Chapter-5

Trade and Trade Routes

The early centuries of the Common Era witnessed a flourishing economy due to the strong and healthy, internal and external trade in India. The credit of this should be given to the imperial Kuśāṇas who unified the nation, particularly the northern India into a single unit. The political integrity, the safety, security and peace in the country ensured a favourable atmosphere for the growth of trade. The Hindu, Buddhist and Jain literary sources and archaeological material provides information regarding the economic activities of the Indian people in the ancient past. The Hindu literary sources such as the Epics, the Purāṇas, the Śrīvats, the Arthaśāstra, the Amarkoṣa, the Nītisāra etc. and many others contain special references regarding the economy and economic life of Indian people throughout the ages. In the Buddhist literary works such as in the Jātakas, we have the references to the commercial activities of the people. The Jātaka stories provide valuable information to reconstruct the economic history of ancient times. Later Buddhist works such as the Milindapoṁho, the Mahāvastu, the Mahābhaṣya, the Divyāvadāna, the Aṅgavijjā, the Buddhacarita and the Saundarananda etc. which deal with our period of study (1st-4th/5th centuries of the Common Era), give us the significant information of traders and their commercial activities.

The Jain canonical sources, too supply a very significant data regarding brisk trade carried on through land as well as sea routes. These also mention the important trade centres and cities of the time.

During the time period of our study it was not only the north India which was having a favourable balance of trade, but the south India too was quite prosperous due to its flourishing inland and overseas trade as referred to in the Tamil literature. The most important work which contains rich information on crafts, occupations, inland and foreign trade and the prosperity of the Tamil people is the Šilappadikāram.
Apart from the Indian literary sources we have a great amount of information in the works of the foreigners specially the classical Graeco-Roman writers. The works such as the *Periplus of the Erythraen Sea*, the *Natural History of Pliny*, *Ptolemy’s Geography* and the *Geography of Strabo* etc. give us a clearer idea of the ports, towns and cities, export and import items and the trade routes etc.

The literary and archaeological evidences suggest India’s flourishing trade during ancient times and during the age of the Kuṣāṇas particularly. The Kuṣāṇas had under them, the Indus and the Gangetic plains which were permanent areas of trade. The most significant factor of the prosperous economy of the Kuṣāṇas was the Silk Route which connected the Kuṣāṇas with China and Rome. Through this route the bulk of silk from China was carried on to the Roman Empire and the Kuṣāṇas might have extracted money from the caravans passing through this route as it passed through their territory. By now the money economy had started playing a significant role in the internal as well as external trade. The Kuṣāṇas issued a great numbers of gold and copper coins along with some silver coins. Their gold coins are very large in number which indicates their flourishing economy. These were issued on such a large scale for the first time in India by them.

When the Kuṣāṇas were controlling the northern India, the Śakas had become very powerful in the Malwa and Surashtra regions and the Śātavāhanas were dominating the Deccan particularly the regions of Karnataka and Andhra Pradesh. The regions controlled by the Śakas and the Śātavāhanas were immensely important from the commercial point of view as we have very important towns, cities and the ports in these areas.

In our literary sources we have come across many words connoting corporate associations such as śreni, nigama, kula, gaṇa, puga, vrāta and saṁgha etc.

Śreni was the association of people following the same trade even though they might have belonged to different castes. Medhātithi, while commenting on
the term śreni in the commentary on the Manusmṛti calls it a guild of merchants, artisans, bankers and brāhmaṇas learned in four Vedas. Nārada defines it as an assemblage of eminent merchants and as a company of artisans. Kauṭilya uses the term in the sense of workmen. V. S. Agrawala explains the term śreni as a guild of artisans.

From all this we may conclude that the term śreni was only a general term used for all guilds including the corporation of merchants as R.C. Majumdar observes that the term śreni was used to denote the corporation of tradesmen or mechanics.

The term nigama has been found on the seals from Basarh. The legend on them reads as Śreṣṭhi-Sārthavāha-Kalika-Nigama, Śreṣṭhi-Kulika-Nigama, Śreṣṭhi- nigama, Kulika-nigama. D. R. Bhandarkar opines that the term nigama denotes township. R. K. Mookerji calls it the corporation of bankers and merchants. V. S. Agrawala, however, suggested that the term was used for a guild of traders.

The term kula too has left the scholars to suggest its different interpretations. Nārada used the term for an assemblage of a few persons. Kauṭilya calls it a council of regency or oligarchy.

The term gana has been used to mean a fellowship by Nārada while Manu calls it ‘peoples’ or guilds. R. S. Sharma opines that the term gana was used to mean a tribal organization.

Pāga has been explained by Nārada in three senses (a) companies of traders and others (b) associations of persons differing in caste whose mode of subsistence is not fixed and (c) riders on elephants and horses etc. R. K. Mookerji defines the term as a special kind of saṁgha, an association of men of various castes who having no fixed occupation or means of livelihood, unite in the pursuit of wealth and pleasure as their main aim.

As far as saṁgha and vrāta are concerned, Kauṭilya defines saṁgha as a political corporation. The term vrāta has been used by Pāṇini as an association
of men of different castes, having no definite means of subsistence but lived only by duty of physical labour or violence.\textsuperscript{20}

Besides these terms, we come across a few other terms such as \textit{vanika}\textsuperscript{21}, \textit{setthi}\textsuperscript{22} and \textit{sarthavāha}\textsuperscript{23} etc. which indicate the categories of businessmen. \textit{Vanika} was probably the small local trader or merchant. The \textit{setthis} (\textit{sresthins}) appears to be quite influential traders having great respect in the society. They may be compared to the modern wholesale dealers. The \textit{sarthavāhas} were also a class of merchants moving from one place to another to sell and buy merchandise. They used to move in groups whose leader was known as \textit{sarthavāha}.

The \textit{Milindapañho} records another class of merchants who were like the modern howkers.\textsuperscript{24} They may be independent or may be employed by some big traders. The Jātakas contain references to the traders engaged in the riverine and oceanic trade.\textsuperscript{25}

The upper three \textit{varṇas}, i.e., the \textit{brāhmaṇa}, the \textit{kṣatriya} and the \textit{vaśya} were engaged in trade and commerce. Initially the \textit{vaśya} community was the only one performing this activity but later the other two \textit{varṇas} were allowed to enter in the occupation on certain occasions with some prohibition by law.\textsuperscript{26} Later even the forth \textit{varṇa}, i.e., \textit{sūdra} was also permitted to enter this profession.\textsuperscript{27}

The traders were engaged in trade in different parts of India as well as with the various regions outside India during the time of the Kusānas.

\textbf{Internal Trade}

\textbf{Trade routes}

It is not easy to trace the evolution and development of trade routes. We do not know exactly when trade routes evolved, but we may trace the routes or the ways used for day to day life by the human beings right back in the prehistoric period when man started domesticating animals. He used to go in search for his cattle. We can’t say that these were trade routes but probably some of them might have turned into trade routes later.
The *Rgveda* tells us that Maruts made routes by breaking the hillocks standing in the way.²⁸ Indra is also hailing as one, who makes the routes by burning down the forests.²⁹ Agni is also praised for introducing the art of navigation among the Āryans.³⁰ He is infact regarded as chief deity creating the routes (*pathakṛta*).³¹

In the *Śatapatha Brāhmaṇa* it is recorded that Videgh Māthava conducted the sacrificial fire from the river Sarasvatī to the river Sadānīra.³² This reference probably indicates the opening of routes from Sarasvatī to middle country but there is no indication of the actual course of the route followed by them.

The Epics also contain the reference to trade routes such as the *Mahābhārata* speaks of Hastināpura-Śravasti-Kapilvastu-Vaiśali route.³³ Motichandra, while talking about the episode of travelling of Kiṣṇa and Bhīma to meet Jarāsandha at Rājagṛha mentions the route from Kurukṣetra to Rājagṛha. He states that according to the *Mahābhārata*, this route starting from Kurukṣetra passed through Kurujāṅgala and then crossing the Saryu river reached Pūrva Kośala and then proceeded towards Mithilā. Then crossing the confluence of Gaṅgā and Son it reached Gorathagiri from where the city of Rājagṛha was perfectly visible.³⁴

The *Rāmāyana* also indicates some routes such as Ayodhyā-Janakapura route adopted by Rāma, Lakṣaṇa and Viśvāmitra, while going to Siddhāśrama from Ayodhyā. Starting from Ayodhyā to Tāṭakavana, they followed the right bank of the river Saryu.³⁵ After reaching Kāmāśrama, from where the confluence of Gaṅgā and Saryu was within their sight, they followed the right bank of Gaṅgā,³⁶ beyond which the Tāṭakavana was situated. The point where the route coming from Ayodhyā touched the Uttarapatha is not indicated in the *Rāmāyana*. So in order to reach Siddhāśrama, probably in the south of river Gaṅgā they left the main route and took some forest track to proceed further.

From Siddhāśrama there was a route for Girivṛṣa, the capital of Magadha³⁷ also known as Vasumatī.³⁸ The city was surrounded by five mountains and was situated along the river Sumāgadhi.³⁹ Girivṛṣa was not visited by them.
and they took a direct route for Visālapurī. They crossed the Gaṅgā and from its north bank started for Visālapurī.30

The trade and trade routes become clearer and well developed during the period of Indus Valley Civilization. We find clear evidence of internal and external trade carried on through inland and sea routes.31 The trade and trade routes in the Mauryan period are well recorded in the Arthaśāstra of Kautilya.32

The Age of the Mauryas was followed by the Age of the Āndhras in the South and Kuśāṇas in the North. This was the period of the great commercial activities. The period witnessed the inland and overseas trade on a very large scale. The trade routes by now were well defined. To study the trade and trade routes, the scholars have divided the whole country into two parts i.e. Uttarāpatha and Daksināpatha.

Uttarāpatha

The Uttarāpatha33 may be identified with the ancient highway from east India to Gandhāra and then towards further west. The entire Grand Trunk Road within India and as far as the Oxus was well known to the Greeks as ‘Northern Route’ a literal rendering of Uttarāpatha. It may be called the back bone of all trading activities in Northern India in ancient times. Taxila may be considered its starting point. Taxila was the capital of the Gandhāra and was a prominent centre of learning in ancient times. It was connected to the states of Kośala, Malla, Avanti, Lāṭa, Kurū, Magadha, Śrāvastī; Vārāṇasī etc.44 Sometimes Mathurā is also included in this route.45

Buddhist literature gives an account of the route from Mathurā to Rājagṛha. Mathurā was linked with Veraṇja.46 From Veraṇja the route further proceeded to Soreyya, Sarikissa, Kannakuija and at last reached Prayāga Patitthinā (Prayāga).47 Motichandra keeps Veraṇja in the district of Dhaulpur near Bari.48 Soreyya may be identified with Soron on the left bank of the Gaṅgā in the Etah district, U.P.49 Sarikissa is identified with the village Sankisa in Farrukhabad district in U.P. Once the Buddha is said to have started from Śrāvastī and reached Kītāgiri (Kerakat, district Jaunpur, U.P). From there preceded to Alavi he
reached Rājagrha in the end. Alavī appears to be more important town than Kānyakubja. Beyond any doubt Kānyakubja was a place of importance in the time of Thera Revata who visited it. During the Buddha’s time Alavī had trade relations with Saṅkasya (Saṅkissa). We do not possess the details of Buddha’s route from Śrāvastī to Rājagṛha, but it should be through Prayāga which was a place on the direct route from Veraṅja to Vārāṇaśī. From Prayāga there was a route for Vaiśālī also. Prayāga was linked with Śrāvastī, Sahajāti and Kauśāmbī. Several routes coming from Veraṅja, Soreyya, Saṅkissa, Kānyakubja converged at Prayāga. Kauśāmbī was also a significant centre from where were busy routes to Kośala and Magadhā.

