CHAPTER IV
CHAPTER-IV

Economic Life As Depicted By the Foreign Travellers of 16th and 17th Century

Foreign travellers portrayed the economic prosperity in India during 16th and 17th century. They carved an interesting picture of the economic life enjoyed by the people of India. On one side where the life of the affluent section of society was opulent and luxurious indulging themselves in a life of debauchery and extravagance. On the other side, the middle segment and the poorer masses were not luxurious but to some extent satisfactory.

Not only in Northern India, the economic prosperity of Vijayanagar also well-documented in the accounts of Nuniz and Paes. There were certain factors that contributed to the sound economy of the Vijayanagar kingdom. The development of agriculture and the resultant agrarian surplus was a potential factor in the growth of the kingdom’s wealth. Another major factor was the development of industries, such as textiles, mining, metallurgy, diamonds, perfumes, salt, etc. Vijayanagar’s flourishing trade and commerce was yet another important factor contributing towards economic development. Internal trade within the kingdom was conducted by the well-organized merchant and craft-guilds, while external trade was carried on by the Arabs and Portuguese traders. Calicut, Cochin, Pulicat, Bhatkal, and Mangalore were the chief ports of the kingdom, abuzz with trading activities. The many countries with which Vijayanagara had commercial relations included the islands in the Indian Ocean, Malay, Burma, China, Abyssinia, South-Africa and Persia.

The factors that contributed to this economic prosperity during the period were the surplus in agricultural and non-agricultural output, well-developed industries, flourishing trade and commerce and well-built transportation system that are well-narrated by the travellers.
Agricultural Production

The Indian economy was predominantly agrarian in character back from the Indian history as it was during sixteenth and seventeenth century. The Sultans of Medieval India since from their early days had well understood the benefits of extension of cultivation and production of better quality crops. They took measures for the multiplicity of crops in their domain. Muhammad bin Tughlaq had founded a regular department for bringing new areas under cultivation and to improve existing crops known as Diwan-i-amir-Kohi. Other occupations were also in prevalence but agriculture dominated all occupations which are confirmed by the observations of foreign travellers and other contemporary sources also.

The outsiders had witnessed the abundance of food grains, horticulture and livestock in all over the Hindu kingdom of South India to the empire of the great Mughals in the North India for both the centuries.

The agricultural output of raw materials depended mainly on climate including rainfall, fertility of soil and agricultural improvement policy of state, land tenure system, irrigation facilities, livestock, transport facilities and peace.

The fertility of soil, abundance of victuals, livestock and fruits are the most talked topics in almost every travelogue. Other matter concerning the agricultural production is scanty and scattered. Regarding the method of cultivation of crops that too rice is dealt in some travelogues. Barbosa had given a detailed method of rice cultivation in Majandur town situated on a small river along the coast towards Malabar. The method of sowing by a drill in the ploughshare is remarkable. At Calicut, the cultivation of rice was made by ploughing by oxen as in the European countries. Terry confirms this method of rice cultivation when visited western India in the reign of Jahangir. He further informs us that, "their seed time is in May and the beginning of June; their harvest in November and December which were the most

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4 Ibid.
temperate months in India.6

The crops were irrigated by rivers and lakes.7 Rainfall also enhanced the fertility of soil. Many references are found of artificial irrigation in South as well as in North India in the travelogues which had a good corroboration in other contemporary sources. In the kingdom of Narsimha the tank has three large pillars connected above with certain pipes by which they get water when they have to irrigate their gardens and rice-fields.8 All the water in the city of Vijayanagar comes from the two tanks.9 The common crops produced were wheat, grain, rice and millet.10 Peas, beans and other pulses were also cultivated.11

The output of agricultural production depends mainly on the fertility of soil anywhere. The fertility of Indian soil is very famous in the minds of the foreigners and they never missed the chance to tell this fact about Indian soil. The fertility of Bengal,12 Deccan,13 and Sindh14 and Surat15 soil was recorded by almost all the travellers. The Deccan soil is fertile throughout, being watered by many rivers and streams.16 The Malabar Coast is good country, fertile and salubrious and supplies much wealth and commodities to Goa and other parts.17 Exceptionally, the soil of Goa was found to be unproductive because of its geography.18 The fertility of Bengal also recorded during the reign of Shahjahan by Francois Bernier.19 This fertility was due to the climate which was found very good and healthy as the abundance of rainfall recorded throughout India for cultivation.20

