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Lothal as a Port Town: Trade Networks and Cultural Exchange in the Harappan Civilisation

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Abstract
The Harappan civilisation (c.2500BCE to 1500BCE) was one of the earliest urban civilisations of the world, known for its town planning, advanced craft production, standardised material culture and extensive trade network with the world. Among the many important Harappan settlements, Lothal holds a unique position as a port town that played a crucial role in maritime trade. It is located in present-day Gujarat. Lothal acted as a significant link between the inland Harappan region and overseas areas.
This paper examines Lothal as a port town and analyses its role in developing trade networks and cultural exchange in the Harappan Civilisation. Archeological evidence such as the dockyard, bead making workshops, warehouses, seals, standardised weights and references to Meluhha in Mesopotamian records highlight Lothal's importance as a center of trade and commerce. The study further examines the cultural impact of these trade interactions. The circular seals and clay labels with Indus motifs often found in the Persian Gulf and Mesopotamia, show long-distance maritime trade, but the discovery of seals with swastika and eagle motifs found in Mesopotamia provides significant evidence of profound cultural exchange. This research article is based on primary sources such as archeological evidence and Archaeological Survey of India Excavation report on Lothal by S.R. Rao, supported by secondary scholarly works. The paper concludes that Lothal functioned not only as an economic hub but also as a space of cultural exchange. This indicates that trade routes in the Harappan period served as important pathways of cultural interaction.
***Keywords**: Lothal, Harappan civilisation, Port Town, Maritime trade network, cultural exchange, economic hub*

Introduction

The discovery of Lothal was closely linked to the search for Harappan sites within post-Independence India after 1947. Since major centers like Harappa and Mohenjo-daro became part of Pakistan, Indian archaeologists began exploring regions of Gujarat and Saurashtra. Excavation at Rangpur in 1931, led by S. R. Rao in 1953 confirmed that the Harappan civilisation had extended as far south as Gujarat. This exploration resulted in the excavation of Lothal between 1955 and 1964, revealing an important Harappan settlement. Lothal is situated between the Sabarmati River and its tributary Bhogavo in Gujarat, about 19 kilometers from the Gulf of Khambhat today. However, geological and archaeological evidence suggests that in the third millennium BCE, tidal waters could reach the site through river channels. The site, covering about 300 meters, consists of a citadel (acropolis), a lower town, a warehouse, and a massive brick-built dockyard. Artefacts such as seals, beads, stone anchors, and terracotta boat models indicate strong maritime connections. Although scholars have largely emphasised Lothal's commercial importance, its broader cultural implications remain comparatively less explored. This paper argues that Lothal functioned not only as a port town engaged in maritime trade but also as a cultural contact zone, where maritime trade facilitated the exchange of ideas, social practices, religious beliefs, and regional interaction within the Harappan world.

Literature review

Several scholars have examined Lothal as an important center of the Harappan civilization. S. R. Rao, who directed the excavation of the site (1953-64), strongly argued that the large brick

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trapezoid structure at Lothal was a dockyard. He emphasised its engineering features, inlet channels, spillway system, seal, bead making factory, pottery and anchor stones as evidence of maritime trade. His work highlights the commercial and technological importance of Lothal as a port, but he gives attention to trade and cultural exchange separately (Rao 1979: 230 - 235).

R. S. Sharma in his book Ancient India (Old NCERT) discussed the maritime trade with Mesopotamia. He focused on economic structures and material exchange. However, his analysis treats economic and cultural developments largely as separate processes (Sharma 1991: 61).

Dr. Vasant Shinde has contributed significantly to Harappan studies through archaeological research on settlements and craft production. He emphasises regional interaction and trade networks but gives limited attention to how maritime trade influenced cultural practices.

Most existing studies therefore focus primarily on economic and commercial aspects of Lothal. Culture and trade are often discussed separately. This study attempts to bridge that gap by examining how maritime trade at Lothal influenced religious practices, social identity, and cultural exchange, making the port not only an economic hub but also a center of cultural interaction.

Objectives of the study

1) To examine Lothal as a significant port town of Harappan Civilisation.
2) To examine Lothal as a maritime port town using archaeological, structural and environmental evidence.
3) To explore how maritime trade influenced cultural exchange at Lothal.
4) To analyse archaeological evidence such as the dockyard, anchor stones, seals, and warehouse remains to understand its maritime function.
5) To study the maritime trade network of Lothal with Mesopotamian Civilisation.

Research Methodology

1. **Research Design:**

This study adopts a qualitative, interpretative, and descriptive analytical research design. It seeks to examine Lothal not only as an economic port but as a cultural contact zone shaped by maritime exchange.

2. **Sources and Data:**

The research is primarily based on secondary data, including excavation reports by S. R. Rao, works of R. S. Sharma and Dr. Vasant Shinde, peer-reviewed journal articles, and recent scientific studies on marine microfossils and paleo-channel mapping. Archaeological findings such as the dockyard structure, inlet systems, warehouse remains, anchor stones, terracotta boat models, seals, and trade artefacts are systematically examined.

