

Recent Marine Archaeological Investigations along the Saurashtra coast, West coast of India.

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Abstract

Recent marine archaeological explorations have brought to light data on the existence of ancient ports at Miyani and Kindari Creek (Mul Dwarka) on the Saurashtra coast. A large number and varieties of stone anchors have been documented at both sites, which indicate that different origin and types of boats used to visit these ports. A comparative study of the stone anchors suggests that these ports could be dated between the historical and the medieval periods. At Porbandar a few iron anchors of the British period are also reported. Onshore explorations around Porbandar brought to light 4 ancient jetties and a late Harappan site at Bokhira on the western side of the Porbandar creek. Another late Harappan site has been reported on the ancient creek near Kindar Kheda, which would have served as a tidal port during the 2nd millennium BC. A stone anchor is also found close to the site. A medieval period site and a step well have been noticed near Tukada (18 km east of Porbandar). A stone anchor has also been reported off Gopnath temple. It lies about 2 km off the temple and exposed during the lowest low tide. Another important site known as *Bhim ka Khatiya* was discovered at Mithi Viridi in Talaja taluka of Bhavnagar district. Four stone anchors lie in an agriculture field. These anchors are the biggest ever reported across the world. The total length of each anchor is about 4.8 m with an estimated weight of 4300 kg.

Introduction

Underwater explorations at Dwarka (Rao, 1990, Gaur et al., 2004), Bet Dwarka (Gaur et al., 2005) and Somnath (Rao et al., 1992) have been focal points during the two decades of marine archaeological research on the Saurashtra coast. A large amount of data have been collected on seafaring activities in the past in the form of stone anchors, remains of jetty and international trade relations with the European countries during the early centuries of the Christian Era. Besides historical and cultural aspects marine archaeological explorations have also generated data on the understanding of palaeo-shorelines and palaeo-geography of the region. The survey also indicated the prospects of some potential archaeological sites on this coast worthy of explorations and in this direction an extensive onshore and offshore explorations have been undertaken during the last 2 years.

From Miyani to Porbandar the coast has a characteristically straight NW-SE trend marked by a well-developed sandy beach and punctuated by

seasonal drainages and creeks extending far hinterland such as Miyani, Kindari and Porbandar creeks. The southeast coast between Diu and Bhavnagar shows a transition from open sea to Gulf environment. The eastern coast of Saurashtra extends up to Bhavnagar, beyond which it becomes part of Khambhat. The river Shetrunji, which meets the gulf near Gopnath, forms a prominent estuarine delta at Saltanpur. The creeks and tidal rivers have been extensively used as natural harbours in the past (Rajyagor, 1988).

The present paper is a comprehensive report on the recent marine archaeological investigations undertaken along the Saurashtra coast between Miyani on the west and Mithivirdi on the east (Figure 1).

The explorations have brought to light rich antiquities on maritime activities, dating back to the historical and the medieval period of the Saurashtra coast. Identification of an ancient port as mentioned in the ancient literature is another important aspect of this study.

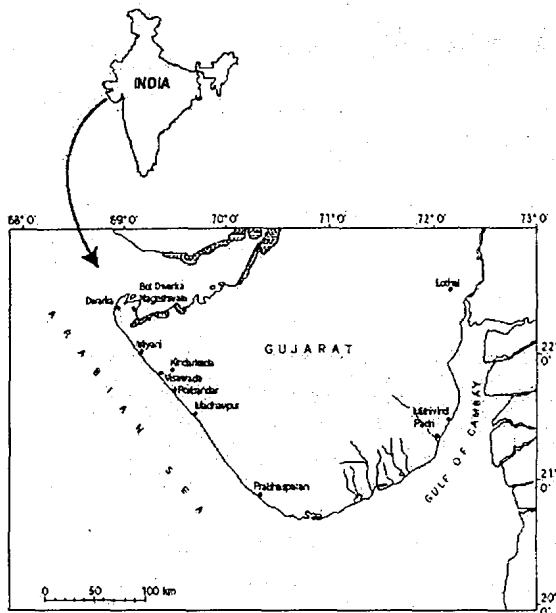


Figure 1. Location of archaeological sites on the Saurashtra coast.

