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TRADE ROUTES OF EARLY TAMILAKAM - A STUDY OF THE ARCHAEOLOGICAL SOURCES

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Abstract: *Trade activities through the ages have promoted interactions between distant lands connected by the networks of routes. Ancient Tamil region too participated actively in the process of exchange which was facilitated by overland routes and waterways. The diverse physiographic features of Tamilakam necessitated the commodities trade with different regions. Besides the land routes linking various parts of the subcontinent, maritime networks served as important means of communication with other countries. Although literary texts including the foreign accounts throw significant lights in this regard, archeological discoveries supplement with the information that helps in better understanding in order to draw inferences in the context of trade and commerce. This paper focuses upon the excavated remains found at important sites such as Arikamedu, Uraiyur, Korkai, Alagankulam, Poompuhar (Kaveripattinam), Porunthal, Kodumanal Karur and Pattanam (Muciri/ Muziris), which enable us to draw an outline of the trade routes in ancient period. The antiquities attest to the presence of various routes for establishing contacts with the coastal and inland centres.*

Keywords: *Coast, Land, Maritime, Mountain, Palghat, Pass, Port, River, Routes, Sea, Trade*

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Introduction

Trade is an important economic activity that has great bearings on political, social and cultural spheres within and beyond the region of its origin. Its significance can be noticed in the links such as silk route and cinnamon route named after the commodities of exchange during ancient period. Trade networks also serve as the channels for the interactions at various levels. For a comprehensive understanding of the trade mechanism it becomes

crucial to explore the associated aspects which include the trade routes, commodities of exchange, transportation modes and organisational structure of merchant guilds. The diverse landscape of ancient Tamilakam necessitated exchange of products between different physiographical zones. Furthermore, mountain passes, plains, waterways including coastal routes provided access to distant destinations. Archaeological discoveries in this context have supplemented the volumes of information regarding the kind of roads, extent of routes to different regions, modes of transport and maritime travels contained in literary works. This paper, however, focuses upon the trade networks for the exchange processes in ancient Tamil region. An archaeological approach has been followed here in order to present an outline of the trade routes in the area under study.

Land Routes

Travel routes have held importance in the journey of human evolution since prehistoric times. The Harappan Civilisation and its urban growth too owe much to the flourishing contacts for economic exchange although not entirely dependent on the external trade. (Chakrabarti: 1990: 151-2) Ancient literary texts refer to *uttarapatha* (northern route) and *dakshinapatha* (southern route) along with networks of roads connecting southern India to different parts of the subcontinent. (Shamasastry: 1913: 367-8, Dutt 2001:171) Sangam literature such as the *Silappadikaram* (Daniélou: 1967: 71-4, Naidu and Ganesan 1992: 10-1, 26-9) and *Manimekalai* (Pandian: 1989:80, Madhaviah: 2000: 6-9, 26-28) mention important routes connecting Kanyakumari and Poompuhar (Kaveripattinam) to Kanchipuram and further extending towards north India. The latter route linking Kanyakumari passed through Srirangam, Uraiyur, Karur, Madurai and Korkai. Accounts of foreign travellers who visited India during ancient period, mention about the various kinds of road and the obstacles encountered in their travels (Watters 1905: 238, Legge 1965: 96-8). Recent archaeological finds and their distribution pattern have helped us to highlight the networks of overland routes within Tamilakam and those connecting it to other regions.

Just as the mountain passes in the north-western Himalayas connected the subcontinent to the Western world since ancient times, the passage between the Nilgiri Mountains and the Anaimalai Hills in the Western Ghats served as the main line of communication from the Malabar Coast to Coromandel Coast. The mountain ranges in the Ghats were provided with gaps such as the Palghatpass, the Toppur pass, the Aryankavupass, the Kambam pass, the Bodinayakkanurpass, the Shenkottai pass and the Aramboli pass. Of all these passes, the Palghatgap has been the most popular line of communication for connecting the west coast of south India to the east coast through the ages. It is due to this wider gap enabling low-land access from the Malabar Coast into Tamil region at a level of about 1000 feet above the sea. Other passes linked the Kerala coast either to the Mysore plateau or southern parts of Tamil Nadu. The way through the Mysore plateau linked the route entering Tamil Nadu from northern side. The Kambam, Bodinayakkanur, Shenkottaiand Aramboli gaps, all located to the south of the Palghat pass, linked Madurai and southern regions of Tamil Nadu to the areas south of Kollam in Kerala. These gaps, nevertheless, facilitated the interaction between Kerala, Tamil Nadu, Karnataka and Andhra regions.

Corroborating the information in Sangam texts, the distribution of Roman coins suggests the use of the major east-west coast linking route through the Palghat gap which connected Muciri/ Muziris (Pattanam) to Poduke (Arikamedu) and Poompuhar (Kaveripattinam) by the traders in the first century CE. This was in order to avoid the hazardous circumnavigation of Cape Comorin for inter-coastal trade (Suresh: 1992: 13, Deloche: 1993: 74). The epigraphic records of the Tamil region including the Chola inscriptions throw light on two distinct types of roads. The first, known as the *valis* (foot-paths), were relatively better than the tracks used by foot travellers and

