the structures are situated. The study divisions include Bondo and Madiany (see Figure 1.2). The study area is dry grassland with scattered acacia trees. Shrubs cover a major portion of Bondo Division. Domesticated animals include goats, donkeys, cattle and sheep. Fishing takes place at the beaches of Lake Victoria and along the streams. People also subsidize their economy by growing crops such as sorghum, millet, maize and cassava.

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: 12) used oral traditions of the Holo, Hayo and Marach clans of Luhya tribe to ascertain the occupation of the region by Luhya group. The parent source of the Bantu (Luhya) in Central Nyanza is Mt Elgon region.

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 group or clans into Western Kenya from Bunyoro and Congo through Buganda included 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 Igoye in Bondo Division, Siaya District.

These early Bantu immigrants preceded the Luo in Nyanza and did not have much contact with them until the 19<sup>th</sup> Century, Ogot (1967: 141).

Other pre-Luo Bantu groups who were later assimilated by the Luo invaders are today represented by the Kagwa in Uyoma peninsula (Madiany Division) in Siaya 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 Division, 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 in the region from Central Kavirondo (Siaya District) and were later assimilated or incorporated by the Luo. Therefore, the pre-Luo settlers of Central Nyanza during the historic period, comprised both the Bantu and the Nilo-Hamitic groups (Ogot 1967: 142).

From these conflicting oral traditions, it is not possible to determine the possible builders of Got Abiero stone structures. The oral information can only be supplementary to archaeological inference regarding the possible builders of these stone structures in Bondo Division, Siaya District.

Ceramic analysis of the archaeological material from the stone structures is useful in determining the possible builders of the structures in the region.

### **1.1 The Problem**

The aim of the project is to establish the significance of Got Abiero stone structures in Bondo Division, Siaya District in the migrations and settlement of the early inhabitants 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 Western Kenya (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 the occupation of the area in more or less the same period. Studies of this kind can establish the validity of such claims. Conflicting information from these oral traditions can only be validated through archaeological evidence such as investigation of the possible builders of the stone structures in Bondo Division, Siaya District. No archaeological work has been undertaken on these structures in the area prior to this project. A survey and location of the structures was found necessary and therefore undertaken.

### **1.2 Objectives**

The objective of this project is to establish the possible builders of Got Abiero stone structures (Ohingni) in Bondo Division, Siaya District. The other objectives include locating



the structures in order to produce detailed spatial maps of the enclosures, and an in depth description of their characteristic architectural features.

### **1.3 Justification of the Project**

Previous work on the subject under study (Robertshaw 1993, Onjala 1990, 1994, Wandibba 1986, Ayot 1979, Lofgren 1967) has been based on stone structures in South Nyanza. The South Nyanza stone structures have been located, described and a few of them excavated (Lofgren 1967, Onjala 1994, Wandibba 1986 and Robertshaw 1993). However archaeological work in western Kenya has neglected the study area and ancient monuments such as Gangu earthworks have only been mentioned in the process of other activities (Cohen and Atieno-Odhiambo 1989, Wandibba 1986). Previous scholars have based their claims for the origin of the stone structures on oral traditions of the local inhabitants without integrating the claims with archaeological remains such as ceramic materials. Oral traditions have limitations such as the tendency of the local inhabitants around the ruins to associate themselves with the structures even if they are not directly related with the builders (Onjala 1994). Since the informants were not participants in the construction process, distortion of information is likely to happen. Previous archaeologists have not investigated the study area. Got Abiero stone and other adjacent structures are viable for this project since the enclosures are currently being destroyed by both natural and cultural processes.

In order to address the outlined gap, and remedy the situation, it has been found necessary that the stone structures be investigated, and documented for future reference. In the process of investigation, new areas for future research work became quite distinct.

### **1.4 Literature Review**

Archaeological work in the Lake Victoria Basin, started as early as 1940's. The pioneers (Leakey and Owen 1945) concentrated on the activities and origins of hominids as well as typologies of lithics and ceramics. Urewe pottery associated with iron implements and pieces of *tuyeres* were recovered from Urewe and Yala-Alego in Siaya District (Leakey and Owen 1945, Soper 1969).

On the other hand, studies of the stone structures did not receive a lot of attention and sites were only listed in the process of other activities. Gillman (1944) reported the presence of stone structures within South Nyanza region in an area stretching from Nyakach in Kisumu District to the southern fringes of South Nyanza District. This report does not indicate the precise location of the structures. On the issue of the builders, Gillman (1944) associated the stone structures to a superior race from the north. This claim was not justified with concrete evidence.

Chittick (1945) claimed that the builders were groups such as the Abagusi, Abakuria and Abasuba who had occupied the region before the arrival of the central Luo occupants of South Nyanza. In the same note, he compared the South Nyanza structures with the ones found on Ukerewe island in Lake Victoria. This comparison was based on oral traditions and no attempt was made to look at the archaeological material remains for verification.

Lofgren (1967) surveyed the stone structures of South Nyanza. She listed fifty 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.

Lofgren (1967) also asserted that there were similarities between South Nyanza

structures and Great Zimbabwe and other Central African ruins. The assertion was controversial since she did not provide the basis of her comparison of the structures with Great Zimbabwe, making the comparison questionable.

Anthony (1972) suggested that excavations be conducted and other archaeological studies to unravel the mystery of the stone structures. This was fulfilled by Wandibba (1986) who had an expedition to Liare Valley. The excavated materials included cord-rouletted shards, stone artifacts, beads and animal bones. The excavations established that the site was occupied by Luo speaking Nilotes.

Cohen and Atieno-Odhiambo (1989) reported ancient monuments built of earth, locally known as "Gunda-buche" around Lake Gangu in Siaya District in their anthropological study of the cultural landscape of Siaya District.

Onjala (1990) studied the building technique of the monuments, the settlement history and distribution of the stone structures in Mohuru, South and North Kadem, parts of North Kanyamkago, Karungu, Kwabwai and Kanyidoto locations. The work was primarily descriptive and based on the South Nyanza stone structures alone.

Robertshaw (1993) excavated Gogo Falls and established a sequence of Oltome, Elemetaitan, Urewe and Akira ceramic traditions on the basis of stratigraphic examination. He did not tie these traditions with any migratory groups in the region.

Onjala (1994) moved from a descriptive approach to an understanding of the structures from an ecological and spatial perspective. He established clusters of structures using nearest neighbour analysis. Ethno-historic interpretations led to a reconstruction of the basic factors underlying the origins, and location of the stone structures (Ohingni).

Onjala (1994) also located sites and their patterns. He did not investigate the builders of the structures using archaeological material remains.

The dating of some of the South Nyanza stone ruins has been based on oral traditions (Ayot 1979). These periods are not certain since human memory fades away with time and distortion of information is likely to occur. Conflicting information about their ancestors' invasion of the region can only be verified through archaeological investigation of such remains as stone ruins. Charcoal samples recovered from Thimlich excavations by Wandibba (1986) produced radio carbon determinations of  $110\pm 80$  and  $200\pm 80$ , using Carbon 14 dating method. When calibrated the two give a long range of about 1650 to 1900 A.D.

Central Nyanza region has been inhabited since the Early Stone Age Period. The deposit at Yala-Alego, Baragulu, Mur, BaroUdida, and Mbeji belong to the Sangoan culture, first mistakenly termed as Tumbian culture (Leakey and Owen 1945). Therefore the Sangoan folk lived in these valleys in Siaya District.

The valleys were also occupied during Iron Age. Urewe pottery was recovered from sites situated on the valley slopes. Such sites include Urewe, Ng'iya, Huludhi, Aluala and Yala-Alego valleys in Central Nyanza. The majority of these sites occur in Alego division, Siaya District. Urewe ware was found in association with iron-object in sites such as Yala-Alego and Urewe valleys. This group of pottery thus belong to Early Iron Age period (Leakey *et al.* 1948, Ogot 1967, Soper 1969).

The Bantu were assigned as the makers of this pottery on the basis of the direction and wide spread nature of the ware (Posnansky 1968). The river valleys in Siaya District (Central Kavirondo) were thus occupied by iron-using folks some time between the 9<sup>th</sup> and 10<sup>th</sup> Century (Ogot 1967: 136).

Between the arrival of the present inhabitants and the makers of Urewe ware, Central Nyanza appears to have been occupied by another ware (pottery group) found overlying Bed 4 at Urewe valley, whose products are quite unlike the pottery of the present-day settlers in the

region (Leakey *et al.* 1948).

The Luo intrusion into Western Kenya from Uganda encountered these early groups who occupied the river valleys, thus hastening human encroachment into the forested highlands to create space for the incoming pastoralists.

## 1.5 Theoretical Framework

Numerous variables have been considered as the determining factors behind the construction, emergence and structure of stone ruins and earth works.

Social interaction theory is useful in understanding the events during the period when the area was inhabited by the early settlers. The theory is based on the fact that similarities or comparative frequencies of design attributes between groups are proportional to the direction and intensity of social interaction between them (Rice 1987: 252). The theory is significant in interpreting situations where similarities of attribute combinations or style are seen as indicators of homogeneity within or between groups. For such similarities to exist, some form of interaction must have taken place (Wahome 1995: 3). Social interaction theory is important in understanding the existence of some form of interaction between social groups as reflected in ceramic assemblages. It is also useful in explaining the underlying factors behind cultural relationships such as migration, exchange, or intermarriage. However this theory does not account for the poorly represented ceramic attributes across sites. The theory of social interaction is considered important for the study area due to recorded ethnographic information or extant oral traditions indicating warfare, trade exchange, migration, assimilation and intermarriage between the Luo and the ancestors of the various neighbouring Bantu and Highland Nilotes. This has been supplied by scholars such as Evans-Pritchard (1949), Ogot (1967), Ochieng (1974, 1975), Wilson (1961) and Ayot (1979) who have

asserted that the Luo interacted with the Abaluhya, Maasai, Nandi, Abagussi and Kipsigi through trade, warfare, intermarriage, conquest and cultural assimilation. Inter-clan and tribal warfare integrated the Luo into a cohesive society away from the previous segmentary clan or family units that originally arrived in the region (Cohen 1968, Abuso 1980: 131). The intermarriage, trade and absorption of other tribes led to the rise of new communities such as Luo-Abasuba (Ayot 1979, Mboya 1938).

Trade was an essential factor in the establishment of the first urban centers in Iron Age Europe (Alexander 1972). The cities were centers for the production of materials to be traded for the sought-after imports from the Mediterranean world (Wells 1984). Wells (1984) maintains that the commercial exchanges were primary in the origin of fortified cities, and states, organizations and other changes simply resulted from them. Trade between the Luo and the neighbouring communities such as Abaluyia, Kipsigis, Nandi and Abagussi was through barter system (Cohen 1968, Ochieng 1974,75). The inhabitants of Got Abiero could as well have exchanged items with their neighbours.

Irrigation, a prime factor in the promotion of agriculture in the Near East involved large amount of capital, a complex labour organisation which are prerequisites in the origins and development of ancient urban centres in the Near East (Wittvogel 1957). A complex labour organisation could have necessitated the establishment of Got Abiero stone structures. Sutton (1973, 1990) asserted that the field stone structures of Engaruka were probably due to a complex labour organisation aimed at facilitating the irrigation process.

In South Africa, the circular nature of the stone ruins in the Southern Highveld has socio-cultural significance in the organisation of their builders than the physical set up of the landscape (Biermann 1971). The form of settlement unit is largely the result of Kinship and social structure among the communities in the southern Highveld (Magg 1976: 24). The

homogeneity of the stone structures in the highvelds corresponds with lack of economic specialisation, and relatively underdeveloped social stratification characteristic of many simple societies in Africa (Magg 1976: 25).

The interpretation of South Nyanza structures has been based on the ethno-historic approach. Oral traditions (Lofgren 1967, Onjala 1994) maintain that security was the main idea behind the construction of *Ohingni*. *Ohingni* acted as defensive mechanism against wild animals, external enemies and cattle raiders.

Luo and non-Luo oral traditions agree that the construction of the structures was made possible by the large number of immigrants who lived on communal basis (Onjala 1994). Each group had a common origin and one leader which was a yardstick to clan unity, and kept traditional values intact. The unity under one central authority necessitated a faster supply of labour useful in the construction of the stone structures (*Ohingni*).

Antagonism over land and pasture led to further movement into new areas for livelihood and the construction of *Ohingni* where building materials were available.

## 1.6 Terminology

- Assemblage:** Groupings of all artifacts or one culture or time period, found within the context of an archaeological site, usually by form or function (Knudson 1978, Rice 1987).
- Attribute:** A quality or features of an artifact, for example, its colour, size or shape that forms the basis of analysis; also called a variable (Knudson 1978, Rice 1987).
- Attribute Analysis:** Is an objective method which is based on the isolation and examination of certain individual characteristics of pottery which are then synthesized to provide information on a particular pottery (Wandibba 1977a, 1982, Mutoro 1979).

## Attribute combination:

Is a process whereby minimal units such as elements are used to create larger units in a hierarchical manner until a style is finally produced (Wahome 1995).

- Band:** Is a design element that is elongated in linear strips on the exterior surfaces of pottery (Rice 1987, Wahome 1995).
- Base:** The underside of a vessel (Rice 1987).
- Body:** That portion of a vessel between the mouth/neck and the base (Rice 1987)
- Bowl:** A vessel in which the vertical height is not greater than the overall measurements across the rim (Schofield 1948:29)
- Brushing:** Is the appearance of striations on the surface when a vessel is wiped using a variety of materials (Wahome 1995)
- Burnish:** Providing high sheen and smoothness to vessel surface while leather hard either before or after firing (Wahome 1995, Rice 1987)
- Ceramics:** Any modelled clay that has been fired. This includes such things as pottery, clay pipes, clay figurines, bricks, clay tiles (Wandibba 1982).
- Clay:** A fine-grained earthy material that becomes plastic and malleable when wet and hardens with the application of heat (Rice 1987)
- Coiling:** The method of hand building an object of clay by successive additions of ropes or coils of the same earthy material (Shepard 1956).
- Composite roulette:** Comprise two or more elements; a single or less rigid vertical component and flexible elements (string or strip) wrapped, woven or knotted round it (Soper 1985:39)
- Coarse Surface Treatment:** Refers to rough surface finish, usually when temper is sand.
- Cross-dating:** Establishing contemporaneity of a site of unknown age with one of known age (Knudson 1978).
- Curved wooden roulette:** Is a cylinder into which various patterns are curved or less frequently indented (Soper 1985:33)
- Datum Point:** The point in a site from which measurements are taken, and in relation to which all finds are recorded (Knudson 1978).
- Direct rim:** Is a rim which does not curve towards either the interior or



exterior of the vessel (Shepard 1956).

- Expanded lip: Is a lip which is characterised by a thickened surface (Wahome 1995).
- Everted rim: Is a rim that has a sharp angle on the interior surface at the point of inflection (Shepard 1956).
- Flat Lip: Is a lip which is angular at the junction between the surface plane with straight surface between the angle (Krause 1984:677)
- Flexible roulette: Is a type of roulette made from one or more strands or elements (Soper 1985:35)
- Grooves: Are decorations effected through the use of blunt objects to produce linear cuts with a "U"- shaped cross-section on vessel surface either when soft or hard (Phillipson 1976).
- Gunda: Is a Luo word for an abandoned place of human habitation.
- Incurving rim: Is a rim which is tilted inwards towards the centre of the vessel at an angle of less than 90+- 10 degrees (Wahome 1995)
- Knotting: Is a technique for making fabrics by building up a series of knots or loops (Knudson 1978).
- Knotted strip roulette: Is a kind of flexible roulette, made of two or more strips (flat-sectioned elements) tied in a series of knots to produce a roulette with an intricate surface incorporating curved planes and sharp edges (Soper 1985).
- Lip: Is the edge or margin of an orifice of a vessel ; sometimes refers more specifically to a modification of a rim of a vessel (Rice 1987)
- Medium Surface Treatment: Is a sherd surface which is neither rough nor smooth to surface feel (Wahome 1995)
- Motif: A fixed combination of design elements that forms a larger component of the decoration (Rice 1987)
- Mouth: The orifice or opening of a hollow ware vessel (Schofield 1948):
- Munsell charts: A series of charts published by the Munsell color company, for the standardized identification and description of colours

(Wilde et al 1971).

- Neck: the part of a vessel between the shoulder and rim.
- Necked jars: Are vessels with prominent neck.
- Neckless jars: Are vessels which lack prominent neck or external flaring, and their rims are in curving.
- Non-plastic: Material in clay whether naturally present or added by the potter, which lacks plasticity and often reduces the plasticity and stickiness of the clay (Rice 1987).
- Ohingni: Luo word for fortified places of human habitation.
- Orifice: The mouth or opening of a vessel, usually a hollow ware (Schofield 1948).
- Out curving rim: Is a rim which is dented towards the exterior surface of the vessel at an angle between 10 and 80 degrees from an imaginary vertical wall (Wahome 1995)
- Plain Lip: Is a lip which is smoothly curved and unmodified forming a semi circular fashion (Krause 1984)
- Paste: A clay or mixture of clay and added materials.
- Pots: Are vessels in which the diameter is less than height and in which the shape of the body is approximately globular (Schofield 1948).
- Pottery: Low-fired non vitrified objects including cooking, serving and storage vessels (Rice 1987)
- Profile: A type of illustration of ceramics objects based on vertical cross-section, showing wall thickness and details of either lip, rim body or base configuration (Rice 1987).
- Punctations: Impression resulting from a punch (Wandibba 1982).
- Rim: The margin of the vessel orifice (Shepard 1956).
- Rim Diameter: Is the radius of the vessel at the mouth compared to the standardized concentric circles (Wahome 1995).
- Rim Morphology: Is the orientation of the rim from a vertical body wall at the neck (Wahome 1995).

- Roulette:** Is a roughly cylinder object, usually quite small that is rolled over the surface of wet clay to leave a continuous band of impressions that repeat themselves at each revolution (Soper 1985).
- Settlement pattern:** The distribution of sites within a given geographical region, arranged according to cultural dictate, and environmental necessity; also refers to other demographic variables reflected by house and community structure (Knudson 1978).
- Slip Application:** A non vitreous coating applied either dry or burnished by a colouring matter on to the surface of a vessel (Hodges 1966, Owen 1981).
- Social Interaction Theory:** Means the proportion that the similarity (frequency) of decorative elements shared between social groups is proportional to the direction and intensity of interaction between those groups (Rice 1987).
- Stratified Sampling:** A sample technique in which the population is divided into sub populations, each of which is then sampled randomly (Knudson 1978).
- Structures:** Are artifacts built by people as housing for themselves or their religious activities, for storage or for defence or as manufacturing or shop areas (Knudson 1978).
- Tapering Lip:** Is a lip that declines progressively in width to extremity (Wahome 1995).
- Temper:** Non-plastic elements or inclusions added by potters to clay in order to counteract excessive shrinkage of the paste in drying, and to improve its working and firing properties (Renfrew et al 1991).
- Texture:** General character of a vessel judged by touch, and sight and expressed as roughness, smoothness, irregularity or regularity (Owen 1981, Rice 1987).
- Twisted String Roulette:** Is a kind of roulette made from round-sectioned strand formed of fibres of various kinds (string) which are twisted, doubled over and re-twisted (Soper 1985: 35).
- Type:** The set of attributes used to distinguish a group of artifacts (Knudson 1978).
- Universe:** All possible observations relating to a given phenomena; also called the population (Knudson 1978).

- Vessel part: Is the section of the vessel form which shards broke off (Wahome 1995).
- Ware: A class of pottery whose members share similar technology, fabric, and surface treatment (Wandibba 1982).

## **1.7 Conclusion**

This project aimed at establishing the origins of Bondo stone structures and earthworks, their location, and detailed description in relation to Thimlich site. It was necessary for the structures to be studied for documentation for future reference before they are completely destroyed. The study relied on surface collection of prehistoric ceramics, ethnographic, and modern pottery to establish the possible builders of the structures. The interpretation of the data was based on social interaction theory. The next chapter presents detailed information regarding the methodology of this research.

## CHAPTER TWO

### METHODOLOGY

#### 2.0 Introduction

In this chapter, the project, current study, general survey, site survey, surface collection of ceramic material, collection of oral information, and analysis of pottery are given as sub-sections in the methodology. Through this methodology I have been able to collect data useful in the realization of the objectives of this research. Below is a detailed explanation of the methodology.

#### 2.1 The Project

This work involves the study of stone structures and earthworks in Bondo and Madiany Divisions, Siaya District, Nyanza Province. The work was initially intended to establish the origins of both the stone structures and earthworks in the region but after survey, it was apparent that the project could not be accomplished due to limited research funds and time.

Sample stone structures (Abiero, Orwa and Rasoti) were thus selected for the objective to be realised. The main issues addressed include location, architectural characteristics of all the structures, and the builders of the sampled stone structures (Abiero, Orwa and Rasoti). Survey work was undertaken in order to produce a detailed spatial map of the structures. Archaeological excavation was not possible as intended due to logistical problems such as limited research funds and time. Therefore, surface collection was undertaken on the basis of the fact that the surface archaeological remains, are a representation of the sub-surface remains. Recording the location and detailed description of

the structures was useful for documentation, and future reference.

Ceramic analysis was necessary in explaining certain issues such as the possible builders of the stone structures. The project also aims at creating public awareness regarding site destruction in the region for future conservation of the structures.

The work intends to establish the place of the stone structures in Bondo and Madiany Divisions within the history of the region.

The field work for this project was undertaken in two sessions between November 1997 and May 1998.

## **2.2. Previous Archaeological Work in the Area**

Leakey and Owen (1945) discovered traces of Tumbian culture in central and northern Kavirondo Gulf. They made surface collection of exposed lithic materials from various sites in the region. Sites that produced most of the specimens are located around Ng'iya in Siaya District, northern Kavirondo. The sites found by these early scholars include Bur Udinda, Urewe Valley, Mbagha and Yala Valley (Leakey and Owen 1945). Leakey and Owen (1945) established stratigraphic sequence of Mur, Urewe and Mbeji sites and found out that Mbeji and Mur are living and factory sites respectively.

During the search for the Stone Age materials, Archdeacon Owen found potsherds either on the surface of some of the recent geological deposits, or imbedded in them. These surface potsherds came from Bed 4 at Urewe Valley. In March 1944, Owen, Mary and Louis Leakey found potsherds with clearly defined hollows on the exterior. The hollows formed a central dimple at the base of the vessels. This decoration at the base had not been previously encountered in the region (Leakey *et al* 1948).

A survey was initiated in search of Urewe potsherds by Archdeacon Owen around

Urewe Valley. The survey revealed numerous potsherds *in situ* at the upper most section of Bed 4 together with two crushed but nearly complete vessel forms. A further search for more sherds around Ng'iya in Siaya District was undertaken by Owen in March 1944. The work revealed most sites of Urewe pottery. Such sites include Urewe, Yala-Alego, Magari, Siludhi, Kathomo, Ng'iya and Aluala Valley.

Archaeological excavations were undertaken at Urewe and Yala-Alego by the end of 1944 by A.L.F. Rivet and Archdeacon Owen. The dimple-based pottery occurred in the upper most part of Bed 4, but occasionally extended down to a depth of one foot or more. Other archaeological materials such as iron objects and pieces of *Tuyeres* or clay nozzles of bellows used in iron smelting together with pieces of iron slag, were found in association with the dimple-based pottery at Urewe and Yala-Alego sites (Leakey *et al* 1948). Another distinct ceramic type was found overlying Bed 4 at Urewe Valley. Leakey *et al* (1948) assert that the pottery is quite distinct from the present day vessel forms. The majority of ceramic materials came from exposed slopes of the valleys of Urewe and Yala-Alego. Urewe pottery could be attributed to either the present-day ethnic groups, but had elements distinct from modern pottery (Leakey *et al* 1948). Moreover, the position of the *in situ* shards indicated a period before the arrival of the Luo groups who are the present inhabitants of the region (Leakey *et al*.1948).

The dating of Urewe pottery was based on the stratigraphic progression of the region, and associated archaeological materials. Urewe pottery was placed within Iron Age on the basis of its association with iron objects, and absence of Stone Age material (Leakey *et al*.1948). The pottery was perceived by Leakey *et al* (1948) to be later than the period during which Bed 4 was formed but older than Bed 5 in central and northern Kavirondo Gulf. It antedates the vessel forms of modern tribes in the area by a longer period since it is followed

by another type which is quite distinct from the present ones.

The early scholars (Leakey and Owen 1945) did not associate Urewe pottery with any of the immigrants in the region but pointed out similar parallels reported by O'Brien (1939) from Nsongesi in Uganda.

### **2.3. The Current Study**

No archaeological investigation has been undertaken in the study area on the subject. On the other hand, South Nyanza stone structures (Ohingni) have received a lot of attention. The emphasis has been on the location, distribution, description, construction sequence, architectural techniques, oral traditions and the underlying factors behind the construction of *Ohingni*.

Archaeological work on the stone structures in South Nyanza District addressed the above issues (Gillman 1944, Chittick 1945, Lofgren 1967, Wandibba 1986, Robertshaw 1993, Onjala 1990, 1994). Previous work on the subject has been reviewed in chapter one.

### **2.4 Methodology**

This work aims at mapping the locations of the structures in Bondo and Madiany Divisions. Mapping is the key to accurate recording of most surviving features and artifacts (Renfrew 1991:75). Foot survey was used during structure identification. Foot survey is the most effective means of locating sites and produces the most complete record (Frankhole and Heizer 1973, Hester 1976).

The existing local datum (the sport height on Got Abiero) (see Fig.1.3 ) was used to establish new datum points in both Orwa and Abiero structures. Archaeological material remains within these structures were identified and measurements undertaken from the new



datum points. 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 structures (see Figure 1.3). By the end of the general survey, a total of nine sites and 18 structures were identified (see Figure 1.3). The names assigned to the structures or sites are mainly place names where the structures are found. For example, a name of a hill or an area such as Got Abiero hill or Kipasi area. According to oral traditions, some of the structures are named after the most elderly person who in some way was related to the former leader of the clan or lineage line. For example, Abiero site is named after the spiritual leader of the inhabitants of the structure. He was known as Abiero. In case, a place had a number of structures without names, the name of the place or hill was used for all the structures. Kipasi and Oiko sites fall under this category. To distinguish each structure in such cases, alphabetical letters, starting with A-Z were assigned to the individual structures.

## **2.5 Site Survey**

From the general survey, it became apparent that it was not possible to examine all the structures to establish the architectural characteristics. A total of eleven sample structures were selected in order to overcome the sampling problem. The selection of these sample structures was based on various factors. They included the need to provide a clear picture of the “total universe” of the surviving sites or structures. Both the earth-built and stone-built structures were covered in the survey. This is necessary as most structures are undergoing destruction.

Both complex and simple sites were examined. A complex site is comprised of structures with interior partitions. A simple one, on the other hand, has single enclosures without interior partitions and adjoining walls. The state of preservation (PS) was used to

estimate the condition of the structures in relation to the conditions of site exposure (see Table 1). The current human activities have affected site preservation in the region. The existence and condition of the sections of the structures was important in determining the study of a particular structure. Well preserved structures are a better representation of the original state of events within a site. Such sites are vital to accurate reconstruction of past human activities.

Accessibility and visibility within the structures are important elements during site survey. Structures which are completely covered by thicket could not be examined. Such structures include Minyao, Odiero and Kopolo. Structures which were well preserved but covered by the dense thicket had to be cleared in the selected areas (sample areas) before site survey. Such sites include Orwa, Abiero and Rasoti.

The instruments used during survey were a compass, measuring tapes, panga, notebooks, ranging rod, camera, pencil, pens and transit. During the measurements, numerous variables were considered. These include the wall height or the distance to which the wall rises above the ground surface, and wall thickness or the distance between the inner and outer wall surfaces. The diameter of the interior and exterior enclosures and partitions was also taken. At Got Abiero special attention was paid to the pillars which occupy a substantial portion of the site.

Gate measurements were made to establish gate height or the distance between the top of the extended wall of the gate and the ground surface. All the structures did not have roof lintel, thus measurements could not be undertaken from the ground to roof lintel of the gate. Gate width was computed as the distance between the two walls marking gate space measured as maximum dimension perpendicular to gate height. The two measurements constitute gate-space size. Gate height could not be directly extrapolated for the earth-built

structures since their gates were flattened by denudation processes.

**TABLE 1: KEY TO PRESERVATION STATE OF BONDO STONE STRUCTURES AND EARTHWORKS.**

PRESERVATION STATE	1	2	3	4	5
Description	Good preservation with little or no toppling. Gates still visible.	Toppling at certain points wall still standing. Gates still usable.	Moderately preserved with gates blocked but still recognisable.	Massive toppling at several points. Irregular wall height. Gates indiscernible.	Poorly preserved low walls. Large heaps of rocks due to toppling no viable gates. Non existence of walls.

Special features of archaeological importance were searched and located on the sketch maps. Such features include raised house platforms, grindstones, stone cairns, stone linings and evidence of site disturbance such as charcoal burning. Measurements of these features involved certain variables namely, the diameter, horizontal and vertical dimensions, and the width. A close examination of the structural planning of stone cairns was undertaken. Stone arrangements arising out of charcoal burning was identified to eliminate the problem of misinterpretation.

The search for archaeological materials especially surface scatters within the structures was part of site survey. When identified, such materials were appropriately recorded. Emphasis on the architectural techniques of construction involved close

examination of seven points of the structures, specifically, the walls, interior enclosures, pillars, earth-hill, ditch and gates. The variables considered in the study of the wall included the following:

- (a) Wall plan: the layout of the structure including shape, internal partitions and adjoining enclosures.
- (b) Wall coursing.
- (c) Wall phase: the distinct walls constructed to merge together to form compact wall, usually joined together by an infill.
- (d) The interlocking nature of the blocks - the overlapping percentage (%) of the blocks for purposes of wall stability.
- (e) The geometric nature of the blocks and pillars.
- (f) The stability of the wall structures.
- (g) The natural or man-made material used in wall construction.

While exact measurements were undertaken, photography provided extra details. The methods of data collection deployed in the first phase of the survey saw the realization of some of the aims of this project, namely, locating sites to establish their distribution, naming of each site and establishing the characteristics and nature of the structures. These variables are also compared against each other for the different structures as presented in the succeeding chapter.

Surface collection of archaeological material from GqJa1 (Abiero), GqJa2 (Orwa) and GqJa3 (Rasoti) was undertaken. The surface materials were in primary context and were a representation of the sub-surface archaeological material remains as observed on the exposed surfaces.

Stratified sampling method was useful during surface collection of archaeological

remains. The sampling strategy was based on the fact that different activities were performed in various parts within the site. Moreover, various sections of the structures exhibit a difference in artifact density or concentration.

The setting up of the grids in the sampled areas involved levelling to establish South - North and West - East line transects (Northings and Eastings). One metre square grids were established from the two line transects (East - West and South - North). The grids were numbered from 1-20.

For levelling purposes, fixed and temporary datum points were established in the various sites from the National Datum point (spot height), situated on the top of Got Abiero hill. Temporary Datum Point within each sampled area was also established from the fixed datum point. For future reference, measurements and descriptions of their location in relation to any natural or man-made feature (gate, tree stump or wall) were undertaken.

Recording during surface collection involved the use of graph papers, data sheets, photography and note-taking. The main variables considered include site number, square number, cataloguing, artifact type, surface elevation, position of the artifact, state of preservation, and recovery of the object, a brief description of the material remain, illustration and associated material. Oral information regarding these structures was consulted.

## **2.6 Ceramic Analysis**

This study will rely on ceramic attributes which are sensitive to change. The attributes to be considered are morphological characteristics, decorations and overall attribute combinations. Attribute analysis is considered suitable for assemblages which are highly fragmentary and difficult to use in the reconstruction of style. Spaulding (1982) considered classification into types as a process of discovering non-random combinations. A type is an

entity distinctive from other entities by a set of attributes. An entity based on attributes is useful in creating groups whose members are similar (Comarck 1971: 329).

Attribute combinations will comprise design patterns of decoration, vessel morphology, and function. It is the similarity or dissimilarity in attributes that is useful in examining social interaction or migration and settlement of the early settlers in the region.

## **2.7 Conclusion:**

The aims of this project include establishing the possible builders of Bondo stone structures, their location, and detailed description. Site location involved the use of topographical maps (1:50,000) during foot survey. Accurate measurements of the architectural features were also undertaken. Recording during survey involved field-note taking, drawing, and photography. Surface collection of archaeological remains from Abiero, Orwa, and Rasoti was carried out. Ceramic analysis relied on their attributes such as morphological characteristics, decorations, and overall attribute combinations in establishing some form of interaction between sites in the region. Ethnographic, and modern pottery was also analysed. Oral information regarding these structures was consulted for verification. In short, the above methodology was useful in accomplishing the objectives of this research project.

## CHAPTER THREE

### DESCRIPTION OF SITES

#### 3.0. Introduction

This chapter describes Sakwa surface sites at which site survey (all sites under study) and ceramic collections forming the basis of this study were made. The stone structure sites were exclusively selected for ceramic collections useful in pottery analysis in chapters four and five of this work. A total of nine localities were considered as sites. The number of structures per site varied from region to region. Each structure is described with regard to the various variables already explained in the methodology. The sites are situated on Bondo and Madiany in Bondo District. Below is a detailed description of the structures as presented in Table 3.0.

#### 3.1. Site GqJa1 (Abiero)

This site is made of one structure, which is located on top of Got Abiero hill and situated at  $38^{\circ}9'N$  latitudes, and  $80^{\circ}6'E$  longitudes. The stone structure is locally known as *Gunda* Abiero (Figure 1.3). *Gunda* is a Luo word for an abandoned place of human habitation. *Gunda* Abiero is a complex structure that has four interior partitions of various sizes and shapes (Figure 3.0 and Table 3.0). The interior enclosures or partitions are situated in various parts of the main structure. A central partition of pillars sub-divide the main structure.

An eleven metres (width) trench mark the entrance of the structure. The circular house platform has another entrance facing the northern side of the enclosure. The angular rock on either side of the entrance are loosely laid on the ground surface of the gate. The entrance has similar foundation as the rest of the wall while pillars are anchored on either side

of the entrance.

The foundation of the wall consists of larger angular and rectangular rock fragments. The northern, eastern and south-eastern sections of the circular wall are made of volcanic gneiss rock pillars which are anchored, and perpendicular to the ground surface (see Plate 1). Pillars enclosing the interior features take a roughly circular pattern (see Figure 3.0) and rise up to 0.7 metres from the ground surface. Rock outcrops and steep cliff constitute the eastern and north-western wall respectively (see Table 3.0).

The foundation of the wall is comparatively larger than the rest of the wall for its stability. Natural rock outcrops also provide wall stability. The walls occur in a zig-zag pattern which reduces their collapse through stress induced by internal earth-movements such as earth tremors, frequent in the lake Victoria region (see Table 3.0).

Re-use of the wall material during charcoal burning has produced new circular stone lines. This makes the interpretation of past activities within the site difficult. Understanding such processes is useful in the reconstruction process. Areas of site disturbance by charcoal burning have evidence of high-density charcoal fragments (see Table 3.0). Blocks are haphazardly arranged, creating irregular patterns in wall coursing

Figure 3.0 presents various measurements undertaken during the survey of *Gunda Abiero*. The diameter of the enclosure is 96.7 metres. The structure is the largest enclosure at this site. The wall is 0.7 metres high while its entrance is 11 metres wide. Both the interior enclosure and natural wall partition subdividing the main enclosure are 21.5 metres wide and 40.8 metres long respectively. The circumference of the circular structure is 319.6 metres (see Figure 3.0).

### 3.1.1. Site GqJa2 (Orwa)

The site has one stone structure known locally as *Gunda Orwa*, which is situated at



39°0'N latitude, and 80°4'E longitude. The stone structure is roughly circular, situated on the hill side, 300 metres, south east of *Gunda Abiero* (see Figures 1.3, 3.1). There is no visible interior enclosure inside the main structure which means that it is a simple structure with no internal partitions, no corridors, or adjoining wall enclosures, but has two gates on the outer wall of the enclosure (see Figure 3.1). The entrances are gate A and B. Gate A faces the eastern side of the enclosure, while gate B is facing the western side.

Larger rock boulders form the base of the extended wall of the entrances. The gate wall is relatively thicker (2.5 m) than the rest of the other sections of the wall. Gate B lies on natural solid volcanic gneiss rock foundation. Gate A is loosely laid on the ground surface (see Table 3.0).

The blocks used in the construction of the wall are of various shapes, ranging from angular, rounded to rectangular. The rock materials of the wall are piled up together with the typical marram cuirass soil material. The wall rises up to 1.87 metres from the ground surface and is made of loose dry stones except for sections covered by the local marram cuirass soil material (see Table 3.0).

The wall extension at the base provides stability (see Plate: 2). The local compact marram cuirass soil material cover large sections of piled angular rocks of the wall. The enclosure is situated on a sheltered hillside depression which limits site destruction by natural processes. Certain sections of the stone wall are covered by the soil material to provide wall stability (see Table 5.0).