From Kauśāmbī, Vārāṇaśī was thirty yojans by rivers. The Suttanipātā narrates a story of the sixteen disciplens of Bāvari starting from Alaka on the Godāvari went to Śrāvastī passing through Pratīṣṭhāna (Paiṭhāna), Māhiṣmati (Māhiṣsati), Ujjayani (Ujjain), Gonaddha, Vidiṣā, Vanasavhyā, Kauśāmbī (Kosambī), and Sāketa. From Śrāvastī they went to Setavyā, Kapilavastu, Kuśāṇā, Pāvā and then to Rājagṛha. The story provides us valuable information in tracing the routes between Śrāvastī and Pratīṣṭhāna and from Śrāvastī to Rājagṛha.

There were two routes to connect Prayāga to Vārāṇaśī. The first one was the direct one and the other via Kauśāmbī, Sahajāti, Sumsumāgiri (Chunar). The Veraṅja-Vārāṇaśī route also passed through Prayāga. Vārāṇaśī was a great commercial city on the Grand Route between the east and the west. It had trade relations with Gandhāra and Taxila (Takṣaśila). The Kingdom of Videha is said to have its trade relations with Gandhāra. From Vārāṇaśī the Grand Route reached Ukkacala (sonpur, Bihar) and from there it proceeded to Vaiśālī where it joined the route from Śrāvastī to Rājagṛha. There was also a direct route between Vārāṇaśī and Uruvalā (district Gayā). Moreover much of the commerce of Vārāṇaśī was carried by both plying in the Gaṅgā. From Vārāṇaśī boats sailed to Prayāga and there sailing in the Yamaṇā they reached Indraprastha.

Vaiśālī, Rājagṛha and Campā were three significant cities to the east of Vārāṇaśī. The route between Śrāvastī and Rājagṛha passed through Vaiśālī.
Vaiśāḷi the northern route to Śrāvaṇaṣṭī and the southern route from Vāraṇasī met. The Grand Route went towards Campā (Bhagalpur) but the second route turned towards Rājaγrha. From Śrāvaṇaṣṭī one route proceeded towards Kauśāmbo through Sāketa which was the second capital of Kosala. The distance between Sāketa and Śrāvaṇaṣṭī was of six or seven yojanas. Śrāvaṇaṣṭī was the nerve centre of trade and commerce and from here emerged a number of routes. From here the routes proceeded towards Sāketa, Rājaγrha, Kauśāmbo, Vāraṇasī, Álavī, Saṅkāṣya and Takṣaśilā. Śrāvaṇaṣṭī had direct trade routes for Ujjayini, Māhiṣamati, Pratiṣṭhāna, Bhārukačcha and Śūṛpāraka. It was also connected to Macchi Kāsaṇḍa, Kukkuṭāvatī, and Uggapura etc.

From Śrāvaṇaṣṭī a significant route was towards Rājaγrha via Kapilvastu and Vaiśāḷi. Pāvā and Kuśānagāra were two important towns on the Kapilvastu-Rājaγrha route. The distance between Rājaγrha-Śrāvaṇaṣṭī was 45 yojanas. From Rājaγrha there was a route for Ukkala (Utkala). This route connects Śrāvaṇaṣṭī with Dantapura- a famous trade emporium of Kaliṅga Janapada.

The Grand Route from Śrāvaṇaṣṭī proceeding towards east reached Bhaddiyā (Monghyr), Campā, Kajaṅgal (Kankjol, Rajamahal, Bihar) and finally to the port of Tāmralipti (Tamluk). Tāmralipti was a significant port for trade with the countries of the Far East. Besides this, we have references to the river routes through which the articles for trade brought from Sahajāti, Kauśāmbo, Vāraṇasī, Pātaliputra and Campā were carried on to Tāmralipti and further to Suvarṇabhūmi.

In the Jātakas we find references that Campā was linked with Mithilā. There was a trade route from Campā to Sindhu-Sauvira via Vāraṇasī, Kauśāmbo and Mathurā. From Mathurā to Roruka, the capital of Sindhu-Sauvira, there were two routes, one via Dvāravatī (Dwarika) and the other via Indraprastha, Rohitaka and bifurcating from Sutlej to Sindhu-Sauvira via Śibi and Pāṭala.

Megasthenes has also noticed the routes. He has constructed it in eight stages running from the frontier towns of Peukelaotis to Taxila. From Taxila, across the Indus to Jihlam, then to the Beas, near the spot where Alexander
erected its altars. From here it went to the Sutlej. From the Sutlej to the Jumna and from Jumna to the Ganges. From the Ganges the road went to a town called R’hodapha and from R’hodapha to Kalinipaxa (probably Kanyakubja or Kanauj). From Kalinipaxa it went to the mighty town of Prayāga at the junction of the Ganges and the Jumna and from Prayāga to Pātaliputra. From Pātaliputra it continued its course to the mouth of the Ganges, probably at Tāmluk (Tāmralipti).71

Dakṣināpatha

The word daksīna means ‘southern’. It is generally used to designate the portion of the Indian Peninsula lying to the south of the Narmadā. Even in the Periplus, the region is mentioned as Dakhinabades.72 Fa-hien, the Chinese traveler was told at Benaras that there was a country to the South called Ta-thsin which corresponds to the Sanskrit Dakṣīna.73

Dakṣināpatha or daksīna was the name of the whole peninsula to the south of the Narmadā. Regarding the Āryan penetration into the south India, K. A. N. Sastri opines that it was a slow process beginning probably about 1000 B.C. The sage Agastya is said to have crossed the Vindhyas and established an āśrama or hermitage in the south thus leading the way to other settlements.74 R. G. Bhandarkar is of the opinion that the Āryans first colonized Vidarbha and then the other parts.75

The Rāmāyana provides valuable information regarding the routes between the north and the south India. It narrates a story of Rāma’s departure from Citrakūṭa, crossing the Daṇḍaka forests (the modern Maharashtra according to Bhandarkar)76 the forests of Pañcavaṭi near Janasthāna on the banks of the Godāvāri, marching towards Kiṣkiṇḍhā (near modern Hampi) and ultimately reaching Velāvana.77

In the Mahābhārata, we find a reference of a route running towards Avanti after crossing the mountain Rikṣavanta78 (probably Vindhyas). The river Payoṣinī79 (perhaps Tāpti) is also mentioned which flows near the mountain. Somewhere near the mountain Rikṣavanta and the river Payoṣinī there was a
place from where besides the Avanti route going to Vidarbha Janapada, there was a route other going to the Janapada of Dakṣiṇa Kośala. It is mentioned clearly that the southern country lies beyond these roads. 

According to R. G. Bhandarkar, Panini mentions Kaliṅga Janapada along with Magadha. He has also mentioned other countries such as Kośala, Avanti and Kaccha etc. Bhandarkar states that Kaccha is the same as modern Kutch. Kośala and Avanti are mentioned in the Purāṇas as countries situated on the back of the Vindhyas and Kalinga is in modern Orissa. Panini did not talk about the regions south of the Vindhya but Patañjali, however was acquainted with the south. He has mentioned Mahiṣamati, Vidarbha, Kāṇchi purum, Kerala and Malabar.

The Author of the Periplus has given a detailed account of the ports, towns and routes of south India. Starting from the mouth of Indus, the author states that there was the commercial emporium named Barbaricum at the mouth of the Indus. Minnagara, identified with ancient Pāṭala or Pataene was another commercially significant port. Barygaza, (Bharukaccha or Bhṛgukaccha), near the mouth of the Nammadios (Narbada=Narmada) was one of the most prominent ports of India. Its significance may be testified in the Jātakas where it has been described as an important seat of maritime trade and a sea port town (Pattanagama). A route link has been stated between Barygaza and Ozene (Ujjayini) in the Periplus.

A route between Barygaza and Vārāṇasī has been suggested in the Jātakas. Another route is mentioned from Barygaza proceeding towards Pratiṣṭhāna (Pāṭhāna) connecting with Tagara (modern Ter) from where the route proceeded towards Dhānyakaṭaka. Suppara (Śūrpāraka=Sopara) and Calliena were two other prominent ports below Barygaza. A direct route existed between Suppara and Śrāvasti which probably joined Dakṣiṇāpatha at Mahiṣmati via Kālyāṇa (Calliena). Calliena is modern Kalyan near Bombay situated on the Ulhas river. From here two routes passed, one towards Nāsik and other towards Poona. The commercial importance of Kālyāṇa is stressed in the inscriptions from Kanheri and Junar. They mention the names of merchants and artisans. Pratiṣṭhāna was also linked with Kālyāṇa. After Calliena came Semylla (Chaul
to the south of Bombay, Mandagora (Bankot on the mouth of the Savitri river),
Palaepatmea (modern Dabhol), Melizigara (modern Jaigarh), Togarum (Devgarh)
and Avrannobas (Malvan) etc.96 Naura and Tyndis97 are referred to as the first
markets of Domirica (country of Tamils).98 Schoff has identified Naura with
modern Cannanore and Tyndis with modern Ponnani.99

The Periplus further mentions Muziris and Nelcynda as places of
commercial importance.100 Muziris has been located at Cranganore.101 Nelcynda
has been mentioned as Nelkynda by Ptolemy.102 Ptolemy calculates the distance of
about 500 stadia between Nelkynda and Muziris. Schoff103 has identified it with
modern Kottayam as he says that the distance of Kottayam from Cranganore is
exactly 500 stadia. Bacarē, 120 stadia from Nelcynda was another notable port
according to the Periplus.104 It has been identified with Porkad by Schoff.

Beyond Bacarē, two other places named Balita (possibly modern Varkkali)
and Camari (Cape Comorin) are mentioned in the Periplus.105 Next port
mentioned was Colei (Colchi)106 which was in the Pāṇḍyan kingdom which
according to the Periplus had a land route connecting it with Madurā.

The next important port after Colei (Kolkai) was Argaru (Uraiyur)107 from
where according to Schoff reached the finest fabrics of muslin to the Roman
world and was also a great market of pearls. The Cola Kingdom had some other
significant commercial centres such as Camara identified with Kaveripaṭṭanam or
Puhār. Ptolemy mentions Kāhēbris emporiōn, at one of the mouths of the Kāverī
river which has been identified with Kāveripaṭṭam by Burnell.108

Poduca is the next centre which may be identified with Pondichery and
Sopatma is the third centre which has been identified with modern Madras.109
Nikam was another significant centre in the Cola Kingdom. It has been described
as metropolis by Ptolemy and has been identified with Nāgapaṭṭanam by Yule.110
Masalia, Dosarene and Ganges were the ports beyond the Cola kingdom.111
Masalia has been identified with modern Masulipaṭṭam, famous for muslin.112
Dosarene, famous for ivory has been located in modern Orissa.113 Motichandra
identifies it with Tośāli.114 Ganges, according to the Periplus was a market town

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on the bank of river of the same name. It has been identified with Tamralipti in Bengal.\textsuperscript{115}

Thus these were the significant trade routes of northern and southern India also known as \textit{Uttarāpatha} and \textit{Daksināpatha} respectively. The prevalence of the extensive trade routes throughout India indicates the healthy trade and commerce with in the country and outside as well.

