

A Submerged Temple Complex off Pindara, on the Northwestern Coast of Saurashtra

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Abstract

Pindara has been an important religious centre since the early historical period as it has been recorded in several ancient texts. An onshore exploration on the northwestern coast of Saurashtra brought to light the remains of a temple complex presently lying in inter tidal zone of Pindara. There are several temples on the coast of Pindara, which are dated between 7th and 10th century A.D. The archaeological evidence indicates the advancement of shoreline during last 1000 years near Pindara. It is difficult to assign a particular reason for the submergence of temple, however, minor sea level rise and seismic activity might have played a vital role in submerging of the temple.

Introduction

The Gujarat coast has been a focal point of human activities since earliest times, and it played an important role in the emergence and development of the Harappan Civilization (Rao 1973). Being situated in a seismic zone and affected by global natural phenomena like sea level fluctuations the coastline of Gujarat has been drastically

changed during the last few millennia. This caused problems for human settlements along the coastal areas, which were either submerged or affected when the shoreline moved offshore by a few kilometres. Marine archaeological explorations along the Indian coast brought to light several such instances from Bet Dwarka (Gaur and Sundaresh 2003), Poompuhar (Gaur and Sundaresh 1998), and Mahabalipuram (Sundaresh *et al.* 2004).

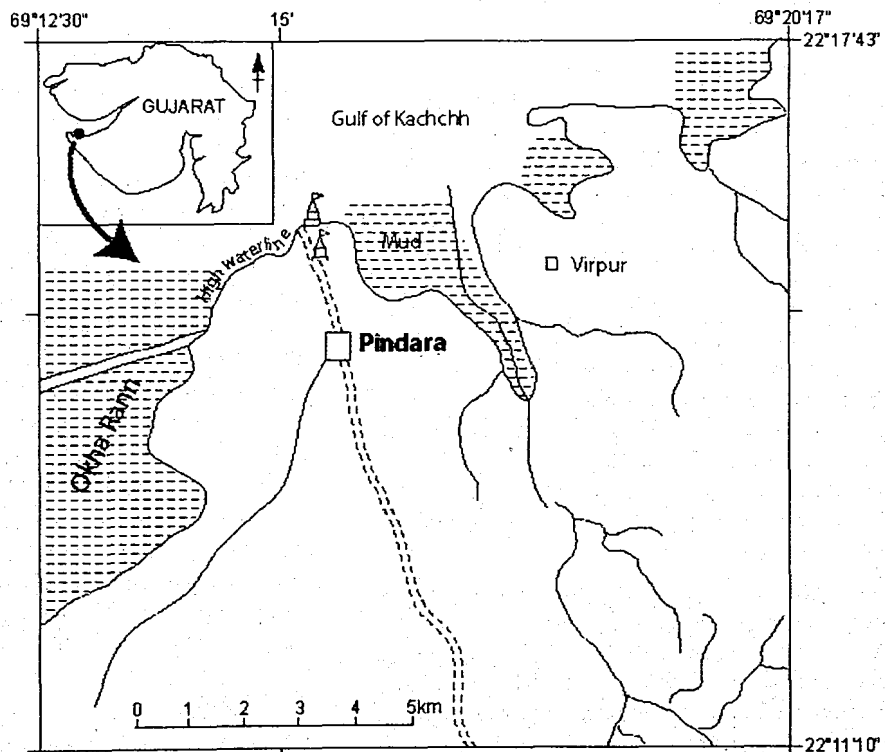


Fig. 1 Location of temple site at Pindara on the Northern Saurashtra coast of Gujarat

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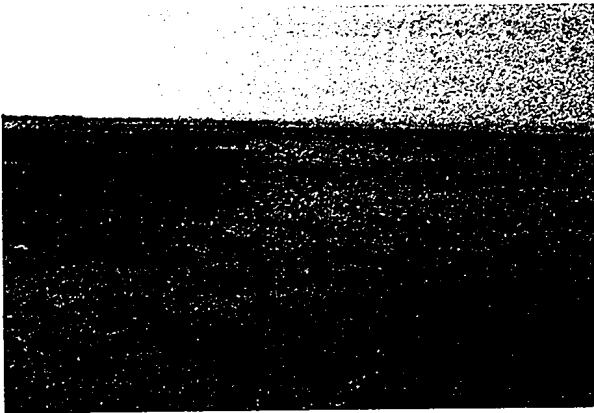


Fig. 2 A large area gets exposed during low tide off Pindara.

