International Journal of Historical Archaeology, Vol. 11, No. 2, June 2007 (© 2007)
DOI: 10.1007/s10761-007-0025-7

Mombasa Island: A Maritime Perspective

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Published online: 10 April 2007

Mombasa's strategic position on the Swahili Coast and fine harbours were key factors in its emergence as a prosperous city state during the early second millennium AD. These same attributes drew the attention of rival powers in the struggle to control the lucrative Indian Ocean trade network, particularly during the sixteenth and seventeenth centuries. Drawing from a rich legacy of cartographic and documentary sources created in the course of Mombasa's turbulent history, this paper presents the results of a coastal archaeological survey undertaken in 2001 as part of a wider collaborative maritime project.

KEY WORDS: Mombasa; coastal; Swahili; Portuguese; African archaeology.

INTRODUCTION

The East African coastline, extending some 3000 km from Somalia in the north to Mozambique in the south, has been a culturally dynamic region for centuries. Commonly known as the Swahili Coast, it forms a narrow strip reaching 20 to 200 km inland. Until relatively recently, Swahili cultural identity was considered to have its roots in the western migration of essentially Arab peoples. Ongoing studies, however, suggest that its origins are to be found in the emergence of a maritime-oriented subsistence among African communities, most of whom were Bantu-language speakers, living on the eastern seaboard (Horton and Middleton, 2000, p. 46). The process of this development is as yet poorly understood, but archaeological research has provided evidence for the exploitation of marine resources for food, and long-distance trading contacts at an early date (Helm, 2000; Horton and Middleton, 2000, p. 46). Recent research undertaken by Richard Helm in Mombasa's hinterland has shed new light on early farming

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settlement, as well as changes in subsistence patterns in the region. The rich resources existing in the hinterland presented opportunities for the growth of substantial trade networks, which, by the end of the first millennium AD, had created links between East Africa and other Indian Ocean territories, including India and the Arabian peninsula (Horton, 1996, pp. 415–419). During the following centuries autonomous regional city-states developed, accompanied by the building of stone towns characterising the classic "Swahili" civilisation (Kusimba, 1999, p. 35). Towns and ports flourished primarily on the basis of the control of incoming and outgoing merchandise, and in the course of time these prosperous centers attracted attention from speculative outsiders eager to expand their own wealth and power. Such intense activity, centred on competition for control of the Indian Ocean trade, has left a remarkable legacy in cultural remains. It has also resulted in the creation of a number of early maps, providing an important resource in reconstructing the historical landscape.

MOMBASA ISLAND

Central to the northern Swahili region is Mombasa, a small coralline island situated close to the Kenya Coast at 4°4′S and 39°43′E. It is about 5 km in length north-south by 4 km east-west, covering an area of about 14.5 km^2. The island's relatively sheltered position, with deep-water anchorages on its eastern and western sides, has rendered it an important and strategic trading center on the Swahili Coast for many centuries. Since the development of the railway in the later nineteenth century, Mombasa has been a gateway to the interior, and its western harbour of Kilindini is today Kenya's main port, and indeed one of the major ports on the East African coast (Maitland-Jones et al., 1985, p. 7).

The coastline is dominated by low coral cliffs, up to 20 m in height, serrated by small inlets, bays and promontories. The foreshore is largely composed of narrow coral platforms and some sandy beaches at the heads of the creeks. In spite of modern development, tropical vegetation, including mangroves, has survived in places on the coastal edge and foreshore. Soils are generally thin, in many places underlain by shallow coral bedrock. The interior of the island is predominantly flat, with few natural landmarks. At the northwestern side a shallow ford at low water connected the island with the mainland in the past; more recently this has been made into a wide causeway, which together with Nyali Bridge at the southeast, is used regularly by commuters. These are the only land-based access routes between Mombasa and the mainland.

THE SURVEY

Given its strategic location, with a known history of trading communications, political rivalries and colonization, it would be difficult to view any part of

Mombasa as anything other than a "maritime landscape." All aspects of the cultural heritage could be regarded as having been directly or indirectly influenced by association with the sea, and in many cases sites found on or near the shoreline have been deliberately placed to exploit the maritime potential.

In discussing approaches to the maritime archaeology of the East African coast, Breen and Lane (2003) have highlighted four predominant themes in the changing emphases on human interaction with the sea. The earliest of these was the harvesting of resources for food; later phases saw an expansion in trans-oceanic trade, followed by increasing militarization, eventually moving towards globalization in modern times. Much of Mombasa's archaeology demonstrates these wider general trends, for example in the development of medieval stone towns accompanied by an increase in imported ceramics, and in the building of coastal forts in the later sixteenth and seventeenth centuries.

Recent research in 2001 sought to investigate the nature and extent of the archaeology of the coastal and sub-tidal zones, as part of a long-term aim to develop a broader contextual picture of the island's maritime-related past. Concerns about the threat to cultural remains in the maritime environment, not least through commercial marine activity and coastal development in the region, have increased in recent years, accentuating the urgency to document the various aspects of this diminishing heritage.

A number of survey methods were applied to the coastal environment, including geophysical survey of the sub-tidal zone, followed up by diver inspection of the resulting anomalies, coastal mapping, and a program of field survey and excavation conducted on parts of the shoreline (see Breen and Lane, 2003; Forsythe et al., 2003, pp. 133–138). This paper is primarily concerned with aspects of the shoreline survey, the results of which are viewed as preliminary, providing a basis for further targeted research. An attempt is made to assimilate some of the observations and interpretations derived from the survey with pre-existing information about Mombasa.

Current knowledge of settlement on the island owes much to the contribution of four individuals: Hamo Sassoon, James Kirkman, Greville S.P. Freeman-Grenville, and Richard Wilding, all of whom undertook investigations on Mombasa, especially from 1970 onwards. A number of early maps are particularly valuable in reconstructing Mombasa's historical geography, together with accounts by explorers and traders. Only a few sources that can be positively identified as relating to Mombasa date to the period before the arrival of the Portuguese on the East African coast in the late fifteenth century. The most useful information is gleaned from sixteenth-nineteenth-century maps, charts, and documents, which offer invaluable insights into the historical geography of the island during this period.

The 2001 survey focused on areas considered to be of greatest potential, particularly on the shoreline adjacent to previously established settlement sites. Earlier research suggests that the coast from the new Nyali Bridge on the northeast,

moving clockwise around to Mbaraki Creek on the southwest, has been the main focus for habitation since early times. Historical sources also indicate that the area around the Makupa causeway on the northwest was of importance and a brief survey was carried out in that area.

The shoreline was divided into seven zones, of which Zones 5 and 7 were not investigated. It is to be hoped that the outstanding areas will be completed at a future date. It should be noted, however, that almost all of the shoreline along the western side of the island (Zone 5) has been heavily modified during twentieth-century port development at Kilindini.