probably not suitable for the wheeled carriages (Sastri: 2000: 594). They served as channels to reach the commodities from villages to the local markets. The village assemblies looked after the upkeep of such roads. The other was the better class of long routes named *peruvalis* (trunk roads) or *neduvali* (highway), which are mentioned as the great roads in the inscriptions (Kandaswami: 2000:44, Selvaraj 1989). These trunk roads connected different regions and so were referred to as the Andhra road, *Vadugapperu-vali* or *Andhrapatha* (*South Indian Inscriptions* 1929: III.42.90) the great road to Kongu, *Konguperu-vali* (Sastri: 2000: 594, Tirumalai 1984) the big road to Pennadam (Sastri: 2000: 594); the *Tanjavurpperu-vali* of the Aduturai inscription (Sastri: 2000: 594); a *peruvali* probably leading to Kanchipuram referred to in a Tamil inscription datable to the ninth-tenth centuries CE found at Aragalur in Salem district (*Indian Archaeology – A Review* 1990-91: 85) and the most significant of all, the great road leading to Kalyanapuram mentioned in an inscription from Thanjavur district (Sastri 2000: 594). The numismatic discoveries in the Kongu region also indicate that the *Konguperu-vali* mentioned in inscriptions was a major highway that connected different parts of neighbouring areas (Venkatraman 2018). A Tamil inscription datable to about the twelfth century CE from Muttanur village in Dharmapuri district refers to the highway called Adiyaman-*peruvali* which is named after the Adiyaman family who ruled this region in the Sangam age. (*Indian Archaeology – A Review* 1998-99: 227, Saktivel and Selvamuthu 2012) The Thukkachi memorial stone inscription attests that Rajendra Chola I used the roadcalled the Rajakesari-*peruvali* (Shetty: 2003: 9-10, Venkatraman 2018, Sivashankar 2012, Krishnamachari 2017) for access to Chera Nadu from Kongu Nadu. This highway through the mountain pass in the Western Ghats connected Chera Nadu to Perur, Vellalur, Sulur, Kattankanni and Kodumanal before reaching Karur, the Chera capital on the bank of river Amaravati (Raman: 1997, Shetty: 2003: 9-10). The Dharmapuri-Perur stretch linked the arterial road through the Palghat gap leading to the Kerala coast on the east and to the ports on the Tamil Nadu coast via the centres in Kaveri valley.The recent excavations at Porunthal(Rajan et al. 2014, Rajan 2019) also throw light on the ancient trade networks in the region. The site at the foothills of the Western Ghats is situated on the present day Madurai-Coimbatore Road. It is interesting to note that the location of this site is close to the early trade route connecting the Pandya capital at Madurai on the south and the Chera capital at Vanji on the west. This route also links the Pandyan port of Alagankulam on the mouth of river Vaigai on Tamil Nadu coast and Pattanam (Muciri/Muziris), the Chera port on the mouth of river Periyar on Kerala coast. The medieval period inscriptions issued by trade guilds found at Tamaraikulam on the right bank of the river Porunthilaru and Rajarajapuram on the left bank are noteworthy epigraphic evidence in the context of trading network in the Tamil region. The Rajarajapuram inscription mentions about a gift made by the guild *tisai-ayirattu-ainnurruvar* for the maintenance of the garden of a Shiva Temple at Tamaraikulam. As both of these sites yielding trade guild inscriptions are located on opposite banks of the river Porunthilaru, it is inferred that the trade route in east-west direction passed through this area and the merchants crossed the river at this place. (Rajan 2019)

The *dakshinapatha* of the literary accounts was the major route in the north-south direction connected Pataliputra to the peninsular India passing through the Deccan. Its branches linked the centres such as Tiruchirappalli, Kanchipuram, Kaveripattinam,Rameshwaram and Kanyakumari in Tamil region. Kanyakumari was also connected to the north-western part of the subcontinent and the Bengal region through the routes running parallel to the west and east coasts respectively. (Verma: 2021: 178-9)

These roads and their extensions were used even in later periods as is revealed by a thirteenth century Pandya inscription dated in the fourteenth

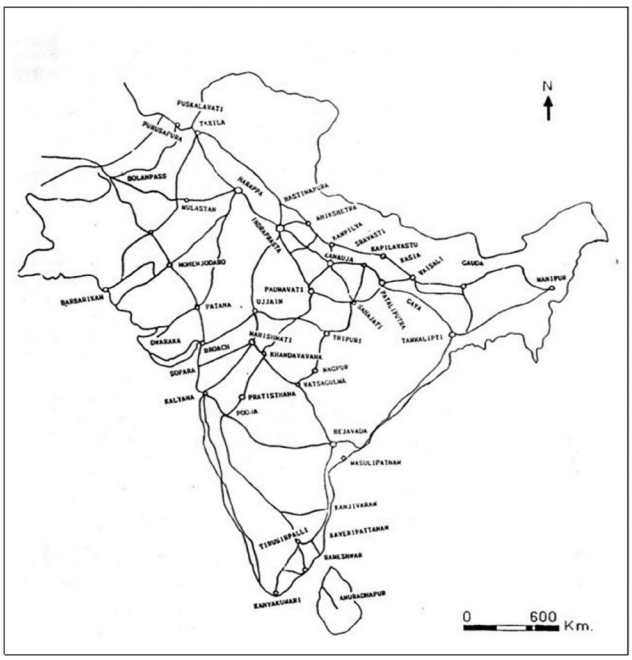

Fig. 7.1: A map showing the ancient overland routes in the Indian subcontinent (After P.C. Prasad, 1977)

regnal year of Maravarman Sundarapandya from the Perumal Temple at Mudikkarai in Ramanathapuram district which mentions about a highway to Madurai. (*Indian Archaeology – A Review* 1991-92: 156) Furthermore, the accounts of the European travellers, who visited India during the Vijayanagara and post-Vijayanagara periods, the capital city of Hampi (in Karnataka) was connected to the ports on the Arabian Sea, Bay of Bengal, and also to the cities along the upper course of river Kaveri (Deloche: 1993: 75). These observations have led to infer that the ancient road networks barely differ from those of the modern times. Hence, significant information about the ancient routes can be collected from the works of later periods such as the geographical description of the land routes inTamil region by Robert Orme (Orme 1805: 62-3, 131-7, 174-5, 182-3) and James Rennell (Rennell 1782: 4-6, 12-28, 182-214) in the second half of the eighteenth century CE. These accounts record the existence of a network of longitudinal routes linking Lake Pulicat, Kanyakumari and Rameshwaram along the coast and also connecting the inland centres such as Srirangam, Uraiyur (Tiruchirappalli) and Madurai. The network which connected both the coasts through the Palghat gap comprised of two principal routes: the first running from Salem to the east coast through the lower valley of the river Pennaiyaru and the second following the river Kaveri through Thanjavurto meet the ports on the east coast. In this context, anoteworthy find is the Tamil inscription datable to theninth - tenth centuries CE from a Shiva Temple at Aragalur in Salem district which refers to a highway (*peruvali*) leading to Kanchipuram.(*Indian Archaeology – A Review* 1990-91: 85, Deloche 1993: 79-8)