**Items of trade**

The trade was carried on in various items such as jewels, pearls, corals, costly clothes, dyed cloths, cloths made of silk, cotton, wool and linen, yarn, horn, ivory, bones, conches and shells, skins, blankets, drugs, medicines, honey, butter, milk, curd, corn, molasses, poison, cooked food, vegetables, sweets, condiments, salts, oil, tallow, meat, wine, birds, fish, indigo, lac, can-articles, earthen wares, bamboo wares, leather, bronze, copper, silver, iron, stones and weapons etc.\textsuperscript{116} The \textit{Viṣṇusmrī} has given a list of items of trade too. It consists fish, ginger, plants, perfumes, flowers, fruits, roots, skins, canes, chaff, pot sherds, cow milk, curd, oil cakes, sesamum, lac, bees wax, shells, tins lead, iron, copper, vessels made of horn of rhinoceros, dyed cloths, precious stones, suger, honey, liquids or condiments (other than sugar, salt, and the like), wool, meat, salt etc.\textsuperscript{117}

Grain, cloths and salt appear to be very significant items of trade as \textit{Śilappadikārama} has many references to the grain and grain markets.\textsuperscript{118} The Jātakas, the \textit{Milindapañho} and the \textit{Mahāvastu} contain references to the fine quality cloth of Banaras known as Kāśi.\textsuperscript{119} Salt was another significant item of trade finding mention in the Jātakas and the \textit{Śilappadikārama}.\textsuperscript{120}

Wine appears to be very much in demand as we find several reference to its various types in the \textit{Manumṛti}, the \textit{Viṣṇusmrī}, the \textit{Milindapañho} and the \textit{Śilappadikārama} etc.\textsuperscript{121} several types of perfumes find mention in the Jātakas, the \textit{Miloindapañho}, the \textit{Mahāvastu}, the \textit{Manumṛti}, \textit{Viṣṇusmrī}, and \textit{Śilappadikārama} etc.\textsuperscript{122} Some of the Kuṣāṇa inscriptions testify it as they refer to \textit{gandhika} who may be manufacturer as well as seller of perfumes (\textit{gandhas}).\textsuperscript{123}
The Jātakas contain reference to the horse dealers selling their horses at Banaras\textsuperscript{124} and the Mahāvastu mention the traders from Taxila coming to Banaras to sell horses.\textsuperscript{125}

Many inscriptions of the Kuśāṇa period throw light on several professions in which people were engaged such as dealer in cloaks for the Buddhist monks (pāvārika) named Hastin is referred to in the Mathurā Buddhist image inscription of Kaniska’s regnal year 14.\textsuperscript{126} The Jain image inscription of the year 12 refers to the dedication by a donoress belonging to the carpenter class (Vaddhākin).\textsuperscript{127} Goldsmiths (hiranyakāra) or jewelers (manikāra) are also referred to in the inscriptions of Kuśāṇa period.\textsuperscript{128}

The reference to the weavers and potters are got from Nasik inscriptions\textsuperscript{129} and those of corn dealers from Junar inscriptions.\textsuperscript{130}

The Bandhgarh inscriptions\textsuperscript{131} furnish us with valuable information on the merchant (negama) of Vejubhadrā, the merchant Meda, the goldsmith Balamita, the merchant Śivasaka, the carpenter and blacksmith (Kāśthakāri-Karmāra) Śaka, the merchant Cheti, the trader Śivadhara and trader Tria etc.

The prevalence of the pottery of similar type and fabric, metal, ivory and glass objects in different parts of India belonging to the Kuśāṇa period suggests some kind of trade in these articles.\textsuperscript{132} The stone statues of Mathurā style have been discovered from Kausambi,\textsuperscript{133} Sārnāth,\textsuperscript{134} Pātaliputra\textsuperscript{135} which suggest the wide prevalence of internal trade.

**Foreign trade**

India was having trade with the outside world ever since the Harappan period or even before that but its trade with foreign countries especially with Rome, China and South East Asia reached at its climax during the time of the Kuśāṇas. Several land and sea routes were active during the Kuśāṇa period which played a significant role in the trade.
Trade and trade routes between Rome and India

When the Kuśāṇas were settling down in the Indian subcontinent and were extending the empire towards north-western region of India, Rome too was strengthening its position. By the time Syria had fallen and the Romans had conquered Egypt. The civil war had come to an end. Augustus was organizing and regulating his vast possessions. Trade and trade routes were made safe so that the luxurious item of every kind such as Chinese silk, Indian muslin etc. could reach Rome. The reference of Roman products in India in the Periplus and the reference by Pliny that India, Seres (China) and the Arabian peninsula drain from their country yearly one hundred million of sesterces, clearly indicate import of Indian products by the Romans. Above all the presence of Roman coins in India further testifies the commercial relations between the two countries. These commodities were transported either through land routes or by the sea routes. Let us examine both the routes one by one.

The land routes

The trade between the Rome and South Asia was carried on long before the Kuśāṇa settlement in India, mainly through Arabia. There was certainly an increase in Indo-Roman trade during the early centuries of Common Era. In the lime of Roman king Augustus (c. 30 or 27 BC – 14 CE) the merchants used to travel from Greek Seleucia and Parthian Ctesiphon eastwards through Assyria and Kurdistan and reached Media. From there the route goes towards the Caspian Sea via Behistan. The route continued through Apamea and the old Hecatompylos near Jah Jirm and approached Antiochia and Parthian Margeane (Merv). From here the route bifurcated. Two branches formed the great Silk Routes to Central Asia leaving the Hindukush on the south and another branch turned towards India. But these were very little known to the Romans. The route passing from Merv through Maracanda (Samarkand) according to Ptolemy crossed the Oxus and another route proceeding from Merv reached Baktra (Bactra=Balka) and turns towards the north in ascending the mountains of the Kōmēdoi (Comedoi) and the Saca to the “Stone Tower” (Tashkurghan) which was a meeting place of the routes from India, the Oxus valley, Khotan and Yarkand. Warmington states
that it was the place where the Chinese met the Parthians, Indians and Kušāṇas and later the Roman as well and handed over their silk.144

To reach India from Baktra one had to cross Hindukush or Koh-i-baba range.145 After this the route reached Kabul and then south east over the Khyber Pass to Peshawar. From here through Taxila and Modura (Mathurā) the route proceeded to Pālibothra (ancient Pātaliputra) and another branch from Mathurā going towards south through Ozene (Ujjain) reached Barygaza.146 Thus India was linked with Silk-Route. The traders willing to do trade with India only had to turn southwards from the Grand Route at Merv and pass through Alexandria of the Arioi (Herat), Prophthasia in Drangiana (roughly Seistan) and then eastwards to Alexandria of Arachosia (Kandhar) in Afghanistan.147 From Kandhar there were three routes to reach India. First one was south-eastern route after crossing the mountains reached India by the Bolan Pass or Mula Pass. Second route proceeded towards north-east from Kandhar which passing through Kabul joined the Silk Route and third one went south from Kandhar through Rhambacia (las Bela) which passing through land of river reached Oraea (in Sonmiani Bay) from where India could be reached by sea or through low mountains.148

The Sea Routes

While discussing the internal trade in India, we have seen that there existed many ports in western, southern and eastern coastal regions of India. The *Periplus* has given a great detail of the ports. All this certainly indicates that by the first century CE Indian shipping had developed a lot. Strabo, Pliny and the author of the *Periplus*, all of them belonging to the Kušāṇa period contain healthy evidences of Indo-Roman sea routes and trade during that time. Strabo states that he saw about 120 ships sailing from Myos Hormos to India.149 Pliny150 writes that in after times it was considered an undeniable fact that the voyage from Syagrus, a cape in Arabia reckoned at 1335 miles can be performed by aid of a west wind which is there called Hippalus. Pliny has however not referred to the older sea routes. He believed that with the discovery of trade winds by Hippalus, the route to India became better defined. But in fact these periodical monsoon winds were surely known much earlier than Hippalus to the Indians and to the Greeks.
Arrian, for example has mentioned these winds. He states that the season of the year was then unfit for voyaging, for the periodical winds prevailed, which at that season do not blow there from the north as with them, but from the great sea, in the direction of the south wind. Pliny further states that “the age that followed (the alleged discovery by Hippalus) pointed out a shorter route that was also safer by making the voyage from the same Cape to Sigerus, a seaport of India, and for a long time this route was followed until one still shorter was discovered by a merchant, and India was brought nearer us”. Sigerus has been identified with Melizigara, the modern Jaigarh by Schoff and with Melizegyris, an island about 20 miles south of Simylla by Ptolemy. With the discovery of sea routes from Rome to India in the first century CE the merchant ships sailed from Syagrus, not for Sigerus, but straight to Muziris identified by Yule with Muyiri- Kodi, later Muciri (Muyiri-Kotta or Cranganore).

Starting the voyage from Rome the first important port was Alexandria in Egypt. Two miles distant from Alexandria is the town of Juliopolis. The next destination from here was Coptos at the distance of 308 miles, the journey to which was made when the eastern winds were blowing with in twelve days. From Coptos the next destination was Berenice, situated upon a harbor of the Red Sea was at the distance of 257 miles. The greater part of this distance was generally travelled by night, on account of the extreme heat, the days being spent at the stations, in consequence of which it takes twelve days to perform the whole journey from Coptos to Berenice.

From Berenice passengers generally set sail at midsummer, before the rising of the Dog star or else immediately after and in about thirty days arrived at Ocelis in Arabia or else at Canae (Cana) (Hism Gharab). The third port of Arabia, Muza was however not used by the voyagers to India, rather was ment for the traders dealing in incence and Arabian perfumes. After Cana come the gulf of Sachalites which has been identified with the sea coast between Ras-el-Kalb and Ras Fartak where rose the great promontory called Syagrus (Ras Fartak), the Dioscorida islands (Dvīpa Sukhādāra-Socorta) where according to the
Periplus had settled, “a mixture of Arabs, Indian and Greeks”.\textsuperscript{161} Who had emigrated to carry on trade there.

