

Ships and Navigation in the Medieval South India

S.Rajavelu¹

Abstract

The maritime activities of the Indian subcontinent have a hoary past. The inscriptions of medieval South India disclose information about the ports of the Coromandel coast, the various kinds of boats and ships and goods that were imported and exported through these ports. The inscriptions of the Cholas (850-1250 CE), Pandyas (700-1400 CE) and the other major dynasties in the Andhra region give valuable evidence on this aspect. Besides, the inscriptional evidences, there are quite a number of sculptures, coins bearing the figure of ships and boats attest to the various kinds of vessels of that period. The Cholas, who ruled over the entire Tamil country in the medieval period, made several voyages to the Southeast Asian countries through big vessels. Raja Raja I, the great Chola king (985-1014 CE), allowed Srivijaya king Sri Mara Vijayadunga Varman, son of Sulamanivarman, to build a Buddhist vihara in the name of his father at Nagappattinam, which suggests that he had a cordial relationship with the kingdoms of far eastern countries. His able son Rajendra I (1012-1044 CE) crossed the Bay of Bengal and reached many countries which were listed in the lengthy *prasasti* of his inscriptions. His *prasasti* mentions that he used many kinds of ships on the ocean to reach the Southeast Asian countries such as Kadaram (modern Kedha) Java and Sumatra.

An inscription from Mottuppalli refers to the various kinds of ships anchored on the Andhra coast at Krishnapattanam. The port had a dockyard for ship repair. This port was declared a tax-free zone for the ships affected by cyclones and storms. An inscription from Nagalapuram near Chittoor in Andhra Pradesh refers to a kind of ship known as *tongukappal* in Tamil. In all probability, it could be a big Chinese vessel, namely the Jung. This paper discusses in details the nature of the ships and navigation in medieval South India.

Introduction

India has a long coast-line that witnessed the emergence and decline of numerous ports/harbors from the protohistoric period. The Tamil Sangam literature (BCE 300 - 300 CE) has copious references to the watercrafts and navigation of the ancient Tamilagam, from the beginning of the Common Era (CE)². South India witnessed a tremendous development in mercantile activities and the navigational practice under the Pallavas (350 - 850 CE) of Early Medieval period. This paper focuses on the ships, navigation and ports of the eastern coast in the Medieval period (850-1600 CE).

Literary and inscriptional Sources

The Tamil literature of the Medieval period focuses much attention on navigation and water transportation. The post-Sangam texts of *Cilappatikaaram* and *Manimeekalai* (400 CE), the sacred hymns of *Deevaaram* of the 7th century CE and *Ciivakacintaamani* (900 CE) give valuable information on the navigation and the types of vessels and shipwrecks. Besides, a large number of Tamil inscriptions of this period furnish

¹ Associate Professor, Department of Underwater Archaeology, Tamil University, Thanjavur, Tamil nadu, rajavelasi@gmail.com, 919444261503

² A Georgian Calendar designation with year one being the year Jesus Christ of Nazareth was born with years added one by one since.

information on the seafaring activities, commercial taxes on the imported and exported goods, mercantile guilds, vessels of various types anchored in the eastern coast. The accounts of foreign travelers also provide valuable information on the cultural exchanges and maritime activities, vessels and ports of South India.

Navigation under the Pallavas³ (350-850 CE)

The Pallavas controlled the eastern coast from Nellore to Nagapattinam. They issued several types of coins which indicate details of their navigational activities. They issued a specific type of coin which bears a symbol of a ship on the reverse and the royal symbol of a bull on the obverse (Elliot 1980). The same ship type has been reported on a Pallava copper coin from Thailand (Shanmugam 1994:95-100). The ship, on the reverse of the coin is a *toni* type with two masts and twin oars.

The Vayalur inscription (700 CE) of the Pallava king Narasimhavarman II refers to maritime activities in foreign countries (*Epigraphia Indica* 18:150-51) and the Chinese annals such as Cefu Yuanguai, Wenxian Tongkao and the Jiu Tang Shu record the exchange of ambassadors between the courts of the Pallavas and the Chinese empire. These records provided the above fact and Sastri described as follows; In the year CE 720, the king from the kingdom of South India, Che-li Na -lo-seng-kia Narasimha varma pallava) proposed to employ his war elephants and his cavalry to chastise the Ta-che (Arabs) as well as Tou-po and the five kindoms of India including Narasimha varman sent their ambassadors (Sastri 2001:116-17). The Pallava king allowed the Chinese merchants to erect a Buddhist stupa at Nagappattinam (Sastri 2001). A fragmentary stone slab inscription of the Pallava period from Naganathaswamy temple at Nagappattinam refers to a great smith of Nagai (Jayakumar 1991:2). It strengthens the fact that the port was under the control of the Pallavas who allowed the Chinese merchants to build a pagoda.

