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An Indo-Arabian Type of Stone Anchor from Kannur, Kerala, West coast of India

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The study of stone anchors can provide information on the size, date and provenance of the ships that carried them, as they were provided by the boat- or ship-builder. In general terms the size of the ship can be correlated with the anchor, but finds of stone anchors from various sites both in India and abroad suggest that ships carried a number of anchors of various sizes. This may have been related to the type of journey, or expected weather conditions. In storms or other unfavourable conditions sailors looked for a sheltered place to anchor. The types of anchors depend on the nature of the seabed.

Generally, anchors are found in harbour sites, dockyards, shipwreck sites, and sheltered places along trade routes. Many examples have been found on rocky sea beds and in shallow waters in Indian coastal waters (Gaur *et al.*, 2001; Sundaresh *et al.*, 1999 and Sila Tripati *et al.*, 2003). Over the years exploration and chance finds have yielded 59 triangular anchors, 109 Indo-Arabian and 60 ringstone (Fig. 1) and these have helped to reconstruct the history and development of stone anchors of India.

There is also historical evidence for the use of stone anchors. For instance, ancient Indian texts such as the *Tilakamanjari*, the *Samaraiiccakaha* and the *Milindapanho* mention the use of stone anchors by Indian sailors (Gopal, 1999). However, the first foreign traveller to mention the use of stone anchors was Ludovico Varthema (AD 1470-1510), in relation to the Calicut coast of Kerala. Varthema mentions that Calicut was a great shipbuilding centre. The shipwrights did not use oakum between planks, but they joined planks in such a way that water did not seep inside. Ships even carried a number of sails. Further, Varthema mentions ships carrying anchors made of 'a piece of marble eight *palmi* (spans) long and two *palmi*

every other way. The said marble has two large ropes attached to it and these are the anchors' (Mookerji, 1912). According to Varthema Arab sailors used iron anchors on a particular occasion called *hadid*, while stone ones were in regular use, and were referred in the Persian glossary, *Miftah-ul fuzala*, compiled during the second half of the 15th century at Mandu (Malwa). The *Miftah-ul fuzala* defines *langar* (anchor) as the 'stone of a *kishti* (boat) which is heavy'. The use of iron anchors started in India in the 17th century under European influence (Qaisar, 1982).

But occasionally stone anchors are also reported from inland sites. Such inland anchors may indicate re-use outside the maritime community. This paper is the outcome of explorations carried out by the authors in and around Kannur and adjoining regions to trace its earliest archaeological remains relating to maritime activity. One important find was an Indo-Arabian type of stone anchor, buried near the mosque close to the shore. Comparison with similar stone anchors from other parts of India and beyond and its probable date are discussed below. The excavations at Kadakkappally in Alappuzha of a medieval boat also recently yielded a possible stone anchor (Nair et al., 2004; Tomalin et al., 2004: fig. 12).

History of Kannur

Local tradition states that during in antiquity Kannur was known as the 'city of *Maidans*'. The recorded history of Kannur dates back to the Sangam Period 3rd century BC to 3rd century AD. Geographically, Kannur in the 1st to 5th centuries AD extended from Mangalore in the north to Badagara in the south, and during later periods the region was under the hegemony of Haider Ali, Tipu Sultan, the Portuguese, the Dutch and lastly the British. Kannur is hemmed between the Western Ghats and the Arabian Sea. The land is filled with forest, cash crops, coconut plants, spices, teak, rose wood and bamboo. The coastline is interspersed with a number of rivers, lagoons and backwaters (Fig. 2). The physical features of Kannur provided suitable bases for trading since ancient times, and the availability of teak for the construction of ships. Marco Polo, the European traveller who visited India in the 13th century AD, referred to Kannur as the emporium of the spice trade (Bhatt, 1997).

Maritime contact between Malabar and Arabia

The Malabar region of Kerala has had trade and cultural contacts with Arabian and Mediterranean countries since the earliest times. The finding of Indian teak logs in the temple of the Moon at Mugheir and in the Palace of Nebuchadnezzar provides evidence for contact between Malabar and the Mediterranean (Panikkar, 1997). Recent excavations at Berenike and Myos Hormos in Egypt show archaeobotanical evidence of black pepper, which might have been imported from the Malabar Coast of India (Tomber, 2002). The finding of large number of Roman coins of Augustus, Tiberius, Claudius and Nero from Pudukkadu near Cannanore and Kottayam in Travancore, Malabar, proves trade contacts with Rome over an extended period (Innes, 1951; Sathyamurthy, 1992), while a temple of Augustus at Muzuris in Malabar is evidence of a Roman merchant settlement.

Ships were sailing between the Malabar Coast and the Red Sea from at least 120 BC if not earlier. In early days they sailed between the Mahrah coast and the Indus delta, later direct from the mouth of the Red Sea to Malabar (Hourani, 1975). Ships proceeding to India used to halt at Ocelis or Cane for replenishment, and it was 40 days sailing from Ocelis to Muzuris. Pliny mentions that archers were carried on board to protect ship and cargo from pirates.

