

Ports and Trade Networks of the Tamiraparani Delta of Tamil Nadu

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ABSTRACT

The deltas of Tamil Nadu in southern part of India have several ports that acted as nodes of maritime networks. Evidence of prehistoric hunter-gatherers is found in the Tamiraparani delta in the red sand dunes of Teri in the form of microliths. In the Iron Age the Tamiraparani region witnessed megalithic settlements with burial sites. The famous urn burial site of Adichanallur is located in this region. Evidence for early historic trade interaction is found at the site of Korkai, which has been identified as the center of the early Pandyan kings. The port of Korkai is discussed in the early Tamil literature and archaeological excavation has revealed evidence for urban activities. In the Medieval period, Kayal became an important port of trade and it is referred to in the medieval textual sources. It was a major center for horse trade and the temple of Tiruppudaimaradir in the Tamiraparani region has evidence of Arab horse traders in the form of mural paintings. The region is well connected with the Western Ghats and a trade route connecting Kerala and Tamil Nadu region. The main research problem of the paper is to understand the nature, function and foreland and hinterland networks of the ports of Tamiraparani valley. The paper discusses the archaeological evidence of ports of the early historic and medieval periods (Korkai and Kayal) and the maritime networks that connected with these ports using textual and archaeological sources. The data sources are collected from the author's fieldwork, critical study of primary sources and collection of secondary literature.

Keywords: Korkai; Indian Ocean Trade; Indo-Roman Trade; Kayal; Horse Trade

INTRODUCTION

The Tamiraparani delta lies in the southern part of Tamil Nadu, adjacent to the Palk Strait that separates India and the island of Sri Lanka. The Tamiraparani river originates near Agastiyakoodam in the Western Ghats mountains and meets the Gulf of Mannar, which is part of the Bay of Bengal, near the ancient port of Korkai and south of the modern port of Tutukudy/Tuticorin. The Tamiraparani river valley is one of the historically important regions of Tamil Nadu with the evidence of the cultural remains of the Microlithic, Iron Age, Early Historic and historical periods. This paper discusses the ports and trade networks of the Tamiraparani delta mainly in the Early Historic and Medieval periods.

ENVIRONMENTAL BACKGROUND

The Tamiraparani river valley lies between Latitudes 8° 21' N and longitudes 9° 13' N; and 77° 10' E and 78° 15' E. The river flows for about 130 km towards the east before joining the Gulf of Mannar and it is known as Porunai in the Tamil texts and inscriptions (PAN 2021, 19-23). Tirunelveli, district headquarters in the west, and Tutukudy (Thuthukudy), district headquarters and port in the east, are the important centres located in the river valley. The popular name of the river "Tamiraparani" is known as Tambapanni in Prakrit language, and is cognate with the name of Sri Lanka, which is referred to as Tambapanni in the inscriptions of Asoka (Sen 1956, 66). The Korkai bay, which is near the coast, abounds in tanks and backwater-bodies now. It has been argued that the river Tamiraparani might have flowed further north, from its current course, in the early historic period and then moved southwards (Arunachalam *et al.* 2006, 278-280). Kayal was another port that developed in the medieval period and is located further east of Korkai in the Tamiraparani delta. Geological investigations reveal that the Korkai bay must have been a prominent feature adjacent to the coast, in the early historic period (Arunachalam *et al.* 2006, 278-280).

The trenches excavated at the site of Korkai as part of archaeological excavation by Tamil Nadu State Archaeology Department in 2021 revealed water-logging in the lower level, below 1.5 m from the surface level (Tangadurai, Personal Communication, 2023) suggesting possible lower sea-level in the early historic period. Although the Tamiraparani river valley forms a distinct drainage system, south of the Tamiraparani river flows the Nambiyar, which originates near Tirukkurungudi and flows parallel in the south, can also be treated as part of the broader cultural region of the Tamiraparani river valley. The Gulf of Mannar is famous for pearl fishery and marine shells are abundant in this region (Athiyaman 2000, 1-5; Arunachalam 2011, 1-8), the river valley is suitable for agrarian produce, and the Western Ghats has rich forest resources including spices.