The distribution of ceramics at archaeological sites across the subcontinent also enables us to trace the networks of overland routes.The spread of the potteries such as the northern black polished ware from Gangetic region to the sites of south India indicates the expansion of Buddhism down to the Tamil region. The discovery of this pottery from the early levels at Alagankulam andKorkai, suggests the movements of monks and merchants to the Pandyan territory. (Sridhar 2004: 45-56, Sridhar 2005: 8-60) However, this ceramic at Alagankulam appears in the layer datable to *circa* 500 BCE, i.e. pre-Mauryan period, whereas the cultural phase coincides with the Sangam epoch at Korkai, Kodumanal and Teriruveli.The presence of russet-coated ware at the sites such as Kodumanal, Karur, Porunthal, Tirukkampuliyur, Alagarai, Uraiyur, Kanchipuram, Landaiamd Arikamedu in Tamil region, and also in the sites of Andhra Pradesh and Karnataka indicate the connect of Coimbatore-Salem and coastal regions of Tamil Nadu with the Andhra region through the north-eastern route. Furthermore, from Coimbatore region this pottery spread to Karnataka region through the route extending to Deccan.(Rajan 1991, Verma 2021: 128) Korkai has yielded the potsherds inscribed with Brahmi characters datable to the third century BCE – second century CE which resemble the characters engraved on potsherds from sites such as Arikamedu, Uraiyur, Kodumanal, Alagarai, Kanchipuram, Karur and Alagankulam among many others. The similarities between the antiquities suggest that these centres were

connected by land routes.(Sridhar 2004: 48-55, Arunachalam and Sukumar 2006).

The sites in Tamil region yielding rouletted ware indicate their involvement in the Indo-Roman trade and the movement of traffic from the west to the east coast through the Palghat gap. Besides many habitation sites with significant megalithic remains identified along the banks of river Vaigaiin Sivaganga district, the location of ancient Buddhist and Jain sites along the course of the same river flowing in Ramanathapuram districtsuggest that the trade routesextended toRameshwaram in the east. The sites of Valasai, Landai and Kizhsethai also in the same district have yielded the remains of rouletted ware. At Landai, rouletted ware has been found along with russet-coated painted ware making it perhaps the first instancewhen the latter occurs in the southernmost region of Tamil Nadu. The sites such as Kallikkudi, Gandhi Nagar (Emaneswaram) and Kamankottai in the same region also brought to light the sherds of celadon ware and porcelain. These discoveries mark the continuity and survival of trade routes on either side of the river Vaigai connecting the port of Alagankulam through hinterland centres up to the Pandyan capital of Madurai and further extending to the Chera territory. (*Indian Archaeology – A Review* 2013-14: 141-2) However, except limited diggings at Alagankulam, other sites still await systematic excavations that would highlight cultural transformation in Vaigai valley from prehistoric period to the medieval times.

Numismatic evidences such as the punch-marked coins datable to *circa*second century BCEissued by Sangam age dynasties,including the Pandya coins from Bodinayakkanur hoard (Kosambi 1951, Aravamudhan 1994, Shanmugam 2011);Chera coins from Karur and Pattanam (Nagaswamy 1995:30,Vijayaraghavan 2000, Cherian 2008:10-3) and Chola issues at Kaveripattinam and other sites (Krishnamurthy 1997), attest the manufacture and circulation of coins as medium of exchange in the region. The studies have also shown that the practice of minting coins existed in Tamil region at least from the third century BCE.(Krishanan 1991) The discovery of five terracotta coin moulds at Kanchipuram is remarkable in this regard. The features of these moulds reflect their use for the manufacture of coins issued by theSatavahana rulers during the first-Second centuries CE. It is believed thatdue to their high currency value,the Satavahana coins in the first three centuries were forged in the Tamil region.(Raman and Shanmugam 1991) This further suggests the contact between Tamil Nadu and Andhra region which was facilitated by the land routes as mentioned earlier.

The earliest foreign coins datable to *circa*third century BCE found in Tamil Nadu are those issued by city states of ancient Greece.(Krishnamurthy 1993a, 1993b, 1995, 2000)Their discovery in the Amaravathi riverbed near Karur indicates that these were carried to the inland areas after the sailors landed at the west coast. Moreover, the Aksumitecopper coinsdated to period ranging from 350 CE to 640 CE are also found from the same riverbed. Their presence establishes that the Aksumite kingdom spread over the northern part of Africa played a significant role in India's trade with Arabia and Mediterranean region. It is also important to note that a Kushana coin hoard has been found in Ethiopia, which suggests the contact between the Abyssinian kingdom and India during the Kushana rule. (Krishnamurthy 1998) The location of these finds, however, implies that the Red Sea-Arabian Sea route was followed to reach Pattanam and further to Karur through Palghat gap. Besides, the Indo-Sassanian silver coins discovered from Vallimalai hoard in Vellore district are the imitations of the original coins issued by the Sassanian dynasty of Persia that ruled during 226-641 CE. (Santhi 1997) The noticeable fact here is that these have been found in the inland region and not at any coastal site or the centre such as Karur situated at the principal land route connecting Malabar coast. Thus, it seems that they were brought by the merchants arriving from north India through land routes.

The Roman coins discovered at several sites in south India too are of great significance as they