The fertility of soil was the major factor that leads to the abundance of food

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7 Ibid., p. 235.
8 Ibid., p. 248.
9 Ibid., p. 348.
10 Ibid., p. 200.
11 Ibid., vol. i, p. 255.
16 Ibid.
17 Ibid., vol. II, p. 256.
18 Ibid.
19 Ibid., vol. II, p. 28.
21 Laval, op. cit., Vol. II, pp. 34, 255, also see Early Travels in India, op. cit., p. 298.
grains throughout the period. This abundance was appreciated by almost every traveler. Due to abundance the food grains were very cheap. Abbe Carre write about the cheapness of food at Madras, Surat, Goa, Bijapur, Golconda and Bombay in 1672-74. He writes, “Food is very cheap: five pounds of rice for 3 sols (3d.) I say, rice, because it is the principal food of these people, as wheat is in Europe: three dozen fowls for an ecu (4s.6d); the largest pig costs 30 sols (2s. 6d.); a sheep or goat 20 sols (1s. 8d); butter, wheat, vegetables, herbs, fruits, fish, and other such provisions are to be had in abundance.” Abul Fazl corroborates the above statement.

The abundance of foodstuffs in the country and the extraordinary cheapness of the provisions are the remarkable features of the period which affected the prices and wages also. Prices and wages were also felt low by the travellers. See table-1 for the prices of commodities by Peter Mundy.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Rate per Maund</th>
<th>Rate per Seer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick silver</td>
<td>At 3½ Rs.</td>
<td>Per seer.</td>
</tr>
<tr>
<td>Vermillion</td>
<td>At 4</td>
<td></td>
</tr>
<tr>
<td>Nutmegs</td>
<td>At 4</td>
<td></td>
</tr>
<tr>
<td>Cloves</td>
<td>At 5½</td>
<td></td>
</tr>
<tr>
<td>Cardamom (Ilaiachi)</td>
<td>At 1⅔</td>
<td></td>
</tr>
<tr>
<td>Saffron (Kishtwari)</td>
<td>At 16</td>
<td></td>
</tr>
<tr>
<td>Saffron (Kashmiri)</td>
<td>At 10</td>
<td></td>
</tr>
<tr>
<td>Pepper</td>
<td>At 24</td>
<td>Per maund.</td>
</tr>
<tr>
<td>Dry ginger</td>
<td>At 10</td>
<td></td>
</tr>
<tr>
<td>Alum</td>
<td>At 8</td>
<td></td>
</tr>
<tr>
<td>Nausadar</td>
<td>At 10</td>
<td></td>
</tr>
<tr>
<td>Bachch</td>
<td>At 9</td>
<td></td>
</tr>
</tbody>
</table>

Table-1

The references of low wages are also made during the period. Terry says that servants were obtained for 5 shillings, or say two rupees a month, and he says that,


they would send half the sum home.  

"A simple servant, who is not an officer, commonly in the best houses, between wages, victuals and clothing, stands not in more than three rupees a month, amounting to about ten shilling sterling." 

The wages paid to the miners at the diamond mines in South India struck Tavernier as very low, even a skilled man earned 3 pagodas in a year which was less than a rupee a month. 

Fyer writes that washer man and craftsman work well for little money but does not record their wages. 

Streynsham Master also gives the low wages of East India Company’s servants at Hugli in 1678-79. (See table-2).

<table>
<thead>
<tr>
<th>Post</th>
<th>Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Chief</td>
<td>12 Rs. per mensem</td>
</tr>
<tr>
<td>The Second</td>
<td>8 &quot;</td>
</tr>
<tr>
<td>The Minister</td>
<td>6 &quot;</td>
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<tr>
<td>The 3rd of Council</td>
<td>5 &quot;</td>
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<tr>
<td>The 4th of Council</td>
<td>5 &quot;</td>
</tr>
<tr>
<td>The Chyrurgeon</td>
<td>4 &quot;</td>
</tr>
<tr>
<td>The Secretary</td>
<td>4 &quot;</td>
</tr>
<tr>
<td>The Steward</td>
<td>2 &quot;</td>
</tr>
<tr>
<td>Subordinate for the Chief</td>
<td>6 &quot;</td>
</tr>
<tr>
<td>Subordinate for the second</td>
<td>4 &quot;</td>
</tr>
<tr>
<td>Subordinate for the Third</td>
<td>3 &quot;</td>
</tr>
<tr>
<td>The Barber</td>
<td>2 &quot;</td>
</tr>
</tbody>
</table>

Table-2

The sufficient output of provisions and food grains throughout the period under study gave way to the cultivation of cash crops which were increasing in demand for feeding industries and exporting abroad. 