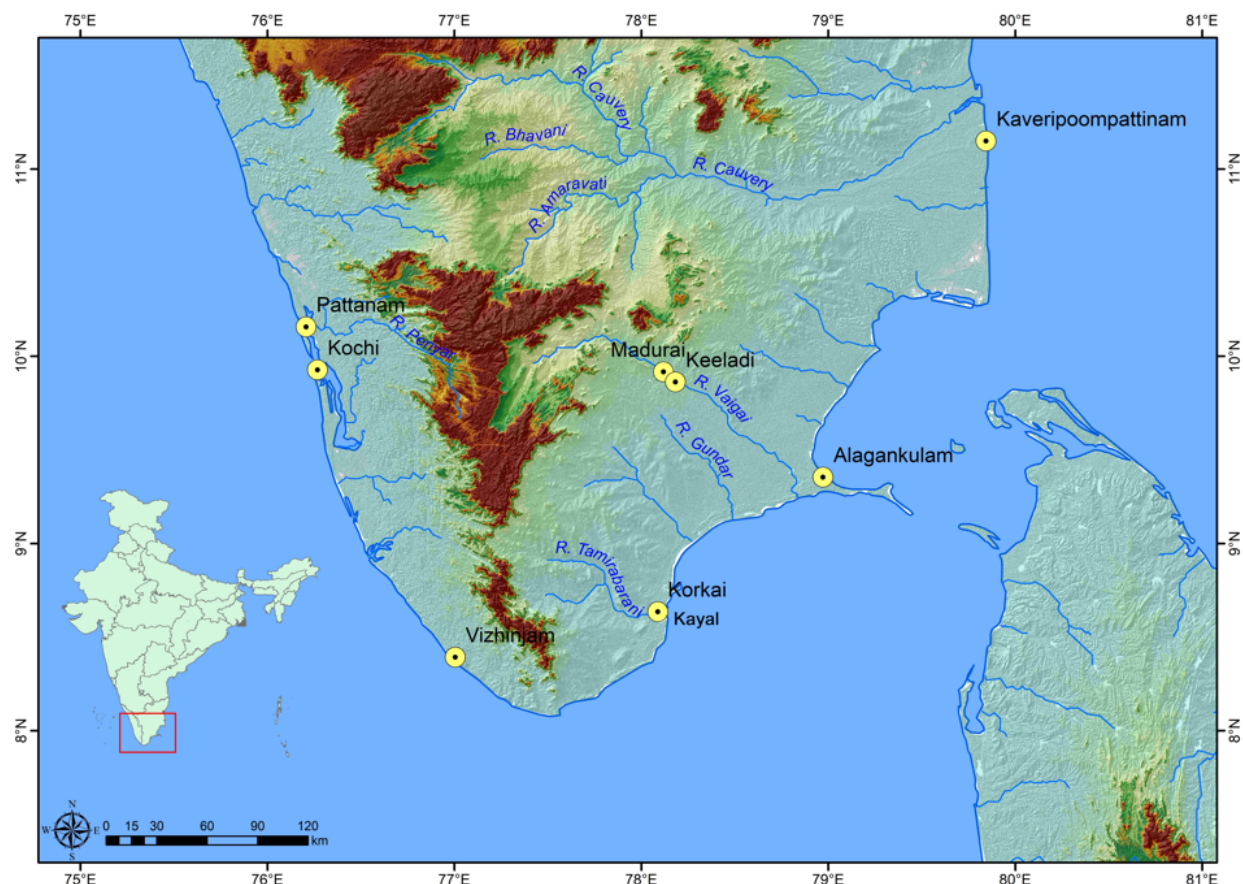


Figure 1. Map of Southern Tamil Nadu and Sri Lanka with important Sites, by Shika Rai

HISTORY OF RESEARCH

Arch Bishop Robert Caldwell published on the history of this region (1881). He excavated the sites of Korkai and Kayal and identified urn burials (1887, 80-82, 82-83, 279-290). Based on the study of the urn burials and the human bones, it has been argued that the people who were buried in the urns were physically similar to the contemporary population of Tirunelveli region. Robert Bruce Foote explored this area and identified microlithic sites and the Mesolithic formations of the Teri Sand dunes (Foote 1884, 1-98) and artifacts of microliths have been identified by Zeuner and Allchin (1956, 4-20). Alexander Rea explored several megalithic burials sites in this river valley and excavated the famous urn burial site of Adichanallur and unearthed voluminous cultural materials (Rea 1915, 1-40). Mangudi in Sankarankoil