An onshore exploration along the northwestern coast of Saurashtra was carried out along the coast of Pindara, a site of historical and religious importance. Around 3 km north of the present village of Pindara, a low lying mound was observed on which a large quantity of pottery lay scattered. A protected temple complex is also situated near to the mound. The coastal area was explored and a few remains were observed. Pindara has been the centre of pearl fishing, and from inter-tidal zone, a large quantity of oyster shells can be collected. The present paper deals with remains of a damaged temple complex discovered during low tide off Pindara in relation with the change in coastline during the recent past.

Pindara is situated about 45 km northeast of Dwarka and is an important religious place, in the Gulf of Kachchh (Fig. 1). To the west of Pindara a vast marshy land known as Okha Rann is situated. The location of Pindara favours a well sheltered area free from open sea waves and comprises of mud flats up to a distance of 2 km from high waterline and a gentle slope. The water depth is at least 1 to 2 m up to a distance of 8 km, while its is more than 5 m for next 4 km. An average tidal range in the region is 1 to 4 m. During low tide a large area get exposed (Fig. 2). Geologically, the formation comprises of the Deccan trap overlain by the Gaj formation which is further subdivided as Ranjitpur limestone (Bhatt 2000). The unit comprises of typical yellow to brown coloured very fossiliferous limestone, which is extensively bored and contains recrystallised shells and fragments of coral. The age of this unit is lower Miocene (Bhatt 2000).

The place was known as *Pinda-taraka-ksetra*, and was famous as a site of pilgrimage as early as the 8th century A.D. (Ansari and Mate 1966). It derives its name from Kund (pond) called Pindatarak, meaning one which causes an offering of a rice ball to float. It is said that it was a city called *Devpuri* existing even before Dwarka and that *Durvasa*, *Agastya* and other *rishis* resided there.

Pindara is mentioned as *Pindaraka* in Mahabharata as a pilgrimage place (*Anushasanparva* 25.57). The ancient site of Pindara is situated about 3 km north of the present village. The oldest archaeological antiquity of Pindara is dating back to Early Palaeolithic (IAR 1965-66). A small-scale excavation at the site yielded Red Polished Ware and pieces of amphorae suggesting an early historical settlement and overseas interaction with the Mediterranean coast (Ansari and Mate 1966). Later on it was an important centre of temple architecture as a huge temple complex was built between the 7th and 10th century A.D. Pindara is also a minor port of Gujarat where presently fishing activities are undertaken.

The temple complex situated on the shore is a protected monument. The temples at Pindara comprise of a square sanctum (*Garbha griha*) and a heavy superstructure over it. Most of the temples face east. The walls of the temples are plain. The most famous among them is a Sun Temple, which is located about 100 m from the high water line.

Archaeological Site

A low mound covered with dense shrubs is situated close to the shore. At a few places foundations of a few structures made of irregular small limestone blocks are exposed. The pottery observed on the surface of the historical period

Submerged Remains

Artefacts are spread in the inter-tidal zone of Pindara in an area approximately 10 x 10 m (Fig. 3, see cover 2). The area of plinth of the temple measures 4.6 x 4.6 m (Fig. 4). The floor area of the temple is well-preserved while the superstructure has been destroyed by the sea, and stone blocks have been either sifted or robbed away. Dressed limestone blocks (measuring 50 x 40 x 22 cm) have been used in the construction of this temple. The temple is oriented in E-W direction and entrance appears to be on the eastern side. The temple was dedicated to Lord *Shiva*, as a *yonis* is present in the middle of the temple complex. The *yonis* measures 40 x 40 cm (Fig. 5, see cover 2). The architectural features of the submerged temple correspond more or less with existing temple on the shore of Pindara. The size of the submerged temple must have been as big as other surviving temples in Pindara group of temples.

Another huge dressed square stone block engraved with *yonis* is lying north of the present temple (Fig. 6). The size of the block is 100 x 100 x 45 cm and the size of *yonis* part is 40 x 35 cm. The surface of the block is covered with thick growth of barnacles.