*Gunda Orwa* has undergone destruction through natural and cultural processes. There is evidence of cattle trampling on the wall of the structure. This explains the scattered igneous rock materials of the wall and the reduction of the wall height. There are aggregations of stone materials resulting from charcoal burning. The arrangement of these

groups of blackened stones within the enclosure reflect the present arrangement of stone lines in various parts of Got Abiero hill site (see Figure 3.1). The burnt stone structures (places of charcoal burning) are lined in a curve on the lower side of the hill to control soil and charcoal movement down slope, and should not be confused with traces of ancient human activity such as house floors and interior wall enclosures (Fig.3.1). Wall course line is mainly irregular in pattern (Table 3.0).

Measurements of the various variables were undertaken. The variables include wall (height and thickness), gate space size, the diameter and circumference. Figure 3.1 and Tables 3 and 5 present the measurements of the variables stated above. The wall of Orwa enclosure is 1.87 metres high and 0.82 metres thick (Table 3.0). The gate space size is 3.95 metres wide by 0.87 metres high (Table 5.0). The stone size of the extended wall of the gate is 0.4 metres in breadth and width dimensions. The thickness of the extended wall of the gate is 1.75 metres. Orwa structure is 63.5 metres wide (diameter: E-W), and the circumference of the enclosure is 190.1 metres.

### 3.1.2. Site GqJa4 (Minyao)

The enclosure is situated at 39<sup>0</sup>1'N latitudes and 80<sup>0</sup>7'E longitudes on Got Abiero hill site (Figure 1.3). It is not enclosed by stone wall or pillars. Currently, the enclosure is covered by a dense thicket of shrubs hindering passage and visibility. Measurements could not be made due to this problem. There are indications that rock boulders were removed from the ground surface to allow human habitation, while evidence of scattered surface potsherds indicate the place was occupied.

### 3.1.3. Site GqJa3 (Rasoti)

*Gunda* Rasoti is a single complex structure site. The site is situated on Rasoti hill.

The enclosure is locally known as *Gunda Rasoti* from which the hill derives its name (Figures 1.3, 3.2). The structure has four interior partitions of various sizes which are made of stone linings and piled rock material (Table 3.0 and Figure 3.2). A central interior wall partition sub divides the enclosure into two major sections, namely the eastern and western sections. Pilled rock materials of this partition occur loosely on the hill top. The step terrace creates an average depth difference of 1.6 metres between the upper eastern and lower western sections of the inner compound of the enclosure. The rest of the interior wall partitions are situated on the western section of the enclosure. A semi-circular stone lining occurs at the corner of the north-western wall. Other stone linings within the western section of the structure take a zig-zag pattern. An eight metres trench marks the entrance of the enclosure (see Figure 3.2).

Angular volcanic gneiss rock material are loosely laid on the ground surface of the entrance. The foundation of the entrance is similar to the rest of the wall of the enclosure. Gate locks are lacking and the entrance is too wide (8 metres) to be blocked using a pole.

Various features constitute the inner and outer wall of the enclosure. Pilled rock materials form the southern wall of the structure. The wall is made of angular, rounded and rectangular volcanic gneiss rock materials. A larger section of the wall, mainly the western and northern sections consist of natural steep cliff. Volcanic gneiss rock out crops constitute the eastern wall of Rasoti enclosure (see Figure 3.2). Rock materials forming the stone lining within the western section of the inner compound are anchored into the ground. Majority of the stone linings take a meandering pattern. Pilled gneiss rock materials on the step terrace constitute the major interior wall partition that subdivides the main enclosure into two sections: the western and eastern sections.

The foundation of the wall is larger than the rest of the wall which caters for its stability. Natural rock out crops and steep cliff of the hill also provide natural wall stability.

The stone linings occur in a zig-zag pattern like that of Abiero (see Figure 3.2). Charcoal burning has affected the arrangement of the wall material clearly indicating site disturbance. Re-use of the gneiss rock material of the wall during charcoal burning has produced new circular enclosures within the enclosure. Areas of site disturbance within the structure exhibit evidence of high-density charcoal fragments. Irregular blocks have produced an irregular pattern in wall coursing.

Tables 5.0 and 5.1 indicate measurements of the gate space size, wall partitions and diameter. The enclosure is 78 metres wide. Wall measurements include the vertical and width dimensions. The inner wall partition (step terrace) rises up to 1.6 metres from the ground surface. The individual rock size of the stone linings is 0.4 by 0.3 in vertical and width dimensions which indicates that the rock material used in the wall construction (partition) are smaller in size than the typical rock boulders (80 cm by 60 cm) on Rasoti hill. Piled gneiss rock material of the southern wall of the main enclosure rise up to 1.7 metres. The gate space size (without vertical dimension) is 8 metres.

#### **3.1.4. The Contents of the Stone Structures.**

Other traces of past human activities within the enclosures are either features or artifacts. Features include circular raised house platforms, stone cairns, stone linings. The raised circular stone linings have been identified as house floors. This is based on observation of such circular raised platform associated with high-artifact density areas (concentrations of potsherds). Remains of house walls can still be identified in such raised platforms at Abiero structure.

The smaller enclosures are circular with diameter of 4.6 metres (see Figures 3 and 3.0). Inside the stone enclosures, they take a roughly circular pattern along the wall of the

structure. This is the case at Abiero structure. Evidence of circular stone lining anchored into the raised platform indicate strong house foundation for wall stability. The door of the house faces the northern wall of the main enclosure. The door extension is 1 metre while the diameter is 4.6 metres (W-E). The height of the house stone lining from the ground surface is 0.4 metres.

The circumference of the house floor is 12.6 metres. The stone structure also enclose surface features such as stone cairns. Abiero and Rasoti stone structures enclose five and two stone cairns respectively. Abiero stone cairns surround the raised house platform. Rasoti stone cairns are closer to the main entrance of the enclosure. The stone cairns vary in size (see Table 3.1).

### **3.1.5. Structural Planning of the Stone Cairns.**

The stone cairns are roughly circular. Pilled angular and rounded rocks constitute the geometric shape of the rock material used in their construction. The rock material are haphazardly piled forming a more or less conical shape of the structures. The piled rock material is made of volcanic gneiss type. This is the typical rock material on Got Abiero hill. The stone cairns are made of loose undressed stone fragments, and do not exhibit cementation for some cairn stability.

The scattered rock fragments around the stone cairns indicate toppling of the structures. This further signifies the reduction in the height of the structures, consequently pointing towards the original heights as being relatively higher than the present ones.

Table 3.1 presents the measurement of thie variables undertaken during the survey. The stone cairns are 3.8 metres long, 3.02 metres wide and 0.66 metres high. There is slight variation in the height of the stone cairns. Stone cairns A, C, D and E are relatively larger

than stone cairn B.

Broken pieces of grindstones occur within the stone enclosures. A complete grindstone, stone pestle and a piece of broken grindstone were identified within Abiero enclosure. Four broken pieces of grindstone were found at Orwa structure. Rasoti enclosure has two broken pieces of grindstones. The size of the broken piece of grindstone at Rasoti is 40 cm by 30 cm in length and width dimensions, which is roughly similar in size to others found at Orwa structure.

Pottery forms the bulk of the material remains on the ground surface. Numerous potsherds occur in all the stone enclosures in the study area. High - artifact - density areas (potsherds) were enclosed in Abiero structure. They are associated with circular raised house platform areas. The majority of the structures exhibit an even distribution of surface scatters of potsherds. No complete vessel form was identified. Some of the potsherds are blackened while some are reddish in colour. The surface treatment range from course to fine texture and in some cases slip application. Various types of neck-shards, body-shards, rim-shards, decorated and plain shards were recovered from the structures. There are also reported cases of iron hoes and iron rings (bungles) from within the structures (Okello, pers. Comm, also see Table 3.2).

### 3.1.6. Site GqJb6 (Oiko).

There are three structures built of earth at Oiko Site. The structures vary in size but are similar in their structural planning. The structures are Oiko A, B and C. Oiko A is situated at 40°5'N latitudes and 83°7'E longitudes. It is 21 metres, south east of Oiko B. Oiko B is situated at 405838. Oiko B is 9.5 metres south east of Oiko C. Oiko C enclosure is located at 40°4'N Latitudes and 83°9' E longitudes. The vegetation of the area is dominated by scattered

tree-grassland. The area is covered by a dense thicket of shrubs. Marram cuirass soil material is the dominant soil in the area (Figure 1.3). The structures do not have interior enclosures except for Oiko B which has one semi-circular trench subdividing the main enclosure (Figure 3.4).

The term wall is used here to refer to both the circular ditch and earth hill. The three enclosures at Oiko site are roughly circular. Oiko-A has a circular ditch on the outer surface of the circular earth-hill. Oiko B has two circular ditches on either side of the earth hill. The structure is subdivided by a semi-circular ditch. Oiko C has similar wall characteristics as Oiko B, but lacks the interior partition.

Gates are visible on the outer walls of the structures at Oiko site. There are two entrances on each of the structures at Oiko site. Oiko A has one entrance facing the south eastern side of the structure. The secondary entrance faces the southern side of the enclosure (see Figure 3.3). Oiko B has two entrances. The main entrance is facing the south western side of the enclosure. The secondary entrance faces the northern side of the structure (Figure 3.4). Oiko C has two gates (the main and secondary entrances) on similar positions as Oiko B (Figure 3.5). The gates have undergone site disturbance. The extended wall of the gates no longer exist but the width dimension of the gate is still visible and distinguishable. The earth hill, and the ditch constitute the wall of the enclosures at Oiko site. All the structures have both circular ditch and earth hill as the wall. The material forming the earth-hill was the result of pilling up marram cuirass soil material from the trench. The earth hill is made up of compact soil material which is the typical soil around and within the structures. While Oiko A has only one circular trench on the outer surface of the circular earth-hill, the rest of the enclosures have two ditches on either side of the circular mound.

Apart from the entrances, the wall of the structures at this site are well preserved. The walls are covered by shrubs. The inner compound of the structures are currently being destroyed by cultivation. Parts of Oiko B and C are currently under cultivation. The extended walls of the gates have been reduced completely. The wall is basically made of circular trenches and earth-hills, wall coursing is thus absent. Appendix B represent sample data on measurements undertaken during the survey of the structures at the earthworks. Oiko A and C are 104 and 133 metres wide respectively, while Oiko B has a diameter of 177 metres.

The wall of Oiko A, B, and C are 1.7, 2, and 1.5 metres high respectively while ranging in width from 7 to 14.6 metres. In diameter, Oiko C trench has the largest with 4.5 metres, followed by Oiko B (4.2 metres), while Oiko A is the smallest (2.9 metres). Gate space measurements did not include the height of the gates that have been destroyed. Measurements of the horizontal dimension of the gate space of all the enclosures were undertaken. The main and secondary entrances of Oiko A are seven and four metres wide respectively while that of Oiko B is 7 metres wide. Its secondary entrance is 7.2 metres. Oiko C enclosure has relatively smaller entrances than the other enclosures within the site. The main entrance has a width dimension of four metres while the secondary gate is 4.2 metres wide.

### **3.1.7. Site GqJb7 (Kipasi).**

There are three structures at Kipasi site which vary in size but similar in their structural planning. The structures include Kipasi A, B and C.

Kipasi A enclosure is located at  $41^{\circ}03'N$  latitudes and  $81^{\circ}09'E$  longitudes. The enclosure is 64 metres, south east of Kipasi B structure. It is also 106 metres south of Kipasi



C (see Figure 3.0.6). Kipasi B enclosure is located at 41°2'N latitudes and 82°0'E longitudes. The structure is 55 metres west of Kipasi C. Kipasi C structure is situated at 41°3'N latitudes, and 82°0'E longitudes (Figures 1.3, 3.8). The area is covered by a thicket of shrubs. The typical soil material in the area is marram cuirass. Rawa stream flows on the south eastern side of the site.

Kipasi A, B and C do not have interior enclosures. They lack interior partitions, trenches or adjoining walls. The wall is used here to refer to both the circular ditch and earth hill. The three features constitute the wall of the enclosures. The two enclosures at Kipasi site are more or less circular. Kipasi A enclosure has a circular ditch on the outer surface of the earth-hill while Kipasi B structure has two ditches on either side of the circular earth hill. Kipasi C enclosure has only one circular trench and does not have the earth-hill. The individual structures are simple structures within a complex multiple structure site.

The gates of these structures are visible. Kipasi A has two entrances. The main entrance faces the south western side of the enclosure while the secondary gate is facing the northern side of the structure. Kipasi B enclosure exhibit two gates with the main entrance facing the south eastern side. The secondary gate faces the western side of the enclosure. Even though the gates are identifiable, their shape is not clear. The extended wall of the earth-built entrances have been washed away over time.

Both the earth hill and trench form the wall of the structures at Kipasi site. The material forming the earth hill was the result of pilling up of marram soil material dug up from the circular trench. The earth hill is made of compact soil material of marram cuirass. Kipasi C has only one circular ditch without earth-hill. The southern part of Kipasi C enclosure has no trench. The ditch was washed away. The earth-hill and ditch of the structures at Kipasi site are still well preserved and covered by shrubs, however, the points

under destruction are the inner compound of the earthworks. Sections of Kipasi C and B are currently under cultivation. The gates are not well defined due to site disturbance. The wall is basically made of earth and ditch.

Appendix B presents measurement dimensions of the various variables of the three structures at Kipasi site. The diameter of Kipasi A is 123 metres - Kipasi B and C are 137 and 89 metres wide respectively. Kipasi structures rise up to 1.4 metres high while their ditches range in width from 4 to 4.9 metres. The gate space size of the structures was also measured (See Fig. 3.6, 3.7, and 3.8).

### 3.1.8. Site GqJb8 (Masala)

Masala site is 120 metres, south of Got Odiero hill (see Fig. 1.3). There are two earth-built structures at the site. The structures vary in size but are similar in structural planning, and are known locally as *Gunda Olang'o* and *Gunda Ramogo*. Ramogo structure is situated at 43°3'N latitudes, and 77°1'E longitudes, while Olang'o earth structure is located at 43°4'N latitudes and 77°9'E longitudes.

*Gunda Ramogo* (Fig. 3.9) is named after an elder of the past occupants of the structure. The structure does not have interior wall partitions. This is a similar case as Kipasi and Oiko earthworks. The enclosure is a simple structure within a complex multiple structure site. The term wall is used to designate both circular trench and mound. The enclosure is more or less circular. The western wall is completely destroyed through quarrying activities. The structure has a circular ditch on the outer surface of the inner circular earth hill.

Despite the enormous site destruction, the entrance of the enclosure is still observable. The gate is facing the northern side of the enclosure. The entrance has undergone disturbance but the width dimension of the gate is still visible. Both the circular earth hill and trench form the wall of the enclosure. The wall material is made up of a mixture of stone

rumble with the local marram soil material. The materials forming the earth hill was the result of the piling up of dug-up material from the circular ditch. The circular trench occurs on the outside surface of the mound.

The enclosure has undergone site destruction. The inner compound of the structure is currently under cultivation. The western section of the wall has been destroyed by quarrying activities in the area. Re-use of the mound material for both house and road construction has destroyed the western section of the wall. The structure is built of earth and rock materials. Wall coursing is not visible.

Appendix B presents measurements of the wall of the earthworks. The earth hill is 1.6 metres high from the bottom of the trench. The width of the wall (both earth and trench) is 8.3 metres, while the circular ditch is 4.1 metres. The enclosure is 116 metres wide and is the largest structure in Masala site.

*Gunda Olang'o* does not exhibit interior wall partitions (see Fig. 3.10). The structure is roughly semi-circular, and has a trench on the outside of the inner circular mound. There is no visible entrance into the structure. Both the semi-circular ditch and mound constitute the wall of the enclosure. Marram soil forming the earth hill was the result of piling up of dug-up soil material from the outside semi-circular ditch.

The structure has undergone site destruction. The inner compound of the enclosure is currently under maize cultivation. The Northern and North Eastern Sections of the wall are destroyed by quarrying activities. Grindstones have been removed from the enclosure by the present inhabitants of the area.

Appendix B presents measurements of the wall of the enclosure. *Gunda Olang'o* is 83 metres wide while its wall is 0.8 and 6.6 metres in height and width dimensions respectively. Profound site destruction prohibited gate identification.

### **3.1.9. Earth Structures: Associated Material Remains**

Surface scatters of potsherds constitute the bulk of archaeological material remains within the structures. Potsherds are distributed in all the enclosures within these sites. No complete vessel form is present within the enclosures. Various kinds of potsherds are scattered on the surface. Some of the potsherds are blackened while some are reddish in colour.

The shards are in the form of rims, necks, and bodies that are either plain or decorated. Surface treatment of these potshards ranges from course to fine texture and rarely slip application. The number of grindstones varies from structure to structure within the sites (see Table 3.3).

Kipasi A enclosure has four broken pieces of grindstones and one hammer stone. Three broken pieces of grindstones and two hammer stones have been identified at Kipasi B enclosure. Kipasi C structure also encloses two grindstones and three hammer stones. Oiko C and A enclosures have two grindstones each. The re-use of the grindstones and hammer stones by the present inhabitants around these sites has seriously altered the number and position of these archaeological materials. What is currently available is not a good representation of the original state and number of the archaeological materials. (See Table 3.3).

There are reported cases of iron rings or bangles and iron hoes by the present farmers around Kipasi enclosures. Pieces of broken clay smoking tobacco pipe were identified at Kipasi B structure. Olang earth structure has a light green bead on the surface of the ground

inside the compound. Reported cases of such beads by present farmers coincide with this evidence. An obsidian stone fragment (?) was found within Kipasi A enclosure. Apart from the circular wall of the enclosures, other features are not easily identifiable within the structures. Information from the local farmers around Oiko site assisted in locating a house floor in Oiko A enclosure. The farmers have frequently been observing remains of broken pieces of mud house walls. Such places have high concentrations of potsherds and ash-midden. The house floor at Oiko A enclosure has been covered up by soil material over the years after abandonment. There is a semi-circular interior partition at Oiko B enclosure. The wall partition is basically a ditch sub-dividing the larger enclosure in two sections.

Animal Bone remains are scattered within the structures. Some of the bones have been recovered by the farmers out of curiosity. Such animal bone remains include 1 thoracic vertebrae, 1 lumber vertebrae at Kipasi A and 1 calcaneus, 1 tibular and 1 talus at Kipasi C.

Human bone remains were exposed by burrowing animals at Kipasi C enclosure. The bone remains are currently being destroyed through cattle trampling and natural disintegration. The human bone remains are mainly skull and limb fragments (see Table 3.3).

### **3.1.10 Conclusion**

This chapter has provided detailed description of Bondo sites and their associated archaeological material remains. Naming of the sites was based on the first elderly person to occupy the place of settlement. The structures exhibit similar architectural characteristics. The stone structures are situated on hilltops while the earthworks are located on the gently sloping surface devoid of rock material. Associated archaeological material remains include pottery, stone cairns, grindstones, broken pieces of smoking tobacco pipes, animal, and human bone remains. Surface collection of ceramic material was undertaken, and analysed in the

preceding chapter together with ethnographic and modern pottery.

## CHAPTER FOUR

### CERAMIC ANALYSIS

#### 4.0 Introduction

This chapter is a general description of ceramics from the sites under study and divided into subsections as follows:

- (4.1) Distribution of ceramics attributes by sites and subsections or levels.
- (4.2) Attribute combinations by sites.
- (4.3) Ethnographic and Modern Ceramics.
- (4.4) Conclusion.

#### 4.1 Distribution of Ceramic Attributes by Sites and Subsections or Levels.

Four sites included in this analysis are GqJa3 (Rasoti), GqJa2 (Orwa), GqJa1 (Abiero), and GtJb10 (Thimlich). The aim of this chapter is to isolate ceramic attributes that characterise sites in Sakwa and Thimlich in order to facilitate comparison between the sites in chapter five.

##### 4.1.1 GqJa3 (Rasoti)

The site is made up of five subsections which are labelled GqJa3A, GqJa3B, GqJa3C, GqJa3D and GqJa3E. The site is undated. A total of 846 shards were collected from this site out of which 77 are plain shards while 769 are decorated. The diagnostic shards from this site are dominated by body shards which range between 84.8% (GqJa3A) and 96.7% (GqJa3E) followed by rims (2.5%-9.4%) bases (0.8%-5.5%) and necks (0.8%-6.8%). However, neck shards are missing in GqJa3E, while no loop handles are represented in any of the subsections (Fig. 4.6-4.10).

GqJa3 is dominated by shards in the 6-10mm thick category with roughly similar frequencies in GqJa3A (62%), GqJa3C (62.1%), GqJa3D (65.4%) and GqJa3E (65.6%). Shards in the 1-6 mm and 10-14 mm thick groups occur in low and constant frequencies between 14.8% (GqJa3E) and 24.9% (GqJa3b) while the class of 14 mm and above is poorly represented in GqJa3b (3.9%) and GqJa3D (2.4%) but virtually absent in GqJa3A, GqJa3C, and GqJa3E.

GqJa 3 is made up of a high frequency of coarse textured shards in all the subsections ranging between 59.8% (GqJa3E) and 87.4 (GqJa3b). Fairly similar frequencies of medium (40.2%) and coarse textured shards (59.8%) are represented in GqJa3C while inconsistently represented in other subsections. Sand/graphite-tempered shards are predominantly represented in all the units (63.3%-96.9%) while sand-tempered shards are recorded in low frequencies at GqJa3C (6.8%), GqJa3b (4.9%), and GqJa3D (3.1%), but comparatively frequent at GqJa3A (35.4%) (Table 4.0).

In the category of lip morphology, only two subsections (GqJa3C and GqJa3D) are diversified in terms of lip forms. Expanded lips comprise the majority of all the motifs at GqJa3, between 44.4% (GqJa3C) and 81.3% (GqJa3B) while the motif is missing at GqJa3E. Plain lips occur in low frequencies in GqJa3B (12.5%), GqJa3C (11.1%) and GqJa3D (8.3%) while unrecorded in GqJa3A and GqJa3E. Flat lips are represented in GqJa3E (50%), GqJa3C (22.2%) and GqJa3A (25%) while missing at GqJa3B, but registered in low frequencies at GqJa3D (8.3%). Tapering lips are well recorded at GqJa3E (50%), GqJa3C (22.2%) but poorly represented at GqJa3B (6.3%) and GqJa3D (16.7%). The motif is virtually absent at GqJa3A (Table 4.0).

The rim forms are dominated by out-curving rims (33.3%-100%) at the site. Direct rims occur in low frequencies in GqJa3E (33.3%), GqJa3B (10.5%) and GqJa3D (9.1%)



while absent at GqJa 3A and GqJa 3C. In-curving rims are poorly represented at GqJa3C (33.3%) and GqJa3D (9.1%) but unrecorded in the other subsections. Everted rims are registered in fairly moderate and constant frequencies in GqJa3E (33.3%), GqJa3B (21.1%) and GqJa3C (33.3%) (Table 4.0).

Among the vessel forms, necked jars are frequent and constant in all the subsections (56%-91.7%), while bowls are registered in low frequencies in GqJa3B (4.2%) and GqJa3A (11.1%). Neckless jars occur in moderate frequencies at GqJa 3E (33.3%) GqJa3B (42%), and GqJa3C (44%). They are infrequent at GqJa3D (15.4%). The vessels are absent at GqJa3A. Vessels at GqJa3 are mainly decorated on the body (90.6%-98.9%). Rim decorations are only associated with GqJa3B (0.4%) and GqJa3A (6.3%). Neck and shoulder decorations are infrequent (Table 4.4).

Surface treatment varies between the subsections, however coarse surface finish is predominantly represented in all the units (40%-78.6%). Fine surface finish is represented at GqJa3E (0.8%) and GqJa3A (28.6%). Medium surface treatment is fairly distributed in all the subsections (15.2%-37.3%) and brushing is only represented by one sherd at GqJa3B. Slip application occurs in low frequencies at GqJa3B (3.9%), GqJa3C (1.5%), GqJa3D (5.5%) and GqJa3A (7.1%). Similarly, burnish is infrequent in all the subsections (1.4%-2.3%) (Table 4.0).

Roulette decorations are dominated by knotted strip roulette (87.4%-96.7%) in all the subsections while the incidence of composite roulette is low (1.1%-4.4%). Converging knotted strip roulettes are represented in low frequencies at GqJa3E (1.1%), GqJa3A (6.5%) and GqJa3B (2.4%). Overlapping knotted strip roulette decorations occur in low frequencies at GqJa3D (2.2%), GqJa3E (2.2%), GqJa3C (4.2%) and GqJa3B (6.7%).

Parallel linear incisions are registered in high frequencies at GqJa3A (82.6%) while

unrecorded at GqJa3E. Simple linear incisions are represented in high frequencies (33.3%-100%) in all the subsections, except for GqJa3A (8.7%).

Parallel impressions are predominant at the site (80.5%-98.9%) while horizontal impressions occur in low frequencies (1.1%-4.4%) in all the subsections. Oblique impressions are also represented in low frequencies at the site (5.5%-15.9%).

Applied bands are dominated by parallel linear motifs (95.6%-98.9%) in all the subsections while parallel ridges are less frequent (1.1%-4.4%) at the site as a whole. Simple linear grooves are recorded in one sherd each at GqJa3D and GqJa3C while GqJa3B and GqJa3A have two shards each of this motif. Parallel linear grooves are represented by two shards in GqJa3A while totally absent in the other subsections (Table 4.0).

Reddish shards (code 5.8) are predominant (48%-65%) in all the subsections except GqJa3A (36.6%), followed in descending order by the brownish grey, coded 5.2 (23%-48%) and black coded 2.5 (4%-29.2%).

#### 4.1.2 GqJa2 (Orwa)

Site GqJa2 is made up of two sub-sections which are labelled GqJa2A, and GqJa2B. The site is undated. The diagnostic sherd repertoire from this site are dominated by bodies which range between 81.1% (GqJa2B) and 88.9% (GqJa3A) as well as rims, neck, bases and one loop handle at GqJa2A. In terms of shard thickness, the site is dominated by 6-10 mm thick shards (GqJa2A = 55.4%, GqJa2B = 50.3%), while 14 mm and above are less conspicuous in GqJa2A (2.3%) and GqJa2B (1.4%). Fairly even proportions of coarse and medium textured shards are recorded at GqJa2A (52%:45.6%) and GqJa2B (52.4%:47.6%) respectively.

In the attribute of lip morphology, flat lips are virtually absent in GqJa2A, but

represented in GqJa2B (7.1%) while expanded lips are evenly distributed in GqJa2A (51.9%) and GqJa2B (42.9%). Plain lips occur in low but even frequencies (22.2%) in GqJa2A and GqJa2B (21.4%) while tapering lips are more frequent in GqJa2B (28.6%) than GqJa2A (18.5%).

In the classification of rim morphologies, out-curving rims are predominant at GqJa2A (67.9%) and GqJa2B (50%). In-curving rims only occur in GqJa2B (6.3%). Direct rims are fairly even in both GqJa2A (14.3%) and GqJa2B (12.5%) while there are more everted rims in GqJa2B (31.3%) than in GqJa2A (14.3%). Both restricted- (< 15 cm) and wide-open-mouthed (> 15 cm) vessels are evenly (50%) distributed at GqJa2A. Pots exhibiting more than 15 cm-wide-mouths are frequent (66.6%), while the category of less than 15 cm-wide orifice are poorly represented (33.3%) at GqJa2B (Table 4.0).

Most of the decorations are concentrated on the body in GqJa2A (98.1%) and GqJa2B (97%), while decorations on the neck are fewer in GqJa2B (3%) and GqJa2A (1.5%). Decoration on the rim is represented by one sherd in GqJa2A, but missing in GqJa2B. The absence of lip and shoulder decorations in the site is notable. Simple linear grooves are evenly registered in GqJa2A and B (100% each) while parallel linear grooves are totally unrecorded in the site.

Parallel impressions are registered in high frequencies in GqJa2A (81.7%) than in GqJa2B (68.7%), while horizontal impressions are poorly represented (0.8% and 3% respectively). Oblique impressions are more frequent in GqJa2B (28.3%) than in GqJa2A (17.5%). Simple linear punctations are represented by one sherd in GqJa2A but virtually absent in GqJa2B (Table 4.0).

Parallel linear bands occur conspicuously in GqJa2A (99.2%) and GqJa2B (96.9%) in comparison to parallel ridges (0.8% and 3.1% respectively). Simple linear incisions are

well represented in GqJa2A (70%) and GqJa2B (100%) while parallel linear incisions are infrequent in GqJa2A (20%) but missing in GqJa2B (Table 4.0).

Knotted strip roulette decorations are predominant in GqJa2A (84.4%) and GqJa2B (78.8%), while composite, converging, and overlapping roulette decorations comprise less than 12% in both sub-sections (Table 4.0).

In the category of surface treatment, fine surface finish is represented by one sherd from GqJa2B. Medium surface finish is observed in GqJa2A (38.7%) and GqJa2B (40.4%) while slip application is less registered at the site (less 3.5%). The shards are dominated by coarse surfaces (57.2% in GqJa2A and 52.5% in GqJa2B).

Brownish grey shards (code 5.2) are frequent (58.6%-61.6%) in both subsections, while the reddish group (code 5.8) are fairly (30%-32.7%) recorded. The black category (code 2.5) is poorly represented (8.4%-8.7%) at the site.

#### **4.1.3 GqJa1 (Abiero)**

Site GqJa1 is made up of two subsections which are GqJa1A and GqJa1B. GqJa1 has not been dated. The shards from this site are dominated by body fragments with almost similar frequencies in GqJa1A (90.3) and GqJa1B (89.8%) followed by rims (GqJa1A=7.5%, GqJa1B=7.9%) and bases (GqJa1B=3.4%, GqJa1A=1.5%).

Shards from GqJa1 are largely 6-10 mm thick with almost similar frequencies in GqJa1A (53%) and GqJa1B (56.2%) while the classes of 1-6 mm and 10-14 mm thick shards are fewer (less 24.7%) in both subsections. The group of 14 mm and above is represented by one sherd in each subsection.

Fairly even proportions of medium and coarse textured shards are registered in GqJa1A (43.3%:53.7%) and GqJa1B (42.7%:55.1%) respectively. In GqJa1A, sherd

temper is either sand (53%) or sand/graphite (46.3%) while shards in GqJa1B are often sand tempered (61.6%).

In the category of lip morphology, expanded lips are well represented in GqJa1A (93%), whereas, tapering lips are only present in GqJa1A (40%). Flat lips are represented by one sherd in GqJa1B while unrecorded at GqJa1A. On the other hand, plain lips are fairly distributed between GqJa1A (30%) and GqJa1B (28.6%).

In the classification of rim morphologies, out-curving rims are predominant and constant in GqJa1B (71.4%) and GqJa1A (66.7%) while the in-curving motif is virtually absent at the site. Everted rims are comparatively frequent in GqJa1A (33.3%) but missing at GqJa1B, while direct rims are represented by one sherd in GqJa1B and none in GqJa1A. Restricted-mouthed (< 15 cm) vessels are recorded at GqJa1A (50%) while the category is missing at GqJa1B. Open-mouthed (> 15 cm) pots are frequently registered at GqJa1B (100%) but fewer at GqJa1A (50%). Vessel forms are mainly necked jars (over 75%) in both subsections while one neckless jar and bowl are recorded in GqJa1B. Generally, bowls and neckless jars occur in low frequencies at the site.

Surface treatment is either coarse (49.3%) or medium textured (44.8%) in GqJa1A while coarse surface finish is frequently registered (83.4%) at GqJa1B than medium (32.6%).

Vessels at GqJa1 are often (94.8%-97.9%) decorated on the body while decorations on the neck are represented by two shards in each subsection. Decorations on the lip, rim and shoulder are missing at the site.

Roulette decorations are dominated by knotted strip roulette (70.7%-80%) at the site, while overlapping and converging knotted strip roulettes are represented in low frequencies (less than 22.4%) in the two subsections. Composite roulette is less frequent at

GqJa1B (3.4%) but absent in GqJa1A. Simple linear grooves are only recorded on one sherd at GqJa1A.

Parallel impressions are predominant in GqJa1B (60.3%) and GqJa1A (76.9%) while horizontal impressions are registered in GqJa1B (3.4%), but missing at GqJa1A. Oblique impressions occur in fairly low frequencies at GqJa1A (23.1%) and GqJa1B (36.2%).

Parallel linear bands are frequent (96.6%-100%), at the site, while parallel ridges are only represented by two shards in GqJa1B.

Simple linear incisions are recorded in GqJa1A (100%) but absent at GqJa1B. On the other hand, parallel linear incisions are executed on one sherd in GqJa1B.

There is an even distribution of brownish grey (45% code 5.2) and reddish (45%) shards in GqJa1B (code 5.8), while the latter are more frequent (47.7%) in GqJa1A than GqJa1B (45%). The black category (code 2.5) are poorly recorded (10%-12.7%) at the site.

#### 4.1.4 GtJb10 (Thimlich)

Site GtJb10 is located in South-Western Kenya, Lake Victoria region. The site was excavated and dated between 110 $\pm$ 80 and 200 $\pm$ 80 BP, which when calibrated, the two dates give a long range of about 1650 to 1900 B.C (Wandibba 1986).

GtJb10 is made up of four levels which are labelled GtJb10 A, GtJb10 B, GtJb10 C and GtJb10 D. In the category of vessel parts, all the units are dominated by bodies (57.6%-84.3%) while rims (11.8%-20.9%) and neck shards (3.9%-21.4%) occur in low frequencies in all the levels with gradual decline of rims from GtJb10 B (20.9%) through GtJb10 C (16.3%) to GtJb10 D (11.8%). Neck shards increase from GtJb10 D (3.9%)

through GtJb10 C (10.5%), GtJb10 B (12.3%) to GtJb10 A (21.4%).

6-10 mm thick shards are fairly constant in GtJb10 A (45.7%), GtJb10 B (49.6%) GtJb10 C (51%) and GtJb10 D (45.1%). On the other hand,, 10-14 mm thick shards decline from GtJb10 A (28.1%) through GtJb10 B (17.2%), GtJb10 C (11.8%) to GtJb10 D (9.8%), while the category of 14 mm and above increase from GtJb10 B (3.7%) through GtJb10 C (5.9%) to GtJb10 D (7.8%) but in low frequencies. Medium textured shards are predominant (58.2%-75.8%) but inconsistently distributed in the site.

In the category of shard temper, sand-tempered shards occur in high frequencies in levels GtJb10 B (88.5%), GtJb10 D (76.5%), GtJb10 A (74.3%), and GtJb10 C (66.7%) while sand/graphite-tempered pot fragments are less represented (10.7%-31.4%) in the site. Lip diversification is notable in GtJb10 A and GtJb10 B, however the category is dominated by plain lips (53.5%-86%) at the site. Gradual decline of plain lips from GtJb10 B (86.3%), through GtJb10 C (68%) to GtJb10 D (66.7%) is notable. Expanded lips occur in low frequencies in GtJb10 D (16.7%), GtJb10 A (4.7%), and GtJb10 B (3.9%) but are virtually absent at GtJb10 C.

Flat lips are infrequent in GtJb10 B (2%) and GtJb10 C (8%) relative to GtJb10 A (18.6%), while the motif is missing at GtJb10 D. Tapering lips occur inconsistently in low frequencies (7.8-24%) within the levels.

Rim diversification is observed in GtJb10 A, GtJb10 B and GtJb10 C, while out-curving rims are more frequent in GtJb10 D (83.3%) and GtJb10 C (60%) than GtJb10 B (41.2%) and GtJb10 A (33.3%) indicating a gradual decline of this motif from lower to upper levels which are presented in Appendix A. Direct rims occur in comparatively high frequencies in GtJb10 A (38.1%) than at GtJb10 B (25.5%) and GtJb10 C (24%) while the motif is virtually absent in GtJb10 D. In-curving rims are inconsistently distributed

between all the levels, whereas everted rims decline from GtJb10 B (21.6%) to GtJb10 C (12.5%) but missing in GtJb10 D.

Apart from GtJb10 D, vessel forms are diversified in GtJb10 A, GtJb10 B and GtJb10 C. Bowls occur in fairly low frequencies in all the levels (11.9%-18.7%) while necked jars are predominant in the site (75%-87.5%) and decrease from GtJb10 C (85.7%) through GtJb10 B (77.3%) to GtJb10 A (75%) while neckless jars are least conspicuous (2.4%-8%) at the site, and increase through time from GtJb10C (2.4%) through GtJb10 B (4%) to GtJb10 A (8%). They are virtually absent at GtJb10 D.

Restricted-mouthed (< 15 cm) vessels are infrequent at all the levels (25.5-34.8%) while pots with wide orifice (> 15 cm) are predominantly (65.2%-100%) found at the site.