Ships sailing from the Persian Gulf reached India by two routes. One was via Suhar, Masqat and ports on the coast of Oman where they took on water, then sailed straight across the Indian Ocean for Quilon in southern Malabar. The other route was coasting via Qays Island, old Hurmuz, al-Daybul, al-Mansurah and ports along the coast of al-Sind to the Gulf of Kutch and Kathiawar. Malabar was an important centre for Arabs because teakwood was the main source for construction of houses and ships. Malabar's importance increased in the medieval period as it lay on the trade route between Arabian countries and China (Hourani, 1975). During this period the trade of Malabar passed into the hands of Mohammedan merchants. Sulaiman, the Arab traveller, mentions that Chinese ships called at Quilon on their way to Arabian and Persian Gulf countries during the 8th-9th century AD (Panikkar, 1997).

Indian goods were shipped directly to Yemen and from there to the Red Sea coast, Syria and thence to Europe, either directly or via Egypt. In ancient times the main items of export from Malabar were pepper, spices, pearls and gems, while the main imports were coral, lead, tin, gold, wine and other finished articles. From literary

evidence it appears that trade contact between Malabar and Arabia were continuous from ancient times to the coming of the Portuguese (Mohamed, 2001). The decline of Chola power created a vacuum in overseas trade and commerce and this helped the Arabs to reach the zenith of maritime commerce (Sridharan, 1982). The relation of Zamorins of Calicut, Kerala with the Arab traders became cordial in the 13th-15th century AD and Calicut grew as an important centre of trade of pepper and other spices. Subsequently, Arabs monopolised the trade on this coast. Pepper, cardamom and textiles from Malabar were in great demand and were exported from the port of Calicut (Pearson, 1981).

The stone anchor from Kannur

The Indo-Arabian stone anchor at Kannur is located at the south-east corner of Hydross Palli Mosque, near the beach. It is half-buried in the ground (Fig. 3). What is visible has two square holes for wooden pegs. The hawser hole, if present, would be in the buried end. A thick coat of grey paint has been applied on its surface, so no marks are visible. The exposed portion is 0.89 m long and 0.3 m wide. The anchor is made of granite, and the estimated weight of the exposed portion is 189.70 kg (1 m³ of granite weighs 2900 kg). The stone has been trimmed neatly by chisel leaving prominent straight lines all around on its surface. A big piece has been chipped from one side of the base, but there are no signs of wear. It seems to have been embedded in the ground at the same time as the construction of the mosque.

The date of the anchor

No Indo-Arabian anchors have so far been found from before the 8th-11th century AD. Two fragmentary examples from the stratified layers of Siraf on the Persian Gulf were datable to the 8th-11th century AD (Whitehouse, 1970). Indo-Arabian stone anchors with remains of wooden flukes from Galle harbour, Sri Lanka, and the wood radiocarbon dated to 430 ± 80 years BP (Souter, 1998). On the basis of historical evidences, Indo-Arabian stone anchors could be dated to the medieval period. The Hydross Palli mosque of Kannur has two lines of Arabic inscription on a wooden panel (Fig. 4). The second line, translated, reads 'this mosque building was renovated in the month of Rabi-ul-Awwal of 1126 of the Hijri calendar' [about 300 years ago]. Unfortunately the name of the donor is illegible. The mosque is claimed locally to have been constructed 300 years before its renovation. From this, it is inferred that the anchor was embedded near the mosque 600 years ago.

Another recent example of definite medieval date was found in the excavation of a boat at Kadakkarappally, in the Alappuzha district of Kerala (Nair *et al.*, 2004; Tomalin *et al.*, 2004: fig. 12). However, the identification is not definite as the stone does not have any hole to fasten a rope (Fig. 5).

Discussion

In India maritime archaeology has not yet yielded shipwrecks from the Arab period (7th to 14th centuries AD), but direct evidence of trade contacts between India and Arabian countries is provided by Indo-Arabian stone anchors. More examples are expected to be found in the future at or near other Arab trade centres in India. Inscriptions, coins and other archaeological finds indicate that maritime contacts with other countries, but finds of anchors provide firmer evidence for and information about visiting ships. Explorations along the coast of India have revealed triangular, Indo-Arabian, and ringstone anchors from Dwarka, Bet Dwarka, Somnath; triangular and Indo-Arabian stone anchors from Aramda (Sundaresh *et al.*, 1999; Gaur *et al.*, 2001; Gaur *et al.*, 2004) Sindhudurg Fort, Padmagad, Vijaydurg (Sila Tripathi and Gaur, 1997; Sila Tripathi *et al.*, 1998); and Indo-Arabian types from Goa (Sila Tripathi *et al.*, 2003), Minicoy Island (Sila Tripathi *et al.*, 2004) and Tamil Nadu (Athiyaman and Jayakumar, 2004). Recently, stone anchors have also been reported from Puri on the Orissa coast (Fig. 1). None, however, have so far been reported from West Bengal, Andhra Pradesh, the Andaman and Nicobar Islands and Karnataka. Furthermore, so far no wooden or lead stock anchors have been reported from Indian waters. The use of iron anchors started in India under the European influence. But it is possible that the use of stone anchors continued for some years. Stone anchors have also been found re-used, as for example as lintels, paving, and mooring bits at Sindhudurg, Padmagad and Vijaydurg in India (17th century AD) and at Qalhat in Iran (10th-16th century AD) (Vosmer, 1999).