The survey mainly involved systematic fieldwalking and rapid recording of archaeological remains in the inter-tidal zone, and, where possible, the coastal strip immediately above it. Sites included were wide-ranging and not restricted by date or scale, and examples reflecting this diversity are described below. Those mentioned in this paper are individually numbered according to the zone in which they are located: e.g., site number 3 in Zone 1 is identifed as MA 1.3 (Fig. 1 and Table I). In addition to sites observed during fieldwork, the archaeological database compiled to date contains a number of sites known only from documentary sources, and the precise locations of some of these could not be identified during the project.

HISTORICAL BACKGROUND

Settlement in the form of a substantial town existed at Mombasa from at least 1000 AD, and, although subject to change, it continued to flourish until the early sixteenth century. At least one other town, known as Tuaca, was in existence on the island between the twelfth and the sixteenth centuries (Sassoon, 1982, p. 94). Mombasa's location and its possession of good anchorages eventually made it a target for Portuguese fleets during the course of the sixteenth century, and it was burned by them on at least two occasions (Freeman-Grenville, 1962, p. 109; Strandes, 1899, p. 108). In the early 1590s the Portuguese made Mombasa a base from which to control the East African coastal trade, and apart from a brief period in 1631–2 they dominated affairs there, and at some other points along the Swahili coast, until they were expelled by the Omanis in 1698. A short-term reoccupation occurred from 1728 to 1729, but the Portuguese never again managed to regain their hold on the region (Strandes, 1899, p. 255). During the period of their occupation they established a settlement named the Gavana, a short distance south of the pre-existing town of Mombasa. They also constructed several churches and fortifications, including Fort Jesus, a monumental edifice which still dominates the coastline today. The village of Kilindini was formed in the early seventeenth century by the Thelatha Taifa or "Three Tribes" arriving from the mainland, and continued until 1837 when the inhabitants abandoned it and moved to the Gavana (Kirkman, 1982, p. 103; Strandes, 1899, p. 54). Mombasa was governed by the

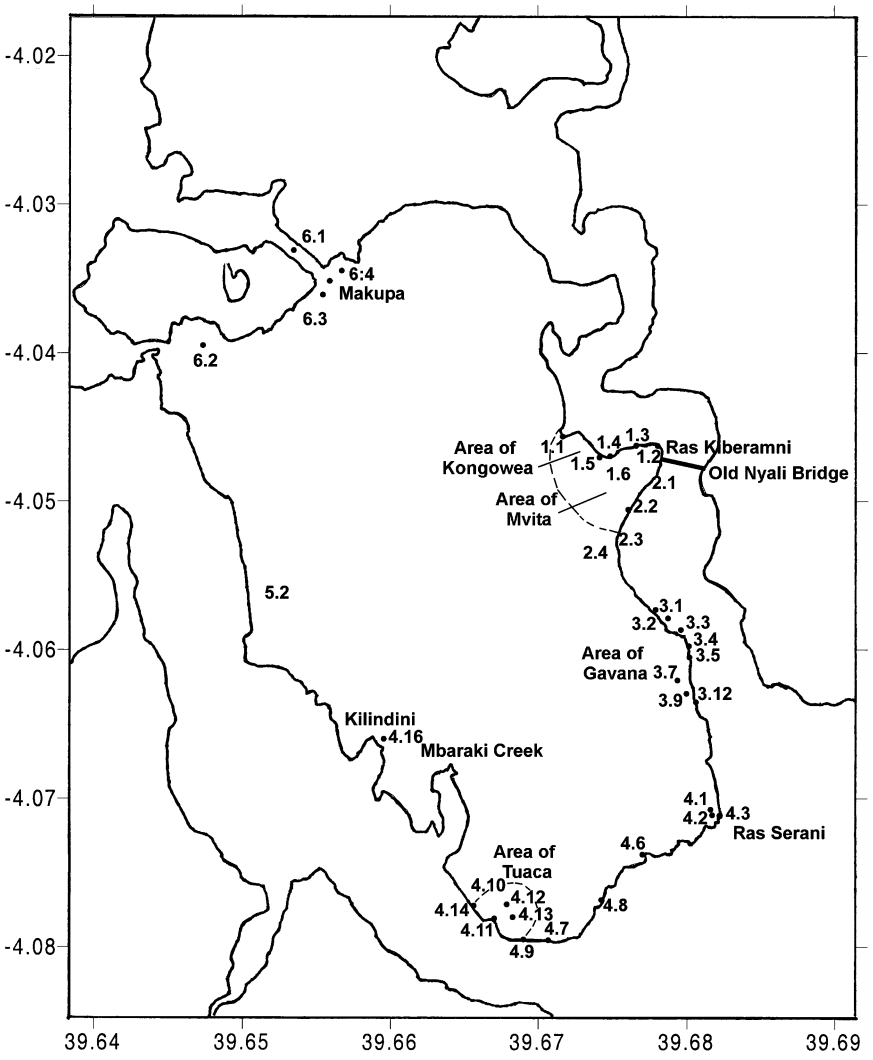

Fig. 1. Map of Mombasa showing indivdiual sites referred to in the text.

Mazrui dynasty from c.1735 until 1837, initially as representatives of the Imams of Oman, and later as independent rulers. At the request of the Mazruis in 1824, the island became an unofficial British Protectorate, which lasted only two years. After 1837 the Mazruis lost control of Mombasa to Sultan Seyyid Said of the Omani Busaidi dynasty, based on Zanzibar (Berg and Walter, 1968, pp. 57–59). The latter part of the nineteenth century witnessed further changes, when once

Table I. Key to Fig. 1

Site Number	Description
MA 1.1	pottery scatter
MA 1.2	natural landing place
MA 1.3	pottery scatter
MA 1.4	test trench excavated in 2001 in an area where pottery scatter was observed
MA 1.5	pottery scatter
MA 1.6	area of early Mombasa settlement (also known as "Kongowea" and later "Mvita")
MA 2.1	pottery scatter
MA 2.2	natural landing place
MA 2.3	pottery scatter
MA 2.4	Sixteenth-century town of Mombasa
MA 3.1	fishing center at Mkanyageni
MA 3.2	working fish trap
MA 3.3	disused fishtrap
MA 3.4	Leven steps and well
MA 3.5	old port
MA 3.7	Gavana Portuguese town
MA 3.9	Fort Jesus
MA 3.12	possible natural landing place
MA 4.1	Chapel of Nossa Senhora da Esperança (or the Hermitage)
MA 4.2	Portuguese Pillar (the Padrão)
MA 4.3	Portuguese Fort at Ras Serani
MA 4.6	Portuguese Fort: Fort St. Joseph (also listed as a landing place)
MA 4.7	working fishtrap
MA 4.8	natural landing place (not shown on the distribution map)
MA 4.9	Portuguese Fort: Horseshoe Fort
MA 4.10	medieval town of Tuaca
MA 4.11	pottery scatter
MA 4.12	pottery scatter
MA 4.13	test trench in Mama Ngina Grounds
MA 4.14	Portuguese Fort: Hexagonal Fort or Round Fort; also called Fort of the Anchorage
MA 4.16	settlement Kilindini or New Muscat
MA 5.2	Chapel of Our Lady at Tuaca (not precisely located)
MA 6.1	Makupa Ford
MA 6.2	chapel at Tuaca (not precisely located)
MA 6.3	portion of masonry wall
MA 6.4	Portuguese forts at Makupa

again Mombasa became part of the British East Africa Protectorate (including part of present day Kenya) in 1895. In 1906 the governmental centre of the Protectorate moved from Mombasa to Nairobi, until Kenya eventually gained independence in 1963 (Maitland-Jones et al., 1985, p. 7).

