

Early Iron Working People's Adaptation to the Nearshore and Offshore Island Environment

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Introduction

Tanzanian researchers of the on-going SAREC/Sida-sponsored project on Human Responses and Contribution to Environmental Change (HRAC) have focused their research on a narrow strip of the central coast of Tanzania. The area under investigation is specifically between Kisiju to the north and the Rufiji Delta to the south. Survey work was also extended to the off-shore islands including Kwale, Koma and Mafia. The preliminary intention was to look for sites that could provide light to the whole question of environmental change and its human contribution.

General Environment Surveyed

The area surveyed is the narrow strip of plain, about 3 km, running parallel to the ancient shore. This near shore plain is backed by a raised plateau about 100 m high which forms the eastern part of the immediate coastal hinterland. The present shoreland is made of sand-silt beaches and mangrove forest nourished by mud waters from the Rufiji Delta and other numerous streams entering the area. Offshore are found several islands including Koma, Kwale, and the larger island of Mafia.

The immediate hinterland plateau has scatters of remnant ancient forest. These forested areas are now experiencing slash and burn type of agriculture. The general area receives a lot of rainfall (1,946 mm) making several streams of water that run to the ocean. Some wild animals still survive in the uncleared forest and bush land, and are hunted for food.

The plain is mostly of grass, indicating that the indigenous forest has long since been exploited and depleted. The exploitation of existing trees for fuel continues today, and the inhabitants of the near shore areas are still using wood for drying fish and boiling salt water for salt.

The mangrove forest is known for its various uses. The wood provides fuel for all sorts of activities and construction materials for houses, boats and fences. The taller trees have been exploited for commercial purposes, some being traded within the region and outside as far as the Middle East. The Rufiji Delta is the only area on the central coast where the poles are still being exploited for long distance trade, transported by lorries and large dhows to Dar es Salaam and Zanzibar and ultimately to the Middle East.

The mangroves also offer a healthy habitat for various kinds of fish and crustaceans. Mud and fresh water food resources brought in by the Rufiji River make this kind of ecology sustainable. Many villages have mushroomed in this zone in order to exploit the marine resources of the area. Some of them use archaic methods like fish wear (wicker baskets) documented in the Graeco-Roman document, *Periplus of the Erythrean Sea* (Casson 1989).

The near deep waters are a rich habitat of fish which are today over-exploited by foreign fishing companies. It is in this near continental shelf where the coral islands of Kwale, Koma and Mafia, inhabited by fishermen, are found. The fishermen in those islands are able to harvest deep water and coral reef-oriented fish, which are exchanged for other goods from the mainland. Larger islands like Mafia have fertile soils for agriculture; today, a fair amount of coconuts sold in Dar es Salaam are from Koma and Mafia Islands.

It was from the recognition of this very resource rich environment that Tanzanian researchers proposed to explore the area for earliest known human settlements on the coast. The theory was that the above described environments, like other rich environments, would have attracted early settlers. In 1987 a similar hypothesis led the members of the University of Dar es Salaam's Archaeology Unit to find in the immediate hinterland of this area the sites of Limbo and Misasa (Schmidt et al 1992; Chami 1994). The intention to survey the central coast and the islands also received impetus from recent research activities on both the shore and hinterland of the Bagamoyo District (Chami 1994), Unguja Ukuu (Juma 1993) and Kilwa (Materu on-going research). The respective researchers found relics of Early Iron Working (EIW) tradition in the respective areas, indicating that by the middle of the first millennium AD, the EIW people had crossed to the islands. This means that the inhabitants were already adapted to the shore and off-shore marine environments. Further research on other islands, such as Kwale, Koma and Mafia, was therefore expected to offer an even better picture since these islands are located at the core of what could have been the earliest home for the coastal farming people (Chami 1994:95).

Survey

The survey work was conducted in three different periods followed by two short excavation periods. The first phase of research was between July and August 1994. The area surveyed was that of Kisiju and its off-shore island of Kwale (fig. 1). In this area, several sites were found ranging from Late Stone Age (LSA) to those of recent time. Findings of this particular research has been reported elsewhere (Chami and Kessy 1995).