Decoration positions are predominantly characterised by body decorations (81.9%-92.9%) in all the levels in the site. Rim decorations are only observable at GtJb10 A (4.5%) while decorations on the neck are represented in low frequencies in all the levels (less 12.3%) with gradual decline from GtJb10 A (12.3%) through GtJb10 B (9.1), GtJb10 C (7.3% to GtJbD (7.1%). Shoulder decorations are represented at GtJb10 A, GtJb10 B, and GtJb10 C while virtually absent in GtJb10 D.

Surface treatment is predominantly medium (48%-59%) in the site with exception of GtJb10 D, which has an even distribution of medium (41.2%) and course surface finish (41.2%).

Roulette decorations are dominated by knotted strip roulette (61.5%-70.8%) while composite roulette occurs in low frequencies in the levels other than GtJb10 D. Converging and overlapping knotted strip are infrequent (less 25.6%).

Simple linear grooves are more frequent (50%-100%) than parallel linear grooves (23.1%-50%) in the site. Simple linear grooves decline from GtJb10 A (100%), through



GtJb10 B (76.9%) to GtJb10 C (50%) but virtually absent in GtJb10 D. Parallel linear grooves are more frequent in GtJb10 C (50%) but less at GtJb10 B (23.1%) while the motif is missing in GtJb10 A and GtJb10 D.

Parallel impressions are predominant in GtJb10 B (52.9%), GtJb10 C (62.7%) and GtJb10 c (6.8%) but unrecorded at GtJb10 D while oblique impressions are evenly disturbed (30.5%-45%) in all the units.

Simple linear punctations are recorded at GtJb10 C (50%) and GtJb10 A (75%) but missing in the other units, while parallel linear punctations are represented (25%-100%) in all the units in the site.

Simple linear incisions are predominant in the site (66.7%-100%) while parallel linear incisions are registered in GtJb10 A (33.3%) and GtJb10 B (25%) but unrepresented at GtJb10 C and GtJb10 D.

Parallel linear bands occur in high frequencies (91.3%-100%) and constant in the site while parallel ridges are less registered in GtJb10 A (8.7%), GtJb10 B (3.2%) and GtJb10 D (6.8%) but missing in GtJb10 D.

Reddish shards are predominant (53.3%-57.5%) in all the levels (code 5.8), while the black group (code 2.5) are fairly registered (29.5%-35.3%). The category of brownish grey (code 5.2) shards are infrequent (9.8%-17.2%) at the site.

## **4.2 Attribute Combinations by Sites**

### **4.2.0 Introduction**

Attribute combination is the process through which minimal units such as elements are used to build larger units in a hierarchical manner until a style is finally produced (Wahome 1995: 16). This process is important in reconstructing complete vessels and their

characteristics useful in determining possible social interactions and their makers or social group affiliations which is relevant in this study. The four sites which are treated separately in this section include GqJa1 (Abiero), GqJa2 (Orwa), GqJa3 (Rasoti) and GtJb10 (Thimlich). The analysis was carried out in five stages (see Figure 4.2 and Tables 4.2-4.6) so as to have a clear vision of all the values and their variations between sites in order to check any possible trends useful in this research, before complete vessels are reconstructed. However, the relationship between vessel form, texture, thickness, decoration position and decoration type proved to be the most useful combination for our objective (Table 4.7).

#### 4.2.1 Site GqJa 1 (Abiero)

The distribution of coarse-and medium- textured shards in the various shard thickness-are inconsistently represented at the site (see Table 4.2). All the lip forms except flat lips occur on out curving rims. Plain lips also appear on everted and direct rims. Tapering lips are represented by two shards alone, while other forms of combination are missing which is an indication of the fragmentary nature of the shards (Fig. 4.4 and 4.9, Table 4.3). The site is dominated by medium textured necked jars decorated on the neck (75%) and comparatively fewer (2 vessels) coarse textured necked jars decorated on the body. One coarse textured neckless jar with body decorations can be observed (Table 4.4). All the decorations present in this site are executed on the body of vessels (87.8%-100%) though oblique impressions, parallel linear bands, and knotted strip roulette also appear in low frequencies (2.8%-4.6%) on the neck (Table 4.5, Fig. 4.8).

All the medium textured necked jars (99.9%) decorated with knotted strip roulette on the neck are more than 6 mm in thickness. Only one coarse textured necked jar (10-14 mm thick) was recorded. Coarse textured neckless and necked jars (50%-100%) executed

with the same decoration on the body are either 6-10 or 10-14 mm in thickness. All coarse textured necked and neckless jars decorated on the body with parallel linear bands exhibit a thickness range of either 6-10 or 10-14 mm, while medium textured necked jars have a thickness of 6-10 mm (50%) and 14 mm+ (50%) at the site. Medium- (99.9%) and coarse-textured (100%) necked jars (6-10, and 10-14 mm thick) with oblique impressions on the neck and body are present while only one coarse textured neckless jar (6-10 mm thick) with similar characteristics is observed (Table 4.6).

The site is dominated by coarse textured necked jars executed on the neck (50%-100%) with parallel linear bands, oblique impressions, parallel impressions and knotted strip roulette decoration.

#### 4.2.2 Site GqJa2 (Orwa)

The first stage of analysis revealed a fairly even distribution of medium - (46.1%) and coarse textured (53.9%) shards in all shard thickness under study (Table 4.2). All the lip forms, except flat lips, are found on out curving rims. Plain and flat lips are associated with direct (Fig. 4.9c, and d) and everted rims (Fig. 4.4 and 4.9). The site is dominated (66.7%) by medium textured necked jars with body decorations while coarse textured vessels are less conspicuous (33.3%). On the other hand coarse textured necked jars decorated on the neck are frequent (66.7%) but medium textured combination with similar decoration position are infrequent (33.3%) as seen in Table 4.4. All the decorations registered at this site are mainly (90.4%-100%) executed on the body while parallel linear bands, oblique impressions and knotted strip roulette are also located on the rim and neck (Fig. 4.4, Table 4.5).

Medium textured necked jars executed on the neck (50% each) and body (100%)

with knotted strip roulette decorations are represented in all vessel thickness covered in this study. Coarse textured necked jars (6-10 mm thick) adorned on the neck (100%) with the same decoration are recorded. Medium textured necked jars with parallel linear bands on the neck (50%) and body (100%) are found in all vessel thickness under study, except 10-14 mm thick vessels. Four coarse textured necked jars (6-10 mm thick) with parallel linear bands on the neck are also registered. Medium textured necked jars (1-6, 14 mm and above thick) executed on the neck (50%) with oblique impressions are represented. Four coarse textured necked jars (6-10 mm thick) decorated with oblique impressions on the body are identified.

#### **4.2.3 Site GqJa3 (Rasoti)**

The site is dominated (66.7%-85.3%) by coarse textured shards in all the categories of shard thickness under study (Table 4.2). Expanded and tapering lips are mainly (60%-81.5%) found on out curving rims (Fig.4.9) while plain and flat lips occur on direct rims alone (Table 4.3). There is a comparatively high frequency (66.7%-100%) of coarse textured neckless and necked jars with body (66.7%-100%) and neck (83.3%) decorations but less registration (116.7%-33.3%) of medium textured combination. Only one coarse textured bowl is represented at the site (Table 4.4). Most of the decorations observed on coarse textured vessels (50%-100%) executed on the body while parallel linear bands, oblique impressions, simple linear punctations and knotted strip roulette are also found on the rim, and neck (Fig. 4.8 and 4.9, Table 4.5).

Medium-and coarse- textured bowls adorned with knotted strip roulette on the body and rim with a thickness of 1-6 and 6-10 mm respectively are recorded at the site. Medium textured necked (6-10, 10-14 mm thick) and neckless (6-10 mm thick) jars with knotted

strip roulette on the neck and body respectively were identified. All coarse textured neckless jars with the same decoration on the body are more than 6 mm but below 14 mm in thickness. Only one medium textured neckless jar (6-10 mm thick) executed with overlapping patterns of knotted strip roulette is registered.

Medium-and coarse- textured necked jars with parallel linear bands on the neck and body are less than 14 mm in thickness. Medium-and coarse- textured neckless jars adorned with the same decorations on the body are not more than 14 mm in thickness. Coarse textured neckless and necked jars decorated with parallel impressions on the body are more than 6 mm in thickness. Medium textured bowl (1-6 mm thick) and neckless jars (6-10 mm thick) adorned on the body with similar decorations were identified. Medium textured neckless and necked jars (6-10 mm and 10-14 mm thick) with oblique impressions on body are present while the coarse textured category with similar decoration on the neck represented in all the vessel thickness covered in this study. Only one coarse textured neckless jar (6-10 mm thick) with oblique impressions on the body is observed. Coarse textured necked jars (6-10 mm thick) decorated on the neck and body with simple and parallel linear grooves respectively are found at the site (Table 4.6).

The site is dominated (50%-100%) by coarse textured necked jars (6-10 mm thick) executed on the neck and body with parallel linear bands, parallel impressions, oblique impressions, and knotted strip roulette decorations. Coarse textured neckless jars (6-10 mm thick) adorned on the body alone with the same decorations are also registered in comparatively high frequencies (71.4%-100%).

#### 4.2.4 Site GtJb10 (Thimlich)

Site GtJb10 is dominated (59.6%-78.1%) by medium textured shards in all the shard

thickness, except for the category of 14 mm and above (Table 4.2). All the lip forms except flat and plain lips are predominantly (60%-81.5%) found on out curving rims. Plain and flat lips are found on direct rims, while tapering lips occur on incurving rims (Fig. 4.9, Table 4.3). There is a comparatively high frequency of medium textured necked jars decorated on the body (77.2%) and neck (68.1%) but fewer (22.8%-31.9%) coarse textured combinations. Coarse textured neckless jars with body decorations are predominant (71.4%) while medium textured combinations are infrequent (28.6%). Medium textured bowls decorated on the body and neck can also be observed while only one coarse textured necked jar with rim decorations is registered (Table 4.4). Most of the decorations at this site are situated on the body but simple linear punctations are executed on the neck. Knotted strip roulette, and oblique impressions are also placed on the rim and neck (Table 4.5).

All the medium textured necked jars with knotted strip roulette on the rim, neck and body are found in all the vessel thickness covered in this study, while medium textured neckless jars adorned on the body with the same decoration are less than 10 mm in thickness. Coarse textured necked and neckless jars with knotted strip roulette on the rim, and body are more than 6 mm in thickness (Table 4.6). Medium textured bowl (1-6 mm thick) and neckless jar (6-10 mm thick) executed with overlapping patterns of knotted strip roulette on the body are present. All medium textured bowls, and necked jars decorated on the rim and body with parallel linear bands exhibit a thickness of more than 6 mm while medium textured neckless jars with the same decoration on the body are 1-6 and 6-10 mm in thickness. Coarse textured neckless and necked jars adorned on the body and neck with parallel linear bands are more than 6 mm in thickness while bowls with the same vessel characteristics are executed on the body alone. Medium textured bowls (1-6 mm thick)

with parallel ridges on the body were identified. Medium textured bowls, neckless and necked jars executed on the body with parallel impressions are less than 14 mm in thickness. Only one medium textured necked jar (6-10 mm thick) with the same decoration on the neck is observed at the site. Coarse textured necked jars (6-10 and 10-14 mm thick) with parallel impressions on the neck and body are recorded while only one coarse textured necked jar (6-10 mm thick) with horizontal impressions on the body is registered. Medium textured necked jars and bowls decorated with oblique impressions on the neck and body respectively are observed in all the vessel thickness covered in this study, except the 10-14 mm thick bowls. Medium textured neckless and necked jars executed on the body with the same decoration are less than 14 mm in thickness. Coarse textured necked and neckless jars with oblique impressions on the neck and body respectively are more than 6 mm in thickness. Coarse textured bowls adorned on the body with the same decoration and exhibiting similar vessel thickness range are present (Table 4.6).

Medium- (6-10 mm thick) and coarse- textured (10-14 mm thick) necked jars with simple linear grooves and incisions on the neck and body respectively are recorded. Coarse- (6-10 mm thick) and medium textured (10-14 mm thick) necked jars decorated on the body with parallel linear grooves are observed. Medium- and coarse- textured necked jars (6-10 and 10-14 mm thick) executed with simple linear punctations on the neck are recorded. Medium textured necked jars adorned on the same decoration position with parallel linear punctations are less than 10 mm in thickness (Table 4.6).

The site is dominated by medium textured necked jars decorated on the neck (50% each) with knotted strip roulette, oblique impressions, parallel linear bands, while the coarse textured categories except the 6-10 mm thick group, are infrequent (7.1%-30.8%). Medium and coarse textured bowls executed on the body with the same predominant

decorations are well presented (100% each).

#### **4.2.5 Conclusion**

Four major observations are made on the basis of the above attribute combinations. It is clear that vessel forms from Sakwa sites, except site GqJa2, are dominated by coarse textured necked jars decorated on the neck and body with parallel linear bands, oblique impressions, and knotted strip roulette decorations. Site GqJa2 has fairly even distributions of both medium-(46.1%-50%) and coarse- textured (50%-53.9%) categories. On the other hand, vessels at Thimlich site are predominantly (68.1%-77.2%) medium textured necked jars, and bowls adorned on the rim, neck and body with the same predominant decoration motifs which occur at Sakwa sites.

Simple and parallel linear incisions, grooves and punctations are poorly represented to warrant any further speculations or interpretations. Composite roulette, horizontal impressions and parallel ridges are consistently represented in low frequencies (1 vessel each) at the sites where they are represented.

The most significant attributes, motifs and attribute combinations include knotted strip roulette, parallel linear bands, oblique impressions, medium- and coarse- textured vessel forms executed on the neck and body with the same predominant decorations.

Although Thimlich and Sakwa sites have different geological backgrounds as shown in Appendix A, the occurrence of similar vessel forms in low frequencies at the areas dominated with typical vessel texture indicates some form of exchange between the regions under study. These attributes and attribute combinations are observed at all the sites under study.



### **4.3 Ethnographic and Modern Ceramics**

Ethnographic ceramics are pottery that made and used by the present contemporary societies. Modern pottery are new earthen ware vessel forms made as a response to the needs of the new western culture, such as flower pots for tourists, and locals who have become westernised.

Archdeacon Owen (1948) was the first to mention potting among the Luo inhabitants though he did not present any descriptive work on the pottery. Later scholars (Herbich 1981, Dietler 1986, Omollo 1988, Wandibba 1990) presented detailed descriptions of Luo vessel forms. Pottery continues to thrive among the Luo due to the large domestic demand (Herbich 1981, Dietler 1986). The majority of Luo potters live in clusters around a common clay source, usually along the river banks. However, potters in Nyando District derive their clay from termite mounds within the vicinity of their homestead (Omollo 1988). Luo craftswomen rarely purchase clay from far sources. In Aram Market (Siaya District) potters rely on clay from Kalandin in Rarieda Division. The potters usually add temper to their clay in order to control its plasticity. The non-plastic elements (temper) are either in the form of coarse sand, crushed broken shards (Herbich 1981) or dark brown soil (Omollo 1988). Pot manufacture itself occurs under a shaded area. The coiling technique is applied in pot construction, and its shape is obtained by scraping both the interior, and exterior surfaces. The vessel is decorated with a plaited-cord roulette impression after its final shape and smoothness is attained. Twisted-cord roulette decoration is rarely applied in the present day Luo pottery (Wandibba 1990).

Herbich and Dietler (1989) point out the application of either one or a combination of the four roulette decoration techniques (braided grass, nylon cord, twisted string, or maize cob) by Luo potters. Wandibba (1990), on the other hand, insists on the over

reliance in the use of plaited-cord roulette over the other roulette modes of decoration (twisted string, maize cob, nylon cord).

Other decorative motifs include linear geometric designs consisting of incised lines, dotting, and grooving using the pod of "Ombasa" plant (*Tylosema fascoglensis*) or stick. Pots are dried away from the sun as long as two to four weeks (Herbich 1981, Omollo 1988), although the practice vary among the Luo sub-tribes. Some of the smooth sections (rim or neck) may be burnished with a hard implement (pebble or hard plant seed) after drying. The dried vessels are fired in shallow round depressions outside the main homestead. Red hot pots are splashed with an infusion (prepared by boiling the bark of *Bridelia Scleroneouriode* in water) instantly altering their colour from orange-red or reddish brown to a mottled black or brown colour (Herbich 1981). Luo pottery manufacture is undertaken by women at home along with other domestic activities. This pottery has a wide range of functions from food preparation, transportation, storage to use in important ceremonial occasions.

Majority of the scholars (Dietler 1986, Herbich 1981, Omollo 1988, Wandibba 1990) have relied on the use of vessel form, function and local pot names, but cautioned the use of these values as distinctive modes of Luo pottery description. For example, the use of local pot names alone is misleading as the same vessel form may have different names in different regions. Simple open pots are known locally in various regions as either *Ohigla*, *Oigla* or *Haigla*. Moreover, a particular name of a pot may be applied in different regions to vessel forms of various shapes or functions. For instance, the name "Nyalaro" is used to refer to the larger simple open vessel forms in Ugenya (Siaya District) (Fig.1.2) while pots with restricted mouths but without lug handles have similar identity (name) in Nyando District (Herbich 1981, Omollo 1988). *Agulu* is the only universal name for pots with a

neck.

Dependence on vessel function as a mode of Luo pottery description is also problematic because some pots can be used in various situations. Notable examples are the larger vessel forms with a neck. These pots are known as *Dapi* when used as water storage facilities, but referred to as *Dakuon* when serving the function of food preparation. Certain common functions such as beer brewing, food preparation, and water storage have no recognised corresponding category in the Luo pottery repertoire. Pots with multiple functions include larger vessels with a neck known as *Kabange* or *Nyambiru* useful in water storage, beer brewing and food preparation.

Herbich and Dietler (1989) relied on vessel form as the basic mode of Luo pottery description over local name and function because it offers the advantage of having objects rather than concepts as a basic reference. The two scholars established thirteen types of vessels from twelve traditional autonomous Luo sub-groups (Ogot 1963, Whisson 1964) each under a clan elder or ritual leader (Southal 1952). Potters from the different Luo sub-regions produce a wide range of pots which are a sub-set of the universal thirteen vessel forms in the whole region. Variation occurs within each form in terms of vessel proportion, decoration, and details of craftsmanship from the various groups of potters eventually constituting different styles (Herbich and Dietler 1989).

The thirteen vessel forms fall into three main groups; pots with a neck, simple open types, and those exhibiting restricted mouths. Pot such as *Tawo* or *Tap Nyaluo* constitute the category of simple open vessel forms. They are decorated with ochre and manufactured in Alego and Ugenya, Siaya District (Figure 4.11). The larger vessel form, *Nyalaro*, is used for serving porridge, and beer drinking (Figure 4.11). *Oswaro* is another vessel form under this category that is rapidly declining in use (Figure 4.11).

Pots with simple restricted mouth are characterised by vessel forms with lug handles. They are known locally as either *Ohigla*, *Haigla* or *Oigla* (Figure 4.11). Nyalaro is another vessel form under this category. It has no lug handles (Figure 4.11). These pots are mainly used for cooking fish. *Kabange* or *Dakuon* are vessel names of one pot with restricted mouth but has multiple functions. The different names are related to either of the two functions of the vessel (food preparation and storage) (Figure 4.11).

The last category are vessel forms with a neck. *Kabange* has been classified by Herbich (1981) under this group of pots. The larger size vessel *Dapi* serve as a water storage pot while the smaller version *Nyambiru* is useful in meat and vegetable preparation (Figure 4.11). *Nyambiru* has other functions such as water storage and beer brewing. Those decorated with ochre, and used exclusively for serving and drinking beer. *A guch Dak*, and *Dag Kongo* are useful in milk storage and beer brewing respectively (Figure 4.11). *Tawo* is mainly found in Ugenya (Siaya District) and South Nyanza. The decorated vessels *Tawo* are useful in serving beer at important ceremonial occasions (Figure 4.11).

Wandibba (1990) established five vessel forms or types. Type one are pots with simple restricted mouths. The vessel forms exhibit lug handles near the rim, which is usually with plaited-roulette impressions all over the exterior surface except for a narrow band around the rim, usually burnished. The characteristic features of type two vessel forms include wide mouth, and short neck with flaring rims. This is the most common vessel exhibiting a variety of sizes and serving various functions. It is known locally as *dakuo* when used for preparing *Ugali* (made from millet or sorghum) but referred to as "Dapi" when serving as a water storage facility. Type two vessel forms are similar to pots with a neck (Herbich, 1981). Plaited-roulette impressions cover the entire exterior surface of the vessel form, including the edge of the neck. Incision occur on the upper shoulder while the neck,

and rim are frequently burnished.

Type three are large elongated vessel forms, known locally as *Dak*. This category of pots have multiple functions such as beer brewing, grain and water storage. When used for preparing beer, it is known as *Dak*. The vessel also falls under the category of necked pots (Herbich 1981). Type four vessel forms are small conical bowls *Oswaro*, useful in serving fish. The external surface of the vessels have plaited roulette impressions except for a band near the rim. Both the interior surface and rim are generally burnished. Type four vessel forms are similar to simple open pots (Dietler and Herbich 1989).

The vessel forms under type five category are mainly found in Nyakach Division (Nyando District). They are large hemispherical bowls known locally as *Nyalaro* or *Olaro*. The pots are decorated with plaited-cord roulette, incised lines in alternate bands, and triangular impressions on the rim (Omollo, Personal comm).

Luo vessel forms are facing competition from imported wares (plastic containers and metal baskets). *Tap Nyaluo* and *Nyalaro* are the most affected of all the vessels while *Dapi* are still widely in use. The distribution of pots is through periodic market system (Dietler, 1986) which are usually situated at the boundaries of the regional Luo sub-groups leading to exchanges between trading centres and within the homesteads (Herbich, 1981).

The local names used in the description of various Luo vessel forms are based on their functions rather than their characteristics, or attributes. Virtually, every vessel form or type is decorated with plaited - cord roulette impressions, especially on the exterior surface, but none on the rim or interior. Twisted-string roulette impressions have not been cited for these categories even though claims have been put forward by some scholars (Herbich 1981, Omollo 1988, Wandibba 1990). All the scholars indicate the multiplicity of vessel functions within the Luo pottery repertoire. Local vessel names also vary from one region

to another as indicated above.

My study of recent and new vessel forms in Sakwa and Kagwa regions in Bondo District was undertaken on three marketing centres (Bondo, Amoyo and Aram) and the homesteads of 15 potters. Direct observation, measurements, and drawings were undertaken in addition to photography.

Pot manufacture in Sakwa at Got Abiero and Kagwa regions occur within the house of the potter away from strong winds to avoid drying during its construction. The art of pot making is under rated by men as dirty work but performed by women along with other domestic activities.

Clay is obtained from the slopes of Got Abiero hill. Coarse sand (temper) is added to red or dark clay from the hill to counteract excessive shrinkage of the paste in drying. Pots are constructed inside hemispherical earthen bowls. The coiling technique is applied in pot construction and its shape obtained by scrapping the interior and exterior surface using (*Tylosema fassoglensis*) *ombasa* pod. Drying period ranges between three weeks to one month depending on the weather. The dried vessels are fired under controlled bone fires in shallow depressions outside the potter's homestead.

Crushed pot fragments are not recycled or used as temper by potters from this region. The fired pots are splashed with an infusion using *orwech* plant leaves, instantly altering their colour from reddish brown to mottled black or dark grey colour. The process (infusion) also hardens the vessels.

The main descriptive variables employed in the description of recent and new vessel forms include local pot names, decoration patterns, vessel form and function.

The large elongated spherical necked vessel with out flaring rim is known locally as *Dak* (see Fig. 4.11). It has multiple functions such as beer brewing, grain and water storage.

It is known as *Dapi* when serving as a water storage facility but referred to as *Dag Kongo* when used for beer fermentation or brewing. The different local names refer to one pot but different functions. The rim diameter and neck are 37 and 8 centimetres respectively. The vessel is 57 centimetres long and decorated with parallel bands of oblique knotted strip roulette impressions on shoulder and body. Lip, rim and neck are undecorated. Surface finish of the vessel is coarse. Overlapping patterns of knotted strip roulette impressions occur all over the body.

The second category belongs to medium-sized elongated spherical necked vessels with restricted neck, out curving rims and plain lip, known locally as *Mbiru* (see Fig. 4.11). There are two types of this vessel form. The distinction is based on difference in size of neck and decoration patterns. The rim and neck are 21 and 8 centimetres in width and vertical dimensions respectively. It is decorated with parallel bands of oblique knotted strip roulette impressions on the rim and has not undergone the process of infusion thus retaining its initial reddish colour. Other decoration patterns include simple linear grooves and punctation on neck and shoulder respectively. Slip application and burnishing also occur on the shoulder. The vessels serve as a water storage facility. The second vessel form in this category exhibits wide mouth, shorter neck and out-flaring rim. Rim diameter and neck length are 32.5 and 5 centimetres respectively. Other morphological characteristics are similar to the first vessel in this category. Both slip application and burnishing on the rim, parallel linear incision and punctation on shoulder. The vessel form is decorated with red ochre and has not gone through the process of infusion.

Simple neckless jars with restricted mouths and flattened lips are known locally as *Ohigla* (see Fig. 4.11). The vessel has a rim diameter of 16 centimetres with plain burnished band in its surface, and two lug handles near the rim. It is decorated with overlapping knotted

strip roulette impression all over the exterior surface and treated with infusion. The vessel is used only for cooking fish, the Luo traditional delicacy.

*Kabange* is a spherical necked jar with out-flaring rim and plain lip (see Fig. 4.11). The vessel has multiple functions which are related to the different local pot names referring to this pot. The vessel is called *Aguch Ringo* when used for cooking meat and *Aguch A lot* in case it is used to prepare vegetable food. It is decorated with parallel bands of oblique knotted strip roulette impressions on shoulder and body.

Simple open hemispherical bowls with direct rim and plain lip, known locally as *Olaro* are decorated with parallel linear incisions on rim and parallel bands of knotted strip roulette impressions all over the body (see Fig. 4.11). The vessel is darkened by infusion and serves as the main bowl from which porridge and beer are drawn using straws. Today, the vessel is useful in the distillation of *chang'aa*, a local brew. Another simple open hemispherical bowl with plain lip, known locally as *Tawo* is used for serving fish, meat or vegetables. It has similar functions to modern dishes. The vessel is either plain and burnished or decorated with parallel bands of knotted strip roulette impressions on the exterior surface.

*Oswaro* is hemispherical open bowl with plain lip and one leg stand. It is used for serving fish only. The vessel is decorated with punctation on rim and parallel bands of knotted strip roulette impressions on body (Fig. 4.11).

An hemispherical bowl with direct rim, plain lip, and open hole at the base is known locally as *Tawo mar Otuch*. The artificial hole (*Otuch*) at the base is important in *chang'aa* distillation process (see Fig. 4.11). It is decorated with parallel bands of knotted strip roulette impressions on the body, and treated with infusion.

The eight major categories of Luo vessel forms (Sakwa and Kagwa regions) are more or less similar to the universal Luo traditional pottery repertoire already discussed by the



previous ethnographers such as Dietler (1986), Herbich and Dietler (1989), Herbich (1981), Omollo (1988) and Wandibba (1990). There are internal sub-divisions within the main eight vessel forms from Sakwa and Kagwa regions based on either reduction in size, different functions or decoration patterns. Such internal sub-divisions occur in such vessel forms as *Dak*, *Tawo* and *Mbiru*. However the difference is quite a minute.

The traditional Luo pottery repertoire in Sakwa and Kagwa regions have undergone dramatic modification in the recent years in terms of vessel morphology, size and decoration patterns in the face of changing socio-cultural life-styles. A new group of vessel forms have emerged while still retaining some of the traditional morphological traits and local names. The new vessel forms are mainly flower pots, tea and sugar earthen ware containers. Although they still retain some of the traditional morphological characteristics, the vessel forms exhibit new flattened bases, cover-tops and drastic reduction in size. Such new vessel forms with traditional local pot names include *Dapi*, *Ohigla*, *Mbiru*, and *Tawo*. The key additional morphological traits include flattened bases from the original rounded ones, cover-tops, loop handles, and reduction in vessel size. For example, *Dak* is reduced to 9 and 14 from 37 and 57 centimetres in rim diameter and vertical length dimensions respectively, while *Ohigla* is modified to retain the new size of 8 and 10 from 16 and 18 centimetres in rim diameter and vertical length dimensions respectively.

The new spherical necked flower pot *Mbiru* with out-flaring undecorated rim, has two new loop handles on shoulder and a flattened base. The old vessel was reduced in size to 12 and 15 centimetres (new vessel) in rim diameter and vertical length dimensions respectively. The vessel is decorated with fingernail impressions on the neck, and restricted parallel bands of oblique knotted strip roulette impressions on the body and cross-hatch incision on the flattened base. A new spherical elongated vessel form *Dapi* with out-flaring rim is reduced in

size to 9 and 14 centimetres in rim diameter and vertical length dimensions respectively. The vessel is decorated with thumb impressions on the rim, cross-hatch incision on the neck and fingernail impressions on the shoulder. Parallel bands of oblique knotted strip roulette impressions occur on the rest of the body. The new hemispherical open bowl with direct rim and plain lip *Tawo* is flattened at the base and reduced in size 8 and 10 centimetres in rim diameter and vertical length dimensions respectively. The vessel is decorated with notches and restricted parallel bands of oblique knotted strip roulette impressions on the rim and shoulder respectively. A new neckless flower jar with restricted mouth and two lug handles, *Ohigla*, is reduced in size to 8 and 10 centimetres in rim diameter and vertical length dimensions respectively. The vessel has a flattened base and is decorated with fingernail impressions on either the rim or base.

The spherical flower pot *Agulu* with out-flaring rim and flattened base is decorated with notches on the shoulder, chevron fingernail impressions and cross-hatch incisions on the lower and upper sections of body respectively. Plain bands separate or lie between cross-hatch incisions on the rim and neck. The base is undecorated.

The hemispherical flower bowl with one leg stand *Oswaro*, retains its shape but reduced in size to 8 and 9 centimetres in rim diameter and vertical length dimension respectively. The vessel is decorated with knotted strip roulette impressions on the body. The base is occupied by a leg stand and is undecorated.

While previous decoration patterns were dominated by parallel bands of oblique, converging and overlapping knotted strip roulette impressions, the new vessel forms exhibit new patterns such as high frequencies of punctation, fingernail impressions, cross-hatch incisions, chevron incisions, parallel linear grooves, flower patterns, notches, and thumb impressions.

Notches, thumb impressions, grooves in flower and tree form appear for the first time in this region.

Tea and sugar earthen ware are similar to modern vessel forms with the same functions. These new vessel forms have cover tops with loop handles similar to modern ones. The vessels are decorated with grooves and chevron fingernail impressions on the neck, body and base in the form of flowers and tree leaves. The decoration patterns appearing on a particular new vessel form is repeated on its cover-top and base. Plain vessel forms have not gone through the process of infusion, thus retaining the reddish-brown colour on their surface for aesthetics.

The traditional Luo pottery repertoire is dominated by parallel bands of oblique knotted strip roulette impressions on the body, while the new vessels exhibit only restricted parallel bands of knotted strip roulette impressions on a few sections of the body. Other decoration motifs already discussed above dominate this new category of vessel forms.

Although, some of the new vessel forms are still retaining local pot names and shape, deviation from the old traditional Luo pottery takes the form of vessel size, flattened base, function, decoration, and colour.

#### **4.4 Conclusion**

This chapter has identified some of the attributes, motifs, and attribute combinations shared by archaeological, ethnographic and modern ceramics. Such attributes and attribute combinations include simple and parallel linear bands, knotted strip roulette impressions, oblique and parallel impressions. Coarse-or medium- textured bowls, neckless and necked jars mainly decorated on the body and neck with parallel linear bands of oblique knotted strip

roulette impressions are the predominant vessel forms observed in archaeological, ethnographic and recent pottery. Some of the combinations are too poorly represented across the sites to be significant in identifying cultural relations between while other attribute combinations are unique to specific sites. The most interesting observation in this pattern, is the virtual lack of change in the primary vessel forms with exception of a few alterations encountered in the current pottery at Sakwa region due to Western influence. In the succeeding chapter I wish to compare both the ceramics and architectural characteristics between sites.

## CHAPTER FIVE

### COMPARATIVE ANALYSIS

#### 5.0 Introduction

This chapter focuses on a comparative analysis of ceramic material from Bondo and Thimlich sites and their architectural characteristics with a view to establishing the relationship between the two regions. Comparative ceramic analysis took into consideration similar or different ceramic attributes from Bondo and Thimlich assemblages. The main variables compared in architecture between these sites include site location, plan, wall construction, interior partition, state of preservation, gate and wall construction as explained below.

#### 5.1 Architectural Characteristics

Stone structures in Sakwa location, Bondo Division are locally known as Abiero, Orwa, and Rasoti. Thimlich complex site (GtJb10) has six adjacent and internal structures, namely Kochieng, Blacksmith, Kakuku, Kokech, Koluoch, and Kogong (Onjala 1990). Sakwa and Thimlich *ohingni* are located on hilly grounds. Such stone structures on hilly grounds have been previously seen as protective devices and termed as hill forts believed to have been used for protecting livestock against wild animals and external raiders (Ochieng 1985). These hilly areas (Got Abiero, Got Rasoti and Got Agolo Muok) are endowed with raw materials (loose surface rocks which were used for construction) (see Plate 1). The loose rock material are the remains of intense tectonic forces that led to the formation of Lake Victoria basin, and the adjacent hills, subsequently creating weak joints (fault lines) on the volcanic rocks in the region (Mboya 1981, Pulfrey 1954).

These Precambrian rocks of the Nyanzian system have undergone both physical and

chemical weathering processes (Ojany and Ogendo 1973) resulting in rock disintegration along the region. It was these loose rock fragments of the Nyanzian system that were utilized by the builders of these structures for construction (see Plate 1). Hilly grounds such as Got Abiero, Got Rasoti and Got Agolo Muok acted as suitable settlement places endowed with loose rock material for wall (see Plate 1) which minimised transportation cost for building materials. The minor difference lies on rock type employed in wall construction. The materials used in the construction of Thimlich *Ohingni* are mainly of weathered basalt (Onjala 1990) while Sakwa structures are built of gneiss rock type. The hills also provide a clear vision of the surrounding landscape which enhanced settlement security in the face of constant raids and inter-tribal rivalry. The entrances of Thimlich structures are better preserved (preservation state 1; Plate 6) than those of Sakwa enclosures (preservation state 3). Evidence of well preserved entrances in Thimlich include the presence of roof lintels, lock holes and extended gate walls (Onjala 1990). Such structures are absent in Sakwa region. Table 5 provides a clear picture of the relationship in gate height and width dimensions between the two regions.

Rasoti is the only unique structure (in Sakwa) that has a gate vertical dimension of 1.7 metres which is closely comparable to Blacksmith in Thimlich. Blacksmith stone structure has the highest entrance of 1.98 metres followed in descending order by Rasoti (1.7 metres) Kochieng and Kogong (1.2 metres each).

The entrance of Koluoch structure (with vertical dimension of 1.1 metres) is lower than the gates of the above mentioned enclosures, higher than Kokech, and Orwa, each exhibiting vertical dimensions of 0.9 metres. Abiero stone structure has the lowest gate height of 0.7 metres. The variation in gate height may be mainly due to difference in duration of site abandonment and toppling of the structures by domestic animals. Sakwa stone

structures have wider entrances than Thimlich enclosures. Abiero and Rasoti have gate width dimensions of 11 metres each, while Thimlich entrances range between 0.6 to 1.98 metres (see Table 5). The difference in gate width dimensions is attributed to environmental and cultural factors. Gate width of Sakwa structures was possibly controlled by natural passes (depressions), while Thimlich entrances (smaller sized) were possibly designed to guard against external invaders (Onjala 1990, 1994). The presence of watch towers and lock-holes attest to the security need by the inhabitants of Thimlich (Plate 7). The structures in these regions exhibit wall buttresses but variation occur in their roles. Gate buttressing at Orwa structure was possibly meant for decoration purposes rather than wall stability measures as in Thimlich. Thickened gate wall extensions occur in all the structures for structural stability and durability of the entrances.

Variation occur in the number of gates per structure. The situation is demonstrated in table five where structures are compared with one another to establish the relationship between the two regions in terms of gate numbers. The number of entrances in Thimlich was dependent on variables such as the number of occupants (both domestic and human) and the size of structures (Onjala 1990). A contradictory situation occur in Sakwa, where large complex enclosures such as Abiero and Rasoti ( with internal partitions indicating large population of occupants, exhibit only one entrance each, while a simple structure (Orwa) has two entrances (see Fig. 3.0, 3.1, and 3.2). It is therefore less likely that social factors are the determinant forces behind the number of gates in this region, which could otherwise be due to toppling of the entrances over long period of time reducing their visibility. The difference in gate size and its architecture is thus the result of a combination of ecological, cultural and time factors rather than a particular variable in the two regions.

