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Marine Archaeological explorations at Kulasekharapattinam and Manapad region, Tamil Nadu

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Abstract

Maritime activities along the Tamil Nadu date back to the second half of the 1st millennium BC and a large number of port towns developed all along the Tamil Nadu coast. The coastal and offshore explorations have yielded a large number of evidences indicating an active maritime practiced in the past. The discovery of stone anchors along the Tamil Nadu coast is the testimony of the above evidences. Stone anchors have been one of the major antiquities related to past maritime activities which have been found at most of the port and anchoring sites all along the coastal areas. During a maritime archaeological exploration along the coast of Kulasekharapattinam and Manapad (Tamil Nadu), a large number of stone anchors with an upper circular hole were noted, which are being used by the local fishermen. In the course of investigation, an area was discovered which served as a quarry manufacturing stone anchors from early times. The remains in the intertidal zone indicate that various sizes of stone anchors were manufactured from here.

Introduction

Ancient ports of India, both on the East and West coast have played important role since very early times in development of overseas trade and cultural relations with countries such as Burma, Ceylon, China and Malaysia in the East and ancient Mesopotamia, Egypt and other Mediterranean countries in the West. Harbours have played a major role in maritime trade for transporting goods and other materials.

Maritime activities along the Tamil Nadu date back to the second half of the 1st millennium BC and a large number of port towns developed all along the Tamil Nadu coast. The coastal and offshore explorations have yielded a large number of evidences indicating an active maritime practiced in the past. To explore the submerged port towns and the shipwrecks, the Marine Archaeology Centre (MAC) of the National Institute of Oceanography, (NIO) carried out preliminary marine archaeological explorations to collect the data on submerged port towns and shipwrecks on southern coast of Thiruchendur. During the course of survey at Kulasekharapattinam and Manappadu remains of maritime trade like stone anchors, iron anchors were found.

The discovery of stone anchors along the Tamil Nadu coast (Athiyaman, N. and Jayakumar, P., 2004) is the testimony of the above evidences. Stone anchors have been one of the major antiquities related to

past maritime activities which have been found at most of the port and anchoring sites all along the coastal areas including Dwarka, Bet Dwarka, Somnath on Gujarat coast, (Sundaresh et al, 1999) (Gaur et al, 2005), (Gaur et al, 2011) Vijaydurg (Sila et al, 1998) and Goa (Sila et al., 2003). Though they have not been found in dated context but a comparative study suggests they belong to the historical and the late medieval periods.

The coastline is oriented north-south direction with an elevated terrain. The beach ridges are found parallel to the coast. The river Karamanaiyar meets the sea at this point. The rock formations around the study area belong to Archean and Tertiary Age. The Archean rocks are mainly represented by gneisses, charnockites, granites and basic and acidic intrusive (Angusamy and Rajamanickam, 2000). Tertiary rocks are exposed in isolated patches along the coastal region. A series of marine terraces comprised of these rocks are found around Manapad (Banerjee, 2000). At several places these older rocks are covered with recent formation of calcareous or beach rocks which were extensively used for manufacturing stone anchors in this part of the coast.

Background information:

Kulasekharapattinam was an ancient port town situated in Tiruchendur Taluk, about 55km south of Tuticorin, on the East coast road, en route to Kanyakumari with its immaculate beach line studded with casuarinas and palmyra groves. The incurvation of the Gulf of Mannar at this point, flanked by projected landscape into the sea on both sides, made it a natural harbour. On the southern side lies the fishing hamlet Manapadu where Christian missionaries carried on their work in the sixteenth and seventeenth centuries.

Location of site:

Kulasekharapattinam and Manapad are the coastal villages situated on the northern and southern bank of the river Karamanaiyar, about 18 km south of Thiruchendur on Tamil Nadu coast (Figure 1). Traditionally, it is believed that this is one of the first places to be visited by St. Francis Xavier in 1542 when he initiated missionary activity on the Tamil Nadu coast. He is said to have lived and prayed in a cave on the seaward face of a cliff. The Holy Cross Church close to the sea was built in the year 1581. This church is believed to be a fragment of the true cross of Jerusalem. The incurvation of the Gulf of Mannar at this point, flanked by projected landscape into the sea on both sides, made it a natural harbor.