Taluk further north of the Tamiraparani valley excavated by Tamil Nadu State Department of Archaeology exposed microliths beneath the Iron Age-Early Historic remains (Shetty 2003, 1-3). Subsequently, the urn burial site of Adichanallur was re-excavated by Archaeological Survey of India in 2005 (Satyamurthy 2007, 55-66; Bhadreenath 2021, 1-15; Nambirajan *et al.* 2009, 57-61). Archaeological excavation is ongoing now to establish the site museum at Adichanallur and the task is undertaken by the Archaeological Survey of India from 2021 (Arunraj *et al.* 2022, 6-13). Tamil Nadu State Department undertook excavations at the habitation site in the village of Adichanallur in 2021 and also at Korkai (PAN, 2021). An archaeological survey of Tamiraparani region has been undertaken by Tamil Nadu State Archaeology Department in 2021-2022 and they have identified several archaeological sites (Tangadurai, Personal Communication, 2023). The Megalithic burial site of Sivakalai in the Tamiraparani delta has been excavated and dates of ca. 1155 BCE has been obtained on the urn burials (Rajan *et al.* 2021, 57-86). N. Athiyaman has discussed the importance of the ports of southern Tamil Nadu, mainly in the Gulf of Mannar region (Athiyaman 2014, 1-15). This region has paintings and sculptures related to the maritime activities in the temples and they have been studied by Athiyaman (2015, 99-111). The excavated materials from Adichanallur, especially the copper-bronze artifacts have been studied for their metallurgical contents and it has been found that these artifacts have high tin content as found in other megalithic bronze artifacts (Paramasivan 1944, 87-93; Srinivasan 2017, 807-812).

KORKAI IN LITERATURE

Korkai is spoken in early Tamil as well the Greek literature as an important port and centre for marine resources, especially pearl and chank (*Turbinella Pyrum*). This section describes the poetic narration of Korkai in early Tamil literature.

Tamil Literature

The Tamil Sangam texts are generally placed in the early centuries of the Common Era and a few of these texts could extend to the early medieval period (Zvelebil 1974, 1-50). While the information and composition of some of these poems were undertaken in the early period, these texts were compiled into a corpus in the early medieval period, ca. sixth to ninth centuries CE.

Marine Resources of Korkai

The Sangam Tamil texts often refer to the importance of the town of Korkai for pearl fishery and marine shell industries.

Akananuru (poem 27) mentions that the large port (*perunturai*, *Peru* = large and *turai* = port, in Tamil) of Korkai was protected ethically and peacefully by the Pandya king who was involved in bloody, violent battles. The town was famous for pearl fishery, and the pearls from the town are compared to the teeth of the heroine in the poem.

Akananuru (poem 201) refers to the shining pearl of Korkai *munturai* (*Mun* = front and *turai* = port, in Tamil), and conch (*Turnbinella pyrum*). In the famous town of the Pandya, who were victorious with the support of elephants efficient in warfare and the women of the fisher-folk, who wear leaf dress, deposit pearl and the *Turbinella pyrum* with the opening on the right-side. The chank shells with the opening on the right-side are considered rare and more valuable. Such chanks are known as *valampuri* in Tamil and are highly priced even today.

Narrinai refers to the front port (*mnturai*) of Korkai as yielding pearls (*Narrinai* 23:5). Here the Tamil term of *mnturai* used to refer to the port is interesting. Some scholars suggest that *mnturai* as a front port, which was very close to the mouth of the river and *perunturai* (large port or main port) was in the interior. Munturai might have referred to the actual port or ferry context nearby the river, while Perunturai referred to the town in a broad sense.