None of the Indian stone anchors has been found in a stratified context or associated with any datable antiquities. All have been dated on the basis of historical evidence and comparative studies. The Indo-Arabian stone anchor from Kannur is the first example reported from Kerala, but it is also unstratified, and with no associated finds. A lost stone anchor marks the passage of a vessel: the Kannur anchor indicates that either an Arab ship visited Kannur or a ships using the Indo-Arabian type of anchor inspired by Arab mariners visited Kannur. As sailors before

setting sail pray for a safe voyage, it is possible that the stone anchor may have a symbolic association with this coastal mosque.

One of the most important features of the Kannur stone anchor is that the tool-marks bear similarities with the Indo-Arabian stone anchor from Grande Island, off Goa (Sila Tripathi *et al.*, 2003), and the anchor at the National Museum of Mogadishu (Fig. 6) (Chittick, 1980). The stone anchors of Grande Island, Goa and Mogadishu do not have an upper hole for the hawser, and the Kannur anchor may also not have such a hole. These three anchors may perhaps have been manufactured by the same group, or even belong to the same owner.

Further studies on triangular and ringstone anchors would help to conclude whether these are indigenous or foreign introductions. However, triangular stone anchors have long been reported from Mediterranean waters, and ringstone anchors have also been reported from Oman and Qalhat.

Conclusion

It is generally agreed that Arab mariners brought the 'Indo-Arabian' type of stone anchor to India, and it was subsequently adopted by Indian mariners. This type of stone anchor was widely used in the Indian Ocean region till the introduction of iron anchor from Europe, though stone anchors almost certainly continued in use for centuries afterwards. The find-spots of Indo-Arabian stone anchor do seem to correlate with known areas of trade and cultural contacts between the East African coast, Arabian Sea, Red Sea and India. The finding of such a stone anchor at Kannur clearly validates the statement by Ludovico Varthema that the people of Calicut used stone anchors. On the basis of historical evidence this anchor is datable to the medieval period, but only excavation will yield more information.

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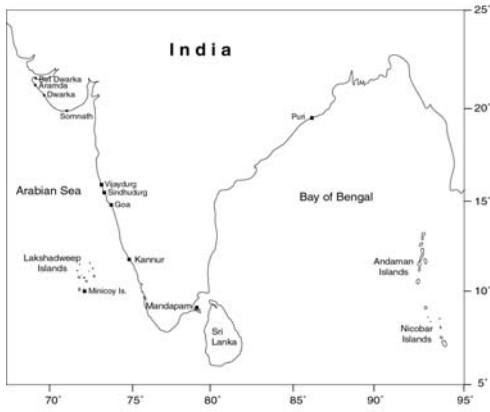


Fig. 1. Figure showing stone anchor finding sites in India

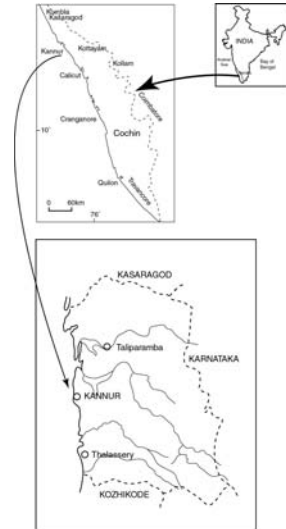


Fig. 2. Figure showing the stone anchor finding site of Kannur, Kerala



Fig. 3. Indo-Arabian type of stone anchor from Kannur, Kerala



Fig. 4. Arabic inscription on the wooden panel of the Hydross Palli mosque of Kannur, Kerala.

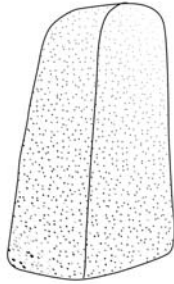


Fig. 5. Stone anchor of Kadakkarappally, Kerala

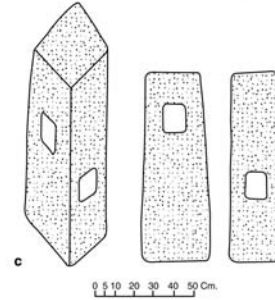
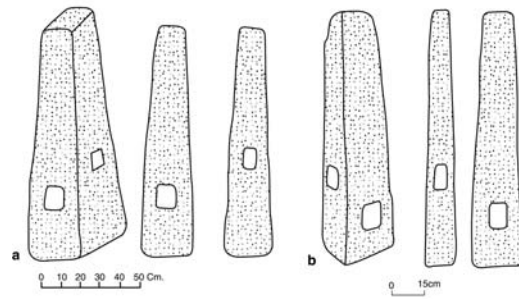


Fig. 6(b). Stone anchors from (a) Grande Island off Goa, (b) Mogadishu Museum and (c) Kannur, Kerala.