The walls of Thimlich structures are much more preserved (preservation state 1) than those of Sakwa enclosures (preservation state 3). Wall height of Thimlich structures range between 3.9 maximum to 1.2 dimensions, which is slightly higher than Sakwa structures with a height range of 1.7 to 0.7 metres (see Table 5.2). Thickened walls at the base occur in virtually all the structures basically for wall stability. It is evident from the two regions that wall construction begun with a loose foundation of relatively larger rocks. Natural rocks and cliffs also acted as defensive measures in both Thimlich and Sakwa structures. Rock pillars constitute part of Abiero enclosure thus a unique case in Sakwa. Wall construction in both regions did not involve the use of mortar as blocks were freely laid one on top of the other (see Plates 2, and 5). The various sizes and shapes of the blocks prohibited creation of course lines, however, regular rock slabs acted as wall pillars at Abiero (in Sakwa) while constituting roof lintels in Thimlich (see Plates 2, and 6). The walls are constructed in zigzag pattern in which bends counteracted against vibrations thus enhancing wall stability (Onjala 1990). Structures in both regions have internal wall partitions represented in the form of rock pillars and stone linings in Rasoti and Abiero while piled rock material was dominant in Thimlich. The rock pillars are the outcome of rock exfoliation (see Plate 1 and 2) thus producing stone-slabs. The circular stone linings (in Sakwa) have been identified as raised house floors or platforms associated with high density ceramic material, and burial stone cairns. On the other hand, small enclosures within either simple or complex structures at Thimlich have been grouped into three categories as cattle Kraals, pens for smaller animals and garden fences (*Urundu*). Garden fence structures constitute the outer wall of the main enclosure. They are known locally as *Urundu* which are places for growing vegetables useful in supplementing the annual crop output (Onjala 1990). *Urundu* have not been identified in Sakwa possibly due to vegetation overgrowth around and within the structures. Circular depressions and raised



stone linings (with diameter ranging between five to six metres) have been identified as house floors in Thimlich (Onjala 1990) and Sakwa respectively (Plate 3). These circular internal partitions are absent in some of the structures such as Orwa in Sakwa region possibly due to interference through charcoal burning and re-use of stone linings for construction purposes. Their entrance usually face the opposite direction away from the main gate (see Fig. 3.0, 3.2 and 3.11). Except for slight differences in wall height, absence or presence of roof lintels, lock-holes, use of buttresses and the nature of house floors, *Ohingni* in the two regions exhibit uniformity in various architectural features in terms of roughly circular and zig-zag walls. Other areas of similarity include thickened walls at the base, marred wall course lines, roughly circular house platforms with entrances facing away from the main gate and lack of mortar application. Grindstones and hammer stones have been identified in the two regions indicating possible cultivation of grain crops by the inhabitants of these structures. This architectural similarity points towards one construction tradition by the settlers of these structures in the two regions. Burial stone cairns are however unique to Sakwa region.

## 5.2 Ceramic Materials

This stage of analysis aims at isolating similar or different patterns between the sites as indicated by ceramics from these areas, and relating them in terms of clay source interactions, cultural and temporal relations which are issues addressed in this work. Both attributes and attribute combinations have been used in order to enhance the limited data of sensitive categories which is the best way of analysing fragmentary shards in the study area. The sites under comparison include GqJa 1 (Abiero), GqJa 2 (Orwa), GqJa 3 (Rasoti) and GtJb10 (Thimlich). Table 3.0.1 presents overall ceramic attributes and motifs from the various sites useful in this stage of analysis.

In the category of vessel parts, the sites are dominated by body shards ranging between 66.7% (GtJb10) and 89% (GqJa 1), making this attribute a less significant indicator of temporal relations between the sites. Neck-shards occur in low frequencies at GtJb10 (14.1%), GqJa 3 (29%) and GqJa 2 (2.3%) but missing at GqJa 1 while rims are less frequent (less 19%) in all the sites. This could be attributed to the fragmentary nature of the shards reducing their visibility and identification. Only one loop handle was identified at GqJa 1. The low frequencies of bases (less 3.3%) in all the sites is due to their similarity with body shards rendering their identification almost impossible. Diversification in shard thickness (1-6 mm, 10-14 mm and 14 mm+) is notable in all the sites while 6-10 mm thick shards are predominant (48.3%-59.4%).

In the category of shard texture, coarse textured shards are frequent at sites GqJa 3 (75.9%), GqJa 2 (52.2%), and GqJa 1 (54.3%), but fewer in GtJb10 (28%). This indicates possible similarities between GqJa 3, GqJa 2 and GqJa 1 in contrast to GtJb10. On the other hand, medium textured shards are dominant at GtJb10 (71.8%) but less frequent at GqJa 3 (24.1%) although GqJa 2 (46%) and GqJa 1 (43%) record fair proportions of this motif. The motifs are significant indicators of temporal relations between the sites from these regions.

Shard temper mainly comprise sand/graphite at GqJa 3 (91.2%), GqJa 2 (60.4%) and GqJa 1 (43%). This characteristic is infrequent at GtJb10 (22%) which further distinguishes this site from the rest. On the other hand, sand-tempering is frequent at GtJb10 (78%), (see Table 41). This pattern is a possible indication of the utilisation of different clay sources at Thimlich and Sakwa.

All the lip forms covered under this work such as tapering, flat, plain and expanded lips are recorded in all the sites, however, expanded lips are frequent at GqJa 3 (65.1%), GqJa 2 (48.8%) and GqJa 1 (41.2%) isolating them from GtJb10 with only 4.8% of this category.

On the other hand, plain lips are predominant at GtJb10 (70.4%) but less frequent at Sakwa sites ( see Table 4.2). Tapering and flat lips occur in low frequencies (less than 22%) in all the sites.

Rim morphology is dominated by out curving rims in all the sites ranging from 44.4% (GtJb10) to 68.8% (GqJa 1) which puts the sites together in terms of cultural relations. Direct rims occur in low frequencies at GqJa 3 (8.5%), GqJa 1 (6.3%) and GqJa 2 (13.6%) but relatively frequent at GtJb10 (28.2%).

In the category of rim diameter, diversity is observed at GtJb10 where all the classes; restricted-mouthed vessels (<15 cm), medium-range-mouthed pots (14-18 cm), and wide-mouthed category (>15cm) are represented (see Table 4.2).

Vessel forms (bowls, necked, and neckless jars) are represented in all the sites, however the predominance of necked jars (77%-88.9%) renders the motif less significant as a temporal indicator; neckless jars are more frequent at GqJa 3 (20.3%) than at other sites (less than 9.6%) indicating its uniqueness while bowls are dominant at GtJb10 (16.4%) (Table 4.2).

The category of decoration position is dominated by body (87.8%-97.8%) in all the sites. The motif is therefore less significant as a temporal indicator. Decoration on the neck is less frequent in all the sites (less 9.5%). GqJa 2 and GqJa 1 are less diversified in terms of decoration positions than GqJa 3 and GtJb10.

Decorations on the rim are less frequent in GtJb10 (1.4%), GqJa 3 (0.8%) and GqJa 2 (0.3%) while virtually absent at GqJa 1. Shoulder decorations are present in low frequencies at GqJa 3 (0/9%) and GtJb10 (1.4%), but missing at GqJa 2 and GqJa 1 (Table 4.2).

Surface treatment varies between sites in the regions under study. Coarse-surface finish is predominant in GqJa 3 (67.9%), GqJa 2 (55.8%), and GqJa 1 (55.2%) in contrast to GtJb10 (22.4%). Medium surface finish is, dominant at GtJb10 (54,2%) in comparison to

GqJa 2 (39.2%) and GqJa 1 (39.9%) which have fairly even frequencies. Slip application and burnish and brushing occur in low frequencies and inconsistently between the sites.

Roulette decorations are dominated by knotted strip roulette in all the sites ranging between 69.3% (GtJb10) and 90.9% (GqJa 3), while composite, converging and overlapping patterns of knotted strip roulettes occur in low frequencies in all the sites (less than 18.9%).

Applied bands are dominated by parallel bands in all the sites ranging between 94.5% (GtJb10) to 98.7% (GqJa 1), while parallel ridges are comparatively few (1.3%-5.5%).

Incised decorations are mainly made up of simple linear incisions at GtJb10 (76.9%), GqJa 2 (75%) and GqJa 1 (100%). They comprise 35.7% at GqJa 3. On the other hand, parallel linear incisions are frequent at GqJa 3 (64.2%), while infrequent at GtJb10 (23.1%) and GqJa 2 (25%). The motif is virtually absent at GqJa 1.

Simple linear grooves are present in low frequencies at GtJb10 (28%) and GqJa 3 (25%). The motif is missing in GqJa 2 and GqJa 1. Both simple linear (45.5%) and parallel linear punctations (54.5%) are frequent at GtJb10 in comparison to the other sites where the motif is virtually absent (Table 4.0).

The surface colour of the shards is mainly reddish (32.3%-58.3%) and brownish grey (14.2%-59.9%) though, black shards are also found (8.7%-30.3%) in low frequencies at all the sites.

The execution of knotted strip roulette on the body is frequent in all the sites, while its placement on the neck is infrequent (less 8.5%). On the other hand, its location on the rim is registered in low frequencies at sites GtJb10 (2.9%) and GqJa 2 (0.3%). Composite and overlapping knotted strip roulette appear on the body in all the sites (see Table 4.5).

The last stage of attribute combination include vessel form, texture, thickness, position of decorations (Tables 4.6 and 4.7). Medium textured necked jars (1-6 mm thick) with

knotted strip roulette decorations on the neck are only recorded at sites GqJa 2 and GtJb10. Medium textured necked jars (6-10 mm thick) with similar characteristics are found at sites GqJa 3, GqJa 1 and GtJb10. Vessels with similar traits but with a thickness range of 10-14 mm are also present in these sites.

The class of 14 mm and above vessels with similar characteristics are registered at GtJb10 and GqJa 1 (see Table 4.6). Medium textured bowl (1-6mm thick) with knotted strip roulette on the body are represented at GtJb10 and GqJa 3, while pots of 6-10 mm thickness range with similar characteristics are mainly associated with GtJb10. Similarly, the category of 14 mm and above vessels are mainly found at GtJb10 thereby making the site unique (see Table 4.6). Medium textured necked jars (1-6 mm thick) with knotted strip roulette on the body are only recorded at GtJb10, while the category of 6-10 mm thick vessels with similar characteristics occur at GqJa 2 and GtJb10. Medium textured necked jars (10-14 mm thick) adorned with the same decoration on the body are found only at GtJb10 (see Table 4.6). Medium textured neckless jars (1-6 mm thick) with knotted strip roulette on the body are only recorded at GtJb10. On the other hand, 6-10 mm thick vessels with similar characteristics are prevalent at GqJa 2 and GtJb10 (see Table 4.6).

Coarse textured bowls of 6-10 mm thickness range, executed with knotted strip roulette decorations on the body have been observed at GqJa 3 and GqJa 1. All coarse-textured necked jars decorated with knotted strip roulette on the neck found in all sites exhibit all the thickness ranges. Coarse textured bowls (6-10, 10-14, and 14 mm+) executed on the body with knotted strip roulette decorations are only found at GqJa 3 and GtJb10. Coarse textured necked jars (6-10, and 10-14 mm thick) with knotted strip roulette decorations on the body are registered at sites GqJa 3, GqJa 1 and GtJb10 (see Table 4.6). Medium textured necked jars (6-10 mm thick) adorned with composite roulette on the body

are present at GtJb10.

### 5.3 Distribution of Attribute Combinations by Sites

Attribute combinations in this analysis is undertaken in five stages useful in ensuring that all the shard are represented (see Fig. 3.1 and Tables 4.2 - 4.7)

The primary attributes in the first stages of analysis include shard thickness and texture (see table 4.2). The significant observations made in this analysis include comparatively high frequency of coarse textured, 1-6mm thick shards in sites GqJa3 (66.7%), GqJa2 (42.1%) and GqJa1 (45.8%) with less representation of this category at GtJb10 (16%). This distinguishes GtJb10 from the rest. Medium textured shards of the same thickness range are predominant at GtJb10 (78.2%) but fewer at GqJa3 (33.3%), GqJa2(52.4%), and GqJa1 (41.7%), (see Table 4.2).

Both medium and coarse textured shards in the 6-10mm thickness range are found in all the sites. However, medium textured shards of this category are predominant at GtJb10 (66.4%) while less frequent at GqJa1 (47.9%). Coarse textured shards in the same thickness range are frequent at GqJa3 (75.5%) but less dominant at GqJa2 (53.9%), GqJa1 (52.1%) and GtJb10 (28%). From this distribution site GqJa2 and GqJa1 appear to be closely related (see table 4.2).

Medium textured vessels of 10-14mm thickness are predominant at GtJb10 (55.6%)but less represented at GqJa3 (14.7%), GqJa2 (33.3%) and GqJa1 (31.4%). This order is reversed in the coarse textured shards (see table 4.2). Coarse and medium textured shards with a thickness of 14 mm and above are found in all the sites. All in all, coarse textured vessels in this thickness range are predominant at GqJa3 (80%) while this combination is fairly distributed at GtJb10 (53.6%) and GqJa2 (50%) but less frequent at

GqJa1 (33.3%). Sites GtJb10 and GqJa2 are thus associated. Medium textured shards of the same category are predominantly represented at GqJa1 (66.7%), GqJa2 (50%), and GqJb10 (46.4%), but less frequently registered at GqJa3 (20%). Sites GqJa1, GqJa2 and GqJa3 are associated in terms of coarse textured shards with a thickness of 1-6mm or 6-10mm. Sites GqJa2, GqJa1 and GtJb10 are fairly similar in the category of medium textured shards (see table 4.2).

The second stage of analysis include lip and rim combinations (see table 4.3). The presence of expanded lips on everted rims (Fig. 4.4) occur in low frequencies at GqJa3 (18.5%), GtJb10 (16.7%) and GqJa2 (13.6%) but missing at GqJa1, while this category on out-curving rims are predominant in all the sites ranging between 66.7% (GtJb10) and 100% (GqJa1). Expanded lips on direct rims (Fig 4.4) only appear at GqJa2 (9%).

The occurrence of plain lips on direct rims is higher at GqJa3 (75%) in comparison at GtJb10 (28.7%), GqJa2 (33.3%) and GqJa1 (20%). Plain lips on incurving rims (Fig. 4.4) only occur at GtJb10 (60%). Plain lips on out-curving rims (Fig 4.4) are missing at GqJa3 but registered in GtJb10 (46%), GqJa2 (33.3%), and GqJa1 (20%) (see table 4.3). The most distinctive observation in the category of flat lips and rim morphology is the diversity of this combination in GqJa3 where flat lips occur on either in curving (Fig 4.4) or out curving rims (Fig 4.4 and table 4.3).

Tapering lips on out curving rims (Fig 4.4r) are predominant at GqJa1 (100%) and GqJa3 (60%). This category on direct (Fig 4.4j) or everted rims (Fig 4.4m) are recorded at GqJa1 while its presence on incurving rims (Fig. 4.4n) are registered at GqJa3 and GtJb10 (see table 4.3).

The third stage of analysis include vessel form, position of decoration, and texture (see table 4.4). Both plain coarse and medium textured bowls are absent in all the sites which

could be attributed to the fragmentary nature of the shards making their reconstruction into complete vessels impossible. Plain medium and coarse textured necked jars are present at GtJb10, GqJa3 and GqJa2 while these categories are absent at GqJa1 (see table 4.4).

An important observation is the lack of coarse textured bowls decorated on the rim at all the sites. Medium textured bowls with the same decoration position are only recorded at GtJb10 (see table 4.4). Coarse textured necked jars decorated on the rim are registered only at GtJb10. Medium textured neckless jars are also recorded at this site (see table 4.4). Medium textured jars decorated on the body are predominant at GtJb10 (72.7%), and GqJa2 (66.7%) while this combination is absent at GqJa1 and GqJa3. Coarse textured necked jars of this combination are represented in all the sites while less registered at GqJa2 with one shard (table 4.4). Coarse textured neckless jars decorated on the body are represented in all the sites with exception of GqJa3. Medium textured neckless jars with the same decoration position are registered in low frequencies at GtJb10 (28.6%) (see table 4.4).

The fourth stage of attribute combination include type of decoration and position of decoration which was carried out with the aim of isolating the vessel parts on which the different kinds of decorations are placed (see table 4.5). The application of parallel linear bands on the body is predominant in their distribution at GtJb10 (90.5%), GqJa3 (96.5%), GqJa2 (98%) and GqJa1 (97.2%) while GtJb10 retains its earlier observed diversity of having parallel linear bands on various parts of the vessels under study. The placement of this motif on rims is observed only at GqJa2 (0.3%) and GqJb 1 (2.9%), while its location on the neck is registered in low frequencies at all the sites (see table 4.5). Parallel ridges are mainly located on the body in all the sites, while its execution on the neck and rim are missing. The placement of simple linear grooves on the neck are registered at sites GqJa3 (100%) and GtJb10 (100%), while the positioning of this category on the body of the vessels is absent



(Table 4.5). Parallel linear grooves are decorated on the body alone at sites GqJa3 and GtJb10. Parallel impressions are often placed on the body in all the sites. However, this occurrence at the neck (GqJa3 and GtJb10) has also been recorded. Similarly, horizontal impressions are frequently executed on the body in the sites (see table 4.5). The distribution of oblique impressions on the body and neck are recorded in all the sites although its execution on the body is often represented. On the other hand, its execution on the rim is registered at sites GtJb10 (1.4%) and GqJa2 (1.4%). The location of simple linear incisions on the body is predominant in all the sites (see table 4.5). Parallel linear incisions are mainly placed on the body at sites GqJa3 and GtJb10 while its execution on the neck is observed only at GtJb10. Simple linear punctuations are located on the body at GqJa2 while its placement on the neck is recorded at GtJb10. The execution of parallel linear punctuation on the neck and body is registered only at GtJb10 (see table 4.5).

Medium textured neckless jars (6-10 mm thick) adorned on the body with overlapping patterns of knotted strip roulette decorations are only represented at GqJa 3 (see Table 4.7). Medium textured bowls (1-6 mm thick) executed with parallel linear bands of oblique knotted strip roulette impressions on the body occur at GtJb10, and GqJa 3 while 6-10 mm thick vessels with similar characteristics are only found at GtJb10. GtJb10 is the only site under study that has medium textured bowls (14 mm and above thick) adorned on the body with parallel linear bands of oblique knotted strip roulette impressions (see Table 4.6). Medium textured bowls (6-10 mm thick) executed with the same decorations on the rim are only found at GtJb10.

Medium textured necked jars (1-6 mm thick) decorated with parallel linear bands of oblique knotted strip roulette impressions on the neck are only present at GtJb10 and GqJa 2. The category of 6-10 mm thick vessels with similar characteristics are found at GqJa 1, GqJa

3. and GtJb10 but missing at GqJa2. On the other hand, the class of 10-14 mm thick range pots with similar traits can be observed at GqJa 1, GqJa 3 and GtJb10, while unrepresented at GqJa 2. The category of 14 mm and above thick vessels with similar characteristics are absent at GqJa 3 but present at GqJa 1, GqJa 2, and GtJb10 (Table 4.6).

Medium textured necked jar (1-6 mm thick) executed on the body with parallel linear bands of knotted strip roulette impressions on the body is only found at GtJb10. On the other hand, the category of 6-10 mm thickness range pots with similar characteristics are present at GqJa 2 and GtJb10. The class of 10-14 mm thick vessels with the same pottery traits are observed only at GtJb10 (Table 4.6). Medium textured neckless jars (1-6 mm thick) adorned on the body with parallel linear bands of knotted strip roulette impressions are present at GqJa 3 and GtJb10. The class of 6-10 mm thick vessels with similar characteristics are also found in the same sites (Table 4.6).

Coarse textured necked jar (1-6 mm thick) decorated on the neck with parallel linear bands of oblique knotted strip roulette impressions is only seen at GqJa 3 while the class of 6-10 mm thick vessels with similar characteristics are prevalent at GtJb10, GqJa 3 and GqJa 2 but unrepresented at GqJa 1. The category of 14mm and above thick vessels with similar pottery traits are only found at GtJb10. Coarse textured bowls (6-10 mm, 10-14 mm, and 14 mm + thick) executed on the body with parallel linear bands of knotted strip roulette impressions are present at GtJb10 (Table 4.6).

Coarse textured necked jars (1-6 mm thick) adorned with parallel linear bands of knotted strip roulette impressions on the body only appear at GqJa 3 while the class of 6-10 mm thick vessels with similar characteristics are found at GqJa 3 and GqJa 1. The category of vessels with a thickness of 10-14 mm with similar pottery traits are present at GtJb10 and GqJa 1 (Table 4.6).

Coarse textured neckless jars (6-10 mm thick) executed with parallel linear bands of knotted strip roulette impressions on the body are prevalent in all the sites except for GqJa2, while the class of 1-6 mm thick vessels with similar characteristics is represented at GqJa3. The category of 10-14 mm thick vessels with the same pottery traits can be observed at GqJa 3 and GtJb10 (see Table 4.6).

Medium textured bowl (1-6 mm thick) decorated on the body with parallel ridges of horizontal composite roulette impressions on the body is present at GtJb10 (Table 4.7).

GtJb10 is the only site that has medium textured necked jar (6-10 mm thick) adorned with simple and parallel linear incisions on the body (see Table 4.7). Medium textured necked jar (6-10 mm thick ) executed with simple linear grooves on the neck can be observed at GtJb10, while the coarse textured category with the same thickness range is registered at GqJa 3. Coarse textured necked jar (6-10 mm thick) decorated on the body with parallel linear grooves is observed at GqJa 3 (Table 4.7). Medium textured necked jar (6-10 mm thick) executed on the neck with simple linear punctations can be observed only at GqJa 2. Medium textured necked jars (1-6 mm and 6-10 mm thick) adorned on the neck with parallel linear punctations are present at GtJb10. The coarse textured jars (6-10 mm and 10-14 mm thick) with similar characteristics were also registered at the site (see Table 4.7)

#### **5.4 Discussions and Conclusions**

The discussions and conclusions made below are based on individual attributes, motifs and attribute combinations which are significant in the understanding of the relationships between the sites and cross-dating. The general observations include: Site GtJb10 is the most diversified in terms of attribute range, attribute combinations and frequency.

Sites GqJa 3, GqJa 2 and GqJa 1 (located in Sakwa, Siaya District) are dominated by

coarse textured shards while the predominance of medium textured shards at GtJb10 (situated in South Nyanza District) is notable, which indicates regional variation in the source of clay.

However, from this analysis no single conclusion can be made regarding the relationships between the sites under study on the basis of currently available attribute combinations. The following conclusions are obtained from the patterns observed.

#### **5.4.1 Conclusion 1**

Some of the attribute combinations are too poorly represented in their distribution across sites to be significant in establishing site relationships and cross-dating.

Necked jars; coarse textured; decorated on the rim (Table 4.4)

Neckless jars; medium textured; decorated on the rim (Table 4.4)

Bowls; medium textured; decorated on the rim (Table 4.4)

Knotted strip roulette on the rim (Table 4.5)

Parallel linear incisions in the body (Table 4.5)

Simple linear incisions on the body (Table 4.5)

Parallel linear grooves on the body (Table 4.5)

Simple linear punctations on the body (Table 4.5)

Parallel linear punctations on the body and neck (Table 4.5)

Necked jar; coarse textured; 6-10 mm thick; simple and parallel

Linear grooves on the neck and body (Table 4.7)

Necked jars; medium textured; 6-10 mm thick; simple and

Parallel linear incisions on the body (Table 4.7)

Necked jars; medium- and coarse textured; 6-14 mm thick;

Simple and parallel linear punctations on the neck (Table 4.7).

### 5.4.2 Conclusion 2

The following associations are represented in all or most of the sites indicating cultural relationships between them and may be useful in cross-dating.

Parallel linear bands on the body and neck (Table 4.5)

Oblique impressions on the neck and body (Table 4.5)

Knotted strip roulette on the body and neck (Table 4.5)

Composite roulette on the body (Table 4.5)

Necked jars; coarse textured; 6-10 mm thick; knotted strip on the neck (Table 4.6)

Necked jars; coarse textured; 6-10 mm thick; knotted strip on the neck (Table 4.6)

Necked jars; medium textured; 6-10 mm thick; knotted strip on the neck.

Necked jars; coarse textured; 10-14 mm thick; knotted strip on the body (Table 4.6).

### 5.4.3 Conclusion 3

The combinations listed below occur in sites from two different regions with distinctive geological backgrounds suggesting some form of trade exchange of vessel forms or clay material between the sites.

Necked jars; medium textured; 6-10 mm thick; knotted strip roulette on the neck -

GqJa 3, GqJa 1 and GtJb10.

Necked jars; coarse textured; 6-10 mm thick; knotted strip roulette on the neck - GqJa

3, GqJa 2, and GtJb10.

Necked jars; medium textured; 1-6 mm thick; knotted strip roulette on the neck -

GqJa 2 and GtJb10.

Necked jars; medium textured; 6-10 mm thick; knotted strip roulette on the body -

GqJa 2 and GtJb10.

#### **5.4.4 Conclusion 4**

The following combinations are concentrated at specific sites making them unique from the rest.

Plain lips on direct rims - GqJa3.

Tapering lips on incurving rims - GtJb10.

Plain lips on everted rims - GqJa1.

Simple linear punctations on the body - GqJa2.

Parallel linear punctations on the neck - GtJb10.

Bowls; medium textured; decorated on the rim - GtJb10.

Bowls; medium textured; 1-6 mm thick; composite roulette on the body - GtJb10.

Neckless jars; medium textured; 6-10 mm thick; overlapping patterns of knotted strip roulette on the body - GqJa 3.

Bowl; coarse textured; 6-10 mm thick; knotstrip on the rim - GqJa 3.

In summary, these conclusions indicate that site GtJb10 is the most diversified but shares a number of characteristics with other sites under study. GqJa 3 also appears slightly different from the rest but the site shares significant relationships with other sites included in this study. The major observation is the general similarity in the ceramic attributes, motifs and attribute combinations between all the sites in the study area as indicated above. This chapter has isolated similar or different patterns useful in addressing the main objectives of this study; such as the possible builders of the stone structures in the study areas, their architectural characteristics, location and cross-dating that are explained in the succeeding chapter.

## CHAPTER SIX

### SYNTHESIS

#### 6.0 Introduction

This chapter is an integration of all the facts from oral information, architecture, archaeological, ethnographic, and modern ceramics to establish any significant patterns useful in addressing the main objectives of this project. This is an important step to the last chapter of this work.

#### 6.1 Sites, Artifacts and Features

Some of the issues addressed in this work include the location and description of archaeological sites, artifacts and features (Chapter three). Knudson (1978) defined a site as any area of the landscape which has evidence of past human activities or occupation. The notion of a site as a spatial concentration of artifacts (by-product of human modification of natural environment) has been adopted in this study of Sakwa *Ohingni*, which has made site identification possible during survey. Proponents of this view include Heizer and Graham (1967: 14), Hester *et al* (1975), and Fagan (1981: 93). Sakwa stone structures and earthworks have been identified in this work as traces of ancient human occupations during the early settlement in the region.

This concept has faced a lot of criticism from scholars of the ecological model to the study of sites (Binford 1992) who contend that information from such sources is highly selective and unsatisfactory (Clarke 1972, Schiffer 1976, Dunnel and Dancey 1983). An alternative approach which considers sites as places where artifacts, features, structures, organic and environmental remains are found together, has been brought forward (Renfrew *et al* 1991:42). In this new approach, a site is studied in relation to geomorphological

forms (Zvelebel *et al* 1992). The present work has incorporated the study of *Ohingni* in relation to the immediate environment. Certain physiological factors are more useful in understanding the concentration and construction of the structures as indicated in chapter five and further supported by oral information.

The structures are both man made, and features that cannot be removed from their position without losing their context. On the other hand, artifacts are man made or modified portable objects (Knudson 1978: 20, Fagan 1981:574, Renfrew 1991: 41) such as pottery, and stone tools which are described in chapters three and four of this work. Features are those aspects of archaeological site deposit too large, bulky or difficult to be presented from their original context to the laboratory for in-house analysis, and are simply recorded, photographed or drawn (Knudson 1978: 20). *Ohingni*, and other associated archaeological remains such as house-platforms, stone linings, grindstones and stone cairns in the study area are features.

Therefore, a total of nine sites were identified by the end of the site survey in this work, incorporating both approaches to the study of sites as either spatial concentrations of human traces or their intimate relationship with the environment.

## 6.2 Settlement History: Previous Interpretations

The interpretations of oral traditions of the present inhabitants around Lake Victoria region have not been focussed on explaining the *Ohingni*, but rather, the broader issue of settlement and other aspects of population movements. There is very little linkage between oral tradition and *Ohingni* even in places where structures could provide strength to the explanation of settlement, and population movements (Onjala 1994). However, a few interpretative references to the structures may be elucidated from the previous information



based on oral traditions. The dates included in this section were provided by old men based on oral tradition's version of Age Generation. The date of entry into northern Kavirondo by each migrant group is based on oral tradition's version of Age Generation (Ayot 1981). These people (Luo, Gusii, Abaluhya, Logoli, Suba) still occupy the lake region and are associated with *Ohingni* in the areas where they occur.

Khoi Khoi hunter gatherers were occupying the lake region in the last millennium B.C. (Ochieng 1975). They were driven out by southern Cushites who occupied the region from 3000 up to 2000 years ago (Abuso 1980, Ehret 1971). The southern Cushites were gradually assimilated and replaced by early Bantu and Nilotic groups (Ayot 1977, Ehret 1971, Oliver and Fagan 1975, Sutton 1973). The ancestors of Kaksingri and Kasigunga (South Nyanza) moved from Congo through Buganda into Lake Victoria islands such as Mageta, Rusinga, Lolwe, Siro and adjacent mainland, both to the north and south of Kavirondo Gulf (Evans-Pritchard 1949, Ayot 1977). An early Bantu settlement area before the arrival of Luo immigrants in mainland Siaya District is Ugoye Bay in Yimbo location, Usigu Division (Abuso 1980). They were represented by the Abalwani, Abakholo, Abatsipi, Abenge, Abalusere. Later Bantu groups in the 16th Century such as the Gussi-Kuria-Logoli-Suba cluster who migrated southwards along river Nzoia into Ugoye location, Usigu Division, settled peacefully at first in the region. Their settlements stretched across present-day Urima, Ulowa, Sare and Got Ramogi, where the first Luo group (Joka-Jok) came into contact with them (Ochieng 1974, 1975). Thus, Yimbo location had been a home for various Bantu groups since the first millennium A.D. until Luo invasion. Between 1750 and 1850, Logoli and Gussi who occupied Yimbo, Sakwa and Uyoma were pushed into South Nyanza by Joka-Jok (Ochieng 1974): It was during this period that the present Bantu and Luo alignments in northern and southern Kavirondo Gulf began to take their current

shape, a process activated by continuous immigrations of Luo sub-tribes or clans. The third section of early Bantu groups remained along the northern shores of Lake Victoria, and were later assimilated into Luo society. Today, in many Luo locations such as Yimbo, Sakwa, Uyoma, Alego, Gem and Seme are clans who trace their descent from Bantu origin. For example, the present Kagwa in Uyoma peninsula trace their origin from Waganda (Bantu) while the ancestors of Rachuonyo (Ganjra and Watobori) lived together with Luo groups such as Chwanya in Uyoma during the sixteenth century before crossing Lake Victoria into South Nyanza (Ochieng 1974, 1975).

The arrival of Luo clans in northern Kavirondo was spearheaded by Joka-Jok under Ramogi Ajuang in the sixteenth century. Joka-Jok settled at Got Ramogi and Sakwa Waringa where they encountered the Guusi and Logoli Bantu who were later pushed to South Nyanza (Ochieng 1974, Ayot 1977). Luo invasion in the region was marked by splinter groups based on internal land disputes. A notable example is the split between Odongo, founder of Jo-Seme and Idi, son of Imbo over land allocations in Yimbo (Ochieng 1974). Further Luo invasions into northern Kavirondo created serious conflicts between Luo clans and Bantu groups over land, and cattle raids, which spearheaded the first Luo migration into South Nyanza by Joka-Jok, Joka-Nyikal, Joka-Chwenya (Southall 1952, Ogot 1967) from Asembo and Uyoma peninsula (Siaya District). During the period between AD 1590 and 1790, real conquest of the region by Luo immigrants took place (Ochieng 1975). Joka-Jok were succeeded by Joka-Owiny, a splinter group from Adhola in Budama, which crossed Samia and established their settlement in Alego where they met stiff opposition from Bantu groups. Joka-Owiny comprised of present day Kadimo, Kowil, Kanyejra (in Yimbo location), Kogelo, Karapul, Kanyalol, Agoro, (in Alego) and Konyakwa (in Kisumu) (Ochieng 1974). Joka-Omollo from Busoga followed Joka-Owiny.

They moved across Samia into Yimbo location before settling in West Alego, from where they drifted to Gem and Uyoma peninsula where they encountered Joka-Chwanya and Joka-Nyikal in Uyoma (Southall 1952). It was during this period that the Luo miscellaneous groups evolved from Joka-Owiny and Joka-Omollo into present day Asembe, Sakwa, and Uyoma (Ochieng 1974). The arrival of these miscellaneous groups (Joka-Owila, Joka-le and Jo-Sakwa) into northern Kavirondo re-activated new emigrations (Kinyodoto, Gem, Kanyada, Kochia, Kagwa, Sakwa) to South Nyanza District. However, a section of Joka-Omollo returned to present day Alego where they erected settlements at Boro, Gangu, Muwer, and northern Ugenya. They also ousted Bantu Marachi, Khayo and Iteso from the region. By 1800, Siaya District was predominantly Luo as the first Luo immigrants arrived into South Nyanza after Bantu groups. Between 1886 and 1914, the lake region was becoming predominantly Luoised (Abuso 1980: 131).

Today, names such as Sakwa, Gem, and Masaba from Siaya District are repeated in South Nyanza region.

The settlement into northern Kavirondo was undertaken in isolated detachments and gradually completed. Up to about 13 generations back, the first Luo immigrants into this region only occupied a smaller area around Got Ramogi, the focal point of further Luo expansions eastwards to establish themselves in Alego, Sakwa, Asembo, Uyoma, Gem, Seme Kisumu and South Nyanza (Abuso 1980). The second wave of Luo invasion was dominated by Joka-Owiny, Joka-Omollo and miscellaneous groups (Joka-le, Joka-Owila, and Jo-Sakwa) who activated inter-ethnic rivalry in the region. Between six and seven generations ago, South Nyanza was invaded and the conquest was a slow process which continued up to 1900.

### 6.2.1 *Ohingni* in Oral History

The collection of oral history about Sakwa stone structures in this work was aimed at strengthening major archaeological questions such as the builders of some of these *Ohingni* 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 *Ohingni* such as their origins, 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 Sakwa structures on the basis of the most elderly and first person to acquire land on the hill and whom other members of the clan were dependent over land-ownership claims in their place of settlement. Abiero stone structure was named after spiritual clan elder Abiero Migire. The occupants of this structure were members of Jo-Sakwa Luo migrant group who are represented by Koduol clan in the region. Jo-Sakwa group is one of the miscellaneous Luo immigrants during the second wave of Luo migrations into northern Kavirondo (Ochieng 1974). Oral information from elderly members of Koduol clan indicate serious inter-clan conflicts between Jo-Seme under Odongo and the inhabitants of Abiero structure before the advent of European colonialists.

Rasoti stone structure was also named after its clan elder who led its inhabitants into securing land ownership over the area. The occupants of Rasoti structure are today represented by Kagwa people (in Uyoma peninsula) who trace their origin from a mixed race of Luo and Bantu clans. Kagwa and Kamoo (Luo) who intermarried in the course of their movement into the region to form this clan. Kagwa inhabitants settled in the region prior to Jo-Sakwa who later pushed them southwards into Uyoma (2 kilometres, south of

Sakwa) peninsula, where they are currently found. Despite their diverse origin, Kagwa were already Luoised when they arrived in Sakwa.

Orwa structure received its name after the spiritual clan elder who led members of his clan into acquiring their place of settlements. He was, however, led onto the hill through spiritual guidance rather than for protection against external human foes as indicated in the case of Abiero and Rasoti. During this time, peace and order had been restored by white imperialists. Therefore the construction of Orwa Stone Structure was basically for protection against wild animals such as leopards and hyenas frequent in the region.

There is no specific oral information regarding the date of settlement abandonment. The moderately preserved structures in South Nyanza are found in areas of later settlements (Butterman 1979). 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 *Ohingni* began. After the first world war, no structures were constructed. Instead, the inhabited ones were being abandoned (Orwa) as people opted for settlements with homesteads fenced by wood. The stone structure tradition came to an end basically due to the restoration of peace and order by white imperialists in the region. Communal life was broken down in the colonial era leading to shortage of labour for structure construction. Drastic reduction of wild animals as their natural habitat were being destroyed through indiscriminate farming practices and settlement activities also hastened the demise of stone structures.