help us to reconstruct the overland as well as maritime networks which fostered trade activities. Several sites in Tamil region have yielded Early and Late Roman coins as well as their imitations. Early Roman issues, i.e. those belonging to the period up to the reign of Constantine I (307-337 CE) show their presence in large number and mostly occur as hoards. (Nagaswamy 1995: 21-7) The Republican coins of the pre-Augustan (pre-31 BCE) period from Kallakinar and Tiruppur in Coimbatore district suggest the Indo-Roman contact well before the reign of Augustus although its volume was not as impressive as in latter period.(Suresh 2004: 27-8) It is worth noting that the Roman coins of early period are found mostly at the sites of Coimbatore-Salem region located in the western part whereas those datable to the first century CE are distributed over southern and south-eastern districts of Tamil Nadu including Thanjavur, Pudukkottai, Ramanathapuram, Madurai and Tirunelveli. This indicates the spread of trade networks with passage of time. With regard to the movement of traffic,the examination of Early Roman coins from Uthamapuram in Madurai district, Kottayam hoard and stray finds in Idukkidistrict in Kerala has led scholars to propound that the Roman merchants might have gained access to the Pandya region through the Kambampass connecting central Kerala with Tamil Nadu. (Santhalingam 1997) The Late Roman coins, i.e. the coins post-dating Constantine I,in Tamil Nadu mostly occur as single coin finds or surface finds in smaller number mostly consisting of copper issues unlike the gold and silver coins of earlier times. Although a few or rare occurrence of the Late Roman coins has been linked to the decline of Indo-Roman trade during the fourth – fifthcenturies CE, recent studies have highlighted the facts contrary to the notion of sudden decline. (Suresh 2004: 38-40) The discussion on the issue, however, is beyond the scope of this paper. In the context of overland contacts, the lesser number of coins datable to the period following the reign of Nero (54 – 68 CE) in Coimbatore-Salem area and their predominance in Andhra Pradesh, Maharashtra and even Gujarat suggests the shift in Roman trade from the Tamil region to the eastern Deccan or Andhra Pradesh and further.(Gupta 1965: 45-50, Suresh 1992: 13) This change in the trade pattern is also evident in the discovery of Late Roman issues datable to the fourth–fifth centuries CE in Madurai region and across the sea in Sri Lanka where we find very few Early Roman coins. Numismatic studies indicate that the Roman coins dated to the first century CE initially reached the west coast and thence to the east coast through the land route crossing Palghat gap. During the fourth–fifth centuries CE, on the other hand, the Late Roman coins were brought directly to the southern part of Tamil region as by then the circumnavigation of the Cape Comorin by sea voyagers had become frequent which made it easier to reach the east coast. This also facilitated the intensification of Roman contacts with Madurai region and Sri Lankan coast. It appears that the Late Roman coins found at the sites beyond Tamil region reached there from Madurai through inland trade. (Turner 1989: 5, Suresh 1992: 20, Suresh 2004: 39).

River and Maritime Routes

The ancient literature contains numerous references to the river as well as sea routes. The maritime networks across the Bay of Bengal, the Indian Ocean, the Arabian Sea, the Persian Gulf, the Red Sea, the Mediterranean and the Chinese Seas promoted commercial and cultural contacts between distant lands.The literary works of ancient period refer to the water routes — the river and the coastal routes. The *Arthashastra*(Shamasastry 1915: 367-8) mentions about the carriage of merchandise through the riverwayscalled the *nadipatha*and the coastal route known as the *kulapatha*. The Buddhist texts refer to theinland commercial centres like Varanasi and Champa which were situated on the bank of rivers as well as the maritime activities at the ports (*pattana*) and in ocean (*mahasamudda*). (Rhys Davids 1894: 269, Cowell and Rouse 1907: 16, 40, 259-64) The Sangamworks such as the *Purananuru*describes

the ships which entered further into river Kaverifrom the port atPoompuharindicating that the river was navigable. (Athiyaman 1997)

As most of the ancient ports in Tamil region were located near the mouths of river, these waterways served as useful channels for carrying goods to and fro between the ports and interiors. Inharmony with the general slope of the land, the rivers of Tamil region flow mostly from the west to east into the Bay of Bengal. Therefore, only a narrow stretch between the Western Ghats and the sea is drained by rivers running westwards. Although the river courses are spread over the entire coastline, the streams are generally shallow unlike the deep valleys of Himalayan rivers. The main rivers joining the east coast are the Palar, the South Pennar (Ponnaiyar), the Vellar, the Kaveri, the Vaigai and the Tamraparani. Of these rivers, the Kaveriand her tributaries - the Bhavani, the Amaravati, the Noyyal, etc. have immense contribution to the history of this region since ancient times as revealed in literary and epigraphic records. (Rajan 1997: 12-3) The Periyar, which is a major river on the Malabar coast, joins the Arabian sea. This served the port of Pattanam for conveying goods to the interiors. A number of these rivers are perennial and flow throughout the year, except some which dry up completely during dry months, but the volume of the water carried differ from dry to rainy seasons differ markedly. Therefore, the varying nature of river flow always came in the way of smooth navigation. Furthermore, a much noticeable fact in this regard is that some of the waterways functional erstwhile were reduced to the state of disuse for navigational and trade purposes with change in times. For instance, the site of Arikameduis located on the bank of river Ariyankuppam just before it joins the Bay of Bengal. At present Ariyankuppam is no more than a shallow lagoon of brackish water. But as observed in the maps and other records of the seventeenth– eighteenth centuries CE, it was then the major branch of the Gingee river and navigable at its mouth, which seems to havepersisted since ancient past. (Athiyaman 1997) The study of spatial distribution of ancient ports on Tamil coast and their locations either on river banks or mouth of rivers has also shown that there existed a direct river route along river Vaigai connecting Madurai to Alagankulam on the coast.(Bopearachchi 2008: 3) In this context, the references to small vessels such as *punai*, *pahri*, *odam*, *ambi* and *timil* in Sangam literature as well indicate the practice of river navigationto a considerable extent. (Jayasurya 1980: 30)

Numismatic discoveriesby R. Krishnamurthy (Krishnamurthy 1993a, 1993b, 1995, 1998, 2000) in the form of indigenous and foreign coins of ancient period from the Amaravati riverbed near Karurattest to the boat trips. However, the possibility of voluminous traffic in rivers seems vague as such finds do not occur frequently and also more so on account of geographical features mentioned earlier. Nevertheless, the presence of coins at the riverbed undoubtedly point to the use of these waterways for covering short distances either along the river course or across the river. As mentioned before, the inscriptions issued by medieval trade guilds found at Tamaraikulamand Rajarajapuram respectively on the right and left banks of the river Porunthilarusignify the commercial importance of the area and that traders crossed the river at this point. The rivers, therefore, certainly served as convenient means for transportation of trade goods to and from the coastal ports since ancient times.