Methodology

Initially, onshore explorations carried out at Kulasekharapattinam, to find out the maritime archaeological remains in the village, followed by offshore explorations were undertaken close to the present fishing boat anchoring point off Manapad. Whenever stone anchors were found marker buoys were tied with them. However being in shallow area (sometime less than 2 m) it was not possible to document all the anchors insitu due to poor visibility. Thus, only physical measurements were obtained and a few were retrieved for photographs. Based on the information from local fishermen the quarry site was investigated. The detail measurements were obtained particularly of the extraction area.

The underwater explorations were initiated where the wave breakers are found between Manappadu and Kulasekharapattinam about one km from the shore line. Further the survey was extended towards northern side and nearshore at Kulasekharapattinam to find out the archaeological remains. The intertidal zone explorations at Manappadu revealed the quarry area of the stone anchors. The entire area was documented with proper measurements and videography.

Results

Onshore and Intertidal zone explorations

The onshore explorations at Kulasekharapattinam yielded a habitational site on the eastern side of the village, near Shiva temple about 500 m from the high water line. Pottery of red ware and black ware of the medieval period were collected. The remains of the cargo of the wreck (Mangalore tiles and bricks) are found in the village as they were reused by the local people (Figure 2).

The intertidal zone explorations at Manappadu revealed the quarry area of the single holed stone anchors (Figure 3). This area gets exposed during low tide and covered during high tide at the foot hill of the light house. A shrine with a drinking water well of a saint later on occupied by the St. Francis Xavier, was noticed in the intertidal zone at Manapadu.

Offshore explorations

The underwater explorations may be divided in to four major sites near Kulasekharapattinam, Manappadu and deep and shallow waters. The survey was initially concentrated at the place where the waves are breaking and designated this site as site 1.

Location 1. The area comprised of rocky sea bed. The natural rocks projected upwards in the middle of the sea opposite to Kulasekharapattinam. The seabed is worn out with the cutting marks. The area is suspected with the remains of the archaeological evidences but it was found natural rocks with rare seaweeds.

Location 2. The seabed comprises of plain sandy bottom with seaweeds, shells, sea cucumbers of different colours and other marine growth. No archaeological findings are found. As the underwater visibility was found poor the survey could not be possible for more days.

Locations 3. The seabed is found plain sandy bottom near Manapadu village. The water depth is about 2m where the boats are anchored. Single holed stone anchors are found in this area. The anchors are made of sand stone. These anchors are made with the existing natural rock found in the intertidal zone near light house, Manappadu. These stone anchors are made by a particular community at a particular time. The stone anchors are in composite type having single circular hole on the top. It does not have more holes at the bottom like other stone anchors. The length of the anchors generally are 56cm to 58 cm in height with 35 cm to 45 cm in width.

Location 4. The seabed found rocky bottom with blackish fine sand. Two arm Admiral iron anchors are reported from here. An iron anchor found from this site is displayed at fisheries department, Tuticorin (Figure 4).

Description of Anchors

There are six stone anchors (Table 1) recorded from Manapad and a majority of them are trapezoidal in shape and one is square (Figures 5 and 6). The average length of anchor is about 50 cm and width 40 cm. The Height of the biggest anchor is 58 and 56 cm, the width is 35 and 45 width, and 20 cm thickness. The height of smallest anchor is 41 and 45 cm, the width is 39 and 40 cm, the thickness is 15 cm. interestingly, all anchors are pierced with a single hole which has a diameter of 8 cm except anchor no 1 which is of 7 cm.

Quarry area

The stone anchor quarry was noticed on the south-eastern side of Manapad fishing harbor at a distance about half a km close to the cave at the tip of the shore near rocky projection at Manapad. The area falls under intertidal zone and during low tide entire area gets exposed as gradient of the area is very gentle. The area is spread over about 200m parallel to the coast and about 25m perpendicular to the coast. There are several linear cut marks found in quarry area are in different sizes like, 100x85x20 cm, 50x40x20cm and varies from 25 cm to a maximum of 180 cm in rectangular shape. There are chisel marks at various places suggesting the type of tools used for the extraction of stone block. Some of the measurements are similar to those anchors found underwater in Manapad suggesting that anchors were extracted from this site. The quarry has many rectangular and square cuttings besides chisel marks. The quarry pits are found filled with sediment at many places.