Aingurunuru (185, -2) poem mentions the *mnturai* port of Korkai where *neytal* flowers (*Nymphaea nouchali*) and pearls are scattered and they resemble the teeth of the heroine. The poem narrates that the waves bring the shining pearls onto the shore and the pearls trouble the hooves of the moving horses. She wears the fine shell bangles cut out of *Turbinella pyrum*, by a sharp tool. Such poetic narrations are exaggerations that speak about the abundance of pearls in the region.

Cilappatikaram, an epic work in Tamil, mentions the pearl from the Korkai *perunturai* (14. 180). *Maduraikkanchi*, another text of the Sangam corpus, has a more vivid narration. Pearls, and the bangles cut from *Turbinella pyrum*, and the various commodities of Paratar, and the salt, the dry fish supplied by those who drove the *timil* boats, and the sailors of *navai* and *kalam* who brought horses reached Madurai (*Maduraikkanchi*, 316 – 325). Here *navai* and *kalam* are two types of seagoing watercraft used by merchants, while *timil* was the boat often used by the fisherfolk. The same text talks about the quarters where the bangle makers lived (*Maduraikkanchi* 134–138).

The literary narratives are very clear that pearls and marine shells were extensively exploited in the region of Tamiraparani delta.

Political Control of the Pandyas

An important category of information from the literature pertains to the political control of the port of Korkai. Although the existence of strong political control in the early historic period was a matter of debate (Gurukkal 2012, 1-20), the poems are very categorical that the port of Korkai was controlled by the political power of the Pandyas.

Akananuru poem 130 refers to Korkai as *narrer Valuti* Korkai *mnturai*, which means the front port of Korkai, belonged to the king Vazhuti, who had fine chariots. *Aingurunuru* (185:1-2) poem is clear that the port of Korkai was controlled by the Pandya king Vazhuti. Several Pandya kings had the title Vazhuti; for example Ukkirapperuvazuti and Maran vazhuti. Coins of the early historic period with the name “vazhuti” have been found in Tamil Nadu. The title *Korkai Koman* (*Sirupanarruppatai* 62-63), which means the headman of Korkai and another title ‘Korkai Ventu’ (*Cilappatikaram* 10, 65), which means the ‘chief of Korkai,’ strongly suggest that the Pandya king controlled Korkai.

Greco-Roman Literature

The Periplus Marei Erythrea mentions Korkai as Colchi and it also refers to the pearl fishery here was undertaken by condemned criminals. It also states that the town was under the control of the Pandyas (Schoff 1912, 46). The text of Ptolemy which is dated to the second century CE also speaks about Korkai as ‘Kolkhoi’ and also as an emporium (Renou 1925, 6).

While describing the area north of Korkai it says “Beyond Colchi there follows another district called the Coast Country, which lies on a bay, and has a region inland called Argaru. At this place, and nowhere else, are bought the pearls gathered on the coast thereabouts; and from there are exported muslins, those called Argaritic.” (Schoff 1912, 46). The identity of this settlement and interior region is not certain. The place of Argaru was identified with Uraiyur, the capital of the Cholas lying further north, and based on the excavation and the finding of tanks identified as dying-vat (Raman 1988, 1-5); it is argued that such

clothes were produced at Uraiyur. Since pearls and other marine resources were brought to this town, it could well be the area near Alagankulam (Sridhar *et al.* 2005, 1-5) and the hinterland could be the region east of Madurai. Keeladi in this region could be a potential early historic urban settlement associated with textile production (Amarnath Ramakrishna *et al.* 2019). The name Argaru could be the contemporary name of Arrankarai near the mouth of the river Vaigai or the ancient name of Aruppukkottai, which is famous for the textile industry. The textile class of *aruvai* referred to in the early Sangam texts (Athiyaman and Athithan 2018, 41-50) could have been the original name of argaru of the *Periplus*.

IMPORTANT ARCHAEOLOGICAL SITES IN THE TAMIRAPARANI VALLEY

Archaeological surveys have revealed several prehistoric, Iron Age and Historical sites in the Tamiraparani valley. This region is also rich in historical settlements, inscriptions and temples. Some of the important historical settlements related to maritime activities are discussed here in this section.