Sea routes from the ports on the west coast had an earlier start than those on the east coast. It was only after the discovery of monsoon in the first century CE that the circumnavigation of the Cape Comorin for travelling eastward became frequent due to the enriched knowledge about the seasonal pattern of the wind flow. This led to the development of coastal route linking the chain of ports on both the coasts. Sea routes running along the coastline and connecting the port centres were much preferred as the journey through these involved lesser risk than that on high seas. Such channels of communication linked Bharuch on Gujarat coast to Kalyan, Pattanam

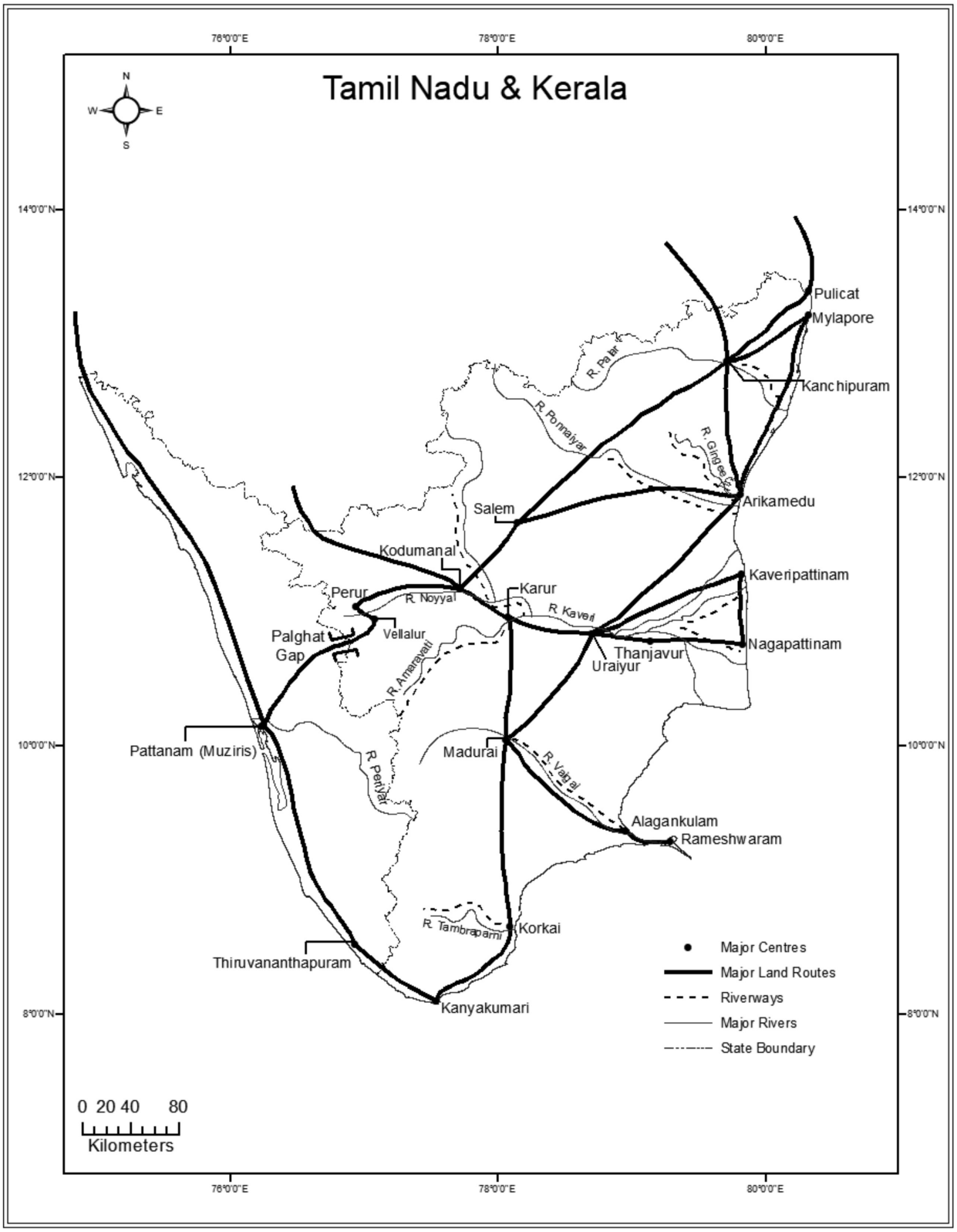

Fig. 7.2. Map showing important land and river routes in ancient Tamil region

and Kanyakumari down south, and encircling the Cape it proceeded upwards through Korkai, Kaveripattinam, Arikamedu, Masulipatnam, Tosali, etc. to reach Tamluk (Tamralipta) on Bengal coast. The *Periplus*also describes the trading ships which sailed from south Indian ports up to Tamluk on the mouth of river Ganga. (Casson 1989: 89) The route following the west coast of India was further linked to the Persian Gulf and Mediterranean Sea.Towards the east, Gujarat was also connected to Sri Lanka, South-East Asian region and China by the sea route through Pattanam, Sri Lanka, island of Nicobar and Sumatra.(Sen 2000: 219-3) Likewise, the routes sprang up from centres on the east coast to join the regions of Southeast Asia and Sri Lanka. For instance, Kaveripattinam was an important port on the east coast which had direct route to the South-East Asian countries and Sri Lanka. (Pattanayak 1997).

Besides the literary references, the archaeological remains discovered at various sites also attest to the seafaring activities and India's contact with different regions of the globe extending from the Mediterranean Sea to the Indian Ocean during ancient period. The distribution of northern black polished ware at the sites of Korkai and Alagankulam Tamil region as wells as from the earliest levels of Buddhist sites like Gedige and Anuradhapura in Sri Lanka suggest the entry of Buddhism in the latter region through the coastal routes from the east coast of India.(Sarma 1990-91) The presence of rouletted ware at the sites along the Bay of Bengal also suggestsofthriving trade links between the ports on the east coast of India and their further contacts with northern Sri Lanka. This route on Indian coast, which extended from Korkai in the south to Tamluk (Tamralipta) in the north, alsohad multiple branches connecting the inland centres of the Tamil, Andhra, Odisha and Bengal regions. Although only a few in number, the rouletted ware sherds are also found at the sites in coastal Java and Bali of South-East Asia. Furthermore, the pottery and seals inscribed with Kharoshthi-Brahmi legends and carrying depiction of ships are also reported from the sites in Thailand and Bali. The excavated remains including ceramics, coins, etc. from OcEo in southern Vietnam further confirms the Indian influence in South-East Asia. (Mitchiner 1995, Ghosh 2006) The study of early palaeography in Tamil Nadu, South-East Asia and Sri Lanka has also brought to light the evidences indicating the contacts between these regions. The inscriptions of South-East Asia also reflect the influence of Pallava script whichfurther suggests the cultural interaction.The reference to the activities of the Tamil merchant guild called *manigramam*in the Takua Pa inscription datable to the ninth century CE found in Siam (Thailand) also establish the commercial contacts between the Tamil region and South-East Asia during the Pallava period. (Sastri 1949, Pillai 1980: 28-85, Manickarasagom 1986: 5-10).