Discussion and conclusion

The southern Tamil Nadu coast was ruled by the Pandiyan Dynasty during the early centuries of the Christian era. Their famous port town at Korkoi was extensively excavated and material remains indicate an active overseas trade and commerce with western world (Sridhar, 2004). Other nearby medieval port at Kayalpatanam is situated about 15 km north of Manapad and Kulasekharapattinam. Both Kulasekharapattinam and Kayalpatnam are contemporary ports. Thus, the maritime activities continued on this coast since the early centuries of the Christian era.

The stone anchors discovered during the course of present investigation at Manapad added a new dimension to the study of stone anchors along the Indian coast as these anchors are still in use. All anchors are identical shape with a single circular rope hole. Similar type of anchors have been reported from a medieval period site at Periapattinam (Athiyaman and Jayakumar, 2004), thus the possible date of the use of such type of anchors at Manapad may date back to the medieval period and is also supported by the presence of a medieval period site at Kulasekharapattinam. While interacting with local fishermen regarding the anchoring of the boat we learnt that 3 anchors are used in three directions to stabilize the boat.

The most interesting find of this investigation is stone anchor quarry area. As mentioned earlier, the quarry is situated in intertidal zone of Manapad coast. The information collected during the investigation revealed that the rock of this area is suitable for manufacturing stone anchors. Being in the intertidal zone, it is easier to extract the required size of the stone for the purpose. Secondly, calcareous rock is comparatively softer to carve out an anchor as they are required in large number in view of their often

loss during the anchoring process. As per the local information the anchors are prepared by a particular community, who resides outside of the village or in jungle. It is further informed that all the anchors are made only during night on a particular calendar date. Though maritime archaeological investigations along the Indian coast yielded a few hundreds of stone anchors but nowhere quarry could be identified thus present quarry is a very significant discovery to understand the process of extraction of block for manufacturing anchors. The iron anchor displayed in Tuticorin found from Kulasekharapattinam, supports the continuity of maritime trade at Kulasekharapatnam.

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Table 1. Details of Stone anchors

| <i>Sl no.</i> | <i>Material</i> | <i>Length</i> | <i>Width</i> | <i>Thickness</i> | <i>Dia of hole</i> |
|---------------|-----------------|---------------|--------------|------------------|--------------------|
| 1 | Beach Rock | 55 | 42/36 | 17 | 7 |
| 2 | Beach Rock | 52 | 45/40 | 15 | 8 |
| 3 | Beach Rock | 50 | 35/30 | 16 | 8 |
| 4 | Beach Rock | 58 | 45/35 | 20 | 8 |
| 5 | Beach Rock | 40 | 45/41 | 15 | 8 |
| 6 | Beach Rock | 53 | 41/36 | 17 | 8 |