Immediately beyond Syagrus the Bay of Omana where cuts deep into the coast line with a width of six hundred stadia, there was the port of Moscho (Muscat).\textsuperscript{162} Sailing along the coast north-eastwards, ships reached the entrance of the Persian Sea (Gulf). At its upper end was Apologus and at its lower end Ommana.\textsuperscript{163} To those who wished to trade with India Ocelis was considered the best port for embarkation and, if the wind Hippalus was favourable, the Indian port of Muziris was reached within forty days.\textsuperscript{164}

The \textit{Periplus} states that from the port of Apologus and Ommana, vessels were regularly sent for Barygaza on the one hand and to Cana on the other.\textsuperscript{165} The ports from Apologus and Omana to India were firstly Barygaza and the Barbaricum with its Scythian metropolis of Minnagara. Beyond the river Sinthus (Sindhu-Indus), there was another gulf not navigable called Eirinon (Rann of Kutch) adjacent to which was Baraca (Dwāarakā).\textsuperscript{166} Beyond this was the port of Barygaza (Broach) and the coast of a country of Ariaca (north Konkan) which was the beginning of the Kingdom of Nambanus (Nahapāna) and of all India.\textsuperscript{167}

Ocelis, according to Pliny was the most convenient to sail to Muziris (Cranganore).\textsuperscript{168} The \textit{Periplus} refers to a flourishing trade carried on between Muza and Arab ship owners and sea faring men.\textsuperscript{169} Muza according to it was busy with the affairs of commerce for they carried on a trade with the far-side coast and with Barygaza, sending their own ships there. The port had commercial relations with Eudaemon Arabia, Scythia, Ommana and the neighbouring coasts of Persia.\textsuperscript{170} Ptolemy also refers to the gulf of Barygaza in which he mentions certain towns among which one is Mansariapa identified with Nausari, 18 miles south of Surat.\textsuperscript{171} The \textit{Periplus} refers to other ports such as Naura, Tyndis, Muziris and Neleynda which were leading ports of the time.\textsuperscript{172} The other important ports were Kāvariapatnam in the Cola country, Dantapura in Orissa, Masalia in the Andhra region, Podouka in the territory of the Arouarnoi, Sopatama, Camara and Tamula in Bengal which we have already been discussed earlier in this chapter.
Ptolemy witnesses changes in the Indian trade routes in the second century CE. He gives details of Śaka and Kuśāṇa territories, of the seven months of Indus, of Patala which still existed and also of Barbaricōn which by now was known as Barbara. He mentions Monoglosson as a new established mart. He has also mentioned eighteen cities of Kashmir which were under the Kuśāṇas and the city of Mathurā also.

Ptolemy also describes western sea coast and gives us valuable information about Semyla (a Simylla) (Chaul) which according to him was no longer a mere local mart (market) but a legal emporium like Broach (Barygaza). The most probable reason for which was the cotton trade. Caśāna (Tiastanes) has been referred to as the kingdom of nine islands cities whose capital was at Ožene (Ujjain) which was visited by the Greek merchants. A group of seven other cities which included the Tagara and Baethana (Paithan) was within the domain of Pulumāvi II (c.138-170 CE). Greek merchants according to Ptolemy might have gone beyond the Sardonyx mountains (Rajpipala) where the diamond mines were found.

Ptolemy also mentions the three Tamil states of the south. He states that in the Cera kingdom “Muzeris” was the only lawful port. Nélcynda and Bacarae no longer enjoyed their previous position of the fourteen island towns now known to the Greeks. Punnata (perhaps a place near Seringapaṭṭam or near Kīṭṭur on the river Kabbāni) was known to produce beryls. Carura, which was once known as Vangi or Karuvur is now identified with Puhar near Cranganore. It was the capital of the Ceras in the time of Ptolemy. The domains of the Pāṇḍyas according to Ptolemy was a small one and on its sea coast were two ports Elancoros or Elancon (Caulion) and Colci. Cottiera (Kottaru) was a metropolis and they had control over Cape Comorin. Madurā was their royal seat.

After the Cape Comorin and Cape Calligicon (the gulf of Calimere), the Romans travelled extensively. At that time Cola kingdom was declining. Their capital was at Uraiyur which might have been snatched by the Pāṇḍyas according to Ptolemy. He has mentions the Cola ports like Nikama (Nicama=Nāgapaṭṭinam), Chaberis (Khāberis=Kāveripaṭṭanam), Saburas

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In the Andhra district, the merchants visited Maesolia (Masalia) (Masulipattam), Contacossyla (Kontakossyla=Ghantasala) and Alosygni (Koringa). \(^1\)

Ptolemy has mentioned many places in Ganges gulf. Among them Paloura and Tilogrammon are mentioned as cities but not ports. \(^2\) He did not describe the sea coast beyond the Krishna River (Kistna) as the reason for which appears in the Periplus where it is shown that the ships leaving the mouth of Maisolia (Masalia) sailed straight to the ports of Orissa (Dosarene). \(^3\)

Ptolemy mentions Adams river which is identified with the Sank branch of the Suvarṇarekhā or Brāhamani river which provided diamonds and Sabarre (Perhaps Sambhalpur) which also provided diamonds and exported malabathrum, nard, muslin, silk and pearls. \(^4\) All these perhaps attracted the Greeks. Ptolemy mentions nineteen cities in this region in which Gange (Tāmānuk) and Palibothra (Pāṭaliputra) were the chief. \(^5\)

**Items of export and import**

Among the items of trade, human and animals were very important. Indian slaves are said to have reached Rome during the time of Ptolemy Philadelphos. \(^6\) Female slaves were sent from India to Socotra. \(^7\) These might have been passed on to the Roman empire by the Arabs or the Greeks who were residents in that island. \(^8\) We also get reference to the Indians as attendants, traineas of elephants, fortune tellers, cooks etc. in Rome. \(^9\)

The birds and animals were other important items of trade. India exported parrots, cobras, small pythons, tigers, lions, leopards, dogs, elephants, rhinoceros, monkeys, jackals, Indian wild asses, antelopes, camels, giraffes, fowls and pheasants etc. \(^10\)

Animal products such as skins, furs, hides, clarified butter (ghṛti), tails of silky white hair (usually of Yak), wool (particularly of Kashmir, Bhutan and Tibet), odour produced from the musk dear; hides, teeth and horns of Rhinoceros etc. \(^11\) One of the most important things of export was the Ivory. It was used for the inlay works in statues. The Romans used ivory for making figures, furniture,
book covers, musical instruments and ornaments. In the time of the Periplus, ivory was exported from Broach, Muziris, Nelcynda and Dosarene (Tosali Orissa).\textsuperscript{195} Finished products of ivory also reached Rome from India. One such figure has been found from Pompei.\textsuperscript{196}

Tortoise shells were exported to Rome which were used for veneering. These were exported from Muziris and Nelcynda.\textsuperscript{197} Pearl was one of the most significant articles of trade between Rome and India. These were exported from the Gulf of Mannar. The Periplus and Pliny show that the fisheries (worked by condemned criminals) were centred at Kolkai in the Pândyan Kingdom, controlled from Modura. Pearls were sold in the market of Madurâi and the pearls sold at Argaru (Uraiyur) and Kaveripaddinam (Kâvaripaṭṭanam) in the Cola Kingdom came from the Palk-Strait. The merchants, besides buying pearls of good quality from the Gulf of Mannar and the Palk-Strait, also purchased ordinary pearls from Tamluk, Nelcynda and Muziris.\textsuperscript{198}

From south India we find that conch shells were being exported from the Gulf of Mannar and were used for making vessels, ornaments, musical instruments and so on. These were produced at Korkai and Kâveripaddinam.\textsuperscript{199}

Chinese silk was one of the most significant articles of trade in the Roman Empire. It was carried on along the land route through Parthia and regions north of India to China, but it entered into Rome’s Indian trade as well. In the time of the Periplus, Barbaricum, the port of Sindh, also exported silk goods to Rome. More valuable silk cloth, besides raw silk and silk yarn was sent to Barygaza by way of Bactria and also to Muziris, Nelcynda and other marts of Malabar by way of the Ganges and presumably down the east coast of India. Silk sellers frequented Kaveripâṭṭanam in the Cola Kingdom. Chinese silk reached India by the sea routes or by the Bay of Bengal from Yunnan, Assam and then along the Brahmaputra River, or it was exported by Singan-fu-Chow Lhasa and Chumbi valley to Sikkim and finally reached Bengal.\textsuperscript{200} Rome imported lac from India, Siam, Pegu and Assam.\textsuperscript{201}
After animals and animal products, plant and plant products were another articles of commerce. Black pepper was one of the earliest plant product which became an important item of trade with Rome.²⁰² It was imported from Muziris, Neleynda and Tyndis located on the Kerala sea coast. The Tamil literature according to Warmington tells us that the Greek traders brought black pepper for gold.²⁰³ The long pepper was exported from Barygaza and was used chiefly in medicine. Pepper became part of the everyday life of every respectable house in Rome.²⁰⁴ Dry ginger and cardamom were other items of export to Rome.²⁰⁵ Cinnamon was used by the Romans as perfume, incense, condiment and as a medicine. It was imported from China, Tibet, Burma, Sri Lanka and India.²⁰⁶ Malabathrum probably was imported from China to India and then exported to Rome because the Romans considered it Indian commodity.²⁰⁷ The oil of the Spikenard, (a perennial native of the Himalayas) was another highly prized item to export. The Periplus gives three kinds of it exported from Barygaza. First came from Attock, the second from the Hindu-Kush and the third from the Kabul valley.²⁰⁸ Oils of the ginger grass were also exported along with the nard oil. The nard oil was exported from Barbaricum, Tamluk, Muziris and Neleynda.²⁰⁹

Costus (m) was another expensive plant product which was procured in the valley of Kashmir, especially the basins of Chenab and Jhelum. It was used in perfumes, in seasoning of food and wine, in sacrifice and in the preservation of fruits etc. it was exported from Patala, Barbaricum and Barygaza.²¹⁰ India exported cloves, frankincense and gum resins etc.²¹¹ Indigo, by the time of the Periplus was exported from Barbaricum. Lyceum was more important than indigo. It was of yellowish colour and was the resin of barberry growing in the Himalayas. It was used as an astringent for the eyes, for the sores, wounds and cosmetic for the face. It was exported from Barbaricum to Rome.²¹² Gingelly (Sesame) and sugar were also exported from Barygaza and Barbaricum.²¹³

Indian cotton was in great demand in Rome since ancient times. After the discovery of the monsoons, the export of the cotton was increased and it became an important part of oriental commerce. Indian muslin was very famous in Rome. The Periplus states that the best quality cotton was known as monaché.²¹⁴ Textiles
also came from Ujjain and Gagara to Broach from where it was exported to
Arabia and Egypt. Indus also exported muslin. The Argaritic muslin of
Trichinopoly and the muslin of Masulipatnam and Ceylon were also very
popular. The best muslin came from Vāraṇasī and Dacca.215

India exported wood to Rome. Wannington has classified these in two
categories i.e. ornamental and timber woods and secondly fragrant woods used as
medicine. Sandalwood, teak, blackwood and cedry were exported from Broach.
Later Kalyan became significant port to export these woods and Broach exported
only sandal woods. Agallochum of eastern India, Assam, China and Malacca
were in great demand.216

India also exported fruits such as coconuts, plantain, peach, apricot, lemon
etc. the Romans also imported camphor, pulp of Purging cassia, guinea grains,
nut-meg, tamar ring, the stone fruits, myrobalan, exudation of Deodar, pan and
betel nut etc217.