EARLY SETTLEMENT OF MOMBASA

Traditions of a legendary queen, known as Mwana Mkisi, who ruled the Royal city of "Gongwa" or "Kongowea" on the island, are preserved in late

eighteenth- or early nineteenth-century Swahili poetry (Abdulaziz, 1979; Taylor, 1891). Local folk memory supports the existence of an older settlement to the north of the present Old Town (Berg, 1968, p. 43; Sassoon, 1980, p. 6). Archaeological evidence for the early settlement in Mombasa (MA 1.6) depends largely on the work of Hamo Sassoon in the mid-1970s, which Richard Wilding had begun to build on prior to his untimely death in 1996. Large concentrations of pottery had been noted by Sassoon on the beach along the shore to the northwest of the old Nyali Bridge in 1974, and an opportunity for a brief investigation on land near the findspot arose in advance of a proposed extension to the Coast Province General Hospital in 1976 (Sassoon, 1980). The remains of a settlement, likely to have been occupied in the period between c. 1000 and c. 1200 AD, were uncovered in the lower levels of the site, showing no traces of any stone building. Dating of this phase was based on five radiocarbon samples and the identification of the ceramics, consisting of mainly local wares, some Sgraffiato (in circulation mainly between the early eleventh century and c. 1300; Sassoon, 1980, p. 37) being the only imported vessels found in the pre-stone wall levels.

The nature of the early settlement suggests that it may have been the one referred to by al-Idrisi in his *Geography of the World* dating to c. 1154 AD. Based on reports supplied to him by other seafarers, he described Mombasa as: "a small town of the Zanj and its inhabitants are engaged in the extraction of iron from their mines, and in hunting leopards . . . and this town is on the sea and on the edge of a big creek up which ships sail for two days. And they do not have any proper buildings, any more than do the wild beasts which live in the bush on either side of the creek" (Cerulli et al., 1970, pp. 59–60). The lack of "proper buildings" may simply have reflected an absence of stone structures to which the visitor would have been accustomed, and this would seem to concur with the discoveries in the earliest levels of the hospital site (Sassoon, 1980, p. 40).

Major changes occurred some time during the thirteenth century. Substantial coral walls were constructed (those excavated by Sassoon apparently forming roughly rectangular enclosures), accompanied by a marked increase in far-reaching trade contacts. Imported ceramics from the 1976 excavation assigned to this period accounted for around 30% of the total number found, including vessels from the Arabian Peninsula, India, and, presumably indirectly, from China. It would also appear that the Islamic faith was introduced early in this phase of settlement. The traveller Ibn Battuta visited briefly in c. 1331, and recorded his impression of fourteenth-century Mombasa: "We came to the island of Mambasa, a large island two days' journey by sea from the Sawahil country . . . its trees are the banana, the lemon, and citron. Its people have a fruit which they call jammun, resembling an olive and with a stone like its stone. The inhabitants of this island sow no grain, and it has to be transported to them from the Sawahil. Their food consists mostly of bananas and fish. They are Shafi'ites in rite, pious, honourable, and upright, and their mosques are of wood, admirably constructed" (Mackintosh-Smith, 2002, p. 90).

According to the Swahili popular poetry, and a relatively late manuscript dating to c. 1914, a ruler from the "Shirazi" Dynasty, named Shehe Mvita, was granted the city of Kongowea by the Sultan of Mtwapa (Berg, 1968, p. 42). While the literal acceptance of such narratives must be viewed with caution, folk memories remain strongly imprinted on the landscape (Berg, 1968, p. 44). The site of Mvita is traditionally located slightly further southeast of the hospital site, on the Ras Kiberamni promontory (Berg and Walter, 1968, p. 53), but there appears to have been substantial overlap with the earlier town of Kongowea. The building of the coral walls in the thirteenth century, recorded during the 1976 excavation and corresponding to the emergence of similar stone-built towns elsewhere, can be interpreted as an indication of cultural change in the occupation sequence of the town, possibly reflecting shifts in the power structures.

Further surface scatters of material, mainly ceramics, were found during the 2001 survey at various points along the shore on both the northern and southern sides of the Ras Kiberamni promontory (MA 1.1, 1.3, 1.4, 1.5, 2.1, 2.3, see Fig. 1 and Table I). A large proportion of the sherds on the northern side of the promontory were of local incised wares which are likely to date to the Later Iron Age (F. Munyao, pers. comm.). Sherds of Triangular Incised Ware or TIW (also known as Tana Tradition or TT), typically dating to between the eighth and eleventh centuries AD, were recovered from this area. These may prove to be the earliest archaeological material yet found on Mombasa, although more detailed analysis would be required to verify such a claim (P. Lane, pers. comm.). Finds of TIW/TT have also been made on Sand Island Beach, Tiwi, 20 km south of Mombasa (Davison, 1993, pp. 127–130), and on some sites in the coastal hinterland (Helm, 2000).

Imported pottery consisted mainly of Islamic blue and green glazed ware, with some Chinese and Islamic porcelain also present. Much of this imported ware appears to be consistent with sherds found in levels broadly dating from 1200 to 1500 AD at the 1976 excavation site. As part of the 2001 survey, a small trench (MA 1.4) was opened in an area of surface pottery scatter not far from the location of the hospital excavation site. The trench was laid out perpendicular to the break of slope at the base of the cliff, about 5 m above the high water mark. Excavation confirmed that the deposits, containing iron slag, beads, shell, and bone, in addition to ceramics, had been the result of hill wash from the top of the promontory. Again, the pottery assemblage corresponded closely to that found by the survey team on the foreshore to the north, and also contained some sherds of Chinese Celadon ware (c. 1100–1500 AD).

Similar ceramic material was recovered along the shore to the southwest of the old Nyali Bridge. It was observed, however, that here the collection generally contained a higher proportion of imported wares, only one sherd being of local manufacture, suggesting, perhaps, that the southern side of the town had been more affluent than that to the north.