Inherent from both previous interpretations and oral information regarding Sakwa stone structures are the following issues outlined below:

- (i) Sakwa *Ohingni* are probably a consequence of multiple immigration into the area in the 16th century onwards, however, these groups had one cultural tradition related

to Luo origin. The structures are thus evidence of places of human occupation and land-ownership claims during the migration and settlement into northern Kavirondo (Siaya District). The construction was possible as the inhabitants usually moved in large groups under one clan elder, which ensured clan unity and labour mobilization useful for their establishment.

- (ii) 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. *Ohingni* protected domestic animals against animals such as leopards and hyenas (still present) which could not escape with their prey from inside the structures.
- (iii) The structures were used to ward off human enemies, and called hill forts (Ogot 1967, Ochieng 1985). Insecurity was created by land disputes as groups sought to dislodge others. During such occasions, the structures acted as fortresses on hilltops. Stone structures are advantageous than wood-built settlements since they are durable and once constructed are not easily destroyed or burnt down by invaders. The structures also offer solid walls without gaps for spying or shooting arrows at the occupants.
- (iv) A number of environmental conditions also played a key role in the construction of *Ohingni*. First, the availability of building materials from loose surface volcanic rocks limited transportation cost and enhanced structure construction, which was communally undertaken. No strict methods were employed in the construction, hence stones were used with little selection for wall parts. Construction took place where there was availability of rocks of various sizes and shapes. This was an

important consideration together with other requirements such as hilly grounds for good visibility of the surrounding landscape. Many of the valleys (Miri, Rawa) and flat lands devoid of building materials (loose rocks) were considered unsuitable for settlement.

Oral information regarding *Ohingni* in the study area is supported empirically by architectural techniques exhibited in the structures and the surrounding environmental conditions. Insecurity is a prominent theme in oral history (Stigand 1909, Ogot 1967, Ochieng 1985) which is clearly manifested by the presence of lock holes, small sized entrances, high thickened walls and location of the stone structures on hill tops such as Got Rasoti, Got Abiero (in Sakwa) and Got Agolo Mwoko (in Thimlich) for clear vision of the surrounding landscape to check against easy entry by human foes, or invaders. 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 structures. The large complex structures such as Abiero (7340.3 sq. m.), Rasoti (4775.94 sq. m.), and Kochieng (14,819.8 sq. m.) are evidence of large communal life in the respective places of settlement (see Table 5.1).

However, the construction of these stone structures for security purposes was enhanced by the availability of building material (loose surface rock) on hill tops which reduced transportation costs (see chapter 5) during their construction and maintenance together with good drainage and proximity (200 metres) to water sources such as Miri and Rawa. The immigrants preferred to settle on hill tops leading to concentration of stone structures on these hills in Sakwa and Thimlich while the earth works are mainly situated on gentle rolling landscape devoid of loose surface rock materials away from the hills (8 km). Thus the natural environmental conditions facilitated the construction of stone structures on

hilly areas.

### 6.3 The significance of ceramic motifs and attributes under study

Ceramic attributes, styles, 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, the ceramic analyses attempted in chapters 4 and 5 are geared towards the establishment of the possible builders of the *Ohingnis*.

However, not all ceramic attributes can be fitted into uniform ceramic styles, and are best described as local variation in pottery (Rouse 1951) which has been explained in the conclusion of chapter five of this work. 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 present study depends mainly on roulette decoration identified in this work as means of achieving its main objective of identifying the possible builders of these structures.

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 are 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 or specificity, rather than generalization, which is 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, (Fig. 4.6a) oblique lines of roulette impressions (Fig. 4.8a) and parallel lines of roulette impressions (Fig. 4.6b). 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.

Converging patterns of knotted strip roulette (Fig. 4.7b) has also been identified together with overlapping patterns of the same decoration (Fig. 4.7a). These patterns of knotted strip roulette decorations have produced oblique lines of impressions on the shards. Azere (1978) also confirmed the production of overlapping patterns of this decoration through the use of knotted strip roulette which is in conformity with the outcome of this work.

Composite roulette decorations are less frequent in all the sites under study, and the decorations are associated with parallel ridges of horizontal roulette impressions (Table 4.0 and Fig. 4.7d). Similar parallel ridges of horizontal roulette impressions have also been

previously associated with composite roulette decoration by de Meulemeester (1975) and Soper (1985). No other roulette decoration was diagnosed from ceramic material in Sakwa and Thimlich.

### **6.3.1 The Question of the Builders of Sakwa Stone Structures**

On the question of possible makers of ceramic materials associated with these stone structures, 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 while Soper (1985) has based his assumption on archaeological evidence, 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 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 Kavirondo (Siaya District) 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 (study area).

Recently, Herbich (1981: 23) asserted that ethnic distinctions would be hard to infer on the basis of ceramic material alone in the lake region due to similar pottery traits between Luo and Bantu-speaking Luhya communities. This assumption was generalised and did not consider the various branches of flexible roulettes in western Kenya useful in distinguishing ethnic social groupings in the region. As opposed to the work of Herbich (1981) this study has proved that roulette decorations are useful in the identification of

ethnic groupings.

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 (Barbour 1989, Soper 1985) of the pots.

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 Sakwa and Thimlich sites.

Twisted string roulette decoration is typically used by Kalenjin speakers of highlands of Rift Valley while knotted strip roulette decorations have fairly close correlations with western Nilotic Luo communities (Soper 1985:48).

The presence of knotted strip and composite roulette decorations mainly on the body and neck parts of vessel forms alone and the absence of curved-wooden, twisted string, and knotted string roulette decorations in Sakwa and Thimlich stone structures do not indicate any association of these *Ohingni* with Bantu or Kalenjin migrant groups who are claimed to have invaded or inhabited the study area according to oral history.

The distribution of individual motifs and attributes between Sakwa and Thimlich sites is an indication of widespread migration of groups in the region. The general similarity between these ceramic assemblages from Sakwa and Thimlich sites indicate that the pottery was made by one ethnic community.

Therefore, the only possible builders and occupants of these stone structures are the

makers of vessel forms executed on the body and neck by knotted strip, and composite roulette decorations alone, here identified as Western Nilotic Luo social groups or immigrants. This claim is further supported by correlations between ethnographic and modern ceramics in the study area with archaeological pottery remains from these structures which 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 Sakwa. The new and diverse pot forms such as flower, tea, and sugar vessel forms indicate a response by the same people to a different social need. They probably copied immigrant cultural values such as the western culture rather than direct importation of wares. Matson (1966:13) 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 which conforms with the result of ceramic analysis from Sakwa and Thimlich sites. Oral information conform to the idea of settlement in the region and within the structures 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 inter-lacustrine region, and the technique is unlikely to have ever been practised by any common ancestral Bantu group (Soper 1985:49), suggesting that the technique might have been copied by western

Bantu groups from the Nilotes rather than the opposite as indicated by Wandibba (1977b).

The ceramic attributes useful in the identification of the builders of Sakwa structures 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.

#### **6.4 Social Exchange Theory**

The theory in broader perspective is mainly explained when considering the borrowing of knotted strip roulette decorations by western Bantu groups (Luhyia, Bukusu and Teso) on inter-regional scale either through trade in vessel forms or inter marriage between Luo and Bantu groups (Herbich 1981, Wandibba 1977b, 1995). Ceramic exchange took place between the sites (potting centres) occupied by communities of Luo potters based on clan or depending on locally available clay or sand for tempering (Wagner 1970, Herbich 1981). Moreover, these communal boundaries persisted despite intra or inter-ethnic contact because they facilitated the organization of social interaction (Barth 1969) necessitating inter-site exchange of vessel forms. The current work has evidence of exchange of pots between the sites characterised by similar vessel forms or attributes despite their location in different regions or geological backgrounds.

Pots were either exchanged through trade or transported as containers during Luo migrations between Rasoti, Abiero and Thimlich sites (areas). Such vessel forms include coarse textured neckless jars, 6-10 mm thick, executed on the body with parallel bands of knotted strip roulette decorations and medium textured necked jars with the same thickness range, decorated on the same vessel part with parallel bands of oblique knotted strip roulette impressions.

It appears, from this ceramic analysis that bowls were rarely exchanged or transferred between these sites and are mainly found at the diversified site Thimlich in South Nyanza. Overall, Luo pottery has remained resistant to external change for a long period of time making it impossible to clearly identify external influence on the region through the study of ceramic material up to the modern period when potters began to produce new vessel forms such as flower pots, sugar dishes and tea kettles which have been copied from western culture.

#### **6.4.1 Cross-dating**

Archaeological sites in Sakwa region are undated. On the other hand, Thimlich site complex dates 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. The diversity and uniqueness of Thimlich tends to indicate recent site abandonment hence the incorporation of new ceramic to the other sites. The difference in the condition of structure preservation between these sites also suggest slight variations in site abandonment in the regions under study, during the same period of Recent Iron Age.

## CHAPTER 7

### CONCLUSION

#### 7.0 Introduction

This study has explored both the architectural characteristics and ceramics from Sakwa and Thimlich stone structures in Northern Kavirondo Gulf and South Nyanza District respectively. The basic aim of the research was to establish the builders of Sakwa stone structures relative to Thimlich complex site, while secondary objectives include the location, and description of these *Ohingni*. To establish the builders of these structures, the study capitalized on a corpus of ceramic material recovered through surface collections in Sakwa and excavated materials from Thimlich stored at the National Museums of Kenya. Ethnographic ceramic data and modern pottery from the region were also analysed. Site survey was undertaken in order to achieve the secondary aims of this research.

In view of the previous studies carried out in the Lake region, prior to this research, and the claims for the existence of social interaction during the migration and settlement in the study area, it was expected that ceramic material from Sakwa and Thimlich stone structures would reflect similar trends of contacts hence ceramic similarities useful in the identification of the builders of these *Ohingni*.

The success of this research was to be measured by its ability to place these structures within the broad settlement sequence not indicated by oral information. The interpretation of the data was based on social interaction theory which states that similarities or dissimilarities of ceramic attributes from one group to another are proportional to the degree of interaction between them or a reflection of one cultural group occupying various areas in the same period. The theory was considered suitable in the Lake Victoria region due to suggestions put

forward by proponents of oral information regarding inter, and intra- tribal interactions through marriage, trade exchange, migrations and wars during the Mid-late Iron Age period (as indicated in chapter two).

## 7.1 Recommendations

This study relied on surface collection of ceramics rather than excavation due to limited research funds, and time. Test excavations should be carried out for systematic recovery of charcoal samples for carbon 14 dating of the sites. Further archaeological survey, and an assessment of the structures of the structures by an architect are still required. Archaeological investigation into clay sources using xeroradiography should be carried out to further support the exchange of vessel forms between the regions under study.

## 7.2 Summary and Conclusions

Although Sakwa stone structures are evidence of land ownership claims by migrant sub-groups, they are located on hill tops or slopes, while the earthworks are situated on gentle-rolling landscape away (8kms) from hilly areas mainly because Sakwa *Ohingini* were hill forts which acted as defensive mechanisms against wild animals, human invaders and in particular inter-clan land disputes together with external cattle raiders. However, environmental conditions such as abundance of loose surface volcanic rock material, good drainage and water sources together with communal life facilitated the construction and maintenance of the stone structures on the hills.

Both Sakwa and Thimlich *Ohingini* exhibit similar architectural characteristics which signifies one construction tradition widely spread along the eastern side of Lake Victoria region from Northern Kavirondo to South Nyanza District.



Attributes analysis has proved that the construction and occupation of these stone structures can be attributed to Nilotic Luo-speakers who had one cultural tradition. The Sakwa and Thimlich *Ohingni* are thus evidence of Luo migrations and settlement in the Lake Victoria region.

Social interaction theory is useful in determining the interaction between Luo and Western Bantu groups based on similar decorative motifs and attributes between their ceramics. However, the traditional Luo pottery repertoire has been resistant to external influence or change for a long time (see chapter six) indicating the predominance of Luo-speakers during the migration and settlement of Lake Victoria region.

Cross-dating has been attempted on the basis of similarities in ceramic attributes, architectural evidence and oral information. Among the attributes and attribute combinations, it was observed (in chapter five) that some of the associations were represented in all the sites indicating cultural similarities and their strength as chronological indicators, while others were poorly represented to be useful in achieving these goals. Similar ceramic attributes or attribute combinations from Bondo, and Thimlich sites indicate that these sites belong to the same period hence contemporaneous.

All in all, Sakwa and Thimlich stone structures were constructed and occupied by the Nilotic Luo migrants with one cultural tradition in the same period of Recent Iron Age and the stone structures were located on hill-tops for defence while socio-environmental conditions facilitated their construction.

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## Tables

Table 3.0 Description of Sakwa stone structures and earthworks

Structures	Plan	Diameter (Metres)	Preservation state	No. of Interior enclosures	Interior partitions	No. of gates	Gate strength	Walling technique	Wall stability measures	Wall coursing	Wall height
Abiero	Circular	96.7	2	3	Stone lining and pillars	1	Loose foundation	Steep cliff, natural rock outcrop, angular rocks	Zig-zag walling, larger wall foundation, natural rock	Irregular	0.7
Orwa	Circular	50.3	1	-	-	2	Thickened extension wall of the gate	Rectangular, angular, rounded rock-fragments	Larger wall foundation	Irregular	1.7
Rasoti	Circular	78	2	4	Pilled rock and stone linings	1	Loosely laid	-	Larger wall foundation, zig zag walling	Irregular	0.9
Minyao	Circular	50	2	-	-	-	-	Earth-mound and ditch	-	-	-
Oiko A	Circular	104	3	1	1	2	-	Earth-mound and ditch	Larger base	-	1.6
Oiko B	Circular	177	3	1	1	2	-	Earth-mound and ditch	Larger base	-	1.3
Oiko C	Circular	133	3	-	-	2	-	Earth-mound and ditch	Larger base	-	1.6
Kipasi A	Circular	123	3	-	-	2	-	Earth-mound and ditch	Larger base	-	1.1
Kipasi B	Circular	137	3	-	-	2	-	Earth-mound and ditch	Larger base	-	1.6
Kipasi C	Circular	89	3	-	-	1	-	Earth-mound and ditch	Larger base	-	0.7
Ramogo	Circular	116	4	-	-	-	-	Earth-mound and ditch	Larger base	-	1.4
Olang'o	Semi-circular	83	5	-	-	-	-	Earth-mound and ditch	Larger base	-	0.

Table 3.1: Measurements of Abiero stone cairns

Stone Cairn	Size (metres) Length (Horizontal Dimensions)	Width	Height Vertical Dimension
A	3.3	2.5	0.7
B	2.8	2.5	0.7
C			
D	4.2	4	0.6
E	4.3	2.5	0.6
	4.3	3.6	0.7
TOTAL			
AVERAGE	3.78	3.02	0.66

Table 3.2: Material remains recorded at Abiero, Orwa and Rasoti stone structures

Site or Structure	Ecofacts	Artifacts	Features	Comment
GqJa2 (Orwa)	Bone Fragments	Potsherds 4 pices of grindstones 1 stone pestle(?) or hammerstone.	2 entrances.	Evidence of charcoal burning -Iron hoes and iron rings have been reported by the present inhabitants.
GqJa1 (Abiero)	-	Numerous potsherds. A broken piece of grindstone. 1 complete grindstone. 1 stone pestle.	-A circular structure made of pillars.2 interior enclosures.-1 raised house platform.-1 entrance (natural depression).- 5 stone cairns	-Covered by shrubs. -the largest enclosure at Got Abiero site. -Natural rock out crops and cliff act as wall. -Pillars act as wall.
GqJa4 (Minyao)	-	Potsherds. 2 grindstones.	Do not have stone walled fence.	-Steep cliff act as a defensive mechanism covered by thicket.
GqJa3 (Rasoti)	-	2 broken pieces of grindstones. Numerous potsherds.	-Subdivided into two by a central wall of piled stones. -1 entrance. -1 circular stone line. -4 regular to irregular stone linings.	-The steep cliff and rock out crops form the major section of the wall. -A natural pass constitutes the gate.

Table 3.3: Material remains recorded at Kipasi, Oiko, Ramogo and Olang'o earthworks

Site (Structures)	Bones	Artifacts	Features (Walls or Partitions)	Comment
Kipasi (Earthworks) -A	1 Thoracic Vertebrae 1 Lumbar Vertebrae	Numerous potsherds. 4 broken pieces of grindstones. 1 hammerstone. 1 obsidian stone fragment or tool (?)	1 main entrance and 1 secondary entrance. Circular earth hill with 1 circular ditch on the outside surface of the earth hill.	-Reported cases of iron bangles, rings and iron hoes by the present local farmers. -The secondary entrance of artificial or recently created after abandonment. Re-use of grindstones and hammerstones in the village from this structure.
-B	_____	Numerous potsherds. Clay smoking tobacco pipe. 3 broken pieces of grindstones. 2 hammerstones.	Circular earth hill with 2 circular ditches on either side	The clay smoking tobacco pipe was picked by a local farmer. Site destruction through maize cultivation and re-use of grindstones and hammerstones from this structure. The largest structure at Kipasi site.
-C	1 calcanium 1 tibular 1 talus Human bone fragments, fragments of skull, and ribs.	Numerous potsherds. 1 broken piece of grindstone.	Circular ditch without earth hill.	The smallest structure at Kipasi site. Re-use of grindstones and hammerstones from this site in the village. Bone remains (human) are exposed on the surface by burrowing animals. The bone remains are being destroyed by cattle trampling. Part of the earthwork is currently under Kipasi Primary School.
Oiko -A	_____	Numerous potsherds 2 grindstones	1 house floor 1 main entrance and 1 secondary entrance facing the southern side. Circular earth hill with 1 circular ditch on the outer surface of the earth hill.	Re-use of grindstones from the structure in a nearby homestead. Gates: the extending walls are destroyed. The smallest structure at Oiko site.
-B	_____	Potsherds	1 main entrance on the south eastern side and 1 secondary entrance on northern side. A semi-circular ditch acts as wall partition or adjoining wall (?). A circular earth hill with 2 circular ditches on either side.	A section of the structure is currently under cultivation. The largest enclosure at Oiko site.
-C	_____	Potsherds 2 grindstones	1 main entrance on the south eastern side. 1 secondary entrance on the northern side. The secondary entrance is a recent creation. 1 circular earth hill with 2 ditches on either side of the earth hill.	A section of the structure is currently under cultivation. The structure lies on the northern part of the site. Re-use of grindstones from the structure at a nearby homestead.
Olang	_____	Potsherds 1 green bead	1 circular earth hill with 2 depressions on either side.	Under cultivation. No visible entrance. Partly destroyed by quarrying.
Ramogo	_____	Numerous potsherds	1 circular earth hill with 1 ditch on the outer surface.	Under cultivation. Partly destroyed by quarrying.

Table 4.0 Frequency of attributes and motifs by sub sections (units)

Site	TYPE					SHERD THICKNESS				TEXTURE		TEMPER		LIP MORPHOLOGY			
	Rim	Neck	Body	Base	L.Handle	1-6 mm	6-10 mm	10-14 mm	14+ mm	Medium	Coarse	Sand	Graphite	Expand	Plain	Flat	Tapering
GqJa3 A	4	4	67	4	0	15	4	15	0	23	56	28	50	3	0	1	0
ROW %	5.1	5.1	84.8	5.1	0	19.0	62.0	19.0	0	29.1	70.9	35.4	63.3	75.0	0	25.0	0
GqJa3 B	19	8	265	17	0	57	163	77	12	39	270	15	294	13	2	0	1
ROW %	6.1	2.6	85.8	5.5	0	18.4	52.8	24.9	3.9	12.6	87.4	4.9	95.1	81.6	12.5	0	6.3
GqJa3 C	9	9	112	2	0	26	82	24	0	28	104	9	123	4	1	2	2
ROW %	6.8	6.8	84.8	1.5	0	19.7	62.1	18.2	0	21.2	78.8	6.8	93.2	44.4	11.1	22.2	22.2
GqJa3 D	12	1	113	1	0	19	83	22	3	46	81	4	123	8	1	1	2
ROW %	9.4	0.8	89.0	0.8	0	15.0	65.4	17.3	2.4	36.2	63.8	3.1	96.9	66.7	8.3	8.3	16.7
GqJa3 E	3	0	118	1	0	24	80	18	0	49	73	11	111	0	0	1	1
ROW %	2.4	0	96.7	0.8	0	19.7	65.6	14.8	0	40.2	59.8	9.0	91.0	0	0	50.0	50.0
GqJa2 A	28	6	304	2	1	101	186	47	8	156	178	138	204	14	6	0	5
ROW %	8.2	1.8	88.9	0.6	0.3	29.5	54.4	13.7	2.3	45.6	52.0	40.4	59.6	51.9	22.2	0	18.5
GqJa2 B	16	5	117	4	0	44	72	25	2	68	75	53	89	6	3	1	4
ROW %	11.2	3.5	81.8	2.8	0	30.8	50.3	17.5	1.4	47.6	52.4	37.1	62.2	42.9	21.4	7.1	28.6
GqJa1 A	10	0	121	2	0	33	71	29	1	58	72	71	62	3	3	0	4
ROW %	7.5	0	90.3	1.5	0	24.6	53.0	21.6	0.7	43.3	53.7	53.0	46.3	30.0	30.0	0	40.0
GqJa1 B	7	0	79	3	0	15	50	22	1	38	49	55	34	4	2	1	0
ROW %	7.9	0	89.8	3.4	0	16.9	56.2	24.7	1.1	42.7	55.1	61.8	38.2	57.1	28.6	14.3	0
GUb10 A	43	45	121	1	0	49	96	59	6	135	56	156	35	2	23	8	9
ROW %	20.5	21.4	57.6	0.5	0	23.3	45.7	28.1	2.9	64.3	26.7	74.3	16.7	4.7	53.5	18.6	20.9
GUb10 B	51	30	163	0	0	72	121	42	9	185	52	216	26	2	44	1	4
ROW %	20.9	12.3	66.8	0	0	29.5	49.6	17.2	3.7	75.8	21.3	88.5	10.7	3.9	86.3	2.0	7.8
GUb10 C	25	16	112	0	0	48	78	18	9	89	57	102	48	0	17	2	6
ROW %	16.3	10.5	73.2	0	0	31.4	51.0	11.8	5.9	58.2	37.3	66.7	31.4	0	68.0	8.0	24.0
GUb10 D	6	2	43	0	0	19	23	5	4	31	19	39	11	1	4	0	1
ROW %	11.8	3.9	81.1	0	0	17.1	45.1	9.8	7.8	60.8	37.3	76.5	21.6	16.7	66.7	0	16.7

Table 4.0 (Cont..) Frequency of attributes and motifs by sub sections (units)

Site	Rim Morphology				Rim Diameter in (cm)		Vessel form			Position of Decoration				
	Direct	In-curve	Everted	Out-curving	< 15	> 15	Bowl	Necked Jar	Neckless jar	Lip	Rim	Neck	Shoulder	Body
GqJa3 A	0	0	0	0	2	2	1	8	0	0	4	1	1	58
ROW %	0	0	0	0	50	50	11.0	88.9	0	0	6.3	1.6	1.6	90.6
GqJa3 B	2	0	4	13	7	11	1	22	1	0	1	7	0	242
ROW %	10.5	0	21.1	68.4	38.9	61.1	4.2	91.7	4.2	0	0.4	2.8	0	96.4
GqJa3 C	0	3	3	3	3	3	0	14	11	0	0	6	3	88
ROW %	0	33.3	33.3	33.3	50	50	0	56.0	44.0	0	0	6.2	3.1	90.4
GqJa3 D	1	1	0	9	6	6	0	11	2	0	0	3	0	91
ROW %	9.1	9.1	0	81.8	50	50	0	84.6	15.4	0	0	3.2	0	96.8
GqJa3 E	1	0	1	1	0	0	0	2	1	0	0	1	0	90
ROW %	33.3	0	33.3	33.3	0	0	0	66.7	33.0	0	0	1.1	0	98.9
GqJa2 A	4	0	4	19	14	14	1	27	3	0	1	4	0	259
ROW %	14.2	0	14.3	67.9	50	50	3.2	87.1	9.7	0	0.4	1.5	0	98.1
GqJa2 B	2	1	5	8	5	10	1	18	2	0	0	3	0	96
ROW %	12.5	6.3	31.3	50.0	33.3	66.6	4.8	85.7	9.5	0	0	3.0	0	97.0
GqJa1 A	0	0	3	6	5	5	0	10	0	0	0	2	0	92
ROW %	0	0	33.3	66.7	50	50	0	100.0	0	0	0	2.1	0	97.9
GqJa1 B	1	0	0	5	0	6	1	6	1	0	0	2	0	55
ROW %	28.6	0	0	71.4	0	100	12.5	75.0	12.5	0	0	5.2	0	94.8
GJb10 A	16	6	6	14	15	28	15	66	7	0	7	19	1	127
ROW %	38.1	14.3	14.3	33.3	34.8	65.2	17.0	75.0	8.0	0	4.5	12.3	0.6	89.9
GJb10 B	13	6	11	21	13	38	14	58	3	0	0	18	1	179
ROW %	25.5	11.8	21.6	41.2	25.5	74.5	18.7	77.3	4.0	0	0	9.1	0.5	90.4
GJb10 C	6	1	3	15	7	18	5	36	1	0	0	9	1	110
ROW %	24.0	4.0	12.0	60.0	28	72	11.9	85.7	2.4	0	0	7.3	0.8	89.4
GJb10 D	0	1	0	5	0	6	1	7	0	0	0	3	0	39
ROW %	0	16.7	0	83.3	0	100	12.5	87.5	0	0	0	7.1	0	92.9



Table 4.0 (cont..). Frequency of attributes and motifs by sub sections (units)

Site	ROULETTE			SURFACE TREATMENT							IMPRESSIONS		GROOVES			INCISION	
	Knot strip	Composite	Converging	Overlapping	Fine	Medium	Coarse	Burnish	Slip applic	Brushing	Parallel	Horiz	Oblique	Simple	Parallel	Simple	Parallel
GqJa3 A	56	1	4	0	20	15	28	1	5	0	34	1	4	2	2	2	19
ROW %	90.3	1.6	6.5	0	28.6	21.4	40.0	1.4	7.1	0	87.2	2.6	10.3	50.0	50.0	8.7	82.6
GqJa3 B	222	9	6	17	0	47	243	5	12	1	182	8	36	2	0	8	3
ROW %	87.4	3.5	2.4	6.7	0	15.2	78.6	1.6	3.9	0.3	80.5	3.5	15.9	100.0	0	72.7	27.3
GqJa3 C	90	2	0	4	0	29	98	3	2	0	81	2	14	1	0	3	1
ROW %	93.8	2.1	0	4.2	0	22.0	74.2	2.3	1.5	0	83.5	2.1	14.4	100.0	0	75.0	25.0
GqJa3 D	88	1	0	2	0	36	79	4	7	0	84	1	7	1	0	1	2
ROW %	96.7	1.1	0	2.2	0	28.3	62.2	3.1	5.5	0	91.3	1.1	7.6	100.0	0	33.3	66.7
GqJa3 E	84	4	1	2	1	44	65	2	0	0	82	4	5	0	0	1	0
ROW %	92.3	4.4	1.1	2.2	0.8	37.3	55.1	1.7	0	0	90.1	4.4	5.5	0	0	100.0	0
GqJa2 A	221	2	10	29	0	132	195	6	8	0	210	2	45	1	0	7	2
ROW %	84.4	0.8	3.8	11.1	0	38.7	57.2	1.8	2.3	0	81.7	0.8	17.5	100.0	0	70.0	30.0
GqJa2 B	78	3	8	10	1	57	74	3	5	0	68	3	28	3	0	2	0
ROW %	78.8	3.0	8.1	10.1	0.7	40.4	52.5	2.1	3.5	0	68.7	3.0	28.3	100.0	0	100.0	0
GqJa1 A	72	0	8	15	1	60	66	5	1	0	70	0	21	1	0	3	0
ROW %	80.0	0	3.3	16.7	0.7	44.8	49.3	3.7	0.7	0	76.9	0	23.1	100.0	0	100.0	0
GqJa1 B	41	2	2	13	0	29	57	2	1	0	35	2	21	0	0	0	1
ROW %	70.7	3.4	3.4	22.4	0	32.6	64.0	2.2	1.1	0	60.3	3.4	36.2	0	0	0	100.0
GUb10 A	101	14	15	19	3	116	36	37	10	5	69	13	67	4	0	4	2
ROW %	67.8	9.4	10.1	12.8	1.4	55.8	17.3	17.8	4.8	2.4	46.3	8.7	45.0	100.0	0	66.7	33.3
GUb10 B	139	6	20	29	2	145	47	28	7	15	101	6	84	10	3	3	1
ROW %	70.8	3.1	10.4	15.1	0.8	59.4	19.5	11.5	2.9	6.1	52.9	3.1	44.0	76.9	23.1	75	25.0
GUb10 C	84	8	14	13	8	73	43	13	2	12	74	8	36	4	4	100.0	0
ROW %	70.6	6.7	11.8	10.9	5.3	48.0	28.3	8.6	1.3	7.9	62.7	6.8	30.5	50.0	50.0	100	0
GUb10 D	24	0	5	10	1	21	21	4	3	1	23	0	16	0	0	200	0
ROW %	61.5	0	12.8	25.6	2.0	41.2	41.2	7.8	5.9	2.0	59.0	0	41.0	0	0	100.0	0

Table 4.0 (cont..). Frequency of attributes and motifs by sub sections (units)

Site	APPLIED BANDS		PUNCTATIONS		SURFACE COLOUR		
	Linear parallel	Parallel ridges	Simple linear	Parallel linear	Black	Brownish grey	Red
GqJa3 A	37	1	0	0	23	27	26
ROW %	97.4	2.6	0	0	29.2	36.6	34.2
GqJa3 B	247	8	0	0	37	71	186
ROW %	96.9	3.1	0	0	12	23	65
GqJa3 C	96	2	0	0	9	45	77
ROW %	98.0	2.0	0	0	6.8	34.1	59.1
GqJa3 D	90	1	0	0	5	61	61
ROW %	98.9	1.1	0		4	48	48
GqJa3 E	86	4	0	0	16	46	56
ROW %	95.6	4.4	0	0	13.1	47.7	49.2
GqJa2 A	258	2	1	0	30	198	112
ROW %	99.2	0.8	100.0	0	8.7	58.6	32.7
GqJa2 B	95	3	0	0	12	88	43
ROW %	96.9	3.1	0	0	8.4	61.6	30
GqJa1 A	93	0	0	0	17	53	64
ROW %	100.0	0	0	0	12.7	39.6	47.7
GqJa1 B	56	2	0	0	10	40	40
ROW %	96.6	3.4	0	0	10	45	45
GUb10 A	136	13	3	1	62	27	119
ROW %	91.3	8.7	75.0	25.0	29.6	12.9	57.5
GUb10 B	100	6	0	1	72	42	127
ROW %	96.8	3.2	0	100.0	29.5	17.2	53.3
GUb10 C	110	8	2	2	47	19	85
ROW %	93.2	6.8	50.0	5.0	30.7	12.4	56.9
GUb10 D	39	0	0	2	18	5	28
ROW %	100.0	0	0	100.0	35.3	9.8	54.9

Table 4.1. Overall Frequency of attribute and motifs among sites

Site	Type					Sherd thickness			Texture		Temper			Lip Morphology		
	Rim	Neck	Body	Base	L.Handle	1-6 mm	6-10 mm	10-14 mm	14+ mm	Medium	Coarse	Sand	Graphite	Expand	Plain	Flat
GqJa3 ...	47	22	675	25	0	141	457	156	15	185	584	67	701	28	4	5
ROW%	6.1	2.9	87.8	3.2	0	18.3	59.4	20.3	2.0	24.1	75.9	8.7	91.2	65.1	9.3	11.6
GqJa2 ..	44	11	421	6	1	145	258	72	10	224	261	192	293	20	9	3
ROW%	9.1	2.3	86.8	1.2	0.2	29.9	53.2	14.8	2.1	46.2	53.8	39.6	60.4	48.8	22.0	6.3
GqJa1 ..	17	0	200	5	0	48	121	51	3	102	121	127	96	7	5	1
ROW%	7.6	0	89.7	2.2	0	21.5	54.3	22.9	1.3	45.7	54.3	56.9	43.0	41.2	29.4	5.9
GtJb10	125	93	439	1	0	188	318	124	28	472	184	513	145	6	88	11
ROW%	19.0	14.1	66.7	0.2	0	28.6	48.3	18.8	4.3	71.8	28.0	78.0	22.0	4.8	70.4	8.8

% = Row percentage count of motifs by attributes and units

Table 4.1. (Cont.) Overall Frequency of attribute and motifs among sites

Site	Lip Morphology	Rim morphology				Rim diameter		Vessel form		
	Tapering	Direct	In-curving	Everted	Out-curving	LS <15	GT >15	Bowl	Necked jar	Neckless jar
GqJa3 ...	6	4	4	8	31	23	23	2	57	15
ROW % ..	14.0	8.5	8.5	17.0	66.0	50	50	2.7	77.0	20.3
GqJa2 ..	9	6	2	9	27	19	24	2	45	5
ROW % ..	22.0	13.6	4.5	20.5	61.4	44.2	55.8	3.8	86.6	9.6
GqJa1 ..	4	1	0	3	11	5	29	1	16	1
ROW % ..	22.5	6.3	0	18.8	68.8	31.3	68.7	5.6	88.9	5.6
GtJb10	20	35	14	20	55	35	90	35	167	11
ROW % ..	16.0	28.2	11.3	16.1	44.4	28	72	16.4	78.4	5.2

% = Row percentage count of motifs by attributes and units

Table 4.1. Cont..) Overall Frequency of attribute and motifs among sites

Site	Position of decoration					Roulette				Surface treatment						Impressions		
	Lip	Rim	Neck	shoulder	Body	Knot strip	Composite	Converging	Overlapping	Fine	Medium	Coarse	Burnish	Slip applic	Brushing	Parallel	Horizontal	Oblique
GqJa3 ...	0	5	18	5	569	540	17	8	29	21	171	513	15	35	1	463	16	66
ROW % ..	0	0.8	3.0	0.9	95.3	90.9	2.9	1.4	4.9	2.8	22.6	67.9	2.0	4.6	0.1	85.0	2.9	12.1
GqJa2 ...	0	1	7	0	355	299	5	18	39	1	189	269	9	14	0	278	5	73
ROW % ..	0	0.3	1.9	0	97.8	82.8	1.4	5.0	10.8	0.2	39.2	55.8	1.9	2.9	0	78.1	1.5	20.5
GqJa1 ...	0	0	0	5	0	113	2	5	28	1	89	123	9	1	0	105	2	42
ROW % ..	0	0	0	3.3	96.7	76.4	1.4	3.4	18.9	0.4	39.9	55.2	4.0	0.4	0	70.5	1.3	28.2
GtJb10	0	7	49	7	455	346	28	54	71	14	355	147	82	24	33	267	27	203
ROW % ..	0	1.4	9.5	1.4	87.8	69.3	5.6	10.8	14.2	2.1	54.2	22.4	12.5	3.7	5.0	53.7	5.4	40.8

% = Row percentage count of motifs by attributes and units

Table 4.1. Overall Frequency of attribute and motifs among sites

Site	Grooves		Incision		Applied bands		Punctations		Surface colour		
	Simple	Parallel	Simple	Parallel	Parallel linear	Parallel ridges	Simple linear	Parallel linear	Black	Brownish grey	Red
GqJa3 ...	6	2	15	27	556	16	0	0	90	237	407
ROW % ..	75.0	25.0	35.7	64.2	97.2	2.8	0	0	11.7	30.9	57.4
GqJa2 ...	4	0	9	3	353	5	1	0	42	286	155
ROW % ..	100.0	0	75.0	25.0	98.6	1.4	100.0	0	8.7	59	32.5
GqJa1 ...	1	0	4	0	149	2	0	0	26	93	104
ROW % ..	100.0	0	100.0	0	98.4	1.3	0	0	11.7	41.7	58.3
GtJb10	18	7	10	3	465	27	5	6	199	93	359
ROW % ..	72.0	28.0	76.9	23.1	94.5	5.5	45.5	54.5	30.3	14.2	55.5

% = Row percentage count of motifs by attributes and units

Table 4.2 Sherd texture and thickness combinations

Site	Sherd texture	Sherd thickness (mm)			
		1 - 6 mm	6 - 10 mm	10 - 14 mm	14+ mm
GqJa1 (Abiero)	Coarse textured sherds	28 58.3%	63 52.1%	35 68.6%	1 33.3%
	Medium textured sherds	20 41.7%	58 47.9%	16 31.4%	2 66.7%
GqJa2 (Orwa)	Coarse textured sherds	76 52.4%	139 53.9%	36 50%	5 50%
	Medium textured sherds	69 47.6%	119 46.1%	36 50%	5 50%
GqJa3 (Rasoti)	Coarse textured sherds	94 66.7%	345 75.5%	133 85.3%	12 80%
	Medium textured sherds	47 33.3%	112 24.5%	23 14.7%	3 20%
GJb10 (Thimlich)	Coarse textured sherds	41 21.9%	91 28.6%	50 40.4%	15 53.6%
	Medium textured sherds	147 78.1%	227 71.4%	74 59.6%	13 46.4%