Exploitation of marine resources in the Tamiraparani region might have begun in the mid- second millennium BCE, although archaeological evidence has not been identified in this region. Excavations at Molapalayam near Coimbatore have produced marine shells of *Turbinella pyrum* and *Oliva sp.* used as ornaments in 1600-1400 BCE context (Selvakumar *et al.* 2022). Such shells are found in the Deccan Chalcolithic and Southern Neolithic cultures of India suggesting the early exchange in marine shells (Deshpande-Mukherjee 2006, 259-83). Evidence of Iron Age settlements are found in large numbers in the Tamiraparani river valley.

Korkai

Korkai is in Sri Vaikuntam Taluk of Tirunelveli district and lies in the delta of Tamiraparani valley. Adichanallur lies about 15 km further inland and the microlithic site of Sawyerpuram lies three km from the site. Korkai was excavated by Tamil Nadu Archaeological Department in 1968-69 and in 2020-21. Based on the excavations, three cultural periods have been identified and they can be described as Early Historic, Early Medieval and Mid-Medieval (Majeed 1987, 73-77; Sridhar 2004, 48). Brick architectural remains, urns, ring wells, soakage jars, pottery with Tamil-Brahmi inscriptions, cut pieces of shells and bangles, beads of semi-precious stones, Northern Black Polished Ware, rouletted ware fragments have been excavated at the site (Figures. 2-3). A radiocarbon date of 785 BCE was obtained from a trench (Sridhar 2004, 56). The re-excavation of the site in 2021 produced similar findings.



Figure 2. A ring well or Soakage Jar (?), Korkai, Courtesy: Tamil Nadu State Archaeology Department



Figure 3. Brick Structure, Korkai, Courtesy: Tamil Nadu State Archaeology Department

Sivakalai

Sivakalai is an urn burial site in Tamiraparani valley. The areas of Srimoolakarai, Sivakalai Parambu. and Parakiramapandi Thiradu have been excavated by Tamil Nadu State archaeology department in 2020 onwards. They have found evidence of urn burials, human skeletons and evidence of rice husk. An AMS date of 1155 BCE (PAN 202, 16-171; Rajan et al. 2021) is available for the site. The early date suggests the possible beginning of the Iron Age in the late second millennium BCE.

Adichanallur

Adichanallur was an important Iron Age burial site in this region which has been investigated for more than a century since 1877 (Rea 2015, 1-40; Satyamurthy 2007, 55-66; Bhadhreenath 2021; Arunraj *et al.* 2022, 6-13). The burial site has produced a vast quantity of grave-goods including iron objects, copper bronze artifacts and gold objects indicating the establishment of agricultural and pastoral communities. Although the habitation site associated with the burial site has not been identified, the evidence proves that the Tamiraparani valley was extensively occupied by the Iron Age communities, who were involved in rice cultivation and had some degree of craft specialization from early first millennium BCE (Table 1). The diverse varieties of metal objects suggest possible long distance trade.

Kayal

Kayal area with a cluster of settlements variously known as Pazhayakayal and Kayalpattinam was the port of the Medieval period from about 12th century CE and it is mentioned as Cail and Qail in the literary accounts. Marco Polo, Wassaf and the Arab sources (Dayalan 2019, 28-29) and the Chinese accounts (Roderich 1993) mention the port and its activities. Kayalpattinam has evidence of medieval Islamic architecture (Shokoohy 1993). Kayal was famous for trade in horses and it was a major centre for Arab traders (Anas Babu 2015, 1-15). Marco Polo describes it as an important port and says "all ships touch that come from the west, as from Hormos and from Kis and from Aden, and all Arabia" (Roderich 1993, note 2). The continued importance of Kayal in the later period indicates the strategic location of the Tamiraparani delta in the maritime trade routes of the Indian Ocean network.

Tiruppudaimarudur

Tiruppudaimarudur is a settlement with a temple depicting the paintings of Arab ships (Athiyaman 2015, 99-111). While Tiruppudaimarudur is in the interior at the confluence of the Kadana river with the Tamiraparani river, the depiction of theme of an Arab ship loaded with horses indicates the predominance of the horse trade and its impact on the overall political and social developments in the Later Medieval period and more particularly the role of this region in the maritime trade associated with horse trade.