Taking these pottery scatters as a whole it would appear that the medieval settlement represented by the hospital site was of considerable size, extending at least across the entire area of the Ras Kiberamni promontory. This corroborates Sassoon's (1980, p. 8) observations that the town continued to the sea on both sides of the headland, based on an eyewitness account in 1505. He also noted that the northern limit of the town was defined at that time as a "ravine" which he interpreted as the small inlet to the north of Ras Kisauni. Early sixteenth-century population estimates for Mombasa town ranged from 10000 to 30000 (Berg and Walter, 1968, p. 51). Whether or not these figures are reliable, they do imply a substantial concentration of settlement at that time.

THE TOWN OF TUACA (C. TWELFTH-SIXTEENTH CENTURIES)

Little is known about a second medieval town named Tuaca (MA 4.10), said to have existed on the southern side of the island. It appears to have been a substantial walled town in the vicinity of what is now a public amenity containing many ancient baobab trees on Mama Ngina Drive, and evidence for its existence is discussed by Sassoon (1982, pp. 93–94). Ceramic finds in the area indicate that Tuaca had been inhabited at around the same period as the later phase of the town near Ras Kiberamni (i.e., between the twelfth and the sixteenth centuries) after which it seems to have been abandoned. It is possible that the Portuguese actually destroyed it, but if so, it is surprising that they made no reference to the event. It is not shown on an oblique pictorial view of the island dating to c. 1572 (Table II), however the ruins of a deserted settlement were recorded by Gaspar de S. Bernadino in 1606 (Freeman-Grenville, 1962, pp. 156–157), and Rezende's map of c. 1634 shows an empty walled enclosure to the south of Mbaraki Creek.

Godhino de Erédia's plan (c. 1615–25) designates "Tuaca" next to a single building, along with the adjacent harbor named "Barra de Tuaca." Most of the later references to Tuaca evidently pertain to the harbor rather than the town. Some remains were upstanding until at least 1912, when they were observed by a judge investigating a territorial claim. He described the ruins as part of "a very considerable and well built town with a wall around it" (Sasson, 1982, p. 93). At that time much of the circuit of the wall could be traced between two small Portuguese forts (MA 4.9 and 4.14), along with "numerous buildings" clearly visible to a distance of 274–366 m (300–400 yd) from the shore (Berg and Walter, 1968, pp. 55–57). A pillar inside the walls may have been that described by the Portuguese in 1593 as nine fathoms high and built of stone, with two apertures in the middle. It was considered by them to be a useful navigational marker at the entrance of Tuaca Harbour (Gray, 1947, p. 21).

Other features observed by Sassoon during the 1970 s include occupation deposits and a stone-lined latrine pit on the road to the Likoni Ferry terminal.

Table II. Maps of Mombasa

Date	Author	Details
1572	Anonymous	Aden/Mombaza/Quiloa/Cefala, engraving (possibly by Georg Hoefnagel (1543–1600)) included in *Civitates Orbis Terrarum* by Georg Braun and Franz Hogenberg, Cologne.
1586	André Thevet	Nombaze [Isle de Mombaze]. In Grand insulaire et pilotage d'André Thevet, M. Pastoureau, Les Atlas français, p. 489, no. 85. Bibliothèque Nationale de France.
c. 1615–1622	Manuel Godhino de Erédia	Anonymous map in Atlas-miscelânea by Manuel Godhino de Erédia, c.1615–c.1622, Colecção de (Collection of) Dr. C.M. Machado Figueira, Lisboa. c. 1615–25, Folio 89 v (Plate 420B).
1636	Pedro Barreto de Rezende	Pictorial plan of Mombasa as it was in 1632, drawn by Pierre Berthelot and compiled by Antonio Bocarro at Goa in 1635; revised by Pedro Barreto de Rezende. Attached to Rezende's Livro do Estado da India Oriental in the British Museum (1646). Reproduced from Sloane Ms. 197 British Library.
1705	Pierre Mortier (1661–1711)	Carte Particulière De La Mer Rouge & c. Levée Par Ordre Expres des Roys De Portugal. Amsterdam. Libraire sur le Vygen Dan. (Displayed in Fort Jesus Museum, Mombasa).
	António Bocarro?	O livro das plantas de todas as fortalezas, cidades e povoações do estado da India Oriental. 3 vols.
1728	Alvaro de Cienfuegos	Plan of Mombasa & Fort Jesus by Alvaro de Cienfuegos (1728) in Junta das Missóes Geograficas E de Investigacoes d Ultramar Lisbon (To illustrate the successful expedition of Luis de Mello which led to the recovery of the fortress)
1728	José Lopes da Sa.	Plan of Mombasa Island, A. IRIA Da Navegação Portuguesa No Indico no Século XVII.
1728	António de Brito Freyre	From the Journal of António de Brito Freyre, Biblioteca National, Lisboa.
1748	Nicholas Bellin the elder (1703–1772)	Carte de l'Isle de Monbasa, Situeé a la Coste Orientale d'Afrique par 5 degrés de Latitude Meridion. Tiré du Pilote Anglois.
Uncertain, probably eighteenth century	Harmer, T. (17–18)	Plan of Mombass on the east coast of Africa, Dalrymple, Alexander (1737–1808), 1781. Bibliothèque Nationale de France.
1824	Lieuts. W. Mudge, T. Botelier, and Owen, R.	Admiralty Chart: Island and Ports of Mombaza (Published 1827). (Hydrographic Office, Taunton, Somerset)
1876	Lieut. C.E. Drake, Com^{r} H Boy[e] and Act. Sub Lieut. P. W. Murray	Admiralty Chart: Port Mombaza: Sketch Survey by Nav^{g} Lieut. C.E. Drake, assisted by Com^{r}. H. Boye, and Act. Sub Lieut. P. W. Murray, HMS "Philomed," 1876. (Hydrographic Office, Taunton)

A gravestone possibly associated with a ruined mosque in the town is known to have had an inscription date of 1462 (Gray, 1947, p. 21). A number of additional features were recorded in the Tuaca area during the 2001 survey. Around the Likoni Ferry terminal area (MA 4.11), local and imported ceramics were picked up along the base of the western side of adjacent cliffs, but detailed investigation was hampered here by waste pollution. To the east of the ferry ramp a large terrace had been machine excavated, presumably to prepare a site for new buildings. About 15 m of the cliff had been cut into, and several portions of stone wall were visible in the exposed section. The most complete of these measured about 1.75 m in height, and a large sherd of Celadon ware was found in an associated context. The cliffs here are quite soft, and some erosion may have occurred over a prolonged period, but the indications are that the medieval town buildings stood close to the cliff edge, and a considerable amount of the archaeology has already been destroyed by this small-scale development. Sassoon (1982, pp. 93–94) also noted a small surviving portion of Tuaca wall near the Likoni Ferry roundabout.