In *Manimeekalai* (29:6-10) there are references to various types of water transports such as *vangam*, *ambi* and *marakkalam*. The sacred hymns *Deevaaram* (7th century CE) elaborately discuss the features of the port city Nagai, an anchorage with large numbers of vessels like *kalam* and *vangam* (*Deevaaram*:46). It suggests that the port of Nagai had a big harbour which accommodated big vessels like *kalam* and *vangam* to anchor. On the basis of the descriptions in the Sangam literature, it is inferred that the vessels of *kalam* and *vangam* were large deep-sea vessels that sailed with the help of wind power. These two categories of vessels were guided with the help of light houses. From this inference it is evident that the port of Nagapattinam had a lighthouse to guide the navigation of ships. *Naavaay* is a kind of large indigenous ship frequently referred to in the Sangam literature and it was used by the traders in Medieval times. *Ciivaka cintaamani*, a Medieval text, mentions the shipwreck of a *naavaay* caught in a cyclone (*Ciivaka cintaamani*: 967). Further it mentions the *naavaay* had lengthy masts with sails (*paayiyoonkuyar naavaayi*).

All the above facts indicate the Pallava's navigational knowledge and their naval power on the eastern coast of India. Further it clearly suggests that the Pallavas knew

³ This section includes discussion on nautical terms in the Tamil Literature, for details of these terms please see Professor Natarajan Athiyaman's paper "Nautical Terms as Gleaned from Ancient Tamil Literature" in this volume.

the art of shipbuilding and they contributed much to the navigation. The Pallavas introduced state control on navigation in the Tamil country for commercial and political purposes. As stated earlier, the Pallavas issued the coins with a symbol of a ship on the reverse and their royal insignia Bull on the obverse clearly suggest the above fact. Due to the interest of the Pallavas, the contacts with Southeast Asian countries and China received a fillip. During this period, with all this exposure, perhaps the shipbuilding techniques of these countries were influenced by the traditional shipbuilding methods/designs of South India.

Navigation under the Cholas (CE 850-1250)

The navigation and maritime activities peaked during the Chola period. The navy of Cholas was strengthened by many types of indigenous vessels and it crossed the Bay of Bengal and reached Sri Lanka. The Chola navy frequently made sea voyages to the neighbouring state Sri Lanka and the king Parantaka Chola claimed that he conquered Sri Lanka in CE 910 and adopted the title *Ilam konda Kopparakesari*, when translated means, "one who conquered Sri Lanka" (Sastri 2001).

During the time of Rajaraja I (985-1014 CE) the northern portion of Sri Lanka came under direct control of the Cholas. During his time the navy became strong and sophisticated and they conquered the Lakshadweep and also the Maldives. Rajaraja I was able to achieve this with the help of his strong navy. The king Rajaraja I named the conquered area *Mummudi Chola mandalam* (Sastri 1955).

Rajaraja Chola I had a cordial relationship with the king Sri Maravijayadunga varman of Srivijaya and allowed the latter to build a Buddhist monastery called *cudamani panmavihara* at Nagappattinam, the major port city of the Cholas in the Indian eastern coast during 1005 CE (*Epigraphia Indica* 22:222). During Rajaraja's time the ports in the Coromandal coast were always busy with activities of merchants and the Chola navy.

The vast experience of activities of the Chola navy encouraged Rajaraja's son Rajendra Chola I to make long sea voyages with the help of his great naval force to Southeast Asian countries several times. The great naval expedition of the king Rajendra-I is beautifully narrated in his *prasasti* (eulogy) portion of the inscriptions (*SII.3:205*). He claims that he dispatched many ships in the midst of the rolling sea and conquered more than a dozen harbour cities of the Southeast Asian kingdom of Srivijaya in Sumatra and the Malay Peninsula around 1025 CE

During the reign of Kulottunga-I (1070-1120 CE), the renewal of a grant of the village Anaimangalam to the Sudamani panma vihara monastery was made at the request of the Srivijaya king (*Epigraphia Indica* 22:277-81). The Srivijaya king made liberal donations to the temple and to Brahmins at Nagapattinam, the sea port of the Cholas (Hall 1980). The seafaring activities increased in this period, as overseas trade was encouraged by the Chola State. Kulottunga-I promoted foreign trade by abolishing the toll and earned the title *sungam tavirta Chola* (the chola king who exempted the toll) (Sastri 1955).