Table 4.3. Lip and rim combinations

Site	Lip morphology	Rim Morphology			
		Direct	Incurving	Everted	Outcurving
GqJa1 (Abiero)	Expanded lip				7 100%
	Plain lip	1 20%		3 60%	1 20%
	Tapering lip	/			2 100%
GqJa2 (Orwa)	Expanded lip			5 22.6%	17 77.3%
	Plain lip	3 33.3%		3 33.3%	3 33.3%
	Flat lip	1 100%			
GqJa3 (Rasoti)	Expanded lip			5 18.5%	22 81.5%
	Plain lip	4 100%			
	Flat lip	5 100%			
	Tapering lip		2 40%		3 60%
GqJb10 (Thimlich)	Expanded lip			2 33.4%	4 66.6%
	Plain lip	25 28.7%		12 13.8%	50 57.5%
	Flat lip	5 100%			
	Tapering lip	5 25%	15 75%		

Table 4.4. Vessel form, texture and decoration position

Site	Vessel form	Position of Decoration			
		Rim	Neck	Body	Plain
GqJa1 (Abiero)	Coarse textured necked jars		1 25%	2 100%	
	Medium textured necked jars		3 75%		
	Coarse textured neckless jars			1 100%	
GqJa2 (Orwa)	Coarse textured necked jars		4 66.7%	1 33.3%	1 50%
	Medium textured necked jars		2 33.3%	2 66.7%	1 50%
GqJa3 (Rasoti)	Coarse textured necked jars		15 83.3%	4 100%	1 50%
	Medium textured necked jars		3 16.7%		1 50%
	Coarse textured neckless jars			8 66.7%	
	Medium textured bowl		1 100%	4 33.3%	
GqJb10 (Thimlich)	Coarse textured necked jars	3 100%	15 31.9%	5 22.8%	1 50%
	Medium textured necked jars		32 68.1%	17 77.2%	1 50%
	Coarse textured neckless jars			5 71.4%	
	Medium textured neckless jars	2 100%		2 28.6%	
	Coarse textured bowls			3 17.6%	
	Medium textured bowls	2 100%		14 82.4%	

Table 4.5. Type of decoration and position combinations

Site	Position of decoration	Type of Decoration														
		Knotted strip roulette	Composite roulette	Converging knotted strip	Overlapping knotted strip	Parallel impression	Oblique impression	Horizontal impression	Parallel linear bands	Parallel ridges	Parallel linear incisions	Simple linear incisions	Parallel linear grooves	Simple linear grooves	Simple linear punct	Parallel linear punct
GqJa1 (Abiero)	Neck	4 4.6%					4 2.2%		3 2.8%							
	Body	103 95.4%	2 100%	5 100%	28 100%	100 100%	36 87.8%	2 100%	140 97.2%	2 100%		1 100%				
GqJa2 (Orwa)	Rim	1 0.3%					1 1.4%		1 0.3%							
	Neck	6 2.0%					6 8.2%		6 1.7%							
	Body	287 97.6%	5 100%	18 100%	39 100%	272 100%	66 90.4%	5 100%	341 98%	5 100%	2 100%	2 100%			1 100%	
GqJa3 (Rasoti)	Rim	7 1.5%														
	Neck	16 3%				2 0.4%	7 9.6%		18 3.4%					2 100%		
	Body	505 95.5%	16 100%	7 100%	29 100%	264 99.6%	66 90.4%	15 100%	523 96.5%	15 100%	8 100%		2 100%			
GtJb10 (Thimlich)	Rim	7 2.9%					1 1.4%									
	Neck	29 8.5%				2 0.8%	6 8.2%		40 9.5%		1 33.3%			4 100%	5 100%	2 50%
	Body	302 88.6%	20 100%	54 100%	60 100%	264 99.2%	66 90.5%	22 100%	418 90.5%	23 100%	2 66.7%	2 100%	4 100%			2 50%



Table 4.6 Categories of vessel forms decorated with parallel linear bands of knotted strip roulette

Decoration on Neck (Necked jars)				Body decorations (Necked jars)		
SITE	Vessel form	Categories	Frequencies %	Vessel form	Categories	Frequencies %
GqJa3	Coarse textured	1-6	7.7	Coarse textured	1-6	12.5
				Medium textured	1-6	100
GqJa1	Missing	-	0	Missing	-	0
GqJb10	Medium textured	1-6	15.8	Medium textured	1-6	50
GqJa2	Medium textured	1-6	50	Missing	-	0
GqJa3	Coarse	6-10	57.1	Coarse textured	6-10	75
	Medium	6-10	50	Medium textured	6-10	100
GqJa1	Medium textured	6-10	33.3	Coarse textured	6-10	100
GqJb10	Coarse textured	6-10	14.3	Coarse textured	6-10	66.7
	Medium textured	6-10	63.2	Medium textured	6-10	50
GqJa2	Coarse textured	6-10	100	Missing	-	0
GqJa3	Medium	10-14	30.8	Coarse textured	10-14	12.5
	Coarse	10-14	50			
GqJa1	Coarse	10-14	100	Missing	-	0
	Medium	10-14	33.3			
GqJb10	Coarse	10-14	75	Coarse textured	10-14	33.3
	Medium	10-14	15.8			
GqJa2	None	Missing	0	Missing	-	0
GqJa3	Coarse textured	14mm+	7.1	Missing	-	0
GqJa1	Medium textured	14mm+	33.3	Missing	-	0
GqJb10	Coarse textured	14mm+	14.3	Missing	-	0
	Medium textured	14mm+	5.3			
GqJa2	-	-	0	Missing	-	0
<b>Body decorations (Neckless jars)</b>				<b>Body decorations (Bowls)</b>		
GqJa3	Coarse textured	1-6	50	Medium textured	1-6	100
GqJa1	Missing	-	0	Missing	-	0
GqJb10	Medium textured	1-6	18.8	Medium textured	1-6	7.7
GqJa2	Missing	-	0	Missing	-	0
GqJa3	Coarse textured	6-10	100	Coarse textured	6-10	100
GqJa1	Coarse textured	6-10	50	Missing	-	0
GqJb10	Medium textured	6-10	50	Coarse textured	6-10	33.3
				Medium textured	6-10	84.6
GqJa2	Medium textured	6-10	100	Missing	-	0
GqJa3	Missing	-	0	Missing	-	0
GqJa1	Coarse textured	10-14	50	Missing	-	0
GqJb10	Coarse textured	10-14	100	Coarse textured	10-14	33.3
	Medium textured	10-14	31.3			
GqJa2	Missing	-	0	Missing	-	0
GqJa3	Missing	-	0	Missing	-	0
GqJa1	Missing	-	0	Missing	-	0
GqJb10	Missing	-	0	Coarse textured	14mm+	33.3
				Medium textured	14mm+	7.7
GqJa2	Medium textured	14mm+	50			

Table 4.7: Site, Vessel form, texture, thickness, decoration type and position of decoration

Site	Texture	Vessel form	Thickness	Simple linear punctates	Parallel linear punctates	Simple linear grooves	Composite roulette	Horizontal impressions	Parallel ridges	Simple linear incisions	Parallel linear grooves	Parallel linear incisions	Overlapping knot strip
Gub10	Medium	Necked Jars	1-6	0	1 16.7%	0	0	0	0	1 100%	0	1 100%	0
Gub10	Medium	Necked Jars	6-10	0	5 83.3%	1 100%	0	0	0	0	1 100%	0	0
Guj2	Medium	Necked Jars	6-10	1 100%	0	0	0	0	0	0	0	0	0
Guj3	Course	Necked Jars	6-10	0	0	1 100%	0	0	0	0	0	0	0
Gub10	Course	Necked Jars	6-10	0	1 33.3%	0	0	0	0	0	0	0	0
Gub10	Course	Necked Jars	10-14	0	2 66.7%	0	0	0	0	0	0	0	0
Guj3	Medium	Neckless jar	6-10	0	0	0	0	0	0	0	0	0	1 100%
Gub10	Medium	Bowl	1-6	0	0	0	1 100%	1 100%	1 100%	0	0	0	0

Table 5.0 Thimlich and Sakwa structures: number of gates, gates space and stone size

Structure	No. of gates	Gate		Stone size	
		Height	Length	Length	Width
Kochieng	3	1.2	.9	1.7	.2
Kogong	1	1.2	.6	.4	.2
Blacksmith	4	1.98	1.98	1.4	.2
Kakuku	1	.99	.9	1	.1
Koluoch	1	1.1	.6	1.8	.2
Kokech	3	.9	.9	1.6	.1
Abiero	1	.7	11	.7	.4
Orwa	2	9	3.95	.4	.4
Rasoti	1	1.7	8	.4	.3

Table 5.1 Thimlich and Sakwa structures: the diameter, area and interior partitions

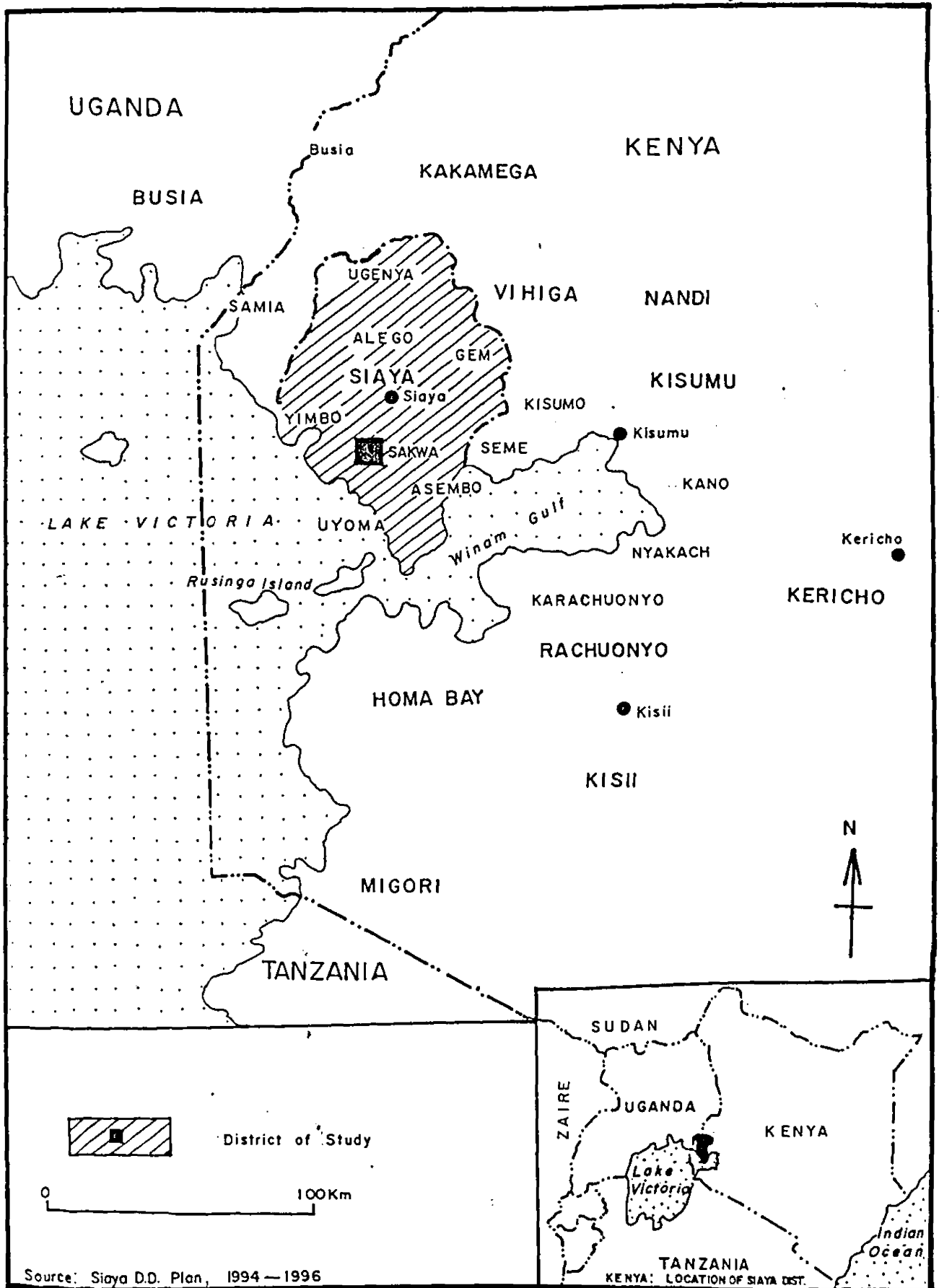
Structures	Diameter (Metres)	Area (in Sq Metres)	Interior partitions
Abiero	96.7	7340.44	3
Orwa	50.5	3165.32	0
Rasoti	78	4775.94	4
Kochieng	137.4	14819.8	6
Blacksmith	48.3	1831.3186	2
Koluoch	59.5	2779.096	1

Table 5.2 Thimlich and Sakwa structures: wall thickness and height

Structure	Wall thickness	Wall height
Abiero	.4	.7
Rasoti	1.8	.9
Orwa	1	1.7
Kochieng	3.6	3.8
Kogong	3.6	.9
Blacksmith	2.2	2.4
Kakuku	1.8	2.9
Koluoch	2.6	2.6
Kokech	2.1	2.1

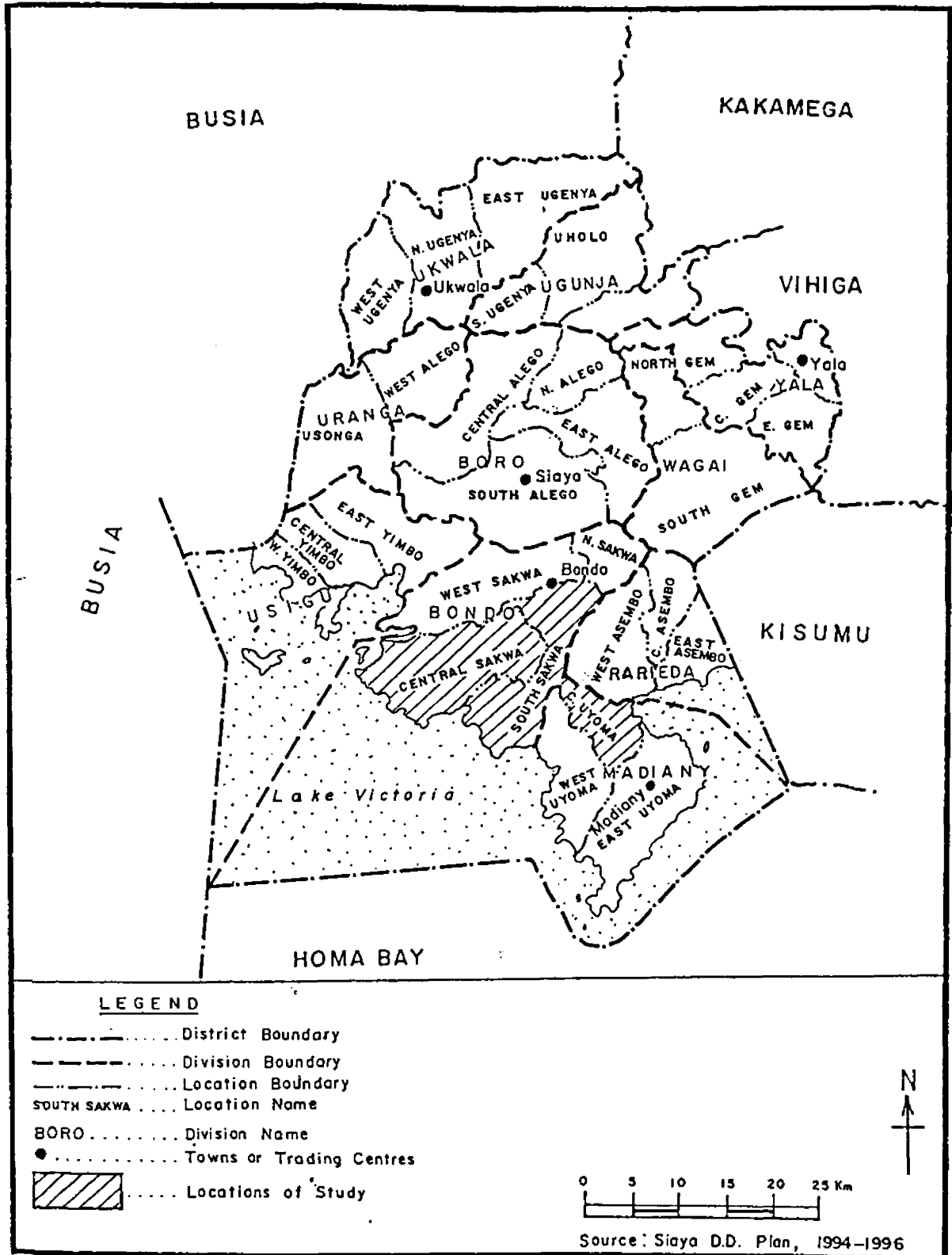
## Figures

Fig. 1.1 Location of study area in Siaya District, Western Kenya



Source: Siaya D.D. Plan, 1994 — 1996

Fig. 1.2 Siaya: Locations covering the study area



Source: Siaya D.D. Plan, 1994-1996



Fig. 3.0 Sketch map of Abiero structure

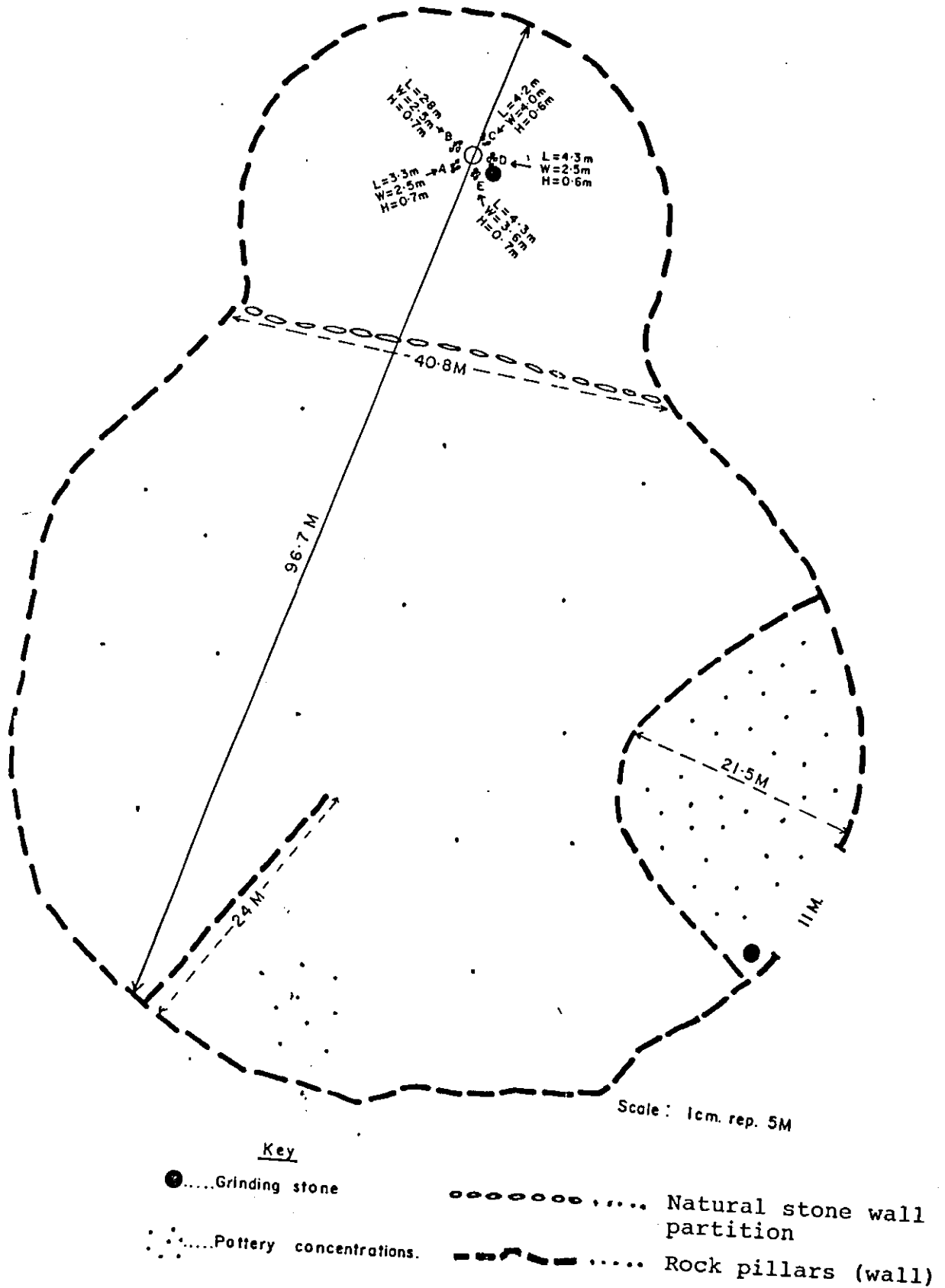
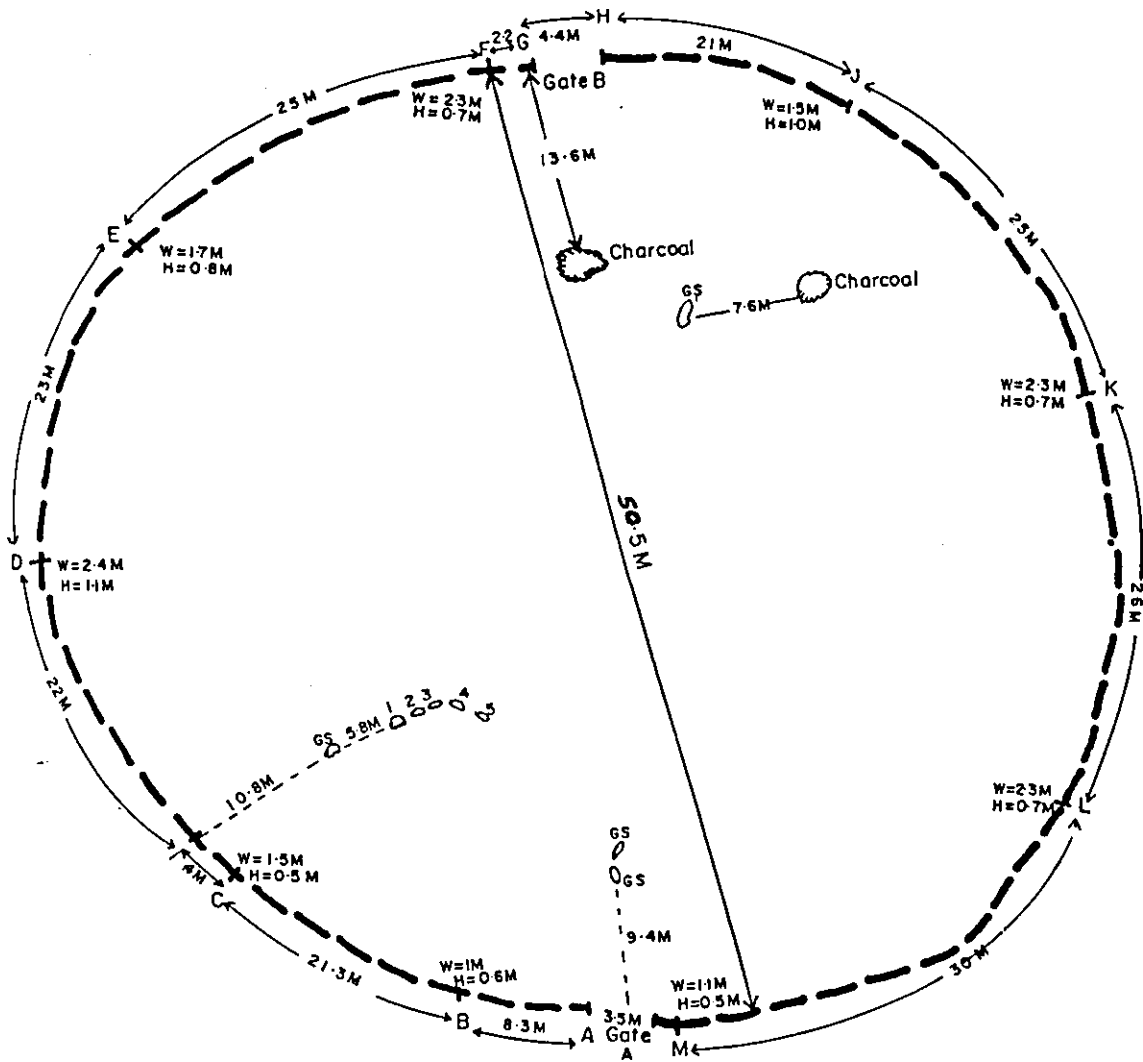




Fig. 3.1 Sketch map of Orwa structure



Key

A, B, C etc are points whose widths and heights were measured

GS Grinding stones

1, 2, 3, 4, 5 Gathered stones

----- Pilled rock material (wall)

Scale: 1cm rep. 5M

Fig 3.2 Sketch map of Rasoti structure

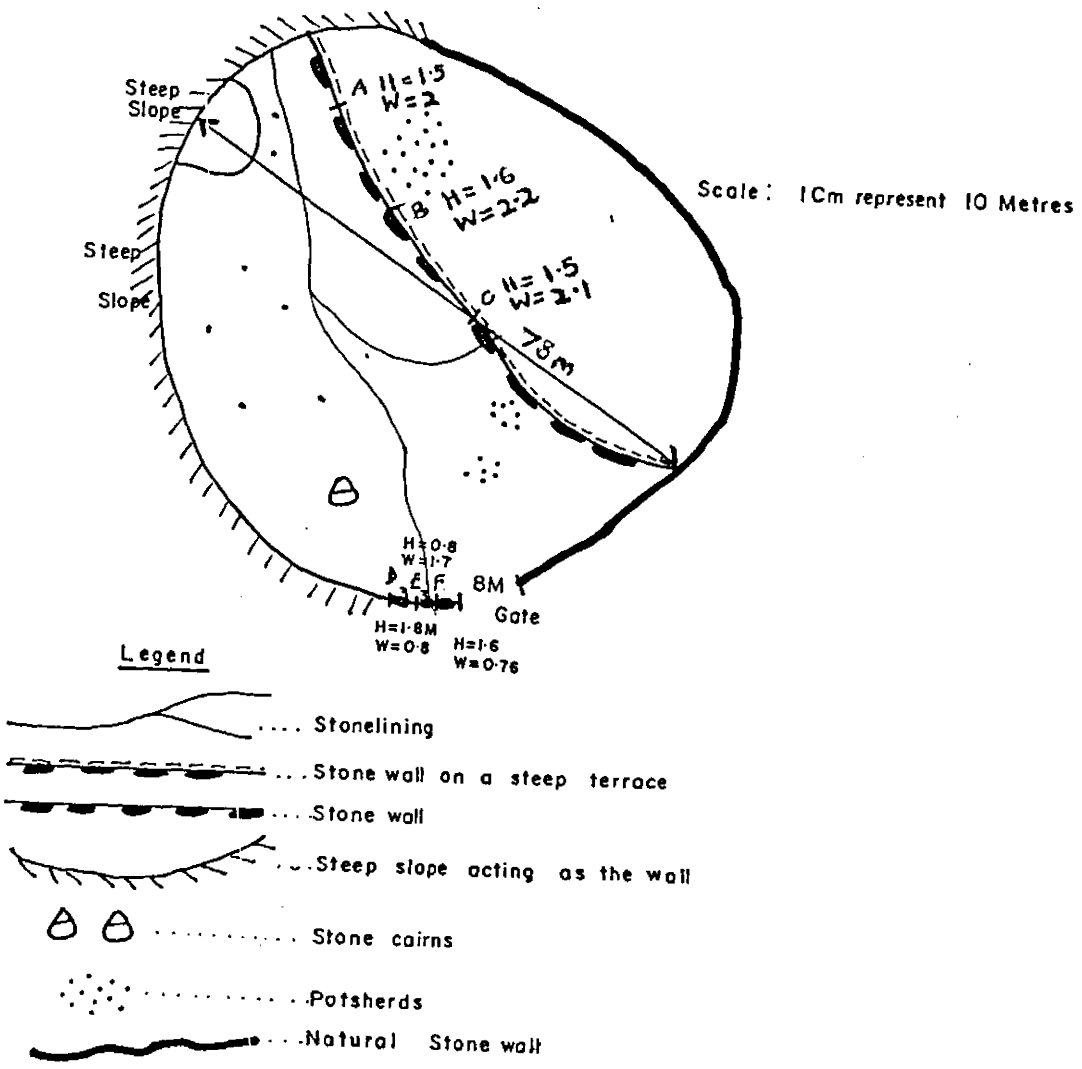
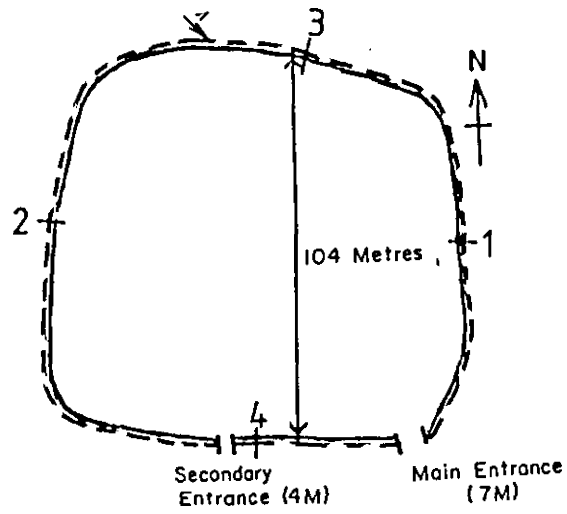


Fig. 3.3 Sketch map of Oiko A



Scale: 1cm rep. 20m.

Legend



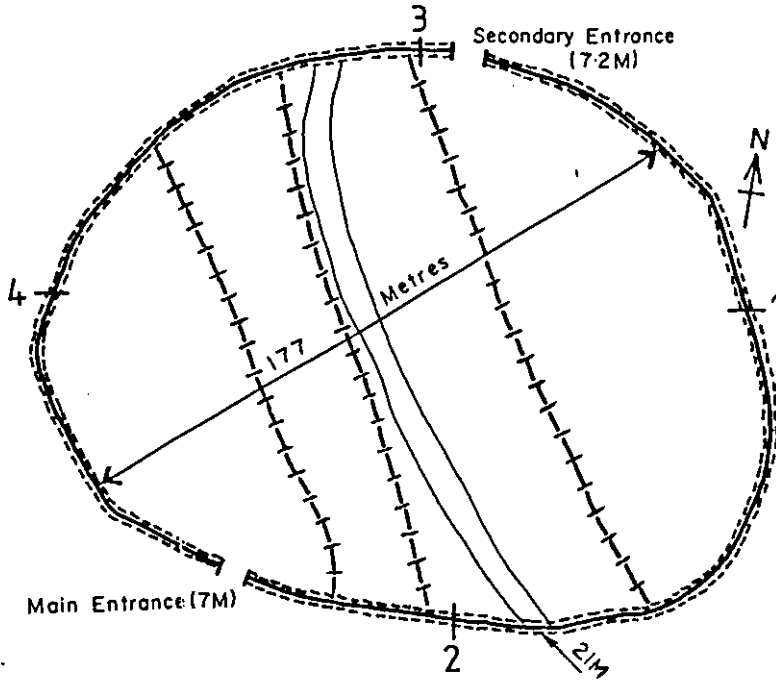
-  ..... Trench  
 ..... Earth hill  
 1-4 ..... Points of measurement

Fig. 3.4 Sketch map of Oiko B



Scale: 1cm rep. 20m

Legend






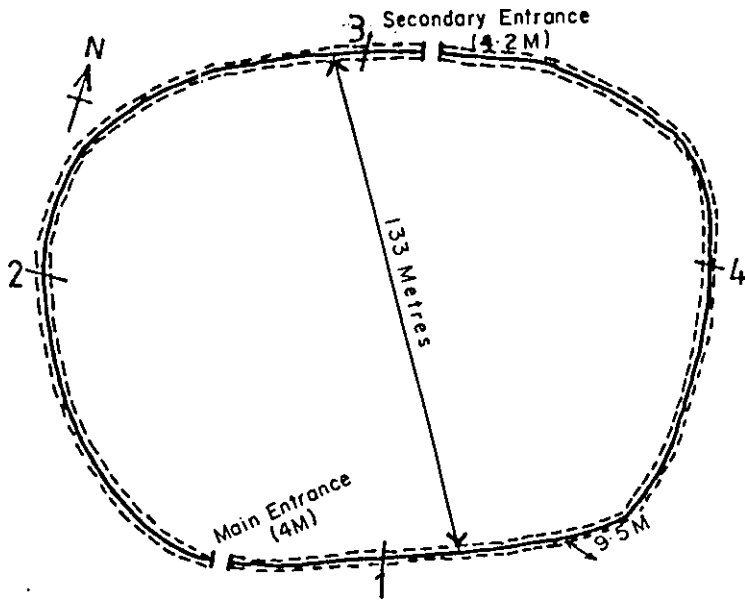
-  Trench
-  Earth Hill
-  Interior Trench
-  Farm Partitions
-  Points of measurement

Fig. 3.5 Sketch map of Oiko C



Scale: 1cm rep. 20m

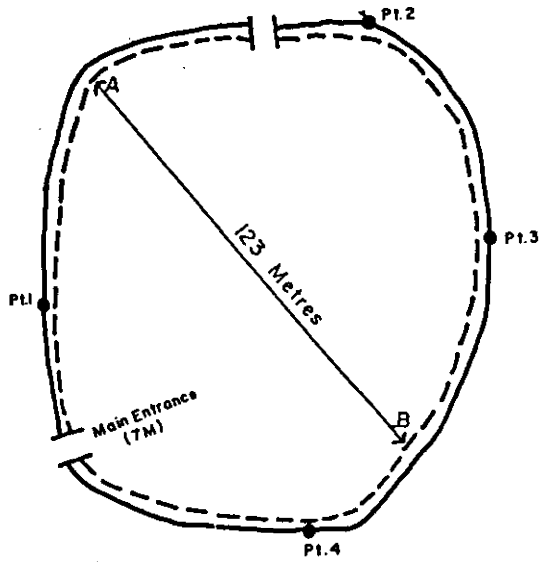
Legend

.....Trench



..... Earth hill

1 — 4 .....Points of measurement

Fig 3.6 Sketchmap of Kipasi A



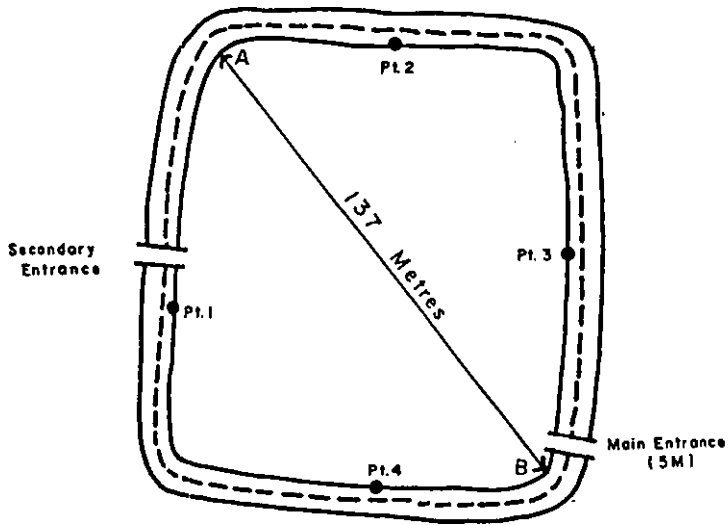
Legend

-  Trench
-  Earth hill

Pt 1 — Pt 4 ..... Points of measurement

Scale: 1cm rep. 20m

Fig 3.7 Sketch map of Kipasi B



Scale: 1cm rep. 20m

Legend



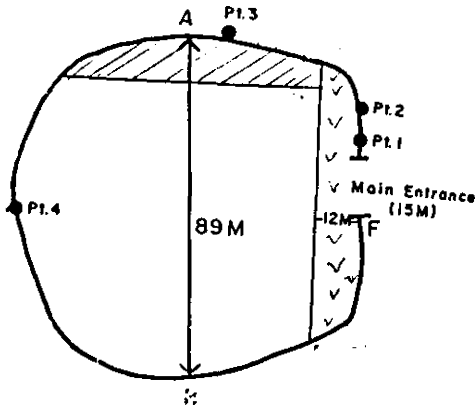
-  ..... Trench  
 ..... Earth hill  
 Pt 1 — 4 ..... Points of measurement