3. **Archaeological and Structural Analysis**

Structural features of the dockyard are analysed to assess their maritime function. Artefacts associated with trade and religious symbolism are interpreted within their spatial and cultural context.

4. **Environmental and Scientific Analysis**

Marine microfossil evidence and geomorphological studies are evaluated to reconstruct ancient tidal conditions and riverine connectivity, supporting the maritime interpretation.

5. **Theoretical Framework**

The study draws upon the concept of cultural diffusion and contact zone theory to understand maritime trade as a medium of cultural exchange rather than merely economic activity.

6. **Limitations**

The research is limited to available archaeological and published data and does not include field excavation.

Lothal as Port town:

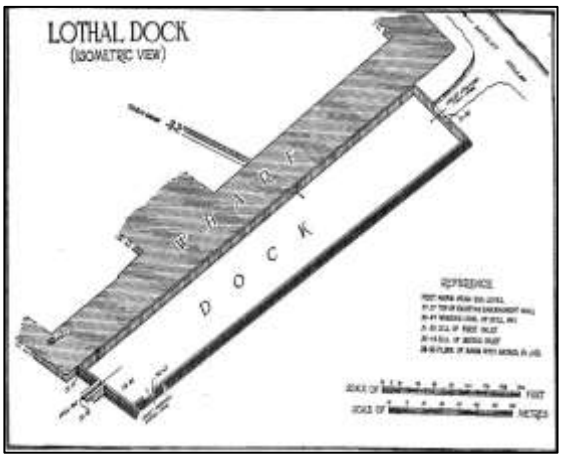


Fig. 1: Lothal Dock (Isometric View).
Source: Rao, S R (1979): Lothal: A Harappan Port Town (1955–62), Vol 1, New Delhi: Archaeological Survey of India, p 124.

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The Harappan civilisation is generally known for its urban planning, drainage system and standardised brick architecture, public architecture. However, the site Lothal in present day Gujarat presents a different dimension of Harappan maritime activity. Lothal is significant as it has the world's first dockyard for long distance overseas trade. Excavation at Lothal revealed a massive trapezoid burnt bricks-built basin as dockyard, inlet channels, anchor stones, marine deposits and terracotta boat models, these archeological evidences suggest that Lothal was not merely an inland settlement but a functioning as port town connected to see based trade network with Mesopotamian and Persian-gulf civilization in 3rd millennium BC. This paper argues that structural, artifactual, environmental evidence collectively establishes Lothal as a port town.

The strongest evidence for Lothal's identification as a port town is the burnt bricks trapezoidal basin interpreted as a dockyard (fig.1). It lay on the eastern side of the settlement. The basin measuring approximately 716 ft on western and 705 ft long on Eastern side, while 123 ft in North and 117 ft in south. The wall nearly14 ft high and about 5 to 6 ft wide at the base, indicating their ability to store water.

Rao argued that "the basin is enclosed by kiln-fired bricks which were too expensive to be used even in the construction of important residential buildings in the acropolis" (Rao 1979: 127). This indicates that the trapezoid structure is vital for the town and these expensive bricks would not have been wasted on the construction of the tank. It was important for the economy of the town as it acted as a trading port of Harappan Civilisation.

Impotently, no steps or ramps were discovered leading into the basin, which clearly shows its identification as dockyard, not a water storing tank. S. R. Rao mentioned that, 'In the excavation at Lothal, he found the estuarine shells in the basin, some studies find marine microorganism fossils and salinity of silt from the dock, these all are the evidence of that the sea water reached the dock and Lothal around four thousand years ago (Rao 1979: 127).

Oza's report clearly says that "sea passage to Lothal and the trapezoid brick walled enclosure could not be meant for storing water. The walls of the basin are said to be suitable as a dock wall."

Along the western side of the dock, a mud brick platform interpreted as a wharf, it acted as a place where goods were loading and unloading. It indicates that it was constructed for berthing ships, thereby supporting Lothal's function as a port town.

Archeological evidence strongly supports maritime activity at Lothal. Five anchors were discovered at dockyard, these anchors are grooved for typing ropes, showing they were used for mooring ships. The discovery of anchors within the dock may link the structure to maritime trade.

All the above archeological and literary sources prove that Lothal had a port town which actively traded with Mesopotamian civilisation.

Trade contact between Lothal and Mesopotamia

The discovery of the trapezoid brick structure as a dockyard near the warehouse at Lothal, provides strong evidence of oversea Maritime trade. It was located near the Gulf of Khambhat, formed part of a chain of coastal settlements including Sutkagendor, Balakot and other ports on the Makran coast, indicating a clear maritime orientation (Rao 1979: 230).