An abundance of medieval ceramic material was observed during field walking in 2001 in the area corresponding to the described location of the old Tuaca settlement. This was particularly notable in a portion of ground used by stallholders near the bus terminal, and along the surfaces of paths in the Mama Ngina grounds (MA 4.12).

A small test trench (measuring 1 m square) opened in the baobab park on Mama Ngina Drive (MA 4.13) revealed the buried remains of coral walls indicating two phases of construction. Traces of plaster were visible in the earlier of these horizons. Excavation was terminated at a depth of 0.8 m, at a point where the amount of exposed masonry within such a confined space prevented further removal of surrounding deposits. Both local and imported pottery was evident throughout all contexts, but the imported ware constituted only 3% of the total ceramic content. Imported pottery consisted mainly of glazed green or blue Islamic wares and some Chinese Celadon.

SITES ASSOCIATED WITH THE PORTUGUESE PERIOD (C. 1500–1730)

When the Portuguese arrived on the East African coast, Mombasa was evidently a flourishing trading center with a large town, walled on the western, landward side. According to Hans Mayr, who accompanied the Europeans in 1505, it contained narrow streets and more than 600 houses, a proportion of which were of three-storeys with balconies. A number of the houses were built of stone, apparently with attached wooden structures (Freeman-Grenville, 1962, pp. 108–109). The harbor entrance was guarded by a stronghold possessing “many guns,” but this was at least partially burned by Francisco d’Almeida, the commander

Fig. 2. Plan of "Mombaze" c. 1586, included in Grand insulaire et pilotage d'André Thevet, M. Pastoureau, Les Atlas français, p. 489, no. 85; Bibliothèque Nationale de France.

of the Portuguese fleet (Freeman-Grenville, 1962, p. 108). During this visit the town was also burned, but a more complete destruction, again by the Portuguese, occurred in 1528 when Mombasa's ruler failed to pay tribute. It was soon rebuilt, possibly a short distance to the south of the previous site as suggested on a map by Rezende in c.1634 (MA 2.4; Fig. 3). This shows the settlement to the south of Ras Kiberamni promontory, while the promontory itself appears to be almost devoid of buildings (Sassoon, 1980, p. 40). Two features outside the main settlement may represent mosques. The 1976 hospital excavation site indicated that almost all the walls (mentioned above) had been robbed to base level, and these may have provided the materials for the rebuilding of the town.

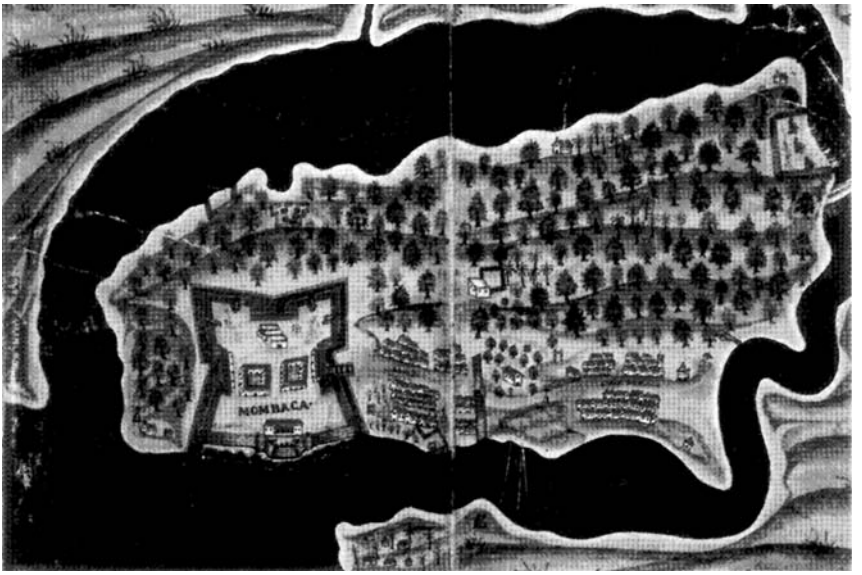

Fig. 3. Rezende's Plan of Mombasa c.1634,) reproduced from Sloane Ms. 197 British Library.

A map dated to c. 1586 by French cartographer André Thevet (see Fig. 2) depicts several buildings outside the town. Interestingly, Thevet designates a large structure to the northwest, possibly on Ras Kiberamni or Ras Makamaiwe, as a "Forteresse," probably constructed to guard the northern side of Mombasa Harbour and anchorage. A "Magazin" and two other buildings also feature in this area on the 1586 map.

After 1593, when the Portuguese decided to establish a base on Mombasa Island, in preference to their original one at Malindi (Bradley, 1973), changes occurred in the landscape. A major fortification named Fort Jesus (MA 3.9) was constructed overlooking the entrance to the old harbor area (see Kirkman, 1974). Several smaller fortifications were erected along the southern part of the island to protect both harbors, and further forts overlooked the Makupa Ford at the northwest.

The Portuguese colony formed a new town called the "Gavana," a distinct settlement (MA 3.7) lying between Fort Jesus at the south and the existing town of Mombasa, and six churches at various locations on the island. Reconstructing the precise layout and location of these seventeenth-century features is difficult, but it is possible to ascertain approximate siting from three plans: Rezende's plan of c. 1634, (see Fig. 3), that by Alvaro de Cienfuegos (1728, see Table II), mainly showing military installations, and a more detailed though proportionally inaccurate plan by Lopes da Sa, also dating to 1728 (Fig. 4).

Fig. 4. Map of Mombasa Island 1728 by José Lopes da Sa. A. IRIA Da Navegação Portuguesa No Indico no Século XVII.

GAVANA

Most of the old Portuguese town has been obscured or destroyed by urban development through the years. It is said to have consisted of one main street known as La Raposeira or "Foxhole" (now known as Ndia Kuu), although a report in 1710 refers to another street named Rua do Padre Juliares (Strandes, 1899, p. 240), probably that shown on da Sa's map (see Fig. 4), and partially corresponding to Mbarak Hinawy Road today. Several buildings are depicted by da Sa in the Gavana area: the Augustinian convent of St Anthony's, the Church of

the Misericordia, and a smaller building, designated on the accompanying key as "Arab Custom House," all lying to the east of the main street. Two large buildings identified in 1728 as warehouses lie to the west. A hospital is also mentioned as having existed in Mombasa in early seventeenth-century Portuguese records, but no details are given as to its location (Strandes, 1899, p. 154). It may have been associated with one of the churches. Maps by Godhino de Erédia (c. 1615–25) and, a century later, Cienfuegos, show the Gavana surrounded by a wall. Da Sa, who does not depict any wall here, may have selected only the most prominent features for representation, or alternatively could be reflecting the general condition of the long-abandoned Portuguese settlement when he was recording the landscape. The Gavana town wall was later augmented during the Mazrui administration in the early nineteenth century (Gray, 1957, p. 20). Kirkman noted in 1971 that coral blocks had been exposed in a fire-damaged house in MacKenzie Place, and may originally have been part of the Church of the Misericordia (see Strandes, 1899, p. 300). Further walls uncovered at different times on MacKenzie Street were considered to have possibly been associated with the Augustinian Convent (Strandes, 1899, p. 301), although other sources suggest the Mazrui Cemetery as its possible location (e.g., Freeman-Grenville, 1980, p. xxxix).