24 Early Travels in India. op. cit., pp. 318-19.
29 Naqvi, Hameeda Khatoon, Urbanisation and Urban Centres under the Great Mughals, 1556-1707.
sugarcane, spices, tobacco, cotton and silk. Besides there demand in the increased overseas trade these crops also satisfied the needs of industries at home which is amply supported by the foreign travellers.

**Industries**

Industries are helpful in the growth and development of the economy of a country. The flourishing industries increase the national wealth and prosperity provide an impetus to the trade and commerce of the nation. In India, industries especially associated with rural and agricultural life continued since long but a speedy development took place in the seventeenth century with the Europeans entry into the Indian Ocean and their active trade involving export of a number of Indian products into the western world.

Thus, the industries were divided under two broader categories during medieval times in India, (a) The rural crafts (b) The urban industries. The rural system was based practically on self-sufficiency barring only those which happened to be on the outskirts of the cities and towns. Among the village manufacturers mention may be made of unrefined sugar, weaving, carpentering etc. The village crafts were mostly confined to black, gold and silver smithy, shoe manufacturing and oil; other minor industries were cap making, basket making etc.

The urban industries had a different pattern for the State and the private establishments. The private enterprise had given way to merchant middleman who was a centrifugal force to all economic activities. Rarely the independence of manufacturing from marketing was kept intact. The private enterprises were subject to hardships at the hands of the State officials. Unlike the private establishments the Imperial workshops or the 'Royal Karkhanas' were not meant for any public good except for meeting the huge royal demand. The activities of the State in the fields of production increased considerably from the beginning of the Muslim Rule in India. They extended from primary to secondary industries in the industrial sphere and from foreign to inland trade in the commercial field. Among State industries mention may be made of textiles (silk and wool), metals and minerals, embroidery, salt, saltpeter

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and indigo. There were at least as many as thirty-six 'Karkhanas' in the reign of Akbar, which appear to have increased in number in the later period according to the authority of the Zawabit-i-Alamgiri. This fact has further been corroborated in the middle of the seventeenth century by the French traveller, Francois Bernier, who saw these factories at work during his visit to the Mughal Capital. Within the fortress "large halls were seen in many places, called 'karkhanas' or workshops for the artisans." He has given a vivid description of the working of various karkhanas within the imperial fort.

Thus, from the accounts of foreign travellers as well as from other sources of the period it is clear that State workshops and the private industrial units were important constituents of medieval Indian economy. The impact of rulers' indifference towards private producers was made complete by the explosion of foreign trade. A systematic study of all the important industries existing during the sixteenth and the seventeenth century is made below.

Cotton was extensively grown in the country for satisfying the needs of the cotton textiles industry. The quality of Indian cotton textiles produced was excellent. The cotton textile industry was spread throughout the country but the concentration was more in northern India during the Mughal period whereas in south there was no such concentration owing to the little internal need for clothing, lesser still for warm clothing as founded by Varthema, Barbosa and Thevenot. In spite of the less need due to hot climate some centers of cotton textile industry grew up there for external demand. Goa, Chaul, Mysore, Malabar, Mutfili in and Andhra - desa, Kanpamei near Calicut, Pulicat and Budihal in the Chitradurga region, were the important centres of cotton textiles.

Different kinds of cotton stuffs such as calicoes, turbans, muslins, bucrams and muslin cloakes were manufactured in these centres. Pulicat enjoyed repute for its


33 Bernier, op. cit., p. 259.

34 Ibid. "In one hall embroiderers are busily employed. Superintended by a master. In another you see goldsmiths; in a third painters; in a fourth varnishers in lacquer work; in a fifth joiners, turners, tailors, shoe-makers; in a sixth manufacturers of silk, brocade and those fine muslins of which are made turbans, girdles with golden flowers, and drawers worn by females...beautifully embroidered with needle work."