Archaeological findings such as seals, pottery and trinkets of Sumerian found at Lothal and the Indus seals, beads and weight Found in Sumerian sites suggest a flourishing trade between Lothal & Sumeria in 2nd & 3rd Millennium BC (Rao 1979: 230)

The Finding of Persian Gulf Seal at Lothal & Several Circular Seal with Indus motifs of Persian origin found at Bahrain & Failaka. This indicates the Persian Gulf acted as intermediate.

Textual evidence from Mesopotamia further confirms the existence of sea trade with the Indus Valley Civilisation and Lothal. Mesopotamian records refer to trade with Meluhha, widely identified with the Indus Valley Civilisation. Clay tablets from Ur mention trade connections with Dilmun (Bahrain), Makkan or Meluhha (IVC). These references suggest a maritime trade route running through the Persian Gulf. During the Sargonic period (2350 BCE) ships destined for

Meluhha are mentioned in Mesopotamian texts, indicating structured commercial interaction.

Archaeological evidence strongly supports these textual references. Harappan seals have been discovered at Mesopotamian sites such as Ur, Kish, Nippur etc. However Mesopotamian seals are absent at Lothal, suggesting that trade may have operated through intermediaries rather than direct trade.

The types of goods exchanged show that large scale of maritime trade. Lothal was a major center for bead production, where hundreds of etched and non-etched carnelian beads were found in different stages of manufacture. Similar beads discovered at Mesopotamia like Ur and Susa suggest that they were exported.

Cultural exchange through the maritime trade

Lothal is located between the Sabarmati and its tributary Bhogavo river in Saurashtra, Gujarat. It was a significant port town of Harappan Civilisation, The archaeological evidence such as trapezoid structure as dockyard, bead making factory, warehouse, merchants houses, terracotta model of boats and idol of sea goddess suggests that it played a crucial role in maritime trade between Lothal and Mesopotamian Civilisation, the exchange between these regions was not limited to goods such as beads, ivory, copper, cotton, rice, shells and gemstones, it also involved the transmission of artistic style, seal making technology, religious ideas, technology and social practices.

The close resemblance between the themes of the provincial style of pottery and those noticed on west Asian pottery. The discovery of Indus seal at Ur, Mesopotamian sites and Persian Gulf seal found at Lothal, references to ‘Meluhha’ in Mesopotamian text together indicates Lothal was active maritime trade with Mesopotamian and Persian Gulf. This interaction led to cultural influence while still Lothal preserving its regional identity.

Artistic exchange (Provincial style of painting)

Trade often results in the exchange of ideas, technology, social and religious practices between trading communities. Being a port town Lothal was a cultural exchange hub of its artistic exchange. The painted earthenware of Lothal demonstrates significant artistic exchange between Lothal and west Asia. The resemblance of motifs between Lothal and west Asian civilisation suggests cross cultural exposure through maritime trade.

Religious and Ritual Exchange

Religious symbols and ritual practices of Lothal reflect intercultural interaction facilitated by trade networks. Some religious symbols of Indus valley civilisation found at Mesopotamian civilisation show two-way religious tradition exchange. Archaeological findings include bull amulets, snake motifs painted on earthenware shows snake worship similar to snake sacrifices prevalent in Bahrain (Dilmun) and snake worship in Gumla in Gomal valley region (Rao 1979: 238). This shows the exchange of religious tradition via trade.

Dr. Soni Wadhwa notes that Vanavatimata / Vahanvatimata is an idol of the sea goddess found on the platform on dock that is quite similar to Sikotrimata, denoting a parallel with a similar goddess in the island of Socotra in western Asia.” (Wadhwa 2020:7). This shows that the tradition of worshiping sea goddess transferred with maritime trade.

Technological exchange

Maritime trade between Lothal and Mesopotamia also influenced the seals of Harappa. Dr. Soni mentioned that, Harappan seal in general shows Mesopotamian influence whorl design, man grappling with two animals this shows the technique of seal making influenced by Mesopotamian civilisation through maritime trade. seal with swastika and eagle motifs found at Mesopotamian civilisation that indicates cultural exchange.

Conclusion

The archaeological, structural, textual and material evidence strongly supports the interpretation of Lothal as a significant maritime center of the Harappan Civilisation. The dockyard structure, standardized weights and measures, bead-making industry and the presence of foreign materials such as Mesopotamian seals collectively demonstrate that Lothal was not an isolated settlement but an active participant in long-distance trade networks. These trade interactions facilitated not only economic exchange but also

cultural transmission, visible in artistic motifs, technological practices and material culture. Lothal thus represents a model of early urban planning integrated with maritime commerce. The study highlights that the Harappan civilisation possessed advanced knowledge of navigation, maritime engineering and international trade organisation much earlier than traditionally assumed. Future interdisciplinary research combining archaeology, marine geology and trade route reconstruction may further refine our understanding of Lothal's strategic role in Bronze Age global exchange systems.

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