Discussion

The archaeological evidence of Pindara suggests an early historical settlement close to the present coast. Earlier

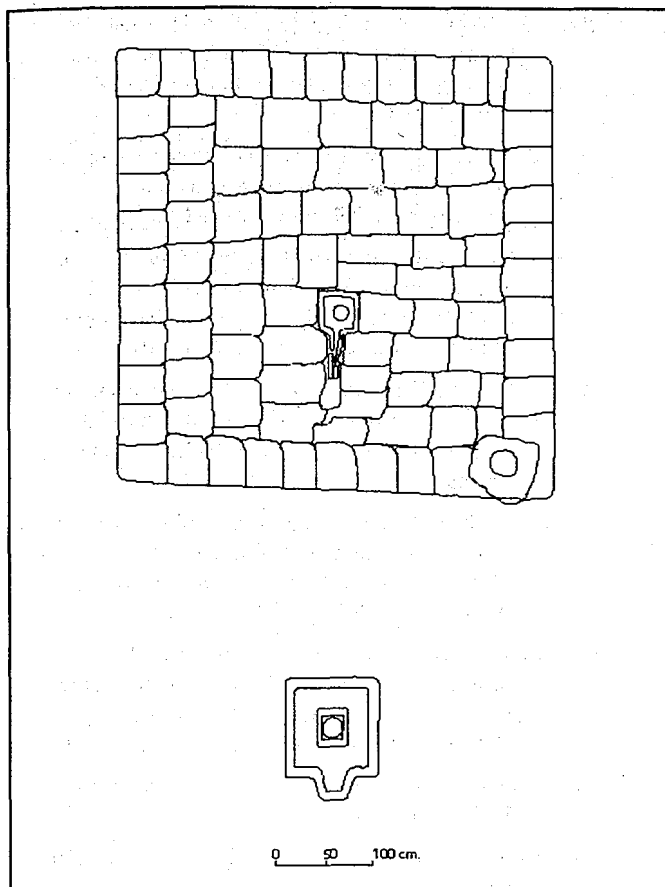


Fig. 4 The size of temple complex in inter tidal zone of Pindara.

excavations yielded the early historical pottery and a few amphorae sherds indicative of overseas trade (Ansari and Mate 1966). Similarly, Dwarka and Bet Dwarka (Gaur *et al.* 2006) were active as maritime centres during the early historic times.

The ancient coastlines of Gujarat have been well recorded on the basis of geological formation and at least 2 higher strandlines were recorded: +20 m and +6 to +10 m dating back to Pleistocene and Holocene, respectively (Patel 1991). The changes in coastlines of the Gujarat have also been studied on the basis of archaeological findings (Gaur and Vora 1999). These suggest that sea level was higher during the mid Holocene. To the east of Pindara there are three small Harappan sites, namely Amra, Lakhabawel and Vasai, located on the tidal rivers, and supposed to be port towns (Rao 1991). However, now tidal water is not reaching up to the site. This indicates a higher sea level during Harappan times (Gaur and Vora 1999).

The recent study of coastline around Bet Dwarka Island; which is close to Pindara indicates a lower sea level during the early centuries of the Christian era (Gaur *et al.*

2007). This is the first instance of the submergence of a temple complex on the northern Saurashtra coast. However, there are other instances of submergence of coastal temple complex dating back to the 6th to 8th century A.D. at Mahabalipuram (Sundaresh *et al.* 2004) on the east coast of India. Similarly, temples dating back to the 11th-13th century A.D. have been damaged by sea near Poompuhar and Tranquebar on the east coast (Sundaresh *et al.* 1997). Close to Pindara an archaeological site was excavated at Bet Dwarka Island and it yielded evidence of lower sea level about 2000 years ago (Gaur and Sundaresh 2003). It suggests that this coast has been unstable during last 2 millennia. The above mentioned evidence indicates that sea level was lower between 2000-1000 years along the Gujarat coast and same rose by about 1-2 m during last 1000 years. It is difficult to assign one particular reason for the submergence of this temple complex. However, it is well known fact that the area is seismically very active (Rajendran and Rajendran 2001) and could have played an important role in the submergence of many sites along the coastal belt of Gujarat. Recently it is being strongly argued that many archaeological settlements must have been



Fig. 6 A square block with *yoni* lying in inter tidal zone of Pindara

destroyed by the Tsunami waves, however, we need additional evidence to establish the fact. This submerged temple complex has certainly opened up a new arena for study of coastline and shoreline changes during last 1000 years of Gujarat.

Conclusion

The northern Saurashtra coast has been occupied since the earliest time and during the Harappan period the coast was dotted with several ports. The coastal site of Pindara was an important port centre that was active during the early centuries of the Christian era. The site finds reference in the ancient texts and it was a religious centre as a number of temples were constructed around the 7th-10th A.D. The pottery reported earlier indicates maritime activities during the historical period. Pindara has been the centre of pearl fishing in the recent past. The discovery of a temple remains in inter tidal zone suggests the coastline movement during the last 1000 years or so. Being situated in seismically active zone the coastline is vulnerable to changes rapidly.

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Fig. 3 Archaeological site in inter tidal zone of Pindara and exposed during low tide.



Fig. 5 Remains of a temple complex exposed during low tide