OTHER PORTUGUESE SITES

Rezende (see Fig. 3) shows three other churches outside the Gavana; the precise locations of the Chapel of Our Lady at Tuaca (MA 5.2) and a chapel at Makupa are not known, and the latter may have been destroyed in advance of the construction of oil storage tanks. The third church is the Chapel of Nossa Senhora da Esperança (or the Hermitage, MA 4.1), also shown by da Sa at Ras Serani. According to Fr. João of Jesus this church was destroyed after the uprising in 1631 when the Portuguese were expelled (Freeman-Grenville, 1980, p. 97). At least part of it, however, must have survived until the 1930 s, as some remains were reported to have existed until that time (see Strandes, 1899, p. 303). No trace of the Hermitage is visible today, but the site, now an open space just above the cliffs at Ras Serani, is still used for prayer by Christians.

Early sixteenth-century accounts mention fortifications at the harbor entrance, likely to have been somewhere in the vicinity of Ras Serani, or perhaps where the Mombasa Club now stands (Freeman-Grenville, 1962, p. 108; Strandes, 1899, p. 301). Two small batteries in a similar location appear to have been built by the "Turks" (i.e., Ottoman) in the 1580 s to guard the port entrance (Poumailloux, 2000, p. 139; Strandes, 1899, pp. 130–131). These early structures have since been destroyed. The Portuguese subsequently built a fortification at Ras Serani (MA 4.3) for the protection of the harbor entrance. Removal of stones from both the Portuguese church and fort there is recorded in the diary of Lieutenant J. B. Emery, Governor of Mombasa during the British Protectorate, in April 1826 (Gray, 1957,

pp. 124–125). Emery used the sites as a stone quarry for building a landing stage at the "Leven Steps" near the custom house at Old Port. The remnant of the fort was repaired soon after by the Mazrui (Gray, 1957, p. 176), and is still in good condition, with masonry standing to the roof level.

A white marble pillar surmounted by a cross, erected by the Portuguese commander Francisco d'Almeida in 1505, and known as the Padrão (MA 4.2), was also located at Ras Serani. It was described by João de Barros, in his account of d'Almeida's expedition, as the thickness of a man's thigh and two fathoms high, with a "headstone" decorated on one side with a child wearing a laurel crown, and on the other by a shield of hope (Gray, 1957, p. 90). Judging by the Padrão's inclusion on an Admiralty Chart, it appears to have survived until at least 1876 when it was recorded as a "pillar 15 ft.", but no surface evidence can be traced today.

Additional Portuguese forts were constructed along the southern side of the island to augment Fort Jesus in protecting the harbors. Fort St. Joseph (MA 4.6) has been misidentified as the Ras Serani fort, but is actually a ruin situated on a golf course. It comprises a sub-rectangular platform with surviving masonry on the north and east. The "Horseshoe Fort" (MA 4.9) lies about 1 m from the cliff edge at Ras Mzimba and is well-preserved, measuring 17 m by 7.8 m. The wall is indented with five cannon embrasures, all facing the sea, and the structure is well placed to cover the approach to Kilindini Harbor. The "Hexagonal" or "Round" Fort (MA 4.14), designated "Fort of the Anchorage" by da Sa, was destroyed during the twentieth century to make way for a coal wharf. Its location was described by Sasoon (1982, p. 93) as about 365 m south of Mbaraki Pillar (a monument standing on the south side of Mbaraki Creek).

MAKUPA FORTS

Three forts (MA 6.4) near Makupa Ford (MA 6.1) were built by the Portuguese in 1614 (Strandes, 1899, pp. 145–146), and reinforced in 1633 (Boxer and Azevedo, 1960, pp. 99–100). It had been decided that, during peacetime, these forts would be garrisoned by soldiers of the king of Mombasa (Strandes, 1899, p. 146). A description written in 1634 by Pedro Barreto de Rezende, secretary to the Viceroy, tells us that they were "erected in a quadrangle," and that their function was to protect the island from raids carried out by the "Muzungullos," a people living on the mainland (Freeman-Grenville, 1962, p. 177). The central building was the largest of the three, being two storeys high with a flat roof, and capable of holding at least sixteen men. The two flanking forts were also of two storeys, but only about half the size of the principal fort. They each stood at a distance of a "musket-shot" from the latter. In addition, Rezende described a wall of sun-dried brick, built by the Mombasans. This stood close to the forts and served the same purpose. During the 2001 survey a portion of masonry (Fig. 5; MA 6.3) showing

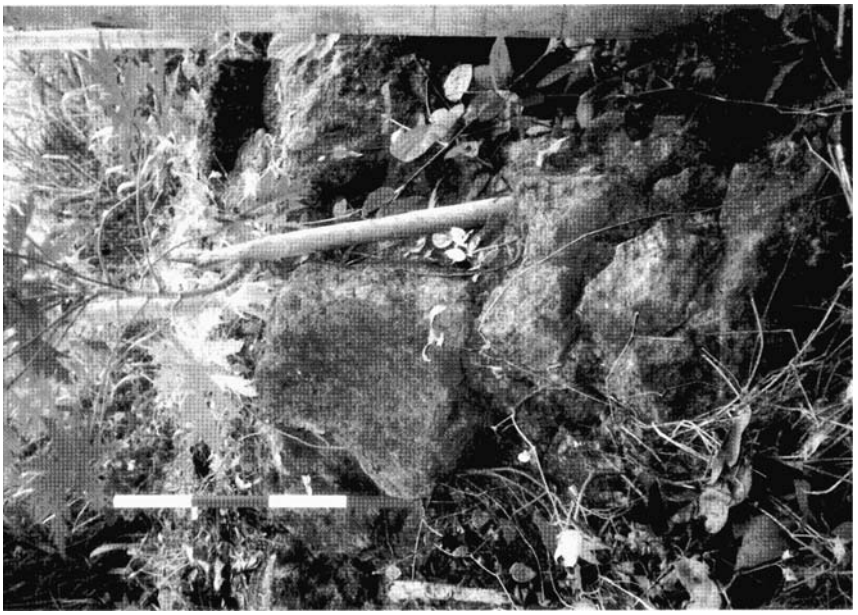

Fig. 5. Portion of coral wall near Makupa Bridge.

traces of lime mortar was observed on the side of a steep, north-facing slope to the west of the road leading to Makupa Bridge. The feature lies in a generally overgrown area not far from the shoreline, and consists of rough coral boulders piled up against a natural outcrop to form a wall. The artificial element alone stands 1.3 m high, and the wall is approximately 0.9 m thick. Without excavation it would be impossible to determine the date of the wall, or whether it might have been associated with any of the forts. Admittedly, its position on the side of a slope seems an unlikely one for a fortification, and it would perhaps be more reasonable to consider it as possibly part of the "quadrangle" wall mentioned by Rezende—presumably that depicted on the 1634 plan, enclosing the landward sides. Eleven apparent buildings are shown clustered around the area of Makupa Ford on an eighteenth-century map by Harmer, which may provide an alternative explanation for the wall.