The next item of trade was the mineral products. India was the exporter of
all of the best stones. Pliny calls India as “mother of gems”218. Diamond which the
Romans called “adamas”219 was the most precious item of the trade among the
gems. In the first century CE Muziris and Nelcynda exported diamonds to Rome.
Ptolemy has also mentioned diamonds in the second century. He informs us that
diamonds mines were in the regions of Sabarae220 (near Sambhalpur), Cosa221
(near Betul) and Sank branch of the Brāhmaṇi river.222

The Periplus223 states that the Greek traders brought sard, carnelian and
agate in Broach but according to Pliny they were brought from Ujjain to Broach
and than exported to Egypt.224 During the time of Augustus the fine layered agates,
onyx, sardoixy and nicolo became very important.225 These were generally used
for making ornaments, figures and vessels. In the first century CE India exported
chalcedony, chrysoprase, plasma, serpentine, blood stone, heliotrope, rasper,
haematites, touchstone, cats eye from canibay, aventurine from Bellary, spiral
bury from Badakshan, beryl from Coimbatore, aquamarine from the Panjab,
Lapis-Lazuli and garnet and spinel ruby from Badakshan, tourmaline from Bengal and Burma.226

The *Periplus* states that coral from the Mediterranean was imported through Barbaricum, Broach, Nelynda and Muziris.227 The text refers to beautiful girls which were presented to the king at Barygaza for use in his harem.228 Some fine and figured linen coming from Egypt to Barbaricum are also mentioned in the *Periplus.*229

Wine was a significant commodity of trade between Rome and India. Laodicean and Italian Wines were sent to various places in Africa and Arabia and some ordinary wines to Barbaricum. Probably the wine from Italy, Laodicea, and the date wine from Arabia come to Broach, but people preferred Italian wine. The same wine reached to Muziris and Nelynda also.230

*Styrax* was another important product which was sent to Barbaricum and Barygaza for medicinal use. Sweet clover was sent from Egypt to Barygaza.231 India imported lead from Spain, copper from Cyprus, tin from Lusitanaia and Galacia, antimony from Kirman and eastern Arabian and from Persia and Kirman it got manganese orpiment.232

India imported lamps and images. Glass was very prominent commodity of trade between Rome and India. Alexandria, type and Sinclon were famous for their works in glass. The crude glass was exported from Alexandria to Barygaza, Nelynda and Muziris. For making mirrors besides vessels, and vessels of glass were imported into Barbaricum. It even reached China.233

**Archaeological evidences of Indo-Roman Trade**

S. B. Deo has thrown light on some recent archaeological discoveries in western India particularly Gujrat, Saurashtra, Maharastra and parts of Andhra Pradesh. Commenting on the ceramics he states that the fragments of Mediterranean amphoras have been repoted at a number of sites in India. These jars with pointed bottom and side handles were meant for storing primary wine or olive oil. In addition to the Coromandel Coast, amphora fragments have been
found at Ajabpura, Dhatva, Dwarka, Devani mori, Junagarh, Nagra, Prabhas-
Patan, Shamalayi and Vallabhi in Gujrat, and at Bhokardan, Junnar, Kolhapur
(Brahmapuri), Nean, Paunar and Ter in Maharastra.\textsuperscript{234}

In western India \textit{amphora} sherds have mostly been reported at sites like Ter and Nevasa which were well- known commercial centres or were on major
inland trade routes.

Regarding the prevalence of coins the scholar states that an aureus of Lucius Verus was discovered near Surat in Gujrat; an aureus of septimius severus
was found at Waghoda in Maharastra. Eleven gold coins of Augustus and Tiberius have been yielded from the site of Adam in the Vidarbha region of Maharastra. Forty six aurei, mostly Byzantine were found from Akki Alur in Karnataka, Mardakheri and Memadakhedi in Madhya Pradesh have yielded one
gold coin each.

The Bullae, mostly copied from coins of Tiberius and Augustus are reported from Ter, Nevasa, Kausan, and Kolhapur in Andhra. Bullae have been
found at Ujjain in Madhya Pradesh, Sisupalgarh in Orissa and Tamluk in west Bengal which are mostly imitations of Tiberian aurei or denarii according to Deo.

The scholar further states that these coins were further turned into ornamental pieces by piercing them or by providing with a loop for suspension. Such pieces have been found in Maharashtra, Andhra and Karnataka etc.

The Bronze mirrors, glass in the form of beads, bottles and other items has been found. Coloured glasses have been found from Ter and some other sites. Besides these a crouching cupid carved in relief on the interior of an oval alabaster bowl has been found from Junnar. A carved pilaster at Pitalkhora shows a man and woman with curly hair, head bands and fringed garments.

Richard Daniel De Puma has examined some bronze objects at Kalhapur in Maharashtra which according to the scholar are Roman. The most significant among these are Poseidon Statuette, Emblema, with Perseus and Andromeda,
Bronze vessels and hands-milling en-type Oinochoe, two large basins of Eggers, Lathe-turned Base, Strainers, Bronze mirrors etc.\textsuperscript{235} 

E. Marianne Stern\textsuperscript{236} and R. M. Cimino\textsuperscript{237} have discussed the early Roman export glass in India. Stern has tried to analyse some archaeological evidences of this trade in India. He refers to various types of beads, rim of a cobalt blue vessel at Paithan, the capital of the Sātavāhana Kings (according to Ptolemy). A large number of beads, two rims of glass cups and a rare solid base, small bottle which were blown in eastern and western Roman empire were found at Ter. At Nevasa the scholars point out some findings such as glass beads, rims of glass vessels etc. from Arikamedu, a large quantity of glass in the form of finished objects, raw glass and waste from glass working has been found. Arikamedu is identified as the city known to merchants from the west as Poduke. Stern points out the presence of ribbed bowl in India. The scholar mentions that the ribbed bowls have been discovered in Arikamedu, Dharanikota and Taxila. These bowls according to him were produced both in western and eastern parts of the Roman Empire.

K.V. Raman\textsuperscript{238} has analysed the evidences of Roman trade from coastal sites in Tamil Nadu. He states that the early Tamil literary works attest the presence of foreigners in south India. The Yavanas and Mlecchas are mentioned as palace guards at Madurāi in \textit{Mullaipattu} and in the \textit{Cilappatikaram} (\textit{Śilappadikāram}) as traders and craftsmen at pumpuhar or Kaveripumpattinam (Kaveripattinam). The Abananuru according to him describes Yavanas as those who sail in with gold and sail off with pepper. The Roman coins in south India, majority of which were minted by Augustus and Tiberius are according to Roman a port of commercial contact between south India and the Roman world.

The presence of the archaeological material of western origin, or local imitations: coins, vases, amphorae, jars, roulette wares and beads of semi-precious stones at Arikamedu, Karikkanu, 8 k. m. south of Cuddalore, Alagankulam, a coastal site at the mouth of the Vaigai near Ramesvaram.

Now let us examine Indian products found in Rome. E. Salza Prina Ricotti\textsuperscript{239} in this context refers to certain objects of India found in Roman
cosmetics such as funerary relief with toilette scene, from Neumagen, Trier, female portrait in marble from Trajan’s age (c. 98-117 CE), fresco with young girl pouring perfume, small amber box, shell shaped, from grave goods from Grottarossa, large silver case, from funeral outfit of Proiecta, wooden box, from the funeral outfit of the lady of Callatis, a pyriform ungnentarium vase in glass mosaics, small egg shaped amphor in blown glass, unguent aria vase in blown glass, Spheric, glass drop-counter bottle, small perfume bottle etc.

R. M. Cimino has observed a few Indian ivory statuettes from Pompeii such as the Indian ivory statuette from Pompeii, ivory female statuette from Ter, similar to the statuette from Pompeii, ivory plaque with figures of women doing their toilette, from Begram, of a similar type to the statuette from Pompeii, ivory statuette from Bhokardan and reconstruction of the function of the ivory from Pompeii, such as the leg of a case or little table.  

Cimino points out certain other objects in Italy which provide information of Indo-Roman trade such as depiction of a snake charmer playing flute in front of a basket of reptiles on an Apulian vase from a funerary outfit from the 4th century B.C. found in southern Italy. The use of music for such a practice according to the scholar is typically Indian. The second example the scholar point out is that of an object in bone concovered during the excavations of the Palatine Hill in Rome. It has been identified as an Indian Kammal which was used for ear piercing and dating. The other evidences are the god Dionysus statute in marble and male busts with hair dressed in Indian style. 

Thus on the basis of the literary and archaeological data we may say that India was having trade relations with Rome on a large scale.

Trade and trade routes with China and Far-East

India had been connected with China commercially long before the establishment of Kuśāṇa Empire in India. Chinese cotton and bamboo for example were carried through this route from China to Bactria via India even before the 2nd century B.C. The Periplus too has mentioned the route. It states that thought this route the Chinese silk came to Bharukaccha (Barygaza) which
later was imported in the emporium of Seleucia and Alexandria. Bagchi suggests Assam-Burma route to China. According to him it started from Pāṭaliputra, passed through Campā (Bhagalpur), Kajaṅgala (Rajmahal) and Pundravardhana (North Bengal) and proceeded to Kāmarūpā (Gauhati). From Assam three routes went to Burma, first through the valley of the Brahmaputra upto Patkoi range and then through its passes upto upper Burma, the second through Manipur upto Chindwin valley, and the third through Arakan upto Irawadi valley. These three routes met on the frontier of Burma near Bhamo and then proceeded over mountain and across river valleys to Yunnan in the southern province of China. Ptolemy too mentions the existence of a road from China to India through Palimbothra (Pāṭaliputra).

India was connected to China via Bactria too. The traders coming from Taxila to Bactria via Kapiśā had several routes for China through Central Asia. A northern route passed through Sogdiana and crossed Jaxartes and reached Tashkand. From here the way led to Uch-Turfan through the pass of Tien-Shan or over the Pamirs towards the Tarim Basin. The later had two branches. One of them lay to the south leading from Badakshan and went up the valley of Wakhan. The other route from Kabul and Kapiśā through Khawak pass met this route at Kunduz and from here, following the valley of Kokcha upto Faizabad. From Faizabad through Abe-Punjab the main route proceeded eastwards upto Tashkurghan via Sarhad. This route passed through Hunza, the Kilik Pass and the Vakhjir Pass.

From Tashkurghan this route reached Yarkand and Kashgar. A short route from Kashmir joined this southern route via the yasin and Gilgit valleys. The other route proceeded to north from Bactria towards the valley of Alai and from there crossing Irkeshtan and Kashgar rivers to reach the Tarim Basin.