35 Thevenot, Jean de. Indian Travels of Thevenot and Carevi, ed., Surendranath Sen, The National Archives of India, Queensway, New Delhi, 1949, p. 123. As regards the minimum use of dress, Thevenot says that in Malabar, "they go stark naked from the girdle upwards, and hence no other clothing from the girdle to the knee, but a piece of cloth."
printed cotton textiles similar to the chintz of North India.\(^{37}\)

In North India the industry was concentrated at Lahore, Delhi, Agra, Awadh, Jaunpur, Allahabad, Benares, Patna, Dacca, Lucknow and Gujarat. At Chaul cotton stuffs were manufactured in great abundance.\(^{38}\) Lahore produced seven varieties of cotton textiles, of which *omesins*\(^{39}\) and the *Machhiwara baftas*\(^{40}\) seem to have been more popular. In the Lahore subah, Sialkot and Gujarat were noted for their embroidered cotton fabrics. The red *sali* and *chintz* of Sarhind attracted Persian and Armenian traders.\(^{41}\) Delhi was known for its *chintz* and *quilts*.\(^{42}\) *Guzees* were manufactured in Gokul situated in Mathura.\(^{43}\) Agra produced carpets\(^{44}\) and a large number of white cotton stuffs.\(^{45}\) Saharanpur was famed for its *chauntars* and *khasci*.\(^{46}\) The *mercools* and *daryabadis* of Lucknow attracted a large number of European merchants.\(^{47}\) Jaunpur was reputed for the specialisation in the production of *carpets, turbans, girdles* and *calicoes*.\(^{48}\) The varieties called *jholis* and *mihirkul* were produced at Mau and Jalalabad in the Allahabad sarkar and also at Benares.\(^{49}\) Benaras also manufactured other stuffs such as *turbands, girdles, sarees* and *gangajal*.\(^{50}\) The trade in textiles enriched Benaras. Patna and its neighbourhood produced a variety of coarse cloth called *Amertees*.\(^{51}\)

The demand for the products of this industry at home and abroad increased the production considerably. The industry not only progressed quantitatively but also qualitatively. The foreign travellers were astonished to note the excellence and

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38 Varthema, *op. cit.*, p. 47.
fineness of the cloth produced in the country. The accounts of Tavernier\textsuperscript{52} and Manucci\textsuperscript{53} are particularly important for inland and foreign trade in cotton goods, which are virtually ignored by the Persian chronicles. India supplied these stuffs to the markets on the east coast of Africa, in Arabia, Egypt, Burma and Malacca and to a lesser extent in Philippines and perhaps Mexico as well.\textsuperscript{54}

Silk was prepared from silk worms which were fed on mulberry trees.\textsuperscript{55} This method of rearing silk worms for obtaining raw silk is called sericulture. Raw silk was produced in Kashmir and Bengal within the imperial territory whereas the silk textile industry was located in Bengal, Gujarat, Ahmadabad, Surat, Patna, Cambay and Kashmir in the north and Coimbatore and West coast in the south. At Coimbatore dyed silk garments were manufactured which were so costly that they were sold for 100 vurahus or gold coins per piece (5 feet width, 13 feet length) of cloth. Velvets, satin, silks and carpets were manufactured on the Western coast.\textsuperscript{56}

The importance of silk textiles increased with growing demand of the manufactured silk items all over the country for different purposes by the members of royal family, nobles and by the rich merchants also. The foremost usage was in the making of garments by the upper class. The kings of Malabar used silk coats which were open in front coming down to the middle of the thigh.\textsuperscript{57} Nuniz writes about the king of Vijayanagar that, "His clothes are silk cloth (pachois) of very fine material and worked with gold, which are worth each one ten pardaos."\textsuperscript{58}

In the Mughal Empire, various silk products were manufactured in the Imperial workshops or the Royal Karkhanas for royal household from the yarn obtained from the private spinners. Besides the production of cloth, silk carpets mixed with gold of superior quality were also manufactured in the royal karkhanas whereas the private workshops produced silk stuffs for local need and for the foreign trade.

The production and export of silk clothes were recorded by the various travellers like Varthema, Linschoten, Laval, Fitch, Terry, Peter Mundy, Manrique, Tavernier, Bernard, Manucci, Streynsham Master, Hedges. Varthema writes that from

\textsuperscript{52} Tavernier, \textit{op. cit.}, pp. 4-5, 7, 42-43, 46.
\textsuperscript{54} \textit{India at the Death of Akbah}, \textit{op. cit.}, pp. 180-81.
\textsuperscript{57} Ibid. Vol. II, p. 7.
\textsuperscript{58} \textit{A Forgotten Empire}, \textit{op. cit.}, p. 363.
Bengal (Satgaon) went silk stuff to, "all Turkey, through Syria, through Persia, through Arabia Felix, through Ethiopia and through all India." In India the Bengal silk was exported to Gujarat which was woven into fabrics at Ahmadabad and Surat. Potalas (soft silk) decorated with flowers of different colour were manufactured at Ahmadabad. Their price varied from rupee 8 to 40 a piece.