LANDING PLACES

In 1824, Captain W. Owen, British commander during the Protectorate, commented on Mombasa's "steep rocky shore, in many places rendering wharfs unnecessary, and in others forming a shelving sandy strand, where vessels can be hauled up and careened" (Owen, 1833, Vol. I, p. 412).

An eyewitness during the sack of Kilwa by the Portuguese in 1505, related that sewn plank boats as large as 50-ton caravels were beached, and dragged back down to the sea whenever required (Freeman-Grenville, 1962, p. 106). Large ships generally seem to have anchored in the deep water harbors around Mombasa and long-boats used to come ashore. However, João de Barros, in his account of the 1505 attack on Mombasa, reported that, in order to surprise the defending inhabitants, the smaller ships of the Portuguese fleet came close to land, and disembarkation was effected by placing planks across to the overhanging shore at high water (Freeman-Grenville, 1962, p. 98). A number of firm, sandy beaches and bays, where boats could be hauled up without much difficulty, were observed in the intertidal zone during the 2001 survey. Those at proximity to early settlement areas are likely to have been in use as landing places throughout every phase of occupation, and are of particular interest. One example is a wide band of sandy foreshore on the northern side of Ras Kiberamni (MA 1.2), part of which is currently a dhow repair yard. It is likely that this would have been utilised as a landing place by the inhabitants of Mvita in the medieval period. In more recent times the Lisauni ferry linking the eastern side of the island to the mainland was formerly situated here. On the southern side of Ras Kiberamni a stretch of beach (MA 2.2) would also have provided a suitable natural landing place.

A small, arc-shaped, sandy inlet (MA 3.12) in the coral cliff, about 100 m south of Fort Jesus, has the appearance of a possible landing place at high water. Its location, however, seems to be a little further north than the prospective landing place described by an anonymous writer in 1631 as a "Creek below the Church of Our Lady of Guidance . . . the nearest point to the fortress [Fort Jesus]." Landing there proved ultimately too difficult for the Portuguese, at least on that occasion, because of the breaking waves, so they brought the vessels to an unspecified wooded part of the coastline (Freema-Grenville, 1962, p. 107). Two other potential landing places were noted along the southern part of the island: one a small inlet near Fort St. Joseph (MA 4.6), and the other a natural break in the coral not far to the east of Ras Mzimle (MA 4.8). Kirkman (see Strandes, 1899, p. 301) mentions that Pue ya Mbaraki, an inlet of Kilindini Harbor, is considered to have been the best place for careening dhows, but a slipway was later constructed here for the African Marine Company. As has already been noted, much of the shoreline along the western side of the island has been altered throughout the twentieth century by the development of the main port at Kilindini. This side of the island has long been considered the better of the two harbours, providing anchorages for ocean-going vessels of up to 13 m draught. Sixteen deep water berths and a number of other berths, two dry docks for ship repairs, and a total quay length of 3044 m form part of the current port facilities extending some three miles (Port of Mombasa website).

The Old Port of Mombasa (MA 3.5) is still in use by smaller coastal trading dhows. An intensive seabed survey using high-resolution geophysical equipment was conducted in 2001, targetting an area of approximately 1.5 km^2 on the eastern

side of the island. Bathymetric data collected indicated three deep-water basins in the main channel between Mombasa and the mainland. The deepest of these (at 50 m) lies to the east of Ras Kiberamni, while those adjacent to Old Port and Fort Jesus possess depths of 38 m and 40 m respectively (Forsythe et al., 2003, pp. 134–135). Side-scan sonar survey revealed 49 anomalies on the sea-bed, 24 of which were later inspected by divers. These included bridge components, wrecks and fishtrap foundations. The best known of the wrecks in this area is the Portuguese vessel the *Santo Antonio de Tanna* (lost in 1697) below Fort Jesus, which was excavated by the Institute of Nautical Archaeology in the 1970 s (Piercy, 1977, 1978, 1979, 1981). The seabed survey also showed that the location of the Old Port coincides with a large gap in a coral reef fringing the shore of the harbor area. This, together with the presence of the deep-water basin, undoubtedly influenced the siting of the port at a point where vessels could enter and leave safely (Forsythe et al., 2003, pp. 134–135).

At the time of the 2001 survey, construction was already underway on concrete jetties, the older stone ones having been abandoned and partially dismantled. All new work being carried out at the Old Port uses concrete, and much of the older stonework has been covered by it.

One of the most prominent surviving structures along the waterfront of the Old Port area is the wharf and well at the Leven Steps (MA 3.4). It was built by Lieutenant J. B. Emery, British governor of Mombasa in 1825, using stones from the above-mentioned fort at Ras Serani (MA 4.3) (Gray, 1957, pp. 124–125; Hoyle 2001, 193). The project served a two-fold purpose: it provided facilities for vessels loading and discharging cargoes, allowing them to take on fresh water close to the town, and it provided training and paid employment for recently freed slaves, aligning with the objectives of the British establishment in East Africa at that time (Hoyle, 2001, p. 193). A substantial amount of rock had to be blasted out of the cliff below the Leven House to create a level platform and to sink the well. Emery also mentioned the construction of a jetty (presumably of wood) extending from the wharf (Gray, 1957, p. 123) but this is no longer extant. The wharf is about 17.5 m in length by 7.3 m in width, and stands approximately 2.3 m above the foreshore. The stone steps are in poor condition, and many of the stones have become displaced. The entire site is in urgent need of conservation to prevent further deterioration.