From Kashgar there were two routes. One passed to the south of the river Tarim and the other to the north of it. For trade the northern route was probably the more important because through it silk could be taken to Bactria as well as via Samarkand to Merv, which was also a big centre of trade in the early centuries of Common Era. This route from Kashgar went towards An-hsi (China) via
Lopnor and southern route proceeded to Chia via Yarkand. At Yarkand the great routes from Khotan, Ladakh and Oxus joined and further proceeded to Kashgar and north east part of Tarim Basin.250

After crossing the river Yarkand, from here, the route passed to Khotan via Karghalik (Che-Chu-Chia).251 Pialma was the next destination. It had political and cultural relations with Kashmir through Ladakh and Karakoram.252 Yotkan was the capital of Khotan and from here the route passed through Dandan, Ulik, Niya and Endre.253 Stein states that these were centres of Buddhism and had contacts with India.254 After crossing the river Endre in the east, the route proceeded to Miran through modern Charchan and Vash-Shahri.255 From Miran, the route went towards the southern basin of the Tarim river to Tun-huang, the western most confine of China. From Kashgar the route passed through Faizadad, Maralbashi, Uch, Turfan and Akshu and reached Kuch. The route from here joined the main route coming via Khotan to Tun-huang.256

The silk route, connecting China with the Mediterranean near through Central Asia and India via Bactria was most important of the overland routes. It was not simply one route from east to west. Its different extension to south Asia not only affected Roman trade but also connected India to China.257

Starting from Loyang and passing through Changan Lanchow, Muwei, Changyeh, Yamen, the Jade Gate, An-shi, Tun-Huang and Tsie-mo it reached upto Lop Nor. A branch from Lanchow moved towards the Bay of Bengal passing through Sikkim, while the main route moving onwards from Lop Nor reached Kashgar. From here two sub-routes moved towards the north and south of Takla Makan desert until they were united at Kashgar. To the west from here were the ‘Stone Tower’, Bactria (Balk) and Merv.258

As far as India is concerned, Bactria and Merv were very important trading centres. From Bactria, routes passed through the Hindukush reached Begram (Afghanistan), Taxila and connected other inland routes.259

The Periplus mentions that from Barbaricum and Barygaza the Roman merchants got the supply of silk and furs.260 This suggests that the main route of
silk route during the early centuries of Common Era coursed through Central Asia to the Indus valley. Going directly to the sea coast along the Indus or detouring through Mathurā, it connected with the Roman world.\footnote{261}

The importance of Marv on the route lay in the fact that it was connected with the ports and marts of the Roman world. Alexandria, Antioch, Seleucia, Ecbatana, Rhagal all were directly connected with China, Central Asia, Parhia and Roman world with India.\footnote{262}

**Sea routes to China and Far East countries**

China and countries of Far East were connected to India through sea routes too. Fa-Hian provides valuable information regarding the Indo-China sea routes. Although Fa-Hien deals with later period, yet he has given a good account of the routes. We lack exact information of sea routes to China but with the informations of Fa-Hien and a few other sources we may reconstruct the route to China through the countries of Far-East.

Fa-Hian tells that he left Tāmralipi (Tamluk) for Chang-Kwang. This indicates a sea route towards China. He narrates the story of his visit to Siṃhala (Sri Lanka) and then going back to Kwang-Tung in China via Java-dvīpa (Jāvā). Sailing from Siṃhala to Kwang-Tung in China it took 172 days or five months and twenty two days.\footnote{263}

There were several trade routes between India and the Far-East. The Jatakas mention one route which started from Bharukaccha to the coast of Suvarṇabhūmi and Yava dvīpa.\footnote{264} The *Periplus* has mentioned the route which started from Masulipatam and went across Bay of Bengal to the Eastern Peninsula.\footnote{265} Ptolemy\footnote{266} informs us that there was another route which was generally adopted by the traders of Kaliṅga. The ships starting from Potura, modern Gopalpur, near the mouth of the Ganjam, crossed the Bay of Bengal for the eastern Peninsula in the Far East. Later Tāmralipi became popular port for trade between India and China. The route coming from Potura and Tāmralipi met at Sada in the north of Sandowy.\footnote{267} But the *Mahānīddesa* mentions Gumba or Ho-Pu of the Chinese annals as the first port.\footnote{268} But the exact indentification of
Gumba or Ho-Pu is still debatable. Bagchi locates Ho-Pu in China. He states that the itinerary starts from the coast of China and terminates with the Indians coast. Thus the route from Ho-Pu passed along Pi-Tsoing, Tu-Yuan, Yi-lu-mu, Chen-li, Fu-Kan-Tu-Lu and Huang-Che. These places according to Bagchi stood for Gumba, Visunga, Taṅgana, Ilvar (dhana), Tamāle, Pugam and Ganga.

In the *Mahānīdesa* the places after Gumba are Takkola, Takkasitā, Kālmuksa, Maraṇapāra, Vasuṅga, Verāpatha, Java, Tamāli, Vaṅga, Elavaddhana, Suvaṃkūṭa, Suvaṃabhūmi, Tarībapanāṇi, Suppara, Bharukaccha etc. Besynga of Ptolemy is perhaps the same Vesiṅga of the *Mahānīdesa* which is mentioned as Pitsong or Pitsuong in the Chinese annals as he has mentioned several ports between Sada and Takkola such as Berabonna, Tēmala, Sabara, Besyṅga, Berabai etc. Sylvain Levi, as quoted by Bagchi, has identified it with Pegu. The Verāpatha of the *Mahānīdesa* is identified with Berabai of Ptolemy by Bagchi. Warmington states that from Verāpatha the route touching the coast of Temala and cape Negrais proceeded to the Malaya region.

Malaya region was in the centre of India and China. Takkola was its famous port. Which may be identified with Takua Pa. The next port in the same country was Sabana (Satuny or Thakung). From Takkola Indian traders and colonists could go by land or sea to Siam, Cambodia, Annam and even further east. This trans-pennisular route was followed by those who wished to avoid the long and risky voyage through the Straits of Malacca. But there was a shorter passage to Yavadvīpa which avoided the inconvenience of transshipment. From Takkola the route proceeded to the Yavadvīpa which was famous for gold. Sumātā was colonized politically by Indians in the fourth century CE. but it had trade contacts with India since early centuries of Common Era. Jávā too played a significant role in trade between India and the Far East. R. C. Majumdar traces its colonization by Hindus to the first or second century CE by Ajisaka, a prince of Gujarat. He further states that a tradition preserved in Java seems to refer to the foundation of the Hindu state to c. 56 CE. But the Hindus must have established their authority in Java by the beginning of the second century CE when
Devavarman was King of Jāvā who is said to have sent an embassy to China in c. 132 CE.\textsuperscript{292} The routes coming from Java and Takkola joined somewhere near Singapore and from there they proceeded towards Kamboja (Cambodia) and Campā (Annam).\textsuperscript{283} By the first century CE, Siam was colonized by the Indians.\textsuperscript{284} From Vāṅga the route reached Zabae,\textsuperscript{285} a port in Kamboja and then same route went around the coast to Campā.

The route from Campā to China was direct. One could reach Calligara, an emporium of China from Zabae.\textsuperscript{286} According to a Chinese itinerary of first century B.C., the voyage frontier of Je-nan (Tonkin) Siu-Wen and Ho-P’u along Tu-Yuan, Chen-Li and Fu-Kan-Tu-Lu-to Huang-Che usually took a period of more than one year.\textsuperscript{287}

The route from India to Campā was been described by I-Tsing, a Chinese traveler who visited India between c. 671-695 CE. He has described his journey from Tamralipti to Campā (Annam) in three stages. Starting from Tamralipti his first stop was at Ka-Cha, the second stop at Śri Bhoga (Śrivijaya) and the third at Campā (Annam).\textsuperscript{288}

Thus these were the land and sea route which were followed by the travellers and merchants who were engaged in trade between India-China, Far-East and Ceylon (Srilanka).

**Items of Trade**

Among the exports to China, Coral was one of the most precious items. It had been valued very highly in China since the period of the former Han dynasty. Corals were symbol of status in China.\textsuperscript{289} Pearls too were highly valued in China. They figure as important as coral. Glass and glass products were also significant items of trade. These were called Liu-Li and Po-Li in China. It is said that both of the terms appeared in the Chinese vocabulary after contact with the western region, and both have Sanskrit origin.\textsuperscript{290} Crystals were sent to Rome too as Pliny records that the East, sent them crystals and there being none preferred to the
Glass beads were the other treasure in China. These have been associated with Buddhist remains. Glass beads were made in India since very early period. Ujjain was an important centre of its production. Other products which were brought to China were perfumes, incense, slyrax, frankincense, bdellium, costus, myrch etc.

Among the imports from China, silk was the most important item. We have discussed it earlier that silk was imported from China to the western countries especially to Rome. We have discussed earlier that during the time of the _Periplus_ and Pliny, China was the main supplier of silk to the Mediterranean world. Roman traders obtained their supply from the sea ports along the western Indian coast where Indians acted as middle men. The _Buddhacarita_ and the _Mahāvastu_ show that silk was used for fashion and decoration in King’s palaces and cities.

Camphore, an important commodity of India’s export to the western world was imported to India from Sumatra and Borneo. Cinnamon, with its leaves in the form of which it was known as Malabathrum was imported to India from China, Tibet, Burma and Ceylon. Cloves according to Warmington chiefly came from Molucca. Several types of flowers particularly roses which flowered twice a year were exported to the western countries from the North West India or from China through India. Chinese peaches were in demand in the western world. Rhubarb—a vegetable drug was another item of trade which was imported from China. Ruby was imported from Burma, Siam and Ceylon. Lipis Lazuli was a product of Persia, Tibet, China and Badakshan.

**Means of Transport**

The development and growth of cities, towns, trade centres, marts, ports, island and overseas trade are influenced by transport. Vehicles, conyeyance and ships etc. were the main means of transport in ancient India through which the trade was carried or not only between different parts of the country along the land and sea route, but also with the outside world as well.
Even the Vedic people were quite aware of land and water transport system as the Rgveda contains a reference where the maintenance and protection of the public high ways was regarded as one of the duties of the king. For the purpose of transport on land, animals like oxen, horses, elephants, camels, cows, buffalos and asses etc. were used.

The vehicles used to carry men and communities were called Yānas. Kauṭilya mentions three types of Yānas: (1) Laghuyāna – small vehicle such as chariots, (2) Golingam- medium sized cart drown by bulls and (3) Šakta- big cart.

Pāṇini says that a cart is to be specified according to the material of the load. Manu has referred to the wheeled carts (yānāni). The Milindapañho mentions the bullock carts. Patañjali has mentioned carts (šakta). The words vāhana and ratha are often used for conveyances in the Saundarananda. Chapter thirty three of the Āṅgavijjha is devoted to conveyances. Of the conveyances plying on the roads there were sibikā, bhaddāsana, pallānakasikā (litter), radha (chariot), saṃdamānīkā, gilli, jugga, goliṅga, sakaḍa and sakadi. Sibikā and bhaddāsana were of equal superior rank. The chariots were used in wars and accompanied carvans. One could stretch fully in pallānakasikā as it was too long and covered. Sakada, saṃdamānīkā and gilli are placed in the same class: a wagon of middle size is sakadi.

The people in the Kuśāna age and even earlier periods had the knowledge of water transport. The Rgveda contains a reference in Rice of raft and boats for crossing rivers. The word nāva also occurs in the Rgveda which probably was a boat used to crosss river. In post Vedic literature, particularly in the Jātakas we find the word mahānāva, indicating a big boat or a ship. There is a full chapter dealing with the superintendent of ships (nāvadhyakṣa) in the Arthaśāstra which certainly indicates the boats and ships which should be there to carry passanger as well as traders. Manu refers to ships. Patañjali has mentioned boat (nau) as medium of transport. Boats and ships were used for crossing
rivers and oceans in the *Buddhacarita* and the *Samudrananda*. The *Angavijja* refers to many types of boats such as नाव, पोत, कोटिंबा, शालिक, तपाका, प्लावा, पिंडिका (round boat), कुंडेवेलत, दती (water-skin) etc. नाव and पोत had ample room while कोटिंबा, शालिक, सांग्हादा, प्लावा and तपाका were middle sized boats. *Kaṭṭho* (काँदा) and वेलु were small, so also तुंबा, कुंभा and दती.

In the *Rāmāyaṇa* and the *Mahābhārata* we find several references to the water transport. In the *Arthasastra* we find that there were ships for maritime trade (*Samudrasanyānapetra*) for general use (*naukā*), large boats (*mahānāva*) and small boats (*naukā*).