The Chidambaram inscription of Kulottunga-I gives interesting information regarding the king of Kambujadesa (Cambodia) who fixed a stone slab, brought from his country, on the wall of the main shrine at Chidambaram, India (*SII* 5:104). It indicates

the cordial relationship of the Kambujadesa (Cambodia) king with the Chola country and the two states encouraged exchanges between seafarers.

During Kulottunga I time the natural harbour Vizakappattinam in Andhra (present name) was revered and named after the king as Kulottunga Cholapattinam (*SII*.26:101). Another inscription of the same king from Chidambaram refers to the holy visit of princes of Persia to the temple of Chidambaram (*SII* 5:104). It suggests the navigation extended during this time to the West Asian countries. An interesting inscription from Barus on the west coast of Sumatra mentions the colony of Tamil merchants (Subbarayalu 2002:19-26). They were the people of the indigenous ship, *marakkalam* and its captain (*nayakan*) and *kevis* or oarsmen. This inscription provides information of the Tamil merchants' cargo vessels. These merchants had a permanent colony at Barus around ca.1100 CE (Subbarayalu 2002:24).

Navigation under the Pandyas (700-1400 CE)⁴

The Pandyas of Southern Tamil Nadu developed their international relationships and maritime trade from the beginning of the CE. The sailors of the Pandya country knew the sea-route to Rome and other East Asian countries from Sangam period onwards (BCE 300). According to Sangam text, the port of Korkai was always busy during Sangam period, but lost its importance in the medieval period. During the medieval period the commercial activities were made through several ports on the east coast. A recent discovery of a ship's bell with a Tamil inscription of Medieval Pandya found in New Zealand is strong evidence that mercantile activities during this period reached as far as New Zealand (Sridharan 1982).

Besides, foreign accounts of this period give further valuable information. The travelers and chroniclers mainly focus on the commodities that were imported and exported from the ports of south India. They observed the navigation of the coast and of the sea routes, types of ships used by the merchants for sea sailing and for inland waters. The medieval period travelers Sulaiman and Abu Zaid stated in their notes that they conducted overseas sea voyages and made contacts (Sastri 2001:128). Abu Zaid mentions the various kinds of goods that were exported and imported from South India, among them spices were the foremost sought commodity. According to Abu Zaid and Ibn Batuta, the sailors who travelled in the Red sea called the ports in the nearby area in the sea as Mete (Death) and Gardefan (the cape of burial) and no sailing was done on the sea at night in the Red Sea.

There are references to foreign ships, especially from China, in the medieval period. Many kinds of canoes and ships were referred to by the 13th century European adventurer Marco Polo (Sastri 2001). A canoe made of a single log of wood is referred to as *almadia*. According to these sources shore boats were often used for patrolling, these were known as *Atalaya*, *Chaturi*, *Punai*, *Sanguical* and *Zambuguo* were the types of ships used by the Indians in the medieval period. *Punai* was the catamaran type of vessel made of many logs lashed together. *Sanguical* was a kind of ship being built at Cinguicar. *Zambuguo* was a large sea going craft used for commercial purposes.

⁴ Ibid - footnote 3

An interesting inscription from Palaverkadu (modern Pulicat) of the ca.1500 CE records the anchoring of a China vessel *Tongu kappal* in the various ports of the Coromandel Coast (SII 17:679) This vessel reached the Palaverkadu port. It was a Chinese vessel and in all probability a junk type. This type of ship was built at Zayton and at Sinkalan or Sin-ul-Sin (Canton). Ibn Batuta describes the details of the Chinese ships (Sastry 2001:214-215). Generally, this kind of ship was made of timber connected with thick slabs of wood. The timbers projecting from the sides towards the water served the crew for going down to wash and for other needs. The huge lengthy spikes united together as walls of the vessel.

Medieval Ports of the Eastern Coasts

The east coast had many important ports often referred to in the medieval inscriptions. They were Krishnapatnam, Mottuppalli, Palaverkadu, Kodiyakkarai, Vedaranyam and Devipattinam. The details of the maritime activities in these ports are discussed here. Medieval south India played a vital role in navigation and maritime activities. Many inland and foreign ships were anchored in the South Indian ports. These maritime contacts directly improved the economy of the state, but also it affected cultural, social and religious aspects of the society.