FISHING

Fishing still plays a major role in the lives of Mombasans, using equipment deployed from boats and foreshore trapping. Although traditional fishtraps can be seen in places, local fishermen believe that these may disappear within a few years, as they are expensive and time-consuming to maintain. They are generally privately owned by local families. One example of a very small number of stationary working fishtraps (MA 3.2) lies in the area of the Old Town. This part of the shoreline is

considered very suitable for trapping because of the wide intertidal zone. The trap or *Usio* is arrow-shaped, extending approximately 30–40 m from the high water mark to the low water mark, and is composed of three elements: a line of closely spaced posts running seaward, an arrow-shaped arrangement at the seaward end, and within the arrow, a circular trap with a small opening. The structure comprises strands from the *Minyaa* (doum) palm woven between upright *Fito* (i.e., poles cut from mangroves). Fish are normally trapped twice per day at low water, but the catch depends greatly on the currents, tides, and seasons. Monsoon season is considered to be the best time for fishing, when catches are generally larger. Many types of fish are trapped, but the most common are *chewa* (rock-cod) and *simu* (sardines). A disused fishtrap (MA 3.3) of similar construction, but using nets instead of woven strands, is located a short distance south of MA 3.2, and would appear to have gone out of use a relatively short time before the 2001 survey.

MA 4.7 is another example of a working trap, located to the south of the Oceanic Hotel. This is slightly different in configuration, having an opening at the apex of the arrow, leading into a sub-circular setting that closes off the trap. Contained within this is a smaller, similarly-shaped trap. This arrangement has similarities to fishtraps found in Al-Bahrain, known as *Hadrah*, and the type may possibly have been transmitted through trading, or other forms of contact between the two regions (see Serjeant, 1968, pp. 490, 497). Such traps were common around the shores of Mombasa until relatively recently, but many have now disappeared or are in a very dilapidated state. A number of traps are known to have existed in Zone 2, between Ras Kiberamni and the Old Town, but no trace of these remains today.

The artisanal fisheries also employ vessels ranging from dhows to small canoes in the coastal waters around Mombasa. Mkanyageni, an area just to the north of the Old Town (MA 3.1), is a fishing center for a small group of fishermen who still use traditional craft. Boats observed here during the survey included small dugout canoes known as *mtumbwi* made from hollowed-out mango trees, and *mahori*, consisting of dugout bases with planks added to heighten the sides. Nets and spears are employed for fishing the nearby channels. Small octagonal basket traps or *ema* made from woven palm leaves are also commonly used (Fig. 6). These vary in size, up to c. 1.5 m in width, and are similar in function to European lobster-pots. They are weighted with stones and dropped from boats onto the seabed where small fish and lobsters, lured by bait, enter a small opening and are trapped.

CONCLUSION

Much work remains to be done to gain a fuller picture of Mombasa's development. While such a short-term project as ours has been unavoidably subject to limitations, it has successfully served to highlight some potential areas that would benefit from more detailed investigation of the landscape in its maritime context.

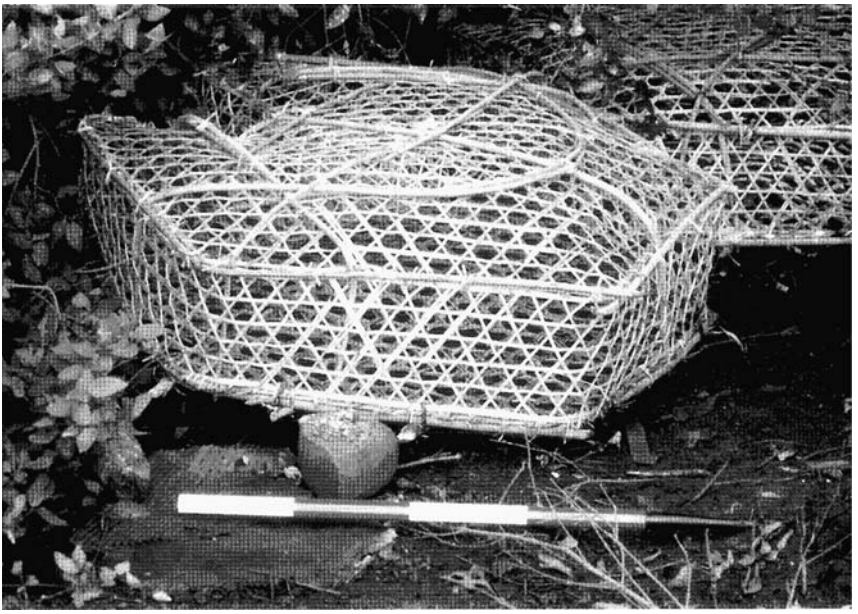

Fig. 6. Woven basket trap (*ema*).

A significant proportion of the island has been altered to a large extent by development throughout the twentieth century, but in spite of this, areas of high archaeological potential do still exist. A conservation project was set up within the area of the Old Town in 1987, in an effort to improve awareness, review development proposals, and monitor new construction (Abungu and Abungu, 1998, p. 222; Wazwa, 2006). Although the initiative has produced results, there are various difficulties to overcome, such as increased population pressure and inadequate legislation (Abungu and Abungu, 1998, p. 223).

There is an increasing urgency to glean as much information as possible from these rapidly vanishing resources. Although none of the structures recorded by previous writers and cartographers in the "Gavana" area were seen during the 2001 survey, the portions of walls uncovered at various times during the 1970 s point to the possibility of the survival of at least some remains of the Portuguese, or perhaps even older, buried settlement. Continued monitoring of any further developments in the Old Town, and the outlying coastal areas, could add to existing information.

It is hoped that more detailed survey, combined with excavation and further research, will be undertaken in the future, particularly with regard to Mombasa's early development, and the progression of Swahili settlement and culture on the island. While early documentary sources record aspects of both the Swahili and European populations living in Mombasa, most were compiled by Europeans and therefore tend to reflect outsiders' perspectives.

Future investigations have the potential to increase our understanding of the complex and diverse processes involved in the emergence of Swahili culture (for discussion on these issues see Breen and Lane, 2003; Reid and Lane, 2004). Some short term aims would include undertaking systematic excavation of at least part of the ancient town of Tuaca. A high priority would be the formulation, implementation, and enforcement of a management plan designed to address the existing threats to the heritage, ranging from uncontrolled leisure pursuits and commercial activities to land-grabbing for property development. The foreshore survey should also be completed, targeting areas of high potential in greater detail. A full survey of the Old Port would help to identify the extent of harbor works there, and the degree of survival of earlier structures.

ACKNOWLEDGMENTS

The survey was carried out with permission from the Office of the President, Republic of Kenya, with support from the School of Environmental Studies, University of Ulster, the British Institute in East Africa, and the National Museums of Kenya. Acknowledgements are due to Paul Lane, George Abungu, Athman Lali Omar, Francis Munyao (who identified and described the collected ceramic samples), Stephanie Wynne-Jones, John Giblin, Vicki Emmerson, Caesar Bita, Colin Breen, Rory Quinn, Wes Forsythe, Donal Boland, Ciara Herron, Rosemarie McMenamin, an anonymous reviewer, and all those who participated in the project.

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