The second phase of research was between Kifumangao (about fifteen kilometres south of Kisiju) southwards to the Rufiji Delta. The survey concentrated more around Kifumangao, which would be a natural corridor for hinterland settlements of Misasa and Limbo. Another area of survey activity was at Kivinja village. Further south, intensive survey was at Kikale near the Rufiji Delta and Nyamisati. The survey work, which took two weeks, was conducted on the basis of transect walks along the old ridge of the ancient shore. In most cases, the walks followed foot paths and open areas. Many areas with thick forest were avoided, although a limited attempt was made to check eroded and

marginal parts of the forest edges. Given the vegetational obstacles, only a small portion of the intended area was surveyed. A hoe was used now and then to open places suspected to have cultural materials underneath.

The finds from the survey were very interesting, and several sites were found. One site was found near the mouth of Kifumangao River. The earliest occupation for the site, between the 10th and 15th centuries, was located on the southern bank, while the later occupation, post-15th century, was located on the northern bank. Northwards beyond this outlet is a wide plain land falling to a silted bay; on this flat land is scattered very old potsherds, probably related to EIW pottery tradition.

At the Kivinja area on the terrace facing the ancient shoreline is a large EIW site. The settlement was probably extending north-south along the ridge for about 3 km, and was as wide as 1 km. Other sites of different time periods were found south of Kivinja, towards Msindaji village. One is a LSA site, while another was between the tenth and thirteenth centuries.

The same survey around Kikale yielded only one LSA site located near the old beach in the north-east direction. Nyamisati was found to have some post-10th century AD sites spread over a large area.

The third phase of survey was on the off-shore islands of Koma and Mafia. A sailing *dhow* was hired to cross the deep waters to the islands, in an experiment on how the ancient island occupants would have crossed from the mainland. The night journey took eight hours, and the sailors explained how they use the stars to determine directions.

Being a small island, the survey on Koma took only one day. Two important sites were found, one being of EIW and located at the extreme northwest facing the mainland. Another one is of between the 14th and the 15th centuries. The latter site consists of ruins within a forest, and is located just south of the EIW site, on the area facing west.

The survey on Mafia Island took four days. The general surveyed area was in the south-west part of the island, in an area facing the mainland and the Rufiji Delta. Locations surveyed included Chole Island, the areas around Mafia Kisimani, the corridor between Kilindoni and the Mafia Lodge, and the near shore south and north of Kilindoni. The island of Mafia is known for its many ruined sites, including Juani, Chole and Mafia Kisimani (Freeman-Grenville 1962). Apart from revisiting these sites, the survey identified other Iron Age sites, an important one being of EIW, located north of Kisimani Mafia near the village of Arusha.

Excavations

The research team had short periods of excavations: two weeks on Kwale Island and two weeks at the site of Kivinja. It should be recalled that Kwale Island site was found to have cultural materials ranging from the EIW period to the modern times. A detailed excavation report is being prepared separately. What is important to note here is that the excavation revealed a layer of EIW occupation at between 70 to 90 cm below the surface.

This layer is now dated to between the 3rd and the 4th centuries AD (uncalibrated carbon-14 dates). There was no typical Triangular Incised Ware (TIW) layer seen, but a terminal TIW layer was seen at 50 to 70 cm below the surface. This has been dated to the 13th century. The charcoal of this date was associated with a Kilwan coin of the same time period. Many animal and fish bones and shells were found in association with the coins and pottery. Imports included glass, beads and ceramic, typical to those found at Kilwa (Chittick 1974).

The site of Kivinja was also excavated; it was found to be of EIW period, some areas having TIW and another with 16th to 18th century cultural materials. The excavation concentrated on the EIW area, on which a detailed report is being written elsewhere. What should be noted here is that a lot of Kwale type EIW potsherds were collected. In some trenches the pottery was associated with Green and Blue Sassanian pottery and glass of various types (blue/green). The date from carbon-14 analysis ranges from 400 to 500 AD (uncalibrated).

Future Work

The planned future work in the project should concentrate on the further study of the Kivinja site for the GIS study. Further excavations are planned. The pottery of the site should be subjected to comparative analysis to fulfill one of the project's objective. Further excavation should be held to substantiate the association of EIW potsherds with remains of imports. Some other sites found in the project should be a focus of a study to be carried out soon.

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* Since this article was written, further research has been conducted in the area of study; reports can be found in *Nyame Akuma* 1997:48 and *Current Anthropology* 1997:38.

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