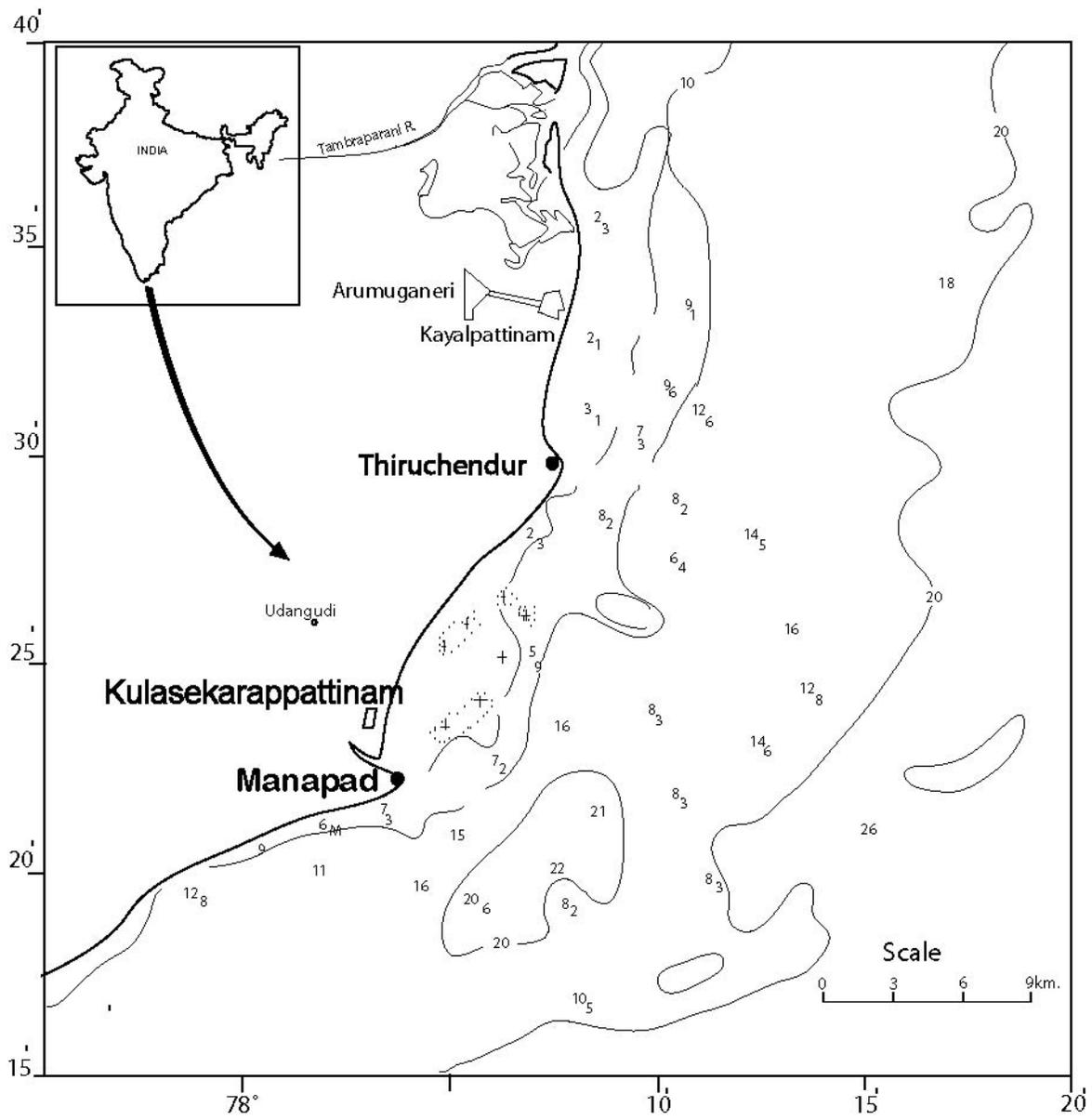


Figure 1. Location map of the area and the survey carried out.

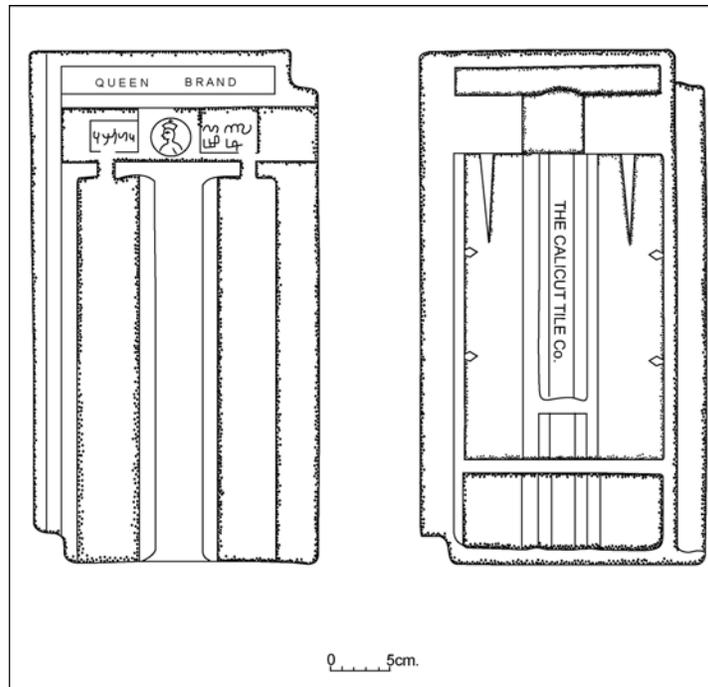


Figure 2. Mangalore tiles recovered from the sea.