R.K. Mookerji refers to the Ajanta paintings where the scene of the landing of Vizaya in Ceylon (Sri Lanka) is depicted. Mookerji states that the fleet of vijaya carried no less than 1500 passengers. The *Samuddāvanijja Jātaka* talks of a ship having a capacity to accommodate 1000 families of carpenters.

The Jain sources too throw light on the means of transportation. We find that besides नाव, which was very common for water transport, there were अगाधिया, अंतोरंडाकोगोलया (canoes), को०चविरागा and boats having the shape of an elephant’s trunk and leather bags (*daiya*) and goat skin etc.

The *Periplus* too contains the reference of ships.
belongs to 2\textsuperscript{nd} country CE. In the paintings of Ajanta too we have evidences of ships.\textsuperscript{339}

The evidences of land transports such as carts drawn by bullocks and horses are also represented in the Indian art like Bullock cart from Bharhut belonging to second century B.C., Bullock cart from Mathurā belonging to second century CE and horse cart from Mathurā etc.\textsuperscript{340}

Thus these were the means of transport during the age of the Kuśāṇas.

**Medium of exchange**

Till now we have seen that the trade throughout the ancient India right from the time of the \textit{Rgveda} up to the Kuśāṇas was well organized. This indicates towards a certain medium of exchange. Earlier there used to be a barter economy.\textsuperscript{341} Later when the inland and outside trade increased, it was realized that there should be a medium of exchange acceptable to all as it was not possible to value each and everything exactly in the barter system. Hence the metallic money came into existence. We find references \textit{nīśka} and \textit{hiranyapinda} in the Vedic period.\textsuperscript{342} \textit{Nīśka} became quite popular as a medium of exchange.\textsuperscript{343} \textit{Śatamāna} and \textit{pāda} were other two types of metallic money introduced perhaps in the later Vedic Age.\textsuperscript{344} The \textit{Rgvedic} \textit{hiranyapinda} later perhaps came to be known as \textit{suvarṇa}.\textsuperscript{345} \textit{Kārśāpaṇa} was probably of copper, silver and gold.\textsuperscript{346} Pāṇini refers to the \textit{nīśkas, śatamānas} and \textit{kārśāpaṇas}.\textsuperscript{347}

These were definitely metallic pieces or metallic money used for exchange purposes. The \textit{Aṣṭādhyāyī} mentions stamping (\textit{āhata}) of the metallic pieces with symbols (\textit{rūpa}).\textsuperscript{348} This shows that stamped coins were in circulation during the time of Pāṇini. Afterwards the currency underwent certain changes during the time of the Mahājanapadas upto the Kuśāṇas.

In the pre-Kuśāṇa period it was the silver and the copper currency which played significant part in the economic life of India. Whitehead states that even the Indo- Greeks and their successors, the Indo-Scythians and the Indo-Parthians
did not find any scope for gold coins in Indian markets, though their ancestors; even their contemporary in Bactria had issued such coins.349

The Kuśāṇas were the first dynasty to issue gold coins (dināra) regularly along with silver and copper coins. The reason for issuing of gold coins on such a large scale was the favourable trade of India with Rome. The bulk of the considerable inflow of Roman gold into India as testified by Pliny was perhaps the chief cause.350 Cunningham believes that this gold was melted down and reissued first by Vima Kadphises and afterwards by Kaniska and his successors.351 But G. L. Adhya thinks that these were made independently.352 Gold and copper coins were struck in a large number. Silver coins are less in number. Gold coins must have been acceptable to people outside the Kuśāṇa Empire due to established value of Kuśāṇa gold coins in international market and copper coins were minted for day to day transactions. The average weight of gold coins issued by the Kuśāṇas was 123.3 grains.353

Adhya believes that the gold was brought to the Kuśāṇa kingdom from the Oxus region where gold was brought not only from Scythia (the part of south Russia between the Carpathians and Caucasus), but also from the Ural and the Altai regions.354 The *Periplus* rather indicates the import of Roman gold and silver coins into the market towns of Barygaza, Muziris and Nelcynda.355 Warmington too agrees with this statement.356 K. A. N. Sastri refers to the Tamil poems of the ‘Sangam Age’ containing references to the Yavanas importing gold into Muziris and other ports of Tamil land.357 Kanakasabhai Pillai too refers to the same literary evidence.358 The find of Roman coins according to Warmington corroborate the literary sources.359 Quite unfortunately we still are not in a position to say the exact source of the gold used by the Kuśāṇas to issue the gold coins.

Thus the medium of exchange during the Kuśāṇa age was metal coins. Three types of the coins- dināra, purana and kārṣāpaṇa are mentioned in the literary sources. Dināra was a gold coins, purana silver and kārṣāpaṇa of copper. The archaeological excavations have attested the circulation of these coins in the Kuśāṇa period.360 An inscription of Huviṣka from Mathurā records
an endowment of 550 purāṇas to two guilds for feeding brāhmaṇas in the punyāśālā.\textsuperscript{361}

The findings of the Kuṣāṇa coins in different regions such as in Jalalabad (Afghanistan), Begram, Peshawar, Rawal Pindi, Kutanwala pind, Pathankot, Ransia, Kanhiara, Kalka-Kasauli Road, Padham, Sunet, Shakarkot, Taxila, Mathurā, Hastināpura, Harshingpur, Kāśia, Bhitta, Sahet-Mahet, Sankisa, Sāñcī, Indore, Śiśupālgarh, Bihar, Bengal etc.\textsuperscript{362} suggest that these were medium of exchange during the period of Kuṣāṇas.

Weights and Measures

Weights and measures have been given a special attention by the Indian people since the very early times. In the Vedic period we find kṛṣṇala and manā or māna the two denominations of weight.\textsuperscript{363} In the Indus valley civilization period weight system was well defined. In the case of smaller weight, the system used was binary and in the case of larger ones decimal system was used. The succession being in the ratios 1, 2, 4, 8, 16, 32, 64, 166, 200, 320, 640, 1600, 3200, 6400, 8000, 12800.\textsuperscript{364}

Kauṭilya, Manu and Yājñavalkya stress upon guarding the accuracy of weights and measures against criminal attempts at their falsification.\textsuperscript{365}

It appears that Manu and Yājñavalkya have accepted kṛṣṇala for weighting gold and silver. For gold the scheme of weight according to Manu and Yājñavalkya was as following: \textsuperscript{366}

\begin{align*}
5 \text{ kṛṣṇala} &= 1 \text{ gold māṣa (suvarāṇa)} \\
16 \text{ māṣas} &= 1 \text{ suvarāṇa} \\
4 \text{ suvarāṇas} &= 1 \text{ pala} \\
10 \text{ palas} &= 1 \text{ dharāṇa}
\end{align*}

For silver the scheme of weight was different as:

\begin{align*}
2 \text{ kṛṣṇalas} &= 1 \text{ raupya māṣa} \textsuperscript{367}
\end{align*}
Kautilya considers dhanyamāṣa as the lowest unit for gold weight. For him the scheme for weighing gold was as follows:\textsuperscript{369}

\begin{align*}
10 \text{ dhanyamāṣas} &= 1 \text{ suvarṇamāṣa} \\
16 \text{ suvarṇamāṣas} &= 1 \text{ suvarṇa or kārṣa} \\
4 \text{ kārṣas or 4 suvarṇa} &= 1 \text{ pala}
\end{align*}

For weighing silver it was as:\textsuperscript{370}

\begin{align*}
88 \text{ gaurasarśapas} \text{ (white mustard seeds)} &= 1 \text{ silver māṣa}.
\end{align*}

16 silver māṣas or 20 saiby a seeds = 1 dharṇa.

Manu and Yājñavalkya’s 1 raupyamāṣa constituted 36 gaurasarśapas, while Kantilya’s 1 raupyamāṣa constituted 88 gaurasarśapas.

The weight scheme for copper was as 80 ratis = 1 paṇa or kārṣapana.\textsuperscript{371}

The Visṇusmrī also throws light on the weights and measures.\textsuperscript{372} It says that the dust which may be discerned in a sun beam passing through a lattice is called trasareṇu (trembling dust). Eight of these (trasareṇus) are equal to a unit. There of the latter are equal to a black mustard seed. Three of these are equal to a white mustard seed. Three of these equal to a barley corn. Three of these equal to a kṛṣṇala (literally seed of the guṇḍa creeper and another name for raktikā or ratti, the lowest denomination in general use). Five of these equal a māṣa and twelve of these are equal to half an aṅka. The weight of half an aṅka, with four māṣas added to it, is called a suvṛṇa. Four suvṛṇas make a niśka. Two kṛṣṇalas of equal weight are equal to one māṣaka of silver. Four suvarṇas make a niśka. Two kṛṣṇalas of equal weight are equal to a dharṇa of silver. A kārṣa (or eight raktikās) of copper is called kārṣapana. Two hundered and fifty (copper) paṇas are declared to be first (or lowest) armercement, five hundred are considered as the middle most, and a thousand as the highest.
Kauṭilya mentions different units of weights as ardhamāsa, one māsa, two māsas, four māsas, eight māsas, one suvarṇa, two suvarṇas, four suvarṇas, eight suvarṇas, ten suvarṇas, twenty suvarṇas, thirty suvarṇas, forty suvarṇas and one hundred, similar weights were made of dharmas.\textsuperscript{373}

For diamond, the lowest unit according to Kauṭilya was rice (tandula) and the heaviest unit was dharna known as vaidūryadharna. 20 grains of rice constituted 1 vaidūryadharana.\textsuperscript{374}

Four types of dronas are mentioned in the Arthaśāstra such as āyāmi, vyāvahārika, bhājanī and antahpurābājanī.\textsuperscript{375} Āyāmi was the standard one (of 200 palas) of the Mauryan times.\textsuperscript{376} Taking the standard weight of droma as 200 palas Kauṭilya presents the account of heavier weights as follows:

- 16 dromas = 1 khāri
- 20 dromas = 1 kunbha
- 10 dromas = 1 bhāra
- 20 dromas = 1 vāha

For lineral measurements, the width of a finger (aṅgula) was the primary unit.\textsuperscript{377} The Arthaśāstra describes it as follows:

- 8 pramāṇas = 1 rathareṇu
- 8 rathareṇus = 1 likṣa
- 8 likṣas = 1 yūka
- 8 yūkas = 1 yāva
- 8 yāvas = 1 aṅgula
- 12 aṅgulas = 1 vitasti
- 2 vitastis = prajāpatyahasta
- 42 aṅgulas = 1 kisku

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1 kisku according to sawyers and blacksmiths was used in measuring the grounds for the encampments of the army, forts and palaces.

The liquids according to Kautiliya shall be measured level to the mouth of the measure. Wine, flower, fruits, bran, charcoal and slaked lime, twice the quantity of the heaped up portion (i.e. one fourth of the measure) shall be given in excess.

1¼ pañas is the price of ḍrōṇa
3/4 paṇa of a āḍhaka
6 māṣas of a prastha
1 māṣa of a kuḍumbha

The price of similar liquid measures is double the above. 20 pañas is the price of a set of counter-weights.

The weights according to Kautilya shall be made of iron or stones available in the countries of Magadha and Mekala, or of such things as will neither contract when wetted, nor expand under the influence of heat. Kautilya considered it duty of the government to examine the balances of the traders periodically after every four months.

Manu recommends that the balances should be checked and examined after every six months. Kautilya gives a list of sixteen types of balances of which ten were light balances and six heavy balances. The heaviest type of balance was made of wood (kāṣṭha).