The numismatic sources also throw light on themaritime contacts between the Red Sea, Arabian Gulf and India's coast. The Mediterranean trade flourished and expanded further Sri Lanka and South-East Asia during the period from the end of the second century BCE up to the third century CE. The discovery of coins from Karur (Mitchiner 1995, Krishnamurthy 1993a, 1993b, 1995, 1998),as mentioned earlier, has helped us to mark the route followed by the traders the arrival of foreign merchants at Pattanam and following the land route through the Palghat pass to reach the east coast of India. Scholars suggest that Greek coins datable to the second century BCE found near Karurreachedthrough the direct Greek trade to south India, which began with the voyage of Eudoxusfrom Egypt to India.The fall of Hellenistic states and the Roman civil wars are seen as the reasons for theabsence of Greek coins in south India after 100 BCE.(Roller 1997) However, the trade between the India and the Mediterranean region was not a sudden development during the early Roman period but a gradual process from prehistoric times which was expedited later with the participation of the prosperous Hellenistic kingdoms, the Phoenicians, the Arabs and Indians.

Studies suggest that by the end of the Hellenistic period (first century BCE) there existed sea routes connecting the Mediterranean coast to the ports such as Barygaza (modern Bharuch) and Pattanam (Muciri/Muziris) on the west coast of India. These routes passed through the centres located on the Red Sea, Persian Gulf and Sindh coast before meetingIndia's coastline.Adulis, located in northern Africa along the western coast of the Red Sea, was an important port on the way. On the basis of these observations, it is assumed that the Seleucid, Parthian and Aksumite coins discovered in Tamil region came through these routes. (Krishnamurthy 1998, Krishnamurthy 2000: 85-91) The issue, however, requires further archaeological investigations. In this context, it is important to note that the excavationsat Berenike and MarsaNakari, port citiesin Roman Egypt situated on the west coast of the Red Sea, too has yielded significant archaeological remains which include the Tamil-Brahmi graffito on a Roman amphora fragment datable to the first century CE, Indian pottery, beads of South-East Asian, Sri Lankan and Indian origin, etc. The antiquities indicate that the site played very important role in maritime spice trade by linking the geographical zone comprising the Mediterranean basin, Egypt and the Red Sea on one hand to Sri Lanka and South-East Asia by the route passing through the African coast. (Sidebotham 2011: 75, 186, 192, 196, 223-4, 252) The *Periplus* also mentions Adulis and Berenike as important ports along the Red Sea. (Casson 1989: 51-65).

Maritime routes across the Bay of Bengal and Indian Ocean, which emerged from the east coast of India,fostered the trade activities with Sri Lanka, South-East Asia and further to China. Archaeological sites in Sri Lanka and South-East Asia have brought to light valuable evidence in the same regard.The presence of Roman andSasanian antiquities in the form of ceramics and coins at Anuradhapura, Kantarodai, Mantaiand Tissamaharamain Sri Lanka fairly substantiate the use of sea routes to Sri Lanka from the ports on the Bay of Bengal coast. Besides the antiquities such as the coins of north and north-west Indian origin, the excavations have yielded notable evidence including coins issued by Sangam dynasties of Tamil region, Early and Late Roman coins, a cast bronze seal of the *nanadesis* (a merchant guild), rouletted ware fragments, metal artefacts, varieties of beads, etc. which reveal Sri Lanka's contacts with the India and South-East Asia during the ancient period. (Bopearachchi and Wickremesinhe 1999: 15-45, Sarma 1990-91, Gupta 2000-1) Further, a comparative study of graffiti marks on potteries fromKodumanal in Tamil Nadu and Ridiyagama in south-eastern Sri Lanka suggests the interaction between the two regions as early as the third century BCE. (Rajan and Bopearachchi 2002).

The numismatic remains from sites like Paharpur, Mainamati (Comilla), Pundranagar (Mahasthan) in Bangladesh also help us to figure out the routes of communication through this region linking the ports on the east coast of India and the Arakan coast of Burma (Myanmar).A silver *denarius* of Tiberius (14 – 37 CE), commonly noticed at the sites in south India, has been discovered in a village near Dhaka. Furthermore, a site near Dhaka has also yielded the ancient Sri Lankan rectangular plaques depicting 'standing goddess/*swastika'* designs, which are also found at Karur.(Mitchiner 1995, Krishnamurthy 1991) Sri Lankan copper coins of early medieval period bearing 'seated bull/fishes' designs have also been found in excavation of the Buddhist monastery at Paharpur in north-eastern Bangladesh. In addition to the two early Abbasid silver *dirhems* unearthed from Paharpur monastery and at Mainamati (Comilla) respectively indicate that the Arab traders following the rise of Islam sailed around the coasts of India as far as the present day Bangladesh coast. The activities of Arab merchants on Konkan and Malabar coasts in India during the eighth century CE can be established with the discovery of several Omayyad and early Abbasid gold *dinars* along the west coast region in the areas to the north and south of Mumbai. Two Omayyad *dinars* found at Madurai in Tamil Nadu

are also noteworthy in this context.(Mitchiner 1995) The commercial contact between Tamlukon Bengal coast and Thailand in the third century CE can be observed in the light of Chinese sources. The archaeological remains datable to the ancient period from northern Bengal also indicate that the Indian influence could have reached South-East Asia either through the land routes following the Arakancoast and lower Burma or by the sea routes from the east coast of India. (Chakrabarti 1992: 65-6, Mukherjee 1996) The numismatic evidence and other antiquities, therefore, suggest that the Bangladesh coast was connected to the ports on the east coast of India, South-East Asia and Sri Lankaby maritime routes.