Figure 3. Stone anchor quarry area in the intertidal zone at Manapad.

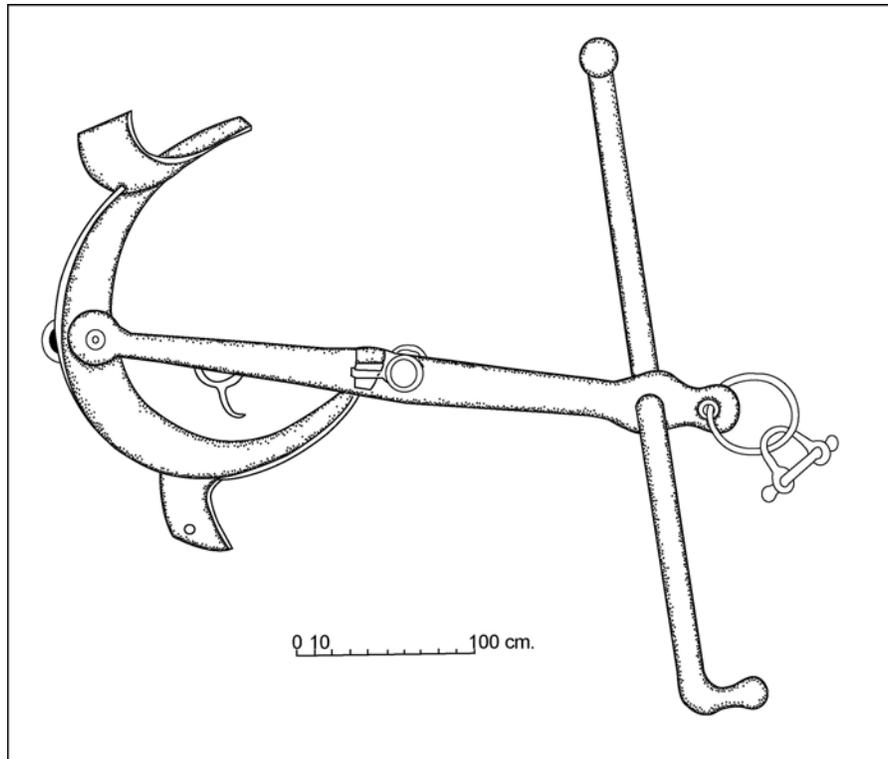


Figure 4. Iron Anchor displayed in Tuticorin.



Figure 5. Trapezoidal type of stone anchor

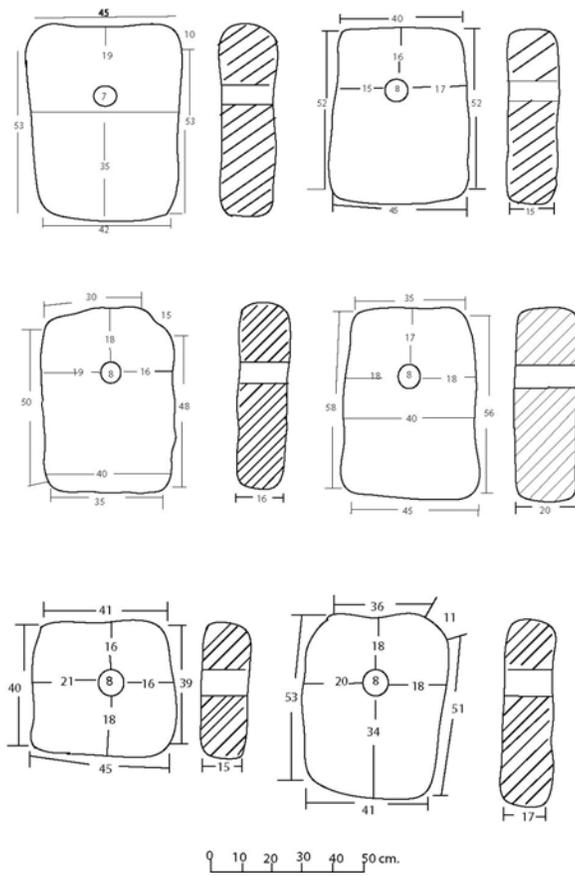


Figure 6. Trapezoidal and square type stone anchors.