The Mahā-Nārada-Kassapa-Jātaka refers to a weighing house. Yājñavalkya mentions that it was a practice to draw a live on the wall of the weighting house to ensure accuracy in weighing. Weighing was complete and correct when the weights and the things to be weighed were on a level with the mark made on the wall at the weighing house. He also refers to people who were experts in weighing. The Milinda-paniho refers to some terms such as angula, vyāma, yojana and ammāna.
The Jain sources too throw a welcome light on the weights and measures. Five kinds of weights and measures are mentioned in Jain canons such as māṇa, vamāṇa, avamāṇa, ganima and padimāṇa. Māṇa was of the kinds used for weighing grains and liquids. Asati, prasṛti, setikā, kuḍava, prastha, ődaka, drona and kuṭbha were useful for weighing grains and māṇika for liquids. To measure wells, brick house, wood, mat and cloths etc. we have hasta, daṇḍa, dhanaśka, yuga, nālikā, aksa and muśala etc. mentioned in avamāṇa.

In ganima or counting we have numbers from one to one crore. For weighing gold, silver, jewels, pearls, counch-shells and corals etc. we have guṇjā, kākoni, nisparā, karmamāśka, maṇḍalaka and suvāraṇa mentioned in padimāṇa. Distance was measured in aṅgula, vitasti, kikṣu, dhanusa and gavyāta and to measure length we have paramāṇu, trasareṇu, rathareṇu, balagra, likṣa, yāka and yava. Time was denoted in the terms like samaṇya, āvalikā, svāsa, ucchāsa, stoka, lava, muhāra, ahorātra, pakṣa, māsa, ṛtṛ, ayanā, saṁvatsara, yuga, vṛṣaṣṭa (century) etc. reaching upto sīṁaprabhālikā. Time was measured by nālikā or the shadow of a gnomon (sankuchāyā).

In the Mathura inscription of Huviśka the terms such as adhaka, prastha and ghataka etc. are mentioned which indicate that these were the terms of measurement used in the Kuśāṇa age.

The lower Indus region (shen-tu) captured by the Kuśāṇas proved very beneficial for them as it was the region which was benefitted from the Roman trade. As the Hou-Han-shu as quoted by B. N. Mukherjee indicates that after the conquest of Shen-Tu, the Yüeh-Chih have become extremely rich and strong.

The balance of trade between India and Rome was in favour of India as is indicated by Pliny when refers to the drainage of great amount of Roman coins from the empire as the price for Indian wares. The archaeological corroboration of this literary testimony is provided by the large number of Roman coins found in India mostly in its peninsula. The absence of the Roman coins in the northern India is a matter of curiosity as we find them in abundance in South India. It
appears that the coins were melted and restruck by the Kuṣāṇa kings which possibly were the source of gold for their gold coins.

The Kuṣāṇas appears to have benefitted from the Chinese-Roman trade as B. N. Mukherjee\textsuperscript{391} rightly points out that the articles of Sino-Roman silk trade must have passed through the two roads running from China to the western countries, viz. the southern one running through, Su-Chi (Yarkand), the Ts’ung-ling mountain (the Pamir region), (the land of) the Ta Yiieh-Chih and An-hsi (Parthia), at least in the earlier phases, through either or both of these routes.

Bactra geographically held an important position in the trade. From Bactra, which was an important centre of transit trade between India, China, Central Asia and the Mediterranean world, the route proceeded west wards through the northern part of the Persian desert, the grassy downs of the Aria (Herat) Margiana (Merv) the Zagros valley across the Tigris and Euphrates to Antioch and to Syria.\textsuperscript{392} The Bactra region was captured by the Kuṣāṇas from the Arsacids during the reign of Kujula Kadphises as has also been suggested by B. N. Mukherjee when he identifies Pu-ta with Bactra in Western Bactria.\textsuperscript{393} The region no doubt played a significant role in the prosperity of northern India during the Kuṣāṇa period.

During the early centuries of Common Era, no Parthian custom houses collected their tolls east of Merv, Heart and Kandhar. Between these points and the Pamirs it appears that there should be a supreme power controlling these regions which can hardly be other than the Yueh-chih, i.e., the Kuṣāṇas as the Kuṣāṇa’s control over the areas north of the Hindukush is indisputed. The routes eastward from Heart to the Bamian-Balk Pass and from Kandhar to Kabul which earlier were the feeders to the Parthian trade routes now were under the Kuṣāṇas.\textsuperscript{394}

The government appears to have controlled the trade as the important routes passed through its territory. Particularly the areas of Yarkand, Kashgar, Khotan, Bactria and other above mentioned areas were directly involved in trade as the trade routes passed through these regions. Most of these regions were under
the control of the Kuśāṇas who appears to have derived a handsome amount of money in the form of excise and toll taxes from the traders passing through their territories.

The indication of control of the government over the trade is very much there in the reference of the *Hou Han-shu* which states that since the Vima’s conquest of Shen-tu, i.e., the lower Indus region, the Yüeh-Chih have become extremely rich and strong. The lower Indus region was having regular commercial relations with the Roman empire as discussed above. Thus by capturing this region the Kuśāṇas could now regulate the trade according to their own requirements.

Thus in conclusion we may say that during the time period of our study the trade was carried on through the well defined trade routes with Rome, China and Far-East and it certainly strengthened the economic life of the Indian people.
Notes ans References

2. The commercial towns and cities and ports such as Ujjaiyini, Paithan, Brgukachha (Bhroach), Śūrapāraka (Sopara), Arikamedu and Kaveripttanam etc. were locked in the regions which Śakas and Sātavāñcas held sway.
3. Manusmṛti, VII, 41
5. Arthaśāstra, II, IV, 16.
10. Mookerji, R. K., ibid, p. 112.
12. Nāradasmṛti, I, 7
15. Manusmṛti, III, 164.
28. Rgveda, I. 45. 6; II, 34. 5.
29. Ibid, I, 140. 9.
31. Ibid, VI, 21. 12; Atharvaveda, XVIII, 2. 53.
32. Ātāpatha Brāhmaṇa, I, 4, 11-17.
35. Rāmāyaṇa, I, 22. 10.
36. Ibid, I, 24. 11-12.
38. Ibid, I, 32. 8.
40. Ibid, I, 45, 6-8.
44. Ibid.
48. Ibid.
51. Ibid, p. 299.
60. The Jātakas (1973), vol. VI, p. 447.
62. Ibid.
65. Ibid.
70. Mehta, R. L., ibid, p. 226; The Jātakas, ibid, p. 79ff.
71. Rawlinson, H. G. (1977), p. 42. Rhodopha could not be identified exactly. V. S. Agrawala has identified it with Rāmgarga in his work India as known to Pāṇini, p. 245 and Rawlinson has identified it with Dabhai near Anupshahr.
76. Ibid, p. 4.
78. Mahābhārata, III, 61. 21.
79. Ibid, 61. 22.
80. Ibid, 61. 23.
82. Ibid, p. 8.
83. Periplus, 38.
86. The Jātakas (1973), vol. III, p. 188; vol. IV, p. 137.
87. Periplus, 48.
89. Periplus, 51.
91. Periplus, 52.
96. Ibid, p. 116; Periplus, 53.
97. Ibid.
99. Ibid, p. 204.
100. Periplus, 53, 54.
104. Ibid, p. 211; Periplus, 55.
107. Schoff, W. H., ibid, p. 242; Periplus, ibid.
109. Schoff, W. H., ibid; Periplus, ibid.
111. Periplus, 62–63.
113. Ibid.
Milindapañho (1963), SBE, vol. XXXV, p. 3; Manusmṛti, III, 152; X, 88; Puri, 
117. Viṣṇusmṛti, LIV, 18–21.
210; Dikshitar, V. R. R., ibid.
122. The Jātakas (1973), vol. IV, p. 454; Milindapañho, ibid, p. 210; Mahāvastu 
(1949-54), SBB, vol. XVI, p. 32; Manusmṛti, X, 85–88; Viṣṇusmṛti, LIV, 18, 
20; Dikshitar, V. R. R., ibid.
127. *EI*, vol. IX, p. 239.
131. *EI*, vol. XXXI, p. 177.
133. *EI*, vol. XXIV, p. 211
137. Ibid
142. *Ibid*.
145. *Ibid*.
146. *Ibid*.
148. *Ibid*.

313
170. *Ibid*.
190. *Ibid*. 314
191. Ibid.
203. Ibid.
204. Ibid, p. 182.
205. Ibid, p. 185.
206. Ibid, p. 185-86.
207. Ibid, p. 186-94.
212. Ibid, p. 204-05.
221. Ibid, p. 158
223. Periplus, 49.
226. Ibid, p. 251-54.
228. Schoff, W. H., ibid, p. 287.
231. Ibid, p. 266.
235. Ibid, p. 82ff.
236. Ibid, p. 113ff.
251. Ibid, p. 89.
252. Ibid, p. 118, 156-64.
254. Ibid.
259. Ibid.
260. Periplus, 39, 49.
264. The Jātakas (1973), vol. III, p. 188.
265. Periplus, 60.
279. *Ibid*.
293. *IAR*, (1957-58), p. 34.
300. Ibid, p. 220.
302. Ibid, p. 207-08.
305. RgVeda, I, 116. 4; X, 85. 25.
306. Ibid, IV, 30. 10; X, 86. 18.
307. Rāmāyana, II, 92. 35
308. Arthaśāstra, II, XVIII, 21.
309. Aṣṭādhyāyī, VIII, 4. 8.
310. Manusmṛti, VIII, 405.
313. Saundrananda, I, 30; III, 1; V, 1; VII, 16; X, 41.
315. Rgveda, I, 46. 7.
316. Ibid, I, 97, 7, 131. 2, 140. 12; II, 42. 1; V, 4. 9, 59. 2; VI, 68. 8; VII, 65. 3; VIII, 25. 11; X, 108. 9.
318. Arthaśāstra, II, XXVIII.
319. Manusmṛti, VIII, 406, 408.
321. Puri, B. N. (1968), p. 120.
322. Buddhacarita, I, 20, 70; IX, 24, XII, 14.
323. Saundrananda, XVII, 68.

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325. *Rāmāyaṇa*, II, 84. 8; IV, 16. 24.
334. *Periplus*, 44.
335. Cunningham, A. (1962), pl. XXXIV, fig. 2.
337. Barua, B. M. (1934), fig. 59.
341. *Rg Veda*, IV, 24. 10. Cow was used as medium of exchange; *The Jātakas* (1973), vol. VI, p. 519 rice was being used as medium of exchange.
355. Periplus, 30, 49, 56.
360. Ibid.
365. Arthasāstra, II, XIX; Manusmrī, VIII, 403; Yajñavalkyasmrī, II, 240.
366. Manusmrī, VIII, 134, 136; Yajñavalkyasmrī, I, 363-64.
368. Manusmrī, VIII, 136.
369. Arthasāstra, II, XIX.
370. Ibid. II, XIX, 5.
371. AR. (1807), vol. 5, p. 93.
373. Arthasāstra, II, XIX.
374. Ibid.
375. Ibid, II, XIX.
376. Ibid.
377. Ibid, II, XX.
378. Ibid, II, XIX.
379. Ibid.
380. Ibid.
381. Manusmrī, VIII, 403.
382. Arthasāstra, II, XIX.