Krishnapatnam is located on the eastern coast in Gudur Taluk of Andhra Pradesh. Once, it was a flourishing port centre according to the Chola and Telugu Chola inscriptions (Butterworth and Chetty 1905:411-414). The port was referred to in the inscriptions as Kollitturai *alias* Kanda Gopala Pattinam, and probably named after the Telugu Chola king Vira Rajendran who ruled around 1256-57 CE. This port was engaged by foreigners of various countries (*pandinen bhuumi samasha paradeesigal*) and merchants. The word Samasha paradeesigal referred to in the inscriptions denote the foreigners who came from 18 countries (padinen bhumi). The names of the 18 countries were not specifically mentioned in the inscriptions. It also records that various types of vessels and boats were anchored in this port. They were referred to in the inscriptions as *kalam, tonuru, tuli, kalavam, vidavu* etc. *Kalam* is identical with *kalam* (medium size boat) mentioned in the Tamil literature and *tonuru*, probably identical with Tamil *toni*. It has two words *toni + uru* which ultimately became *tonuru*. *uru* is also a small vessel used both for inland and coastal navigation for boarding and loading a ship and also fishing in the coastal areas, in addition to their use in the rivers as ferry boats. During the time of Irumadi Tirukkalattidevar (1279 CE) the merchants of various countries residing in this port donated one fourth of the appraised cost of the goods exported and imported at this port (Butterworth and Chetty 1905:414). During the Vijayanagara period (1336-1556 CE) the port was renamed Rajavibhadan Pattinam (see Cherian this volume).

Mottuppalli is located in Bapatla Taluk, Guntur district of Andhra Pradesh, and was an important medieval port. This port was referred to in Marco Polo's records as Muttilli (Benedetto and Ricci 1994:323-326). Traders from various countries reached this port after facing storms and shipwrecks. The shipwrecked traders took shelter in this port and the state arranged for the repairs and recovery of the wreckage (*Epigraphia Indica*

12:188-196). The levy called *aputrika dendam* (tax on foreigners) was not to be imposed on shipwrecked foreigners. The exported and the imported materials such as gold, elephants, horses, gems, sandal, camphor, pearls, rose-water, ivory, civet, camphor-oil, copper, zinc, lead, silk-threads, corals, perfumes, pepper, areca-nuts, were taxed goods in this port as noted in the inscription (*Epigraphia Indica* 12:195-96). This port was known as *Desiuyakkondapattinam*. Foreigners were allowed to sell their goods to whomsoever they liked and could buy whatever article they liked. This port can be compared to modern day duty-free centres. The vessel *uru* was also anchored in this port. This inscription mentions that the vessels came to this port both from southern and northern directions.

Palaverkadu (Pulicat) lies on the eastern coast very near to the north of Madras. It served as an important centre for seafaring activities during the Vijayanagara period. While mentioning the various ports of the Vijayanagara period, in an inscription of Krishnadevaraya this port is referred to as specifically very important (*SII* 17:679). Palaverkadu was called by the name Anantarayan Pattinam during this period (see Cherian this volume). It is noteworthy that among the exported goods from this port were Indian saris (silk) (*SII* 17:679). It is also interesting to note from the inscription that a type of ship called *tongu kappal* anchored in this port, it could have possibly been a Chinese junk.

Kodiyakkarai is a small port is located in Thanjavur district very near Kodiyakkadu of Tamil Nadu. This was an important port under the Cholas and also in later periods. An inscription of Sundara Pandya states that the boat *uru* was stationed in this port (*SII*.17:522). It also makes a brief comment that various types of articles were exported and imported in this port.

Vedaranyam is also located on the eastern coast in Thanjavur District. It is referred to as Siruvayi mugham *alias* Kulottunga Cholapattinam in the inscriptions of the medieval period (*SII*17:458). The name of the port is later on changed to Kalaiyanapuramkonda Cholapattinam. It was occupied by merchants and was a *nagaram* settlement. The name Siruvayi of the port denotes that in the Medieval period this port was a natural harbour and the small vessels could be anchored in the port.