Beads of various kinds too were important items of exchange as portrayed in literary accounts. The *Periplus* mentions export of beads made of agate, onyx and carnelian from Barygaza (Bharuch) to the Mediterranean region. (Casson 1989: 81-5) Arikamedu, Kodumanal, Karaikaddu, Kaveripattinam, Alagankulam, Uraiyur, Tirukkampuliyur and Alagaraiwere famous bead making centres of ancient Tamil Nadu.A large number of beads and gems of foreign origin datable to the first century CE have been found at Arikamedu. The noteworthy finds include a gem bearing the head of Augustus in *intaglio*and a quartz *intaglio* representing cupid and the eagle reflecting Mediterranean craftsmanship. (Wheeler 1946) A hoard at Velallurin Coimbatore district yielded gold jewellery including four gold finger rings which were made by Graeco-Roman artists. Furthermore, a gold signet ring from Karurdepicting a pair of *mithuna* figures of indigenous tradition datable to the first century CE seems to have beeninfluenced by Graeco-Romans lapidary art engraving in *intaglio*that was brought to Tamil region by the Roman merchants. (Nagaswamy 1995: 67-9, Suresh 1992: 56-7, Suresh 2004: 142-4) This, nevertheless, highlights the synthesis of Mediterranean and local elements facilitated by the land and sea routes.

The presence of carnelian and lapis lazuli beads in southern India, however, suggest the contact with Gujarat and Afghanistan respectively where the sources of these materials were located. The beads of quartz and beryl from Kodumanal, on the other hand, were in high demand by the foreign merchants. (*Indian Archaeology – A Review* 1990-91: 67-82, Rajan 1996:76, K. Rajan and N. Athiyaman 20004: 385-414)Beads of Egyptian origin at Arikamedu indicate the role of the centre in Indo-Roman exchange process. (Francis, Jr. 1987: 6-7)Furthermore, the beads of coloured glass, faceted carnelian and etched agate of south Indian origin have been found at many sites in South-East Asia are datable to the period from *circa* 500 BCE to 1500 CE. This discovery reveals the survival of the bead trade between the peninsular India and South-East Asia since the Megalithic period. (Ray 1994: 94-5).

Other archaeological remains reflecting on the routes of contact are present in the form of objects of metal, shell, glass and terracotta.A bronze jug found at Avanasi in Coimbatore region of Tamil Nadu seems to have been brought by the early Greek or Phoenician traders who visited this region. A noteworthy find in the context of Mediterranean contact is from Udhagamandalam (Ooty) in form of a small bronze (brass) figure resembling a Roman priest which is fixed on a pedestal bearing the legend *ROMAE*. (Suresh 1992:53, Suresh 2004:126) The examination of bronze objects from the sites of Andhra and Tamil regions indicates that these reached here as export items from South-East Asia. This also explains the presence of clusters of archaeological sites in the metal-rich regions of peninsular Malaysia. (Basa 1993-95) In this context, artefacts found at Ban Don Ta Phet, especially the knobbed-base bronze vessels and the lion pendants of carnelian, show Buddhist features further highlighting the role of ideology in trade contacts with South-East Asia. (Glover 1990: 1-45, Glover 1996: 129-58) Although limited in number, these metal products establish the trade links with different regions of the globe. The high quality pearls from the Gulf of Mannarhad great demand in the Roman Empire and ancient China. (Casson 1989: 75, Liu 1988:

55-8)The Pandyan port of Korkaiand later the Cholan port at Kaveripattinam (Poompuhar) were famous centres of pearl trade. (Caldwell 1982: 73-7, Arunachalam 1952: 34-6)Archaeological evidence discovered from several sites in Tamil Nadu reveal the use of chank-cutting tools and the shell industries at Arikamedu, Kodumanal, Tirukkampuliyur, Alagarai, Uraiyur,Korkai Alagarai and Kraikaddu. (Verma 2021: 149-50) The industrial activities associated with shell and chank products in Tamil region and their demand in foreign lands testify the use of maritime routes connecting the Persian Gulf and the Red Sea. Terracotta objects such as the Roman clay lamps and imitations of Graeco-Roman human figurinesdatable to the first century CE fromArikamedu, and a terracotta head with features of a Graeco-Roman soldier found at Kodumanal also establish the act of Indo-Roman contacts in the region. (Suresh 1992: 53-5, Suresh 2004: 138-9)

Although India's contacts with Sri Lanka, South-East Asia and China can be traced to the early historic period,greater interactions with the Far East developed through the sea route passing South-East Asia from *circa*ninth century CE onwards.(Devahuti 1980: 1-31)This is evident in the discovery of Chinese ceramics at the ancient port towns in Philippines, Indonesia, Malaysia and Thailand on one hand and the potteries of Chinese origin found at coastal sites in India on the other.A few remains of whitish Chinese porcelain datable to the ninth –thirteenthcenturiesCE have been discovered at the ports of ancient Andhra and Tamil regions. The remains of this potteryhave been found at Periapattinam, Kayalpattinam and