Fig. 3.8 Sketch map of Kipasi C



Scale: 1cm rep. 20m

Legend



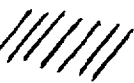
- 
..... Maize Farm
- 
..... Earth Hill
- 
..... School compound
- Pt 1 — Pt 4 ..... Points of measurement



Fig. 3.9 Sketch map of Ramogo structure

Scale:- 1Cm rep. 20M

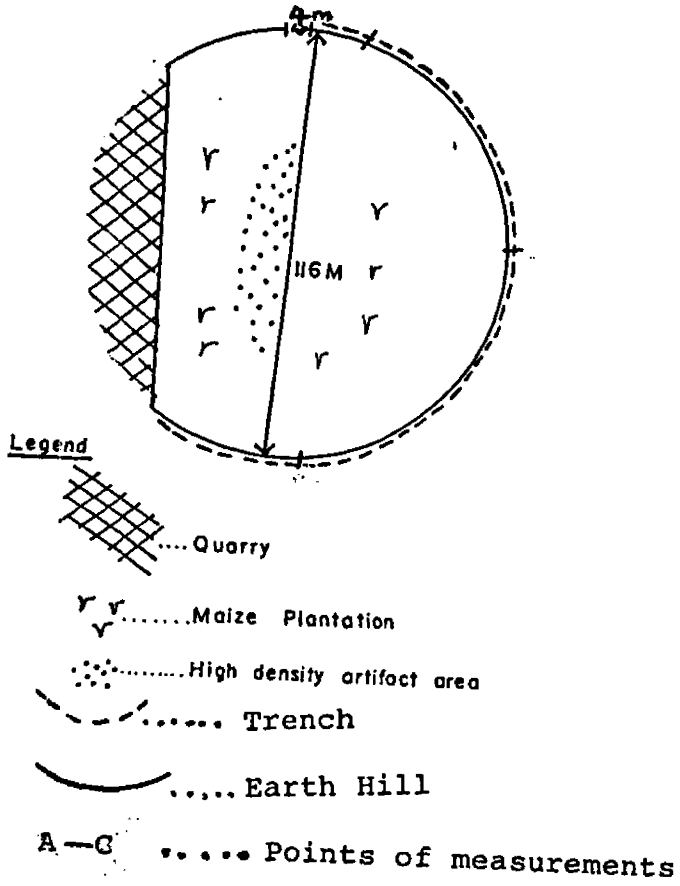
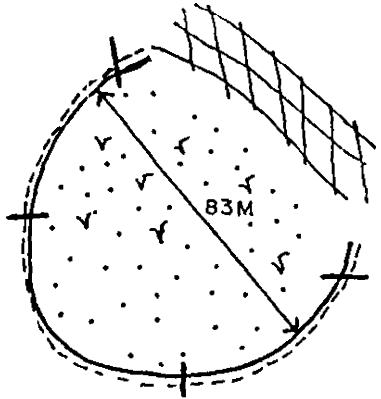


Fig. 3.10 Sketch map of Olang'o structure



Scale:- 1Cm. rep. 20M

Legend





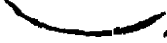
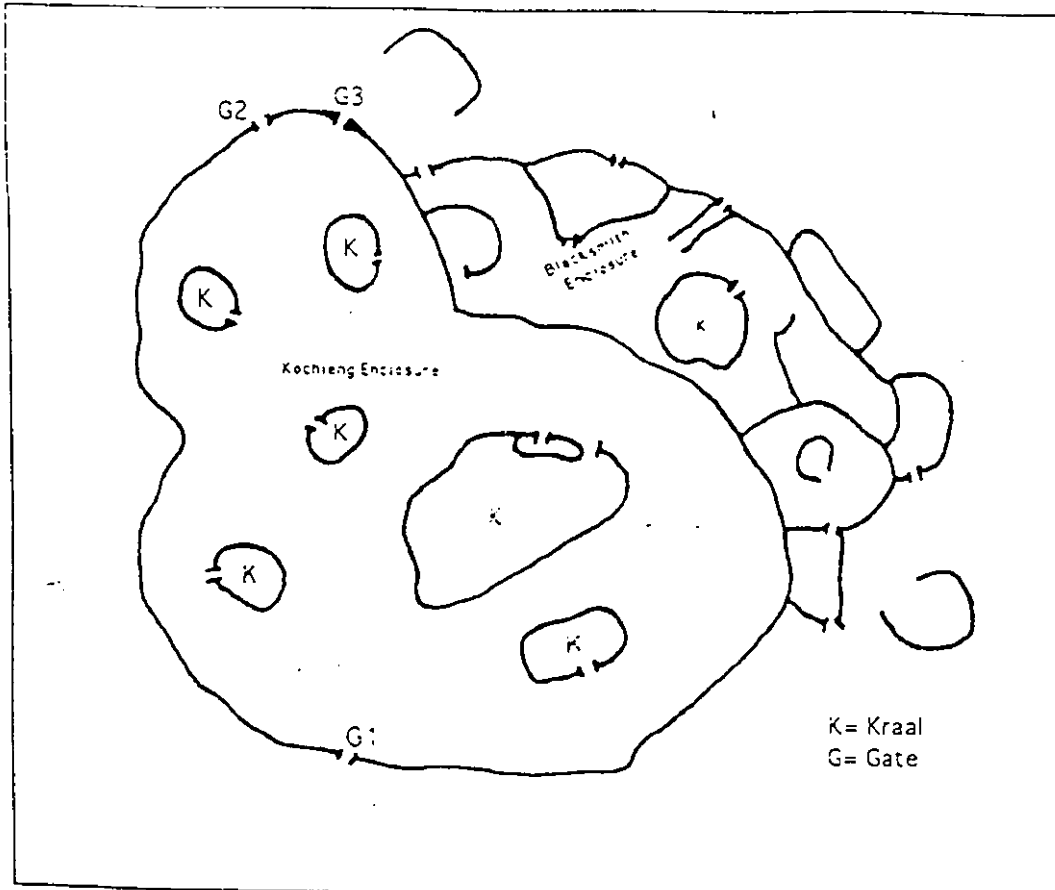
-  ..... Quarry
-  ..... Maize Plantation
-  ..... Potsherds
-  ..... Trench
-  ..... Earth hill

Fig. 3.11 Sketch map of Thimlich complex structure



Adapted from Onjala (1994)

Fig. 3.12 Sketch plan of Sakwa stone cairns

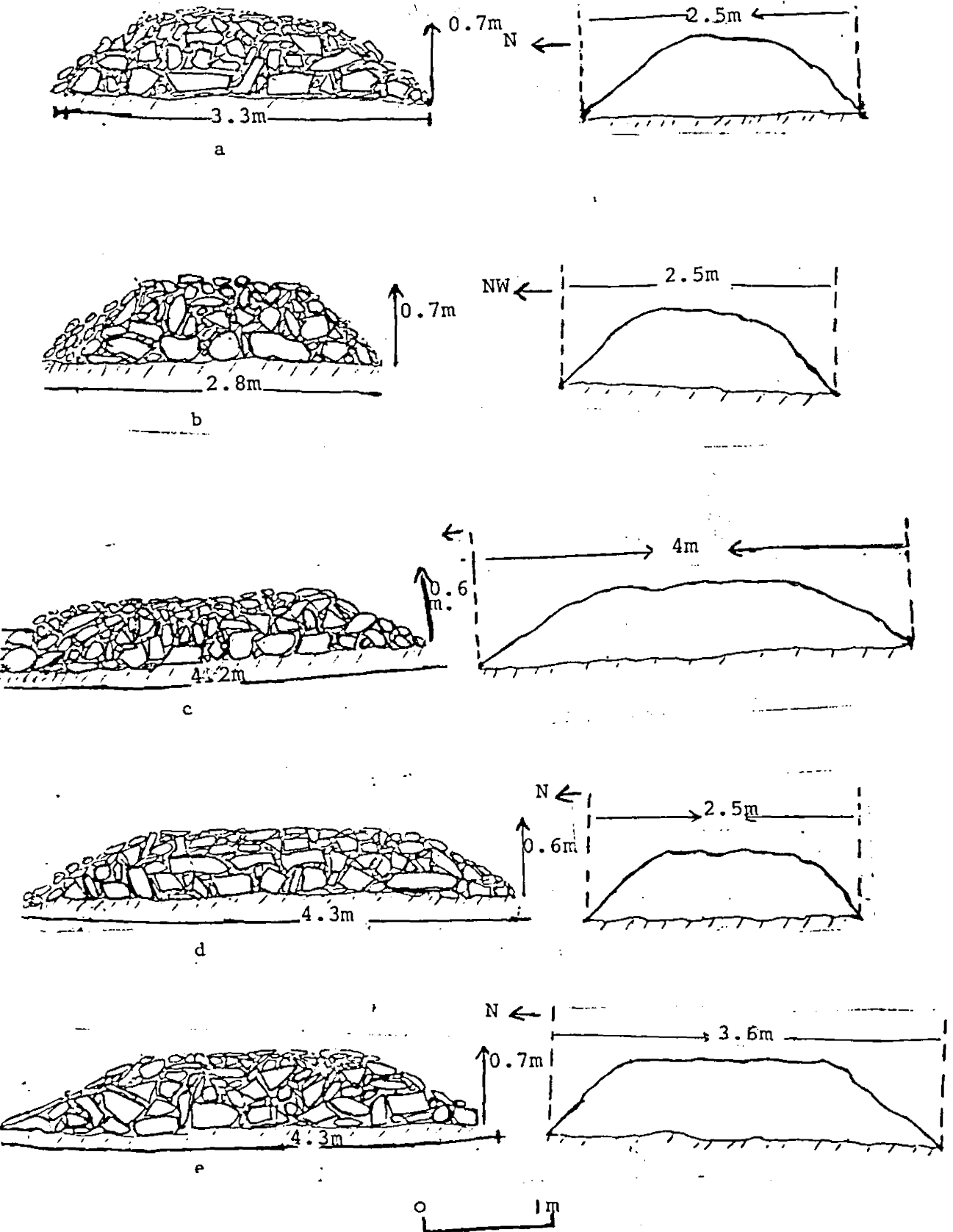
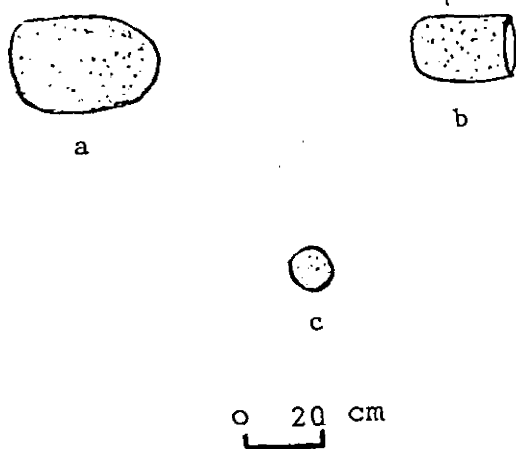


Fig. 3.13 Sakwa sites: Typical grindstones and hammer stone

Legend

- a ..... Grindstone  
 b ..... Broken piece of grindstone  
 c ..... Hammerstone

Code numbers:

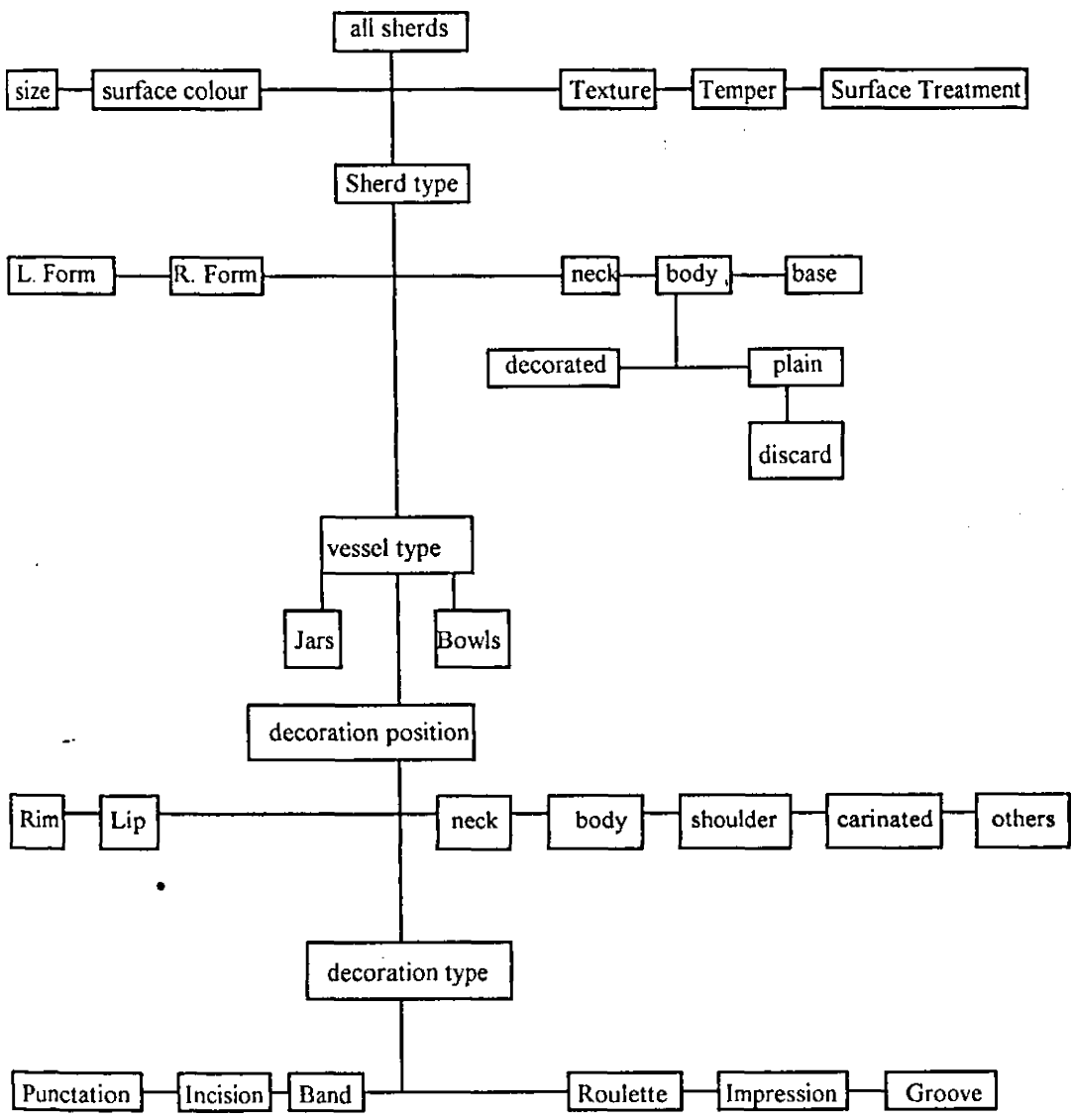
- a : GqJa3/204  
 b : GqJa2/5  
 c : GqJa2/1

Fig. 4.0 Code numbers of shards illustrated in figures

Figure	a	b	c	d	e	f	g
Figure 4.6.	GqJa2/57	GqJa1/116	GtJb10/263	GtJb10/25	GqJa1/177	GtJb10/269	
Figure 4.7.	GtJb10/181	GtJb10/158	GtJb10/182	GtJb10/82			
Figure 4.8.	GtJb10/138	GqJa2/86	GtJb10/143	GtJb10/138	GtJb10/142	GtJb10/232	GtJb10/202
Figure 4.9.	GqJa2/323	GqJa2/280	GqJa2/269	GqJa2/267	GtJb10/203	GtJb10/113	GqJa1/184
Figure 4.10.	GqJa1/143	GqJa1/217	GtJb10/28				

NB: Figure and shard numbers appear as row and column co-ordinates, for example, Fig 4.6a is an illustration of sherd coded no. GqJa2/57 in the catalogue

Fig. 4.1 Primary stages of shard analysis



Adapted from Wahome (1995)

Fig. 4.2 Stages of attribute combinations

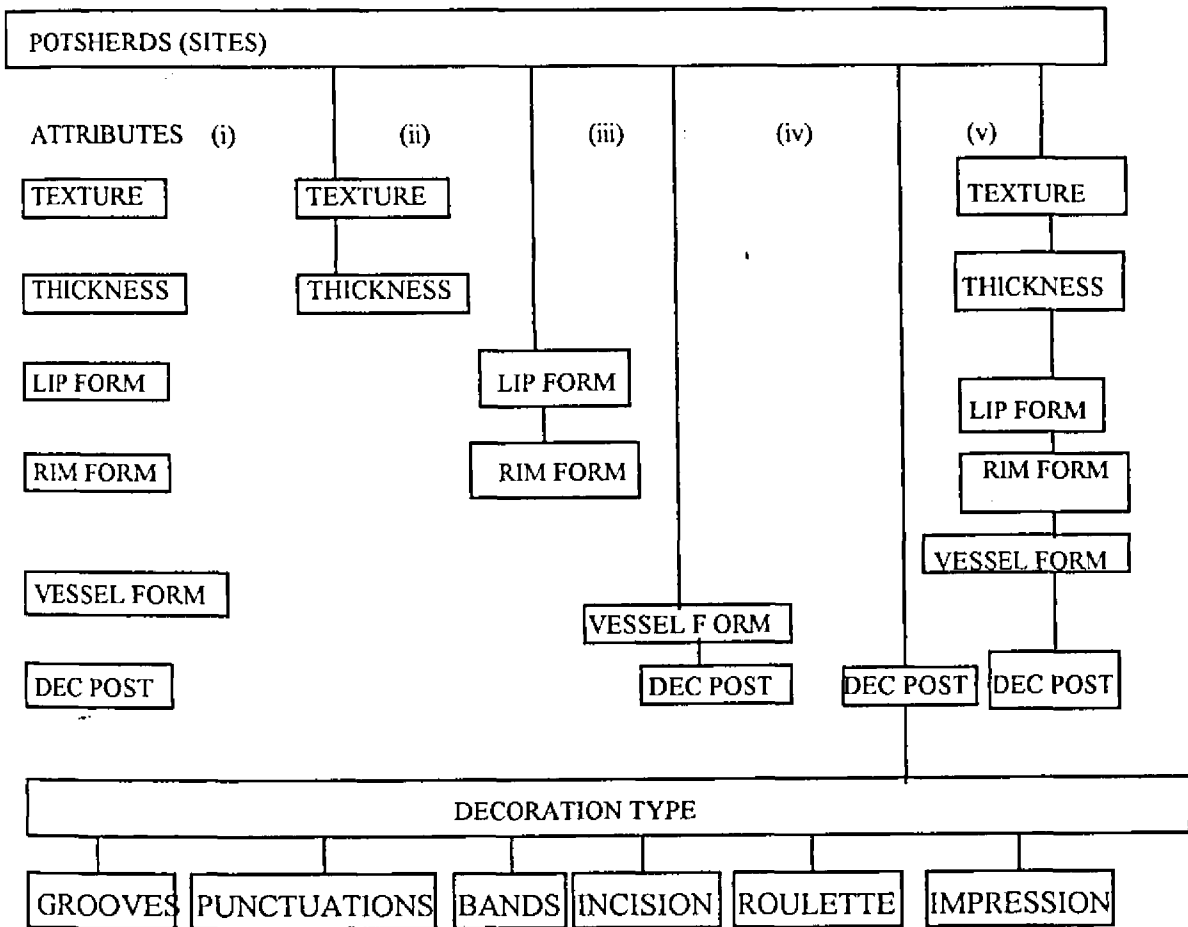
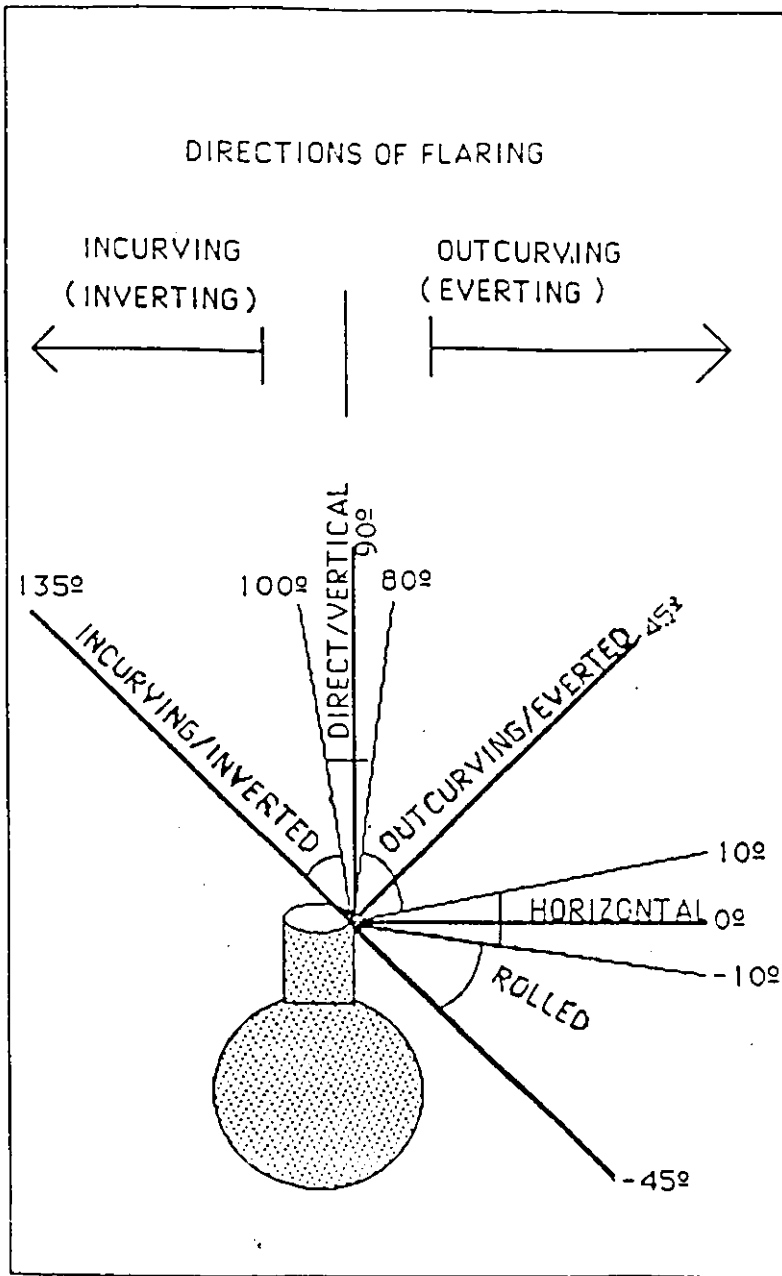


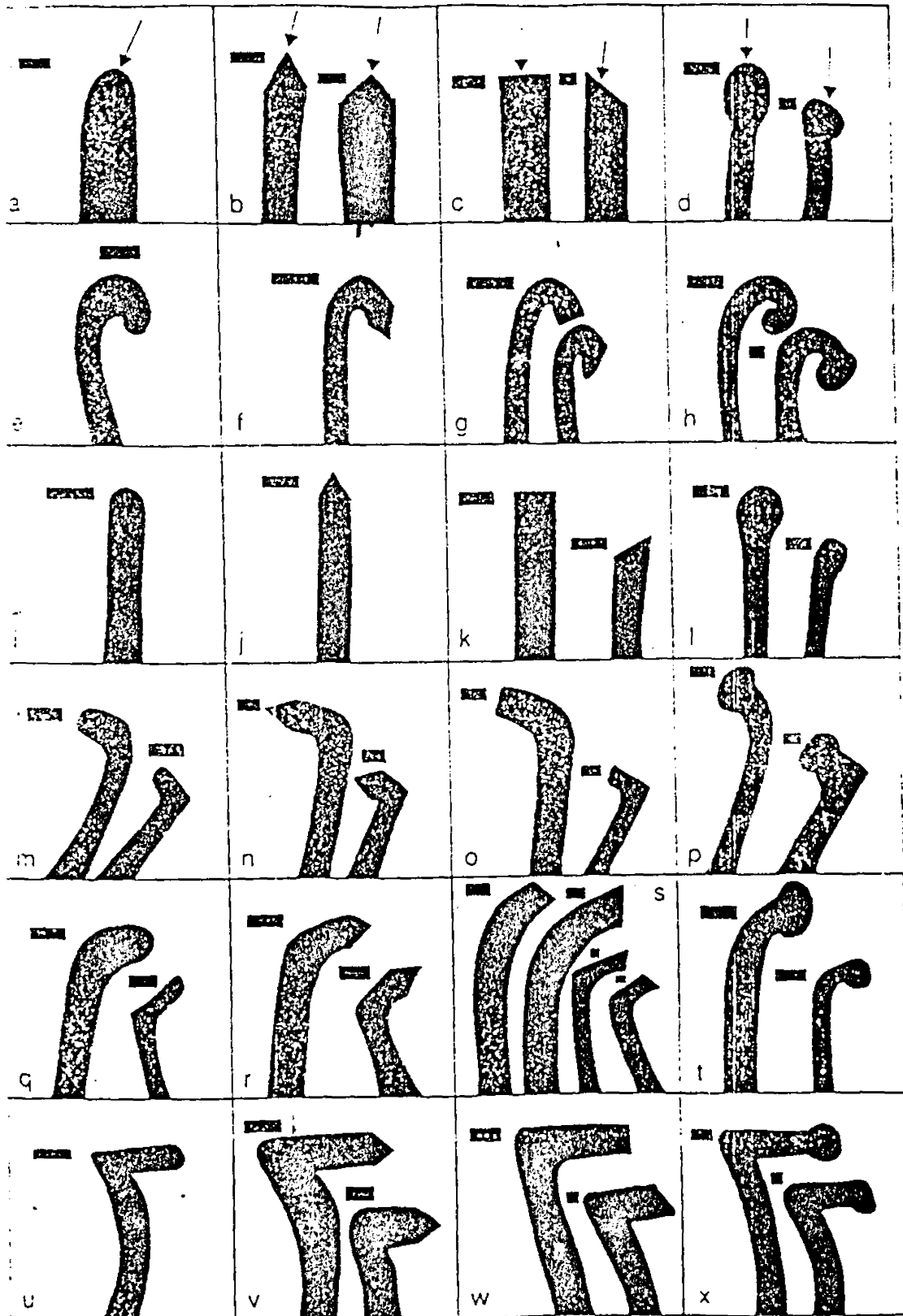


Fig. 4.3 Rim orientation



Adapted from Wahome (1995)

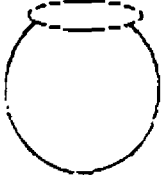


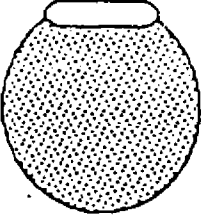
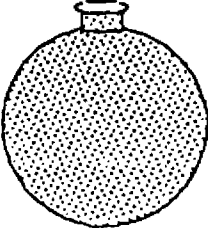

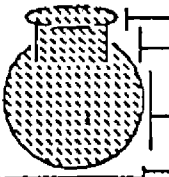
Fig. 4.4 Lip and rim combinations



LIP AND RIM COMBINATIONS

Adapted from Wahome (1995)

Fig. 4.5 Vessel types

 <p>a</p>	NECKED VESSEL
 <p>b</p>	OPEN BOWL
 <p>c</p>	DEEP BOWL
 <p>d</p>	NECKLESS VESSEL
 <p>e</p>	LONG NECKED VESSEL
 <p>f</p>	CARINATED VESSEL
<p>h</p>  <p>LIP/RIM NECK/SHOULDER BODY BASE</p>	

Adapted from Wahome (1995)

Fig. 4.6 . . . Decoration positions and types: Knotted strip roulette, simple and parallel linear grooves, simple and parallel linear incision.

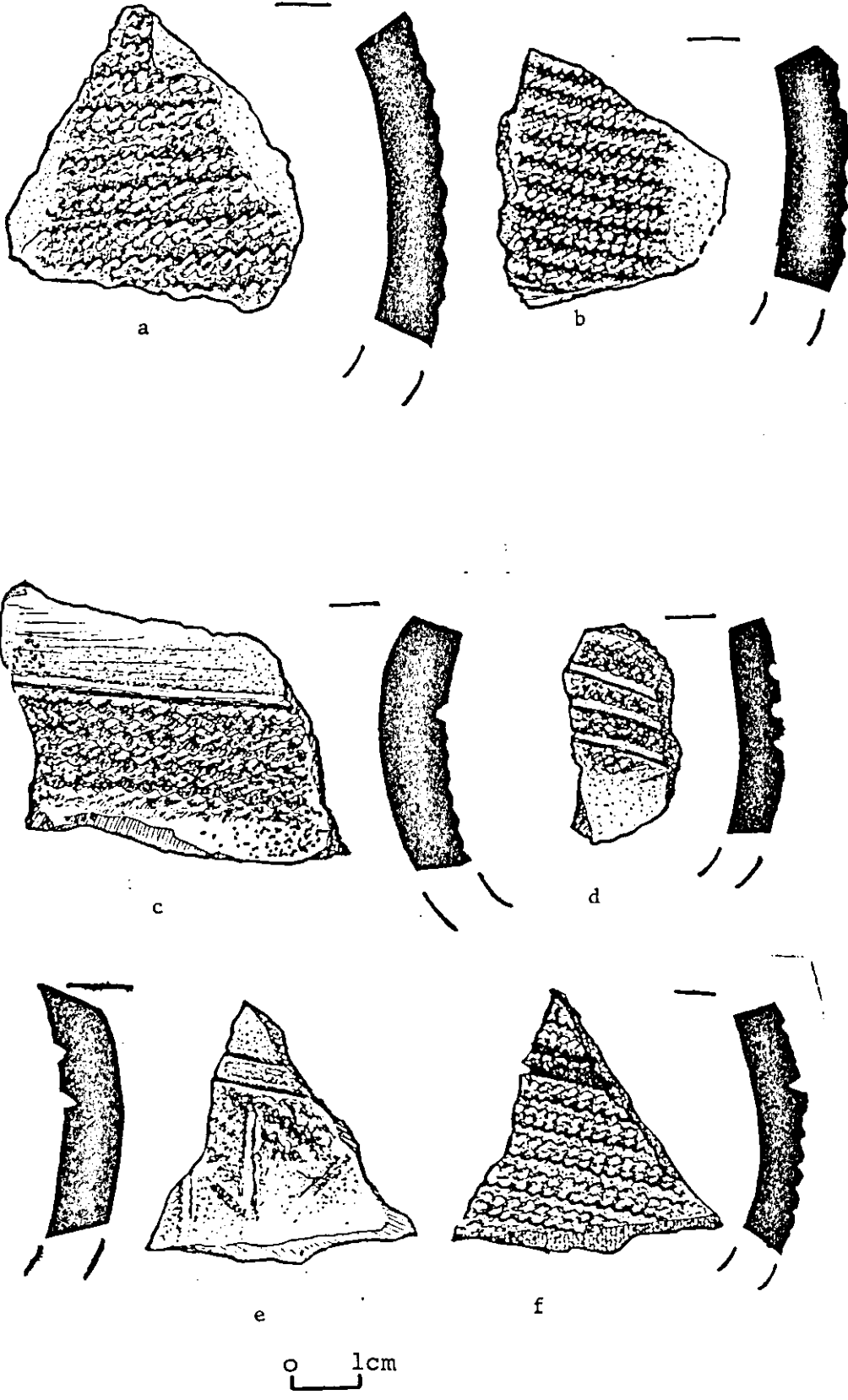


Fig. 4.7 Decorations: overlapping and converging knotted strip roulette and composite roulette with associated impressions and bands.

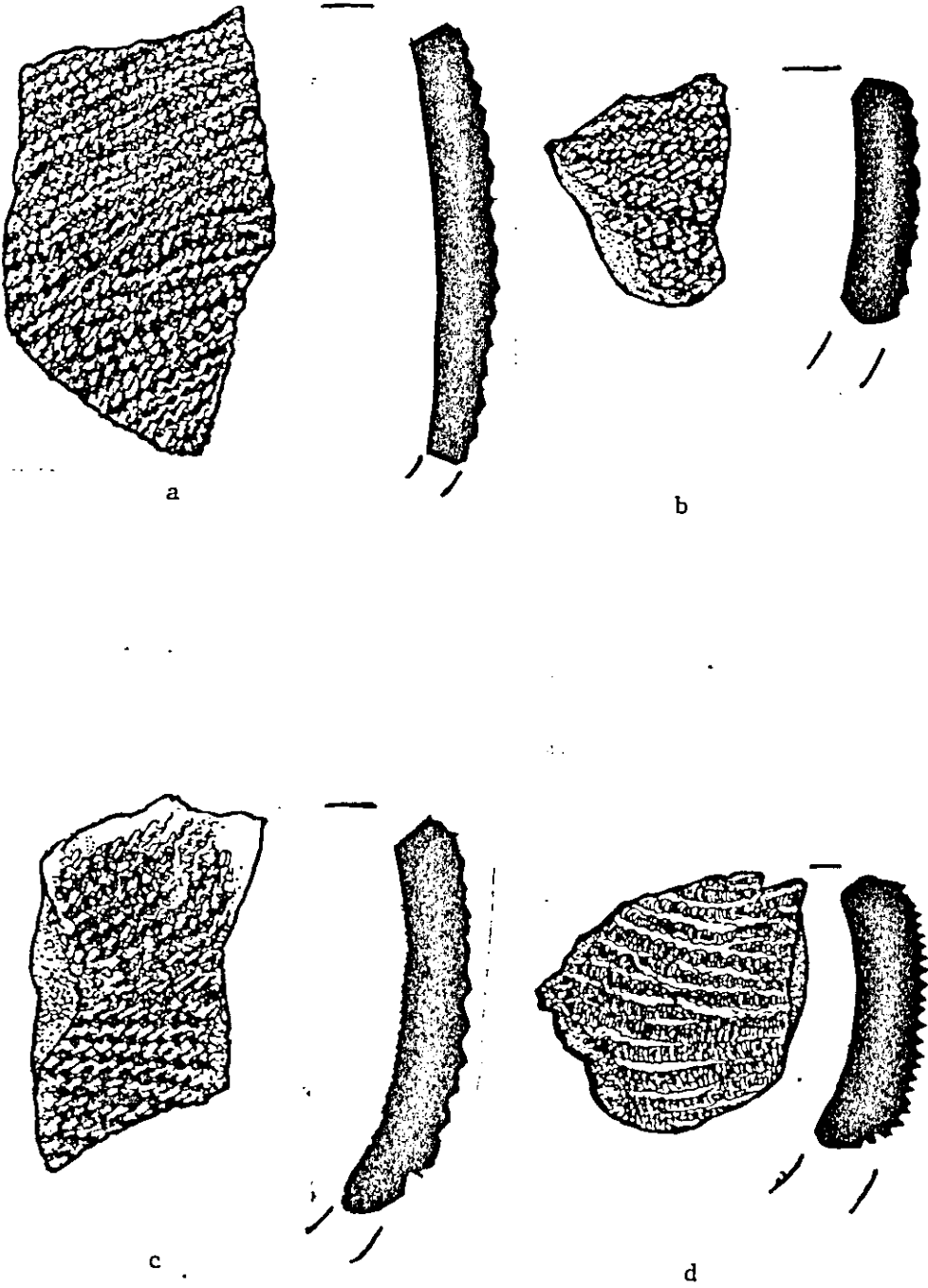


Fig. 4.8 Decorations: Simple and parallel linear punctations and knotted strip roulette.