Miyani (Harshad Mata)

A large creek extending up to 6-7 km hinterland must have serve as a safe harbour as the tradition prevails. Miyani is also famous for several beautifully carved temples of the Solanki period (Sampura, 1968). An onshore exploration has revealed a stone anchor (Pl. 15) lying in an ancient temple complex. It is single holed and irregular in shape. Offshore exploration yielded 12 stone anchors in water depths of 5 to 7 m. The seabed consist of uneven rocky and with sandy patches. There are 6 grapnel or Indo-Arabia type, 2 composite (Figure 2) and 4 ring stone anchors found from Miyani. A few of them were partially buried in sediments. One each is made of basalt and sand stone while the rest of the anchors are of limestone.

Kindar Kheda

A late Harappan settlement was noticed on the bank of a low-lying area at Kindar Kheda. One stone anchor (Pl. 16) and a large number of potsherds and lithic tools were recovered during onshore exploration (Gaur and Sundaresh, 2005). The study of an ancient map dating back to 1856 suggest that Kindar Kheda was connected with the sea through Kindari and Porbandar

Creeks and boats must have been reaching up to Kindar Kheda and it would have served as a port in the past.

Viswada (Mul Dwarka)

This small town is centrally located between Miyani on the west and Porbandar on the east. A creek extending about a km gets connected with the Arabian Sea during monsoon season. Offshore explorations brought to light 15 stone anchors and majority of them are composite type (11 nos.), 2 are Indo-Arabia type while 2 anchors fall in ring stone category. The raw material of entire group of composite and ring stone anchors is limestone and one each Indo-Arabia type is of basalt (Pl. 17) and sandstone. The seabed is rocky with sandy patches.

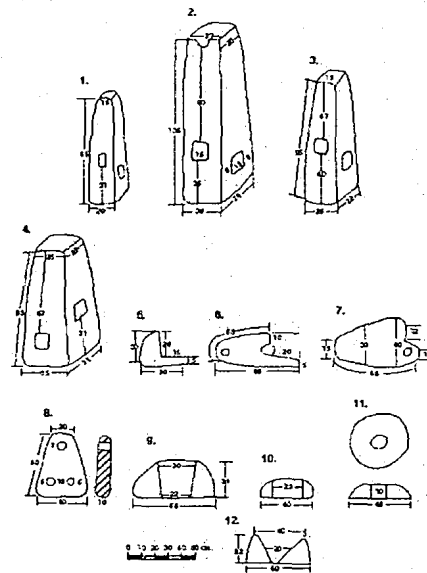


Figure 2. Stone anchors from Miyani (Harshad Mata) waters.

Porbandar is located between two famous Hindu religious centres namely Dwarka and Somnath on the Saurashtra-Kathiyawad coast. An onshore archaeological exploration was undertaken in and around Porbandar during November 2003 for locating the remains of some ancient maritime activities such as anchors, ancient port installation and submerged habitational site, etc. similar to those found at Dwarka, Bet Dwarka and Somnath.

Porbandar is mentioned in the Hindu scriptures as

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Sudamapuri commemorating the friendship of Lord Krishna with Sudama, a childhood friend. The town has a temple dedicated to Sudama (Vora, 1970). The oldest site in the area is referred as near Dhingeswar Mahadev temple which is datable to the pre Chalukyan period. There are remains of the 8th century AD temple of *Saptamatrika* near present *Porau Mata* temple in Porbandar. During the historical period Porbandar had trade relations with Sri Lanka, Java, Sumatra, Gulf Countries and East African countries.

The findings from onshore exploration around Porbandar include a late Harappan period site in an agriculture field at Bokhira, about a km west of Porbandar. Four ancient jetties along the Porbandar creek are other important finds. The description of each finding is as follows.

Late Harappan site (Kotada Bandar)

The site is located on the western side of the Porbandar creek in an agricultural land and is locally known as Kotada Bandar and also *Kachchhivada Sumra* (People from Sind and Kachchh). A 10th century AD Siva temple known as Koteshwar is situated very close to the site. Towards the creek a raised alignment is noticed which is said to be an ancient jetty (*Dhakka*). A large number of pottery is scattered over a hectare of land, which is under cultivation. The total deposit may be less than a meter, which can be estimated from a section of a nearby well. The major shapes of ceramics consist of rims of bowls, jars and a dish. They are made of fine well-levigated clay and well fired. A sherd of storage jar was also encountered.

Ancient jetties

Four ancient jetties locally known as *Juna Dhakka* were noticed along the Porbandar creek in a stretch of about 3 km. During high tide boats can reach up to these jetties. Till the late 19th century these jetties were operational however, due to siltation now they are non-functional.