Tirukkurungudi

Tirukkurungudi is another medieval temple with sculptures of an Arab ship and maritime activities (Athiyaman 2015, 99-111). Tirukkurungudi is located in Nanguneri taluk of Tirunelveli district. It lies 40 km north of Kanniyakumari and 45 km from Tirunelveli.

Table 1 Radiocarbon Dating for the Iron Age sites in Tamil Nadu* Calibrated using <http://calib.org/calib/>

Site Name	Radiocarbon Date Cal BCE	Reference
Sivakalai	1155 BCE	Rajan <i>et al.</i> 2021
Adichanallur	855 BCE	Rajan <i>et al.</i> 2021
Adichanallur	640-650 BCE	Bhadrhreenath 2021, 144
Adichanallur*	770-795 BCE	Bhadrhreenath 2021, 144
Adichanallur*	795 -830 BCE	Bhadrhreenath 2021, 144
Adichanallur*	795-835 BCE	Bhadrhreenath 2021, 144
Korkai	785 BCE	Maloney 1976
Adichanallur	682 BCE	Rajan <i>et al.</i> 2021

HINTERLAND AND MARITIME NETWORKS OF THE TAMIRAPARANI VALLEY

The network of the Tamiraparani river valley incorporated many Iron Age-Early historic settlements in the hinterland and the port of Korkai. Adichanallur is one of the important Iron Age Early Historic burial sites indicating several agrarian settlements nearby. The rich grave goods including the iron objects and bronze and gold ornaments and the finding of rice suggest an agrarian economy with craft production in the Iron Age. The coastal region of the river valley would have been an ideal location for the exploitation of the marine resources as evidenced by the archaeological excavations at Korkai. Korkai has also revealed rouletted ware and Northern Black polished ware suggesting strong networking with Northern India and Sri Lanka. However, no evidence of amphora seems to have been coming from this site to indicate direct Roman contact as of now. It could be because of limited excavations and the lack of identification of the excavated ceramics.

Korkai is one of the southern-most entry points of Southeastern India and it would have been an ideal location for the ships coming the West, which could have had quicker access to the southern part of peninsular rather than Alagankulam, which is located beyond Rameshwaram island. Alagankulam has produced large varieties Roman Ceramics unlike Korkai. It needs to be researched further to understand if the Roman ships and or goods came to Korkai from the south and then reached Alagankulam through the Palk Strait or they skipped Korkai and the Palk strait and reach Alagankulam by sailing around Sri Lanka.

In the Medieval period, definitely the Arab ships reached Korkai as revealed by the literary accounts. Perhaps, it was easier for the ships from West to Southeast Asia to reach Korkai and then proceed to Southeast Asia around Sri Lanka or through the Palk Straits. Periyapattinam in the north to the south of Alagankulam was another important medieval port (Karashima 2002, 166-169).

The coastal network of Tamiraparani must have had links with the port of Korkai primarily and also with the networks of Comari (Kanniyakumari) in the South, and Vaigai valley and Alagankulam in the north and Sri Lanka including Mantai. The network of Tamiraparani was linked with the network of the Vaigai valley, and the Periyar valley of Kerala through the inland trade routes linking Madurai (Selvakumar 2023, 333-368). The Punalur pass across the Western Ghats connecting Kollam with the Southern part of Tamil Nadu is another important gateway for the supply of spices and pepper into the port of Korkai from the Kerala region.

DISCUSSION AND CONCLUSION

The Tamiraparani region is a culturally rich zone with the rise of agro-pastoral communities and craftgroups by the Iron Age. There is a probability for the beginning of shell exploitation and shell exchange in this region in the mid-second millennium BCE. The Iron Age burials of this region have the rich gravegoods indicating long distance interactions in the Iron Age early historic period. The Western Ghats region of Southern India was a major source of spices and this region was accessed through several ports of Southern India from Naura in the North to Arikamedu in the east. Korkai was also part of this network in the Early Historic period. But, more evidence is required for understanding the nature of Roman trade connection at Korkai. In the Medieval period, the Tamiraparani delta became more prominent because of its strategic location very near the maritime corridor linking West Asia and Southeast Asia in the Indian Ocean.

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