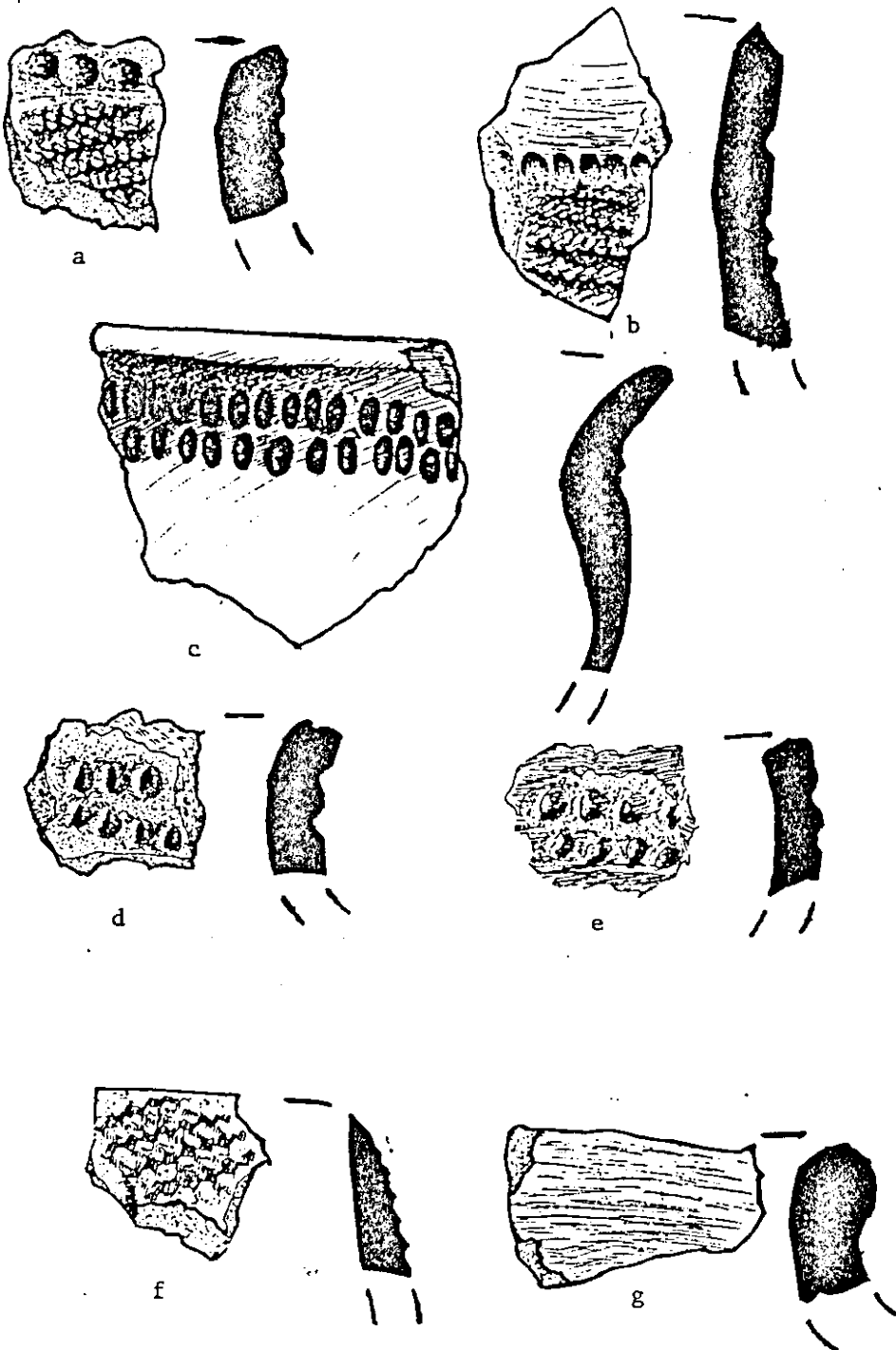


Fig. 4.9 Rim and Lip profiles

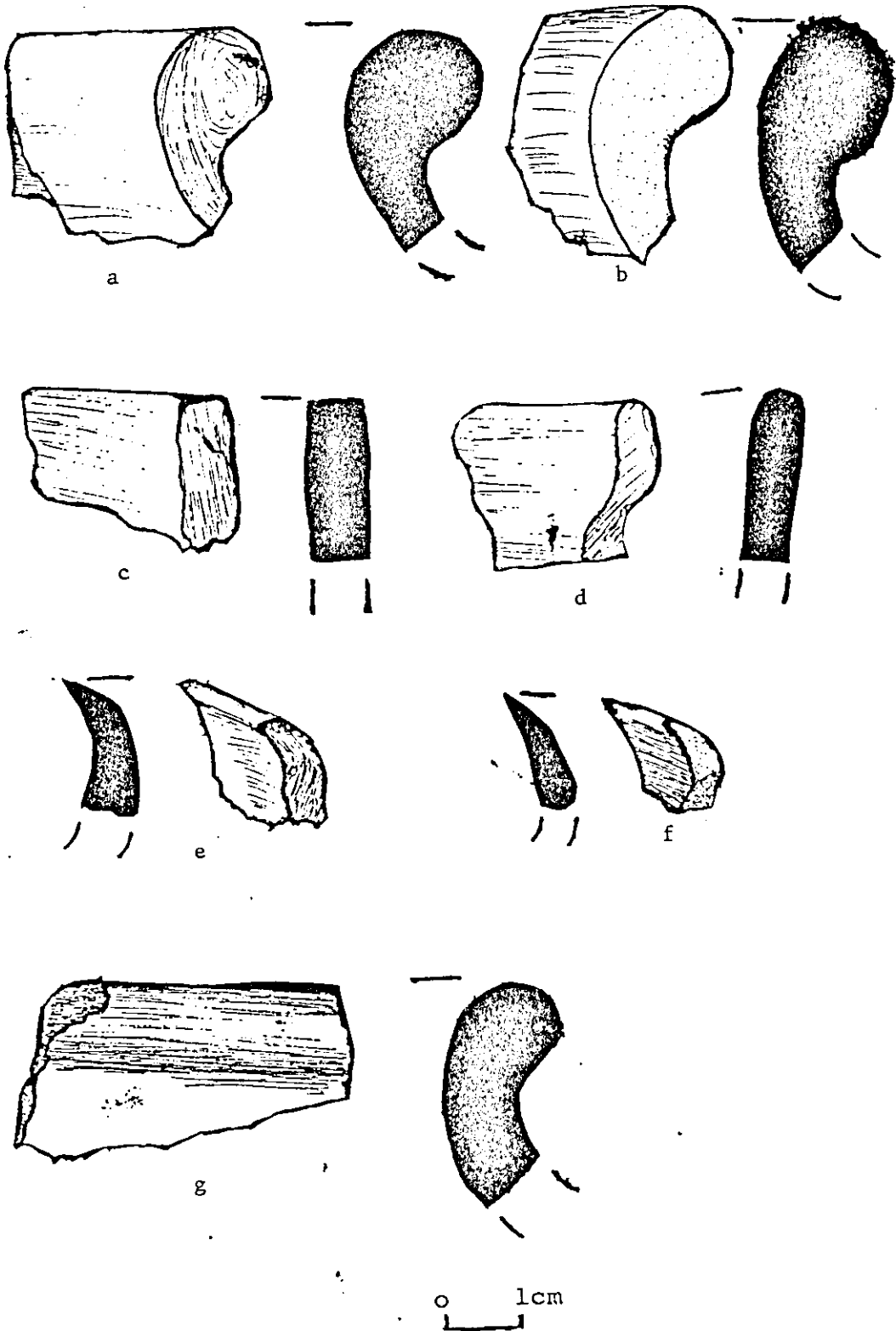


Fig. 4.10 Base, rim and lips

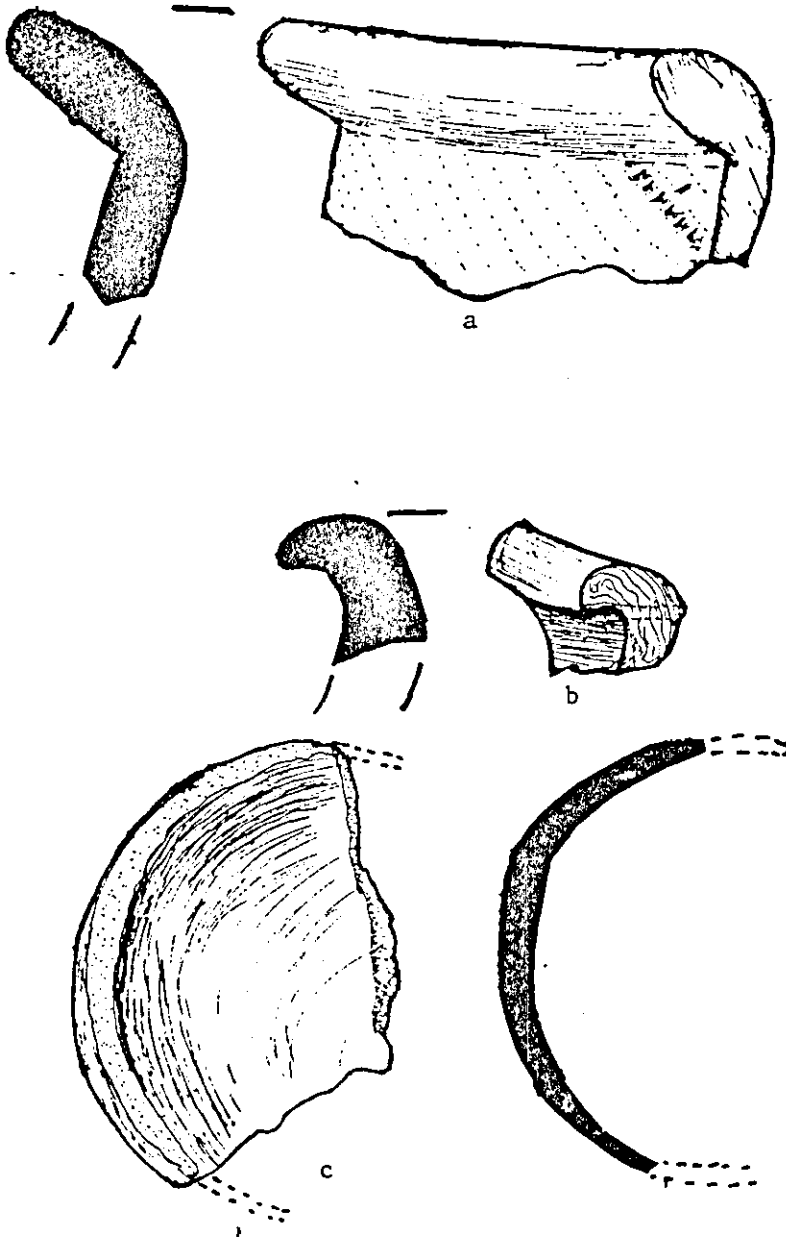
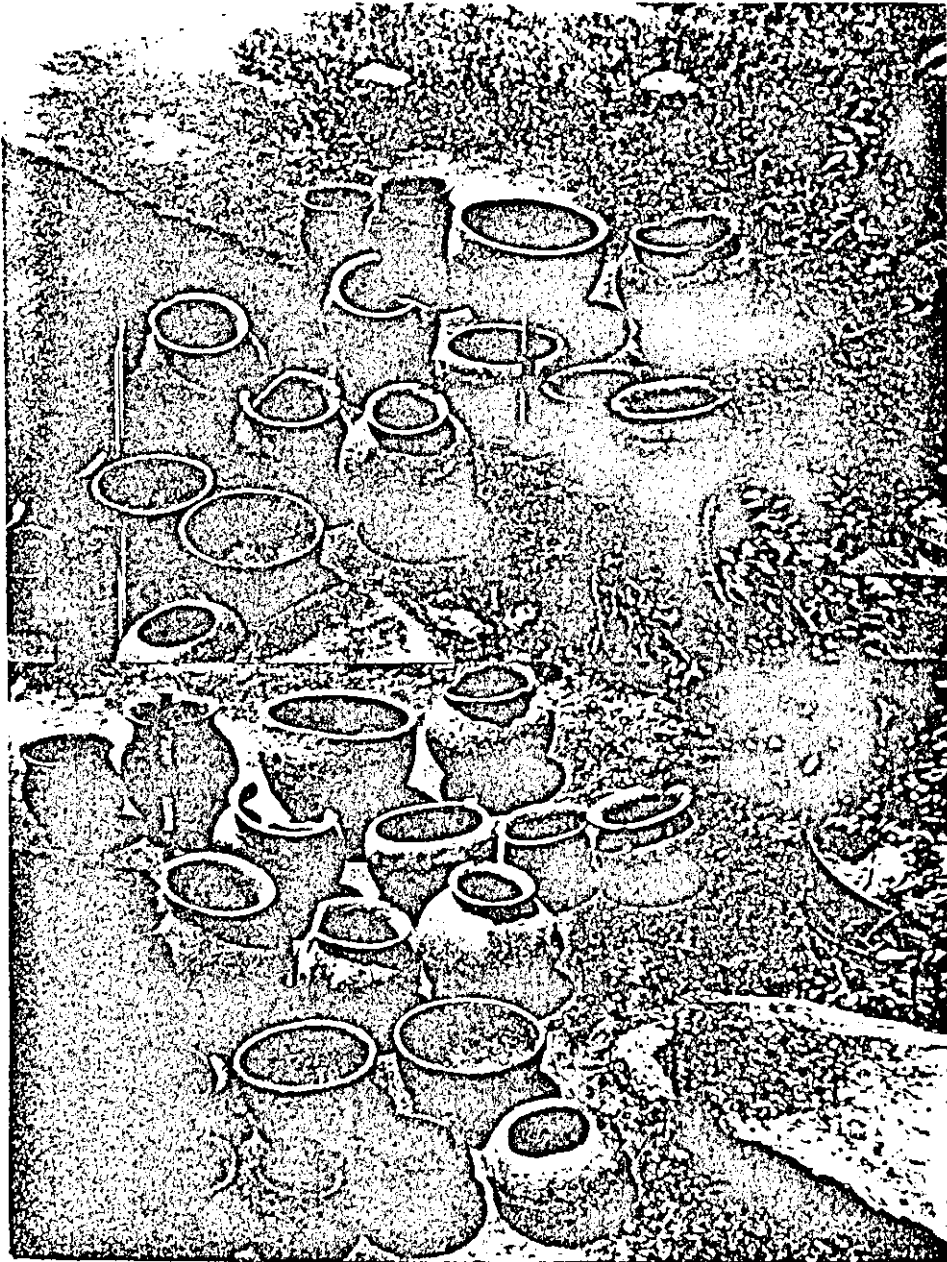




Fig. 4.11 Bowls, necked and neckless jars



PLATES

Plate 1

Got Abiero hill: Loose surface volcanic rocks



Plate 2

Sakwa stone structure: The wall (pilled rocks and pillars)



Plate 3 Sakwa stone structures: The interior partitions (stone lining)



Plate 4 Sakwa earthworks: The wall (Trench and earth-hill)

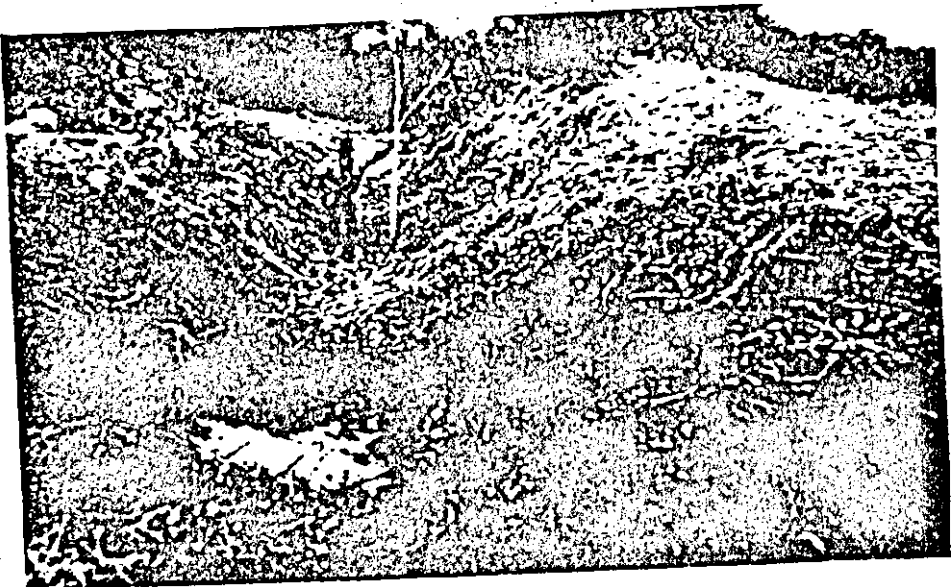


Plate 5

Thimlich: The wall

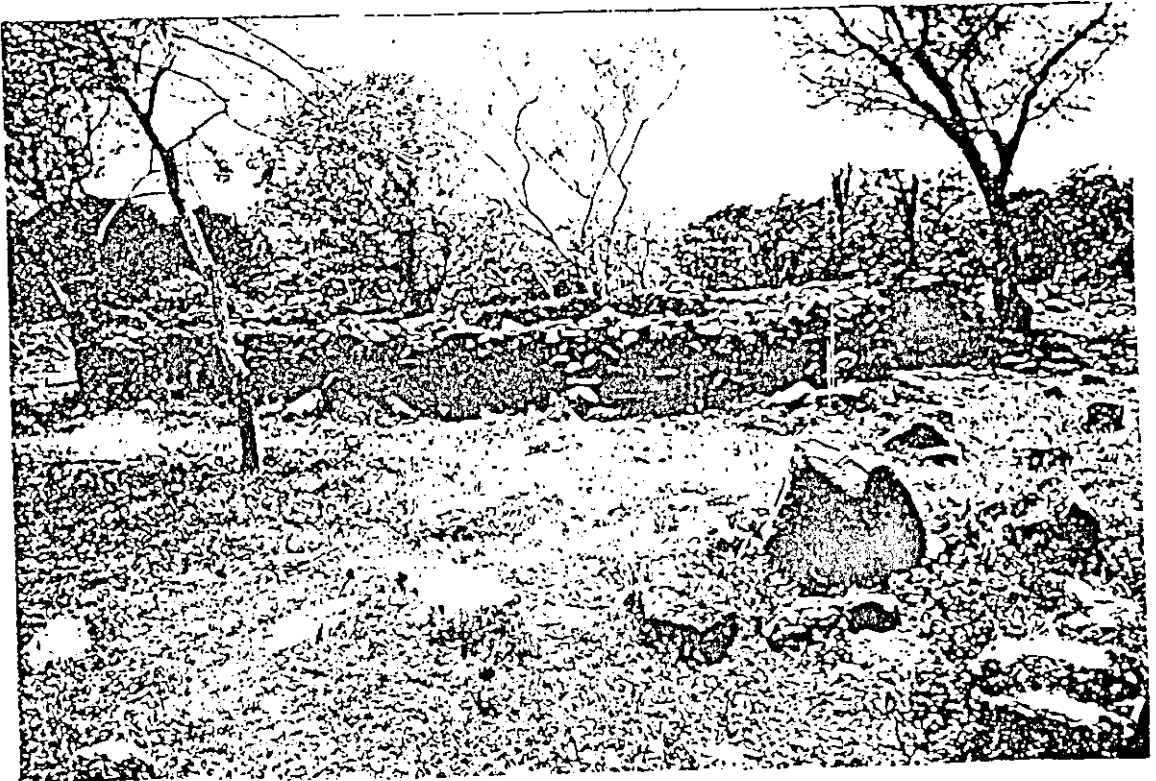
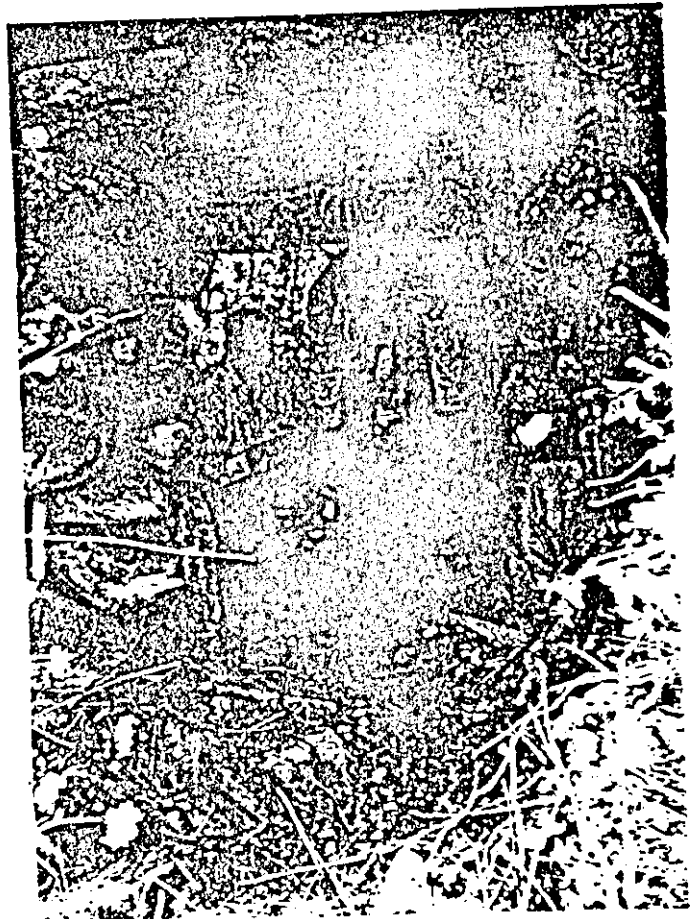
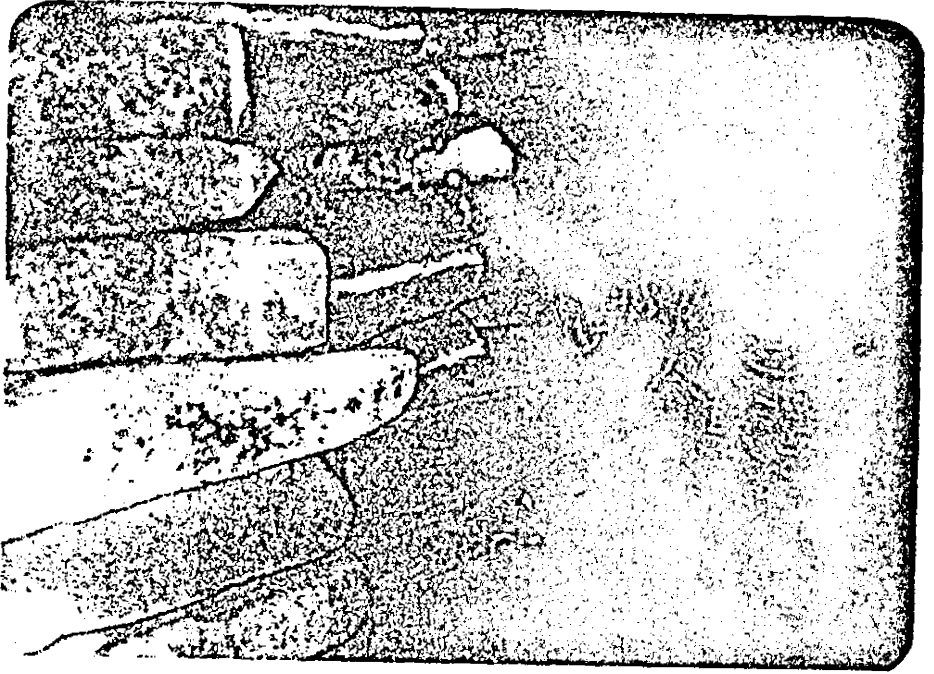


Plate 6

Thimlich: The entrance





Adapted from Onjala (1990)

**Appendix A**

This section presents a preliminary description of the Stratigraphy of Thimlich complex site (GtJb10) test excavated by Wandibba in 1986 in South Western Kenya, and surface elevations of Sakwa sites in North Kavirondo at which ceramic collections were made by myself between November, 1997, and April, 1998.

**Site GtJb10 (Thimlich)**

Site GtJb10 is Thimlich complex stone structure, situated in South Western Kenya, Nyanza Province. The excavation comprised four trenches namely trench 1, trench 2, trench 3 and 4 of various sizes and depth. A description of the excavation levels for the four trenches are summarised separately below;

**Trench 1:**

The excavation was laid out as a 2 x 2 trench and divided into 4 squares for a length of two metres eastwards and northwards, which were dug to a sterile level at a depth of 30 cm. The individual levels were distinguished the following characteristics:

0-10 cm: Black humus soil. Productive in cultural material.

10-20 cm: Brownish grey layer mixed with marram soil. A general decline in cultural material especially in cultural material especially in the northward direction.

20-30 cm: Greyish ashy layer mixed with little marram. The absence of cultural material at this level indicates that the sterile layer was reached.

**Trench 2:**

The excavation comprised a 4 x 1 m trench divided into four squares which were excavated to a sterile layer at 20 cm with exception of the third square (30 cm). The characteristics of the excavation levels are summarised below.

0-10 cm: Black humus soil. More productive in cultural material.

10-20 cm: Brownish grey soil mixed with marram. General decline of cultural material.

20-30 cm: Sterile layer with no cultural remains.

**Trench 3:**

The excavation was laid out as a 1 x 2 m trench, divided into 2 squares which were excavated to sterile layer at 30 cm. A description of the excavation layers is provided below..

0-10 cm: Black humus soil. Productive in cultural remains.

10-20 cm: Brownish grey soil mixed with marram.

20-30 cm: Grey ashy silt with little marram. A gradual decline of cultural material.

30-40 cm: Brownish silty layer with only one sherd indicating the sterile layer was reached.

**Site GqJa1 (Abiero)**

Site GqJa1 comprises one stone structure, situated on Gor Abiero hill in Bondo division, Siaya District. Surface collections of ceramic material comprised two sample subsections, namely GqJa1 A and B which were divided into two transects (2 x 10 m) in the South - North and East - West directions and further subdivided into 20 squares for each direction. The characteristics of the transects are presented below.

**GqJa1 A (South - North transects)**

The surface soil is predominantly brownish grey mixed sand, silt and marram. The

landscape is raised at the centre while gently sloping on either the southern or northern edges of the transects.

#### **GqJa1 A (East - West transects)**

The landscape is raised at the centre while gentle rolling on both the eastern and western end of the transects.

#### **GqJa1 B**

In the South - North transect, the surface soil is mainly brownish grey sand, silt and marram while the ground slopes gently northwards. At the East - West transects, the surface has similar soil characteristics as in the South - North transects while the ground slopes gently westwards.

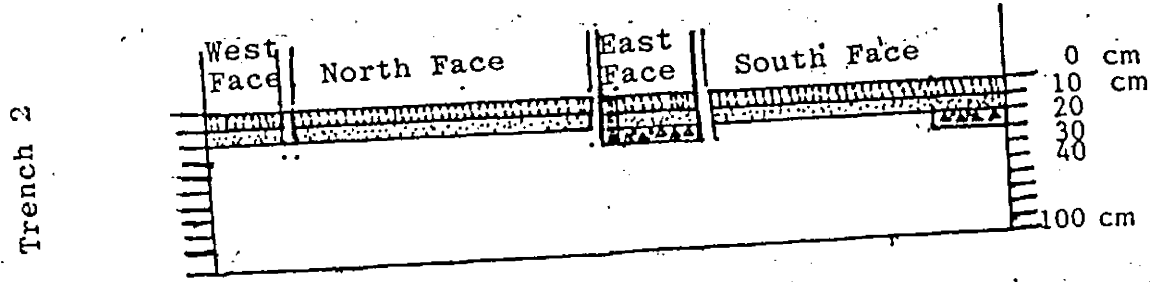
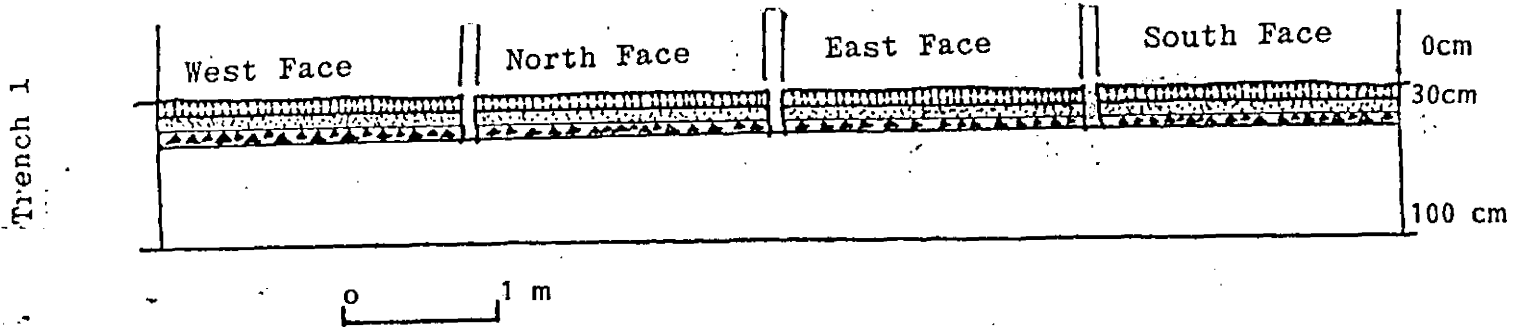
#### **Site GqJa2 (Orwa)**





Site GqJa2 is a stone-built structure located on the same geographical region as GqJa1. Surface collection of ceramic material involved two sample subsections, namely, GqJa2 A and B, representing two trenches in the South - North and East - West directions respectively, and each was divided into 100 squares. The surface soil is predominantly brownish grey sand, silt and marram. In the South - North transects, the surface slopes gently northwards while the elevation declines eastwards in the East-West transects.

#### **Site GqJa3 (Rasoti)**

Site GqJa3 is a complex stone-built structure situated on Rasoti hill, 800 metres south of GqJa2. Surface collection of ceramic material was made in five sample subsections namely GqJa3 A, GqJa3 B, GqJa3 C, GqJa3 D and GqJa3 E. The sampled subsections have similar surface soil material as Abiero and Orwa sites. All the subsections were divided into two transects (2 x 10) in the South-North and East-West directions which were further subdivided into 20 squares each. All the sampled areas are sloping northwards in the South-North transects while exhibiting relatively plain surface along the East - West transects. The Figures for the soil profile and surface sampled areas are presented below.

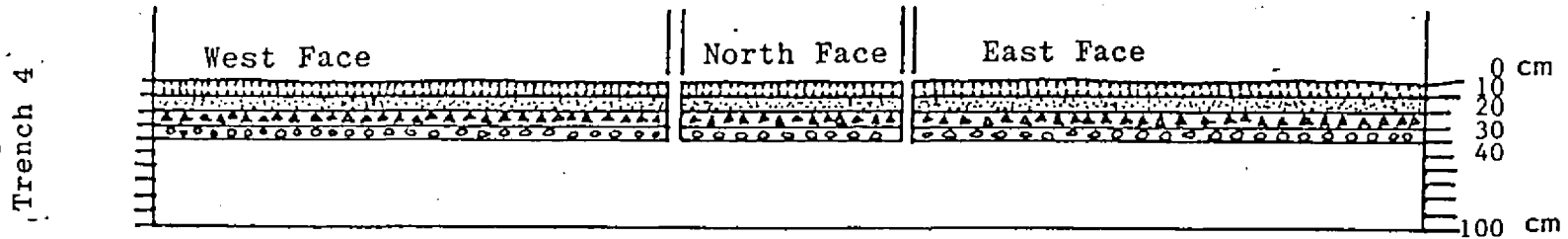
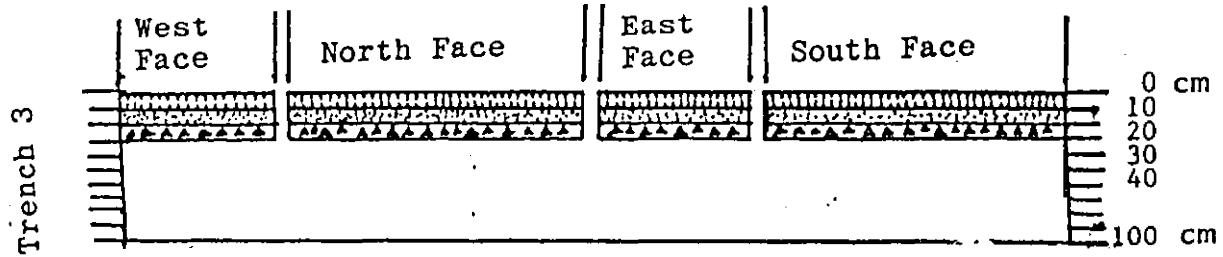
SECTION DRAWINGS OF THE WALLS OF TRENCH 1, TRENCH 2,  
AT THIMLICH (GTJB10)



-  Brownish grey layer mixed with murram
-  Black humus soil
-  Brownish silty layer
-  Greyish ashy layer mixed with little murram



SECTION DRAWINGS OF THE WALLS OF TRENCH 3  
AND TRENCH 4 AT THIMLICH (GTJB10)



Brownish grey layer  
mixed with murram



Black humus soil



Brownish silty layer



Greyish ashy layer mixed  
with little murram

## Appendix B

DATA SHEETS AND SAMPLE MEASUREMENT DEMONSTRATIONS OF SAKWA  
STONE STRUCTURES AND EARTHWORKS

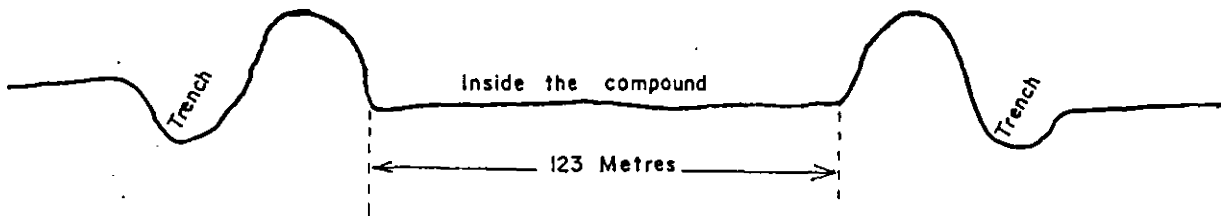
This section presents a demonstration of sample measurements of Sakwa earthworks and data sheets used in recording the various variables related to the stone structures in the study area, which are provided below:

Name of site	Plan of site	Site disturbance	Number of gates	Diameter	Wall size	Gate stability	Wall stability	Wall cursing	Associated material	Comments

Site name	House floors	Stone linings	Pillars	Kraal	Other features

KIPASI A

General Cross-Section of Kipasi A



Cross-Section View of Points of Measurements along Kipasi A  
(Average height)

Point 1



Point 2



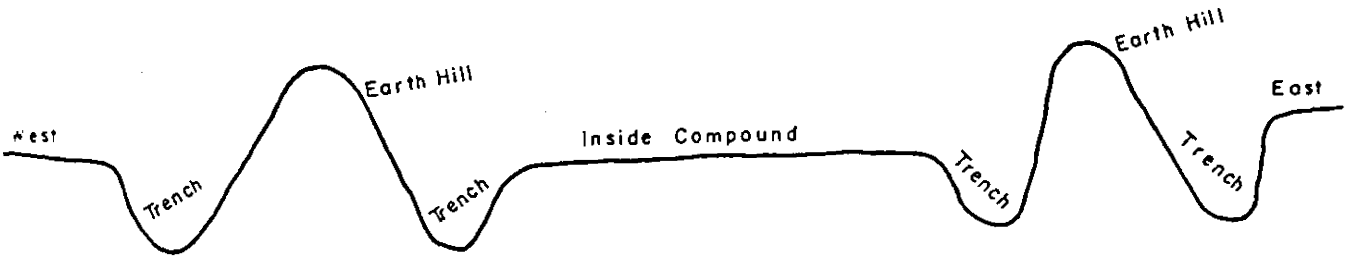
Point 3



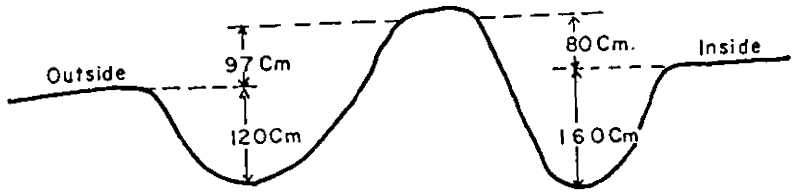
Point 4



Scale:- 1 : 100



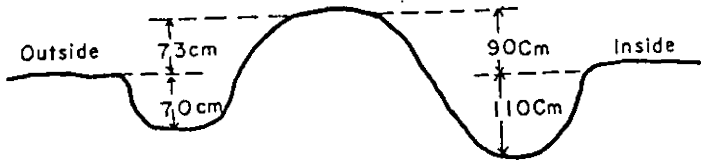
Point 1 (Eastern Side)



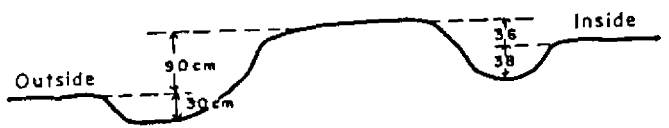
Point 2 (Southern Side)



Point 3 (Northern Side)



Point 4 (Western Side)



Scale: 1:100

Appendix C

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
C	SITE	TYPE	THICK	TEXT	TEMP	LIP	RIM	R.DIAM	V.FOM	DEC.P	ROTLET	SURF	IMPRES	
1	Rasoti	RIM	1-6mm	FINE	GRAPT	EXP	DIRECT	<15cm	BOWL	LIP	KNOT	FINE	PARA	
2	Orwa	NECK	6-10	MED	SAND	PLAIN	INCURV	>15cm	NECKED	RIM	COMP	MED	HORIZ	
3	Abiero	BODY	10-14	COS	I+2	FLAT	EVERT		NECKLES	NECK	CONV	COS	OBLIQ	
4	Thimlich	BASE	14+			TAPER	OUT.C			SHOLD	OVERLP	BURN		
5		LOP.H								BODY		S.APPL		
												BRUSH		

O	P	Q	R	S	T
C	GROOVE	INCIS	BAND	PUNCT	S.COLOR
1	SIMP.L	SIMP.L	PARA..L	SIMP.L	BLACK
2	PARA..L	PARA..L	PARA..R	PARA..L	BROWN
3					RED