Devipattanam is situated on the eastern coast of Ramanathapuram district of Tamil Nadu. During the time of medieval Pandyas, this port served as an important port town. This port was referred to in the inscription as *Sirukadarkaraic Sethu muulam* (*SII*.8:403). It had a mercantile settlement near the coast of Sethu, known as Sivallavapattinam which was named after the Pandya king Srivallabha. It is evident from the inscriptions that the original port was located in the town of Sivallavapattinam. Many kinds of taxes were levied on this port (*SII*.8:405). During Sundara Pandya's time this port was named Ulagamadevipattinam (*SII* 8: 404). Probably, the present name Devipattinam is the short form of the above. Many types of boats such as the small boats *uru*, *sirruru toni* were anchored in this port (*SII*.8:405). It is interesting to note that the rate of taxes levied on the goods loaded in the *Toni* is lower than that of goods loaded in the *sirruru*. For *uru* it was $\frac{1}{2}$ *panam*; for *toni*, it was $\frac{1}{4}$ *panam*. Hence, it can be presumed that the *uru* may

have been a larger boat than the *sirruru*. The exported commodities were saris, areca-nut, pepper. The mercantile community of *Nanadesis* was associated with this port.

In the medieval period overseas trade, and the import of horses from western countries, particularly from the Arabian region, became one of the most important commercial activities. The requirements of the horses in the army of the Cholas and the Pandyas in South India necessitated importing them regularly and often. A beautiful painting of the 15th-16th century at Tiruppudaimarudur temple gopuram is strong evidence of the importation of Arab horses (Hariharan1979). The Arabs entered the ports of the western Indian coast using big cargo vessels filled with horses and they sold the horses to the local traders and king in the hinterlands. Two types of water transportation are figured in this painting. One is big cargo vessels filled with horses and the foreign Arab traders and another one is a country boat used for fishing. This painting indicates that the Arabs were engaged in horse trading in the town(s) south of the Pandya region.

Bibliography

Appadorai, K., 1990	<i>Economic condition in South India</i> (1000-1500 A.D., University of Madras, Chennai.
Benedetto L.F., and Aldo Ricci, , 1994	<i>The Travels of Marco Polo</i> (Reprint) Asian Educational Services, New Delhi.
Butterworth, A., and Chetty, V., 1905	<i>A Collection of the Inscriptions on Copper Plates and Stones in the Nellore District, Madras</i> , Asian Educational services, New Delhi.
El	<i>Epigraphia Indica, Published by Archaeological Survey of India, New Delhi</i>
Elliot, W., 1980	<i>Coins of Southern India</i> (Reprint) Prithivi Prakashan, Varanasi.
Hall, K.R., 1980	<i>Trade and Statecraft in the Age of Colas</i> , Abinav Publications, New Delhi.
Hariharan, S., 1979	"Thiruppudaimarudur Paintings", in (ed.) R. Nagasamy <i>South Indian Studies-II</i> , Society for Archaeological and Epigraphical Research, Madras. pp.176-179.
Jayakumar, P., 1991	"Nagai kalvettu", in <i>Avanam</i> , Journal of Archaeological society of Tamil Nadu, 1, p.2.
Ilamuruganar and Mayilai kilar, 1953	Deevaaram, Chennai.
Nilakankanta Sastry,K.A., 1955	<i>The Colas</i> , University of Madras, Madras.
Nilakanta Sastry, K. A., 1972	<i>Foreign Notices of South India</i> , (Reprinted), University of Madras, Madras.
Saminathaiyar,	<i>Cilappathikaaram muulamum arumpatha vuraiyum atiyaarku</i>

U.Ve., (ed.), 1985	nallaar uraiyum, Tamil University, Thanjavur (10 th Edition)
Saminathaiyar, U.Ve., (ed.), 1887	<i>Thiruttakka devar Ceevaga cintaamani</i> , Kalakam, Madras.
SII	<i>South Indian Inscriptions, Published by Archaeological Survey of India, New Delhi.</i>
Subbarayalu, Y., 2002	"The Tamil merchant guild inscription at Barus, Indonesia: A rediscovery", in (ed.) Nabarou Karashima, <i>Ancient and Medieval commercial activities in the Indian Ocean: A testimony of inscriptions and Ceramic sherds</i> , Taisho University, Japan, pp.19-26.
Varadarajan, L., (ed.), 2004	The Rahmani of M.P. Kunhikunhi Malmi of Kavaratti: A Sailing Manual of Lakshadweep, Manohar Publishers and Distributors, New Delhi.
Venkatasaminaattaar, N.M., and Duraisamy Pillai, S. (eds.), 1985	Ciittalai caaththanaar iyarriya Manimeekalai, The South India Saiva Siddhanta Works publishing Society Tinneveli Limited, Chennai (Reprint)