1. The first jetty (the upper most part of the creek) is situated near the present *Kanya Gurukula* and opposite to *Porav Mata* temple. The major portion of the

jetty has been destroyed and the length of remaining part is about 10 m and visible height is 1.5 m and made of irregular huge limestone blocks. The jetty was constructed parallel to the creek. The local information suggests that this jetty was used for passengers and small size sailed boats used to visit this jetty.

2. Second jetty is located about 200 m south of the present bridge between Bokhira and Porbandar over the creek. The jetty is well preserved but is partially covered under the metallic road. The remaining portion of the jetty measures more than 50 m in length and 3 courses are visible. The jetty is made of fine dressed limestone blocks. It is constructed parallel to the creek. As per local information, this jetty was used for loading and unloading cargoes such as cotton and woollen cloths, wood, grains etc. Boats with a length of 10-15 m used to reach at this jetty.

3. Third jetty is noticed about 100 m south of the earlier one and it is in a very poor state. A few irregular scattered limestone blocks can be noticed during low tide.

4. The fourth jetty is located near the present cremation ground on the creek. The major portion of the jetty is covered with a modern structure. As per local tradition this jetty was used to ramp the creek by bullock carts as the remains of the same were noticed (Pl. 18). This jetty was constructed perpendicular to the creek and part of the same extended a few meters in the water. The jetty is made of uniform and dressed limestone blocks.

Mithivirdi

Mithi Virdi is located about 30 km south east of Talaja, a taluka head quarter. The village lies on a raised plateau close to the seashore. A small seasonal river merges with the sea on the western side of the village. The archaeological site is located about a km western side of the village in an agriculture field. The area is comprised of reddish soil with small quartz gravel signifying the flow of river channel from this area.

Description of anchors

Five anchors (Figure 3) were found in an agricultural land about 1 km north of the seashore. Three anchors

were together at a distance of 10 m and oriented in the east-west direction. The fourth anchor is lying partially buried north of the other three and oriented in the east west direction and the fifth one is unfinished placed northern most area.

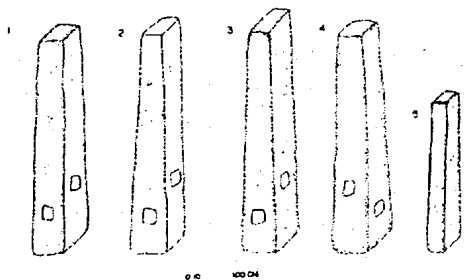


Figure 3. Stone Anchors from Mithi Virdi.

All the anchors are similar to each other in shape and size. The anchors have rectangular cross-sections and trapezoidal longitudinal sections. These have sharp edges and chisel marks on them are clearly noticed. They have been cut from conglomeratic sedimentary grit rock, which is dark brown in colour and small gravel are noticeable. The anchors have two rectangular holes at lower side and upper circular hole is absent in all anchors.

Discussion and conclusion

Saurashtra coast has been a potential region for marine archaeological research on the west coast of India. Dwarka (Rao, 1999) Bet Dwarka (Gaur et al., 2005) and Somnath (Rao et al., 1992) were already well-explored marine archaeological sites on the Saurashtra coast and these prompted us to undertake further offshore explorations on this coast. According to tradition Miyani had being a very active port till recent times and boats were anchored well inside the creek. The port must have been abandoned because of silting of creek, however, fishing boats are still anchored inside the creek during high tide. A large number stone anchor particularly of Indo-Arabia type similar to those reported from Dwarka (Sundaresh et al., 1999), Bet Dwarka (Sundaresh et al., 2002) and Oman (Vosmer, 2006, Per. Com) suggest that this was a very active port during the medieval period.

Similarly, the offshore explorations at Visawada (Mul Dwarka) revealed a large number of composite types of anchors that indicates that this was a very active port during the historical period. Majority of the anchors are lying in a water depth of 5 to 6 m, which would have been the ideal depth for the anchoring of boat in the past.

The exploration at Porbandar indicates the existence of an ancient port during medieval period (Gaur et al., 2004a). Mithi Virdi on the eastern part of the Saurashtra coast revealed the longest and the biggest stone anchors in the world (Gaur et al., 2005a). Archaeological evidences have confirmed the active maritime practices along the Saurashtra coast in the past. The initial results have added a new chapter in the maritime history of India and opened up a vast scope for the marine archaeological investigations along the Indian coast.

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