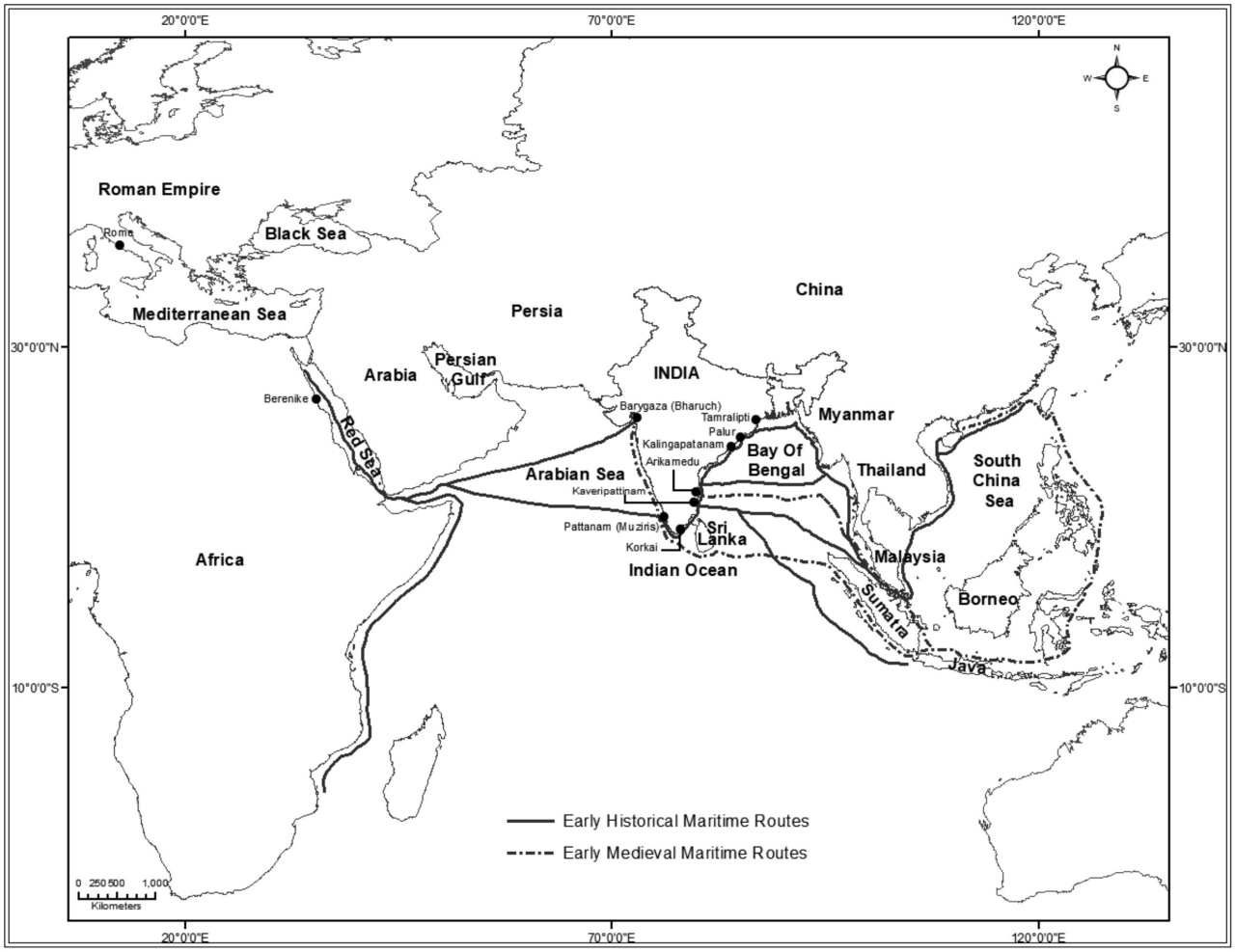

Fig. 7.3: Map showing then maritime routes from India to the Mediterranean region and South-East Asia up to the twelfth century CE

Nagapattinamon the coast of Tamil Nadu whereasit also appears at Gangaikondacholapuram and Darasuram in hinterland region. (Verma 2021: 188) The cultural and commercial exchange between India and China reached to a great height during the Tang rule in China (618-907 CE). (Dhunjisha 1999)Later during the Chola rule in south India the Chinese traders frequently visited the ports of Odisha, Andhra Pradesh and Tamil Nadu. The Cholakings, RajarajaCholaI and RajendraChola I, also sent various embassies to China. (Raghotham 1983, Sastri 2000: 210) The presence of medieval Tamil language inscriptions in South-East Asia (Sumatra, Thailand, Burma) and China indicate the contacts between these regions. Furthermore, the inscriptions in South-East Asian languages such as a Javanese inscription of 1021 CE from the Brantas delta region of east Java refers to the foreign merchants from different parts of India including Tamil region. (Christie 1998) In the period following the Cholas, the Kakatiyas of Warangal also maintained contacts with China, which is revealed by several epigraphic records such as the famous Motupalli pillar inscription of Ganapatideva dated to 1244 CE.(Hultzsch1913-14, Sastry 1978; 240-58, Sarma 1990-91) Thus, the sea routes from the Coromandel coast played significant role in connecting India with China in the early medieval period. The ships destined for south Indian ports followed the route through the South China Sea and Strait of Malacca which facilitated maintaining this contact further till later periods.

Conclusion

In the light of the available evidence, it can be observed that trade activities in Tamil region were facilitated by a network of overland routes meeting each other at different points. The highways were linked to the major routes connecting all corners of the Indian subcontinent. The highways running along the coasts joined the port cities and their branches also reached up to the centres in the hinterland region. These channels of communication, therefore, enabled the exchange of commodities between the coastal and inland regions. The land route passing through the Palghat Gap also served as the major highway connecting both the coasts. While this road network linking the east and the west coasts through the mountain pass provided a passage for trade with the Mediterranean region, the internal routes through the Deccan, extending to north India helped in building up contacts with different regions of the subcontinent. The distribution of the Roman coins, however, shows that most of such coin finds are located in south India and these rarely occur in the northern parts of the subcontinent. This pattern suggests that although north India was connected with the Middle East through major overland routes, Roman traders preferred maritime transport over land travels due to the convenient and faster access through navigation from the Red Sea to the ports on the west coast of south India.

Regarding the maritime trade it is a noticeable fact that the vessels bound for the Mediterranean region initially operated from the west coast of India. Although the two coasts were accessible through the circumnavigation of the Cape Comorin, it was not a frequented route before the discovery of the monsoon winds. The growth of Arikamedu as an Indo-Roman trade centre on the east coast, therefore, owes more to the contribution of the land route than that of the less popular sea route in the early period. The major sea routes of ancient Tamilakam emerged from the west as well as east coast connecting the Mediterranean region in the west and Sri Lanka, South-East Asia and China on the east respectively. The ports on both the coasts were also linked by the route running along the coastline via the Cape Comorin. Multiple branches of these routes originated from different port centres and terminated at destinations in other regions across the seas.

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