By the seventeenth century, the silken stuff fabricated in Bengal was of considerable fine texture and the embroidery too was exquisite adroitly done both by men and women. The quality of Bengal silk not being of a high order, its low range of prices had helped to popularize the stuffs and its demand had consequently grown. Besides silk there was 'silk herbs' similar to silk found in Bengal. Fitch had called it 'Yerva'.

At Gujarat and Cambay very fine silk muslins were produced. However, spinning operation were the monopoly of Gujarat, Ahmadabad and Surat. At the Imperial workshops of Ahmadabad, Agra, Lahore and Gujarat skilful workmen from different parts of the country were employed. Regarding spinning Abul Fazl states, "All kinds of silk spinning were brought to perfection." Silk carpets mixed with gold of superior quality were also manufactured at Surat and in the city of Cambay. Similarly, west coast, Cambay, and Surat specialized in colour velvet, velvety satins and taffetas. But not so rich as those of Italy. From Gujarat and Cambay, silk goods were exported to the Philippines, Borneo, Java, Sumatra and other neighboring countries.

Raw silks were also imported from abroad for producing silk fabrics as well as mixed goods such as patolas. The silk produced in Bengal to the tune of 2½ million pounds, in Patna to the extent of 1,000 to 2,000 mds, were not sufficient for the local industry hence a large quality was imported from Persia and China. Superior quality of foreign silk was another reason. Even the Bengal silk which was credited best in

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59 Varthema, op. cit., p. 79.
62 Bernier, op. cit., p. 440.
67 Early Travels in India, op. cit., pp. 206, 302.
68 Ibid. p. 302.
70 India at the Death of Akbar. op. cit., p. 173-75.
India was not comparable to that of Persia or Syria. China silk was brought at Chaul.

Gold and silver are important precious metals found in nature which can be procured either by mining or by soil and sand washing. These metals were used by the upper strata of society because of its non-affordability by the common peoples. The common use of these metals was in making ornaments, utensils and in embroidery industries also. Besides, there were also used in giving presents, making thrones, arm and armaments etc.

These metals were abundantly used by the kings and nobility i.e., the upper strata in different purposes. The richness of Indian kings and nobles are described by various travellers. Varthema writes, “The King of Narsimha is the richest king I have ever heard of;” further he adds, “the king wears a cap of gold brocade, two spans long, and his garment is full of gold piaster and having all round it jewels of various kinds.” The plenty of gold and silver was noticed by almost all the travellers. The currency system depended mainly on the two metals during the period which is proved by the accounts of foreign travellers. This is corroborated by other contemporary sources. The abundance can be felt even more severely when it come to knowledge that at Goa, Lord used to make presents of gold pieces to the strangers also. Peoples also used to throw gold in the rivers as a part of their belief.

At Vijayanagara the gold was commonly used by the peoples in ornaments. At Malabar daily wages were given in gold to Nairs when the kings went to war. There were vessels of gold and silver in the Vijayanagara Empire. Vessels of gold

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72 Linschoten, op. cit., Vol I, p. 64.
73 Early Travels in India, op. cit., p. 23.
75 Ibid.
79 Early Travels in India, op. cit., pp. 28, 269, 323.
81 Barbosa, op. cit., Vol. II, 52
82 A Forgotten Empire, op. cit., pp. 275, 363
were also used in north India.\textsuperscript{83} The wives of kings were covered with gold and his throne was of gold and precious stones.\textsuperscript{84} Silver was used by the common women in making ornaments in Bengal.\textsuperscript{85}

The goldsmiths and silversmiths were residing in every city which marks the flourishing state of gold and silver industries during the period under study. There were great no. of artisans, inn workers and goldsmiths at Agra.\textsuperscript{86} Their art was confined to various families which formed a group of its own resulting into a sub-caste. At Malabar, there existed a caste of Goldsmith.\textsuperscript{87} Besides the art of making ornaments they were also expert in the art of setting of stones in gold. Appreciating the art of goldsmiths at Agra, Thevenot writes, “They have a way in the form of working in gold upon Agat, Crystal and other figures and also enchease stone upon them. They cut leaves of gold to fill up the void spaces of the figures.”\textsuperscript{88} Gujarat and Ahmadabad was very famous for studded jewellery of gold and precious stones of a number of varieties.\textsuperscript{89}

Though, it is generally accepted that there was scarcity of gold and silver as the production was negligible during the sixteenth and seventeenth century.\textsuperscript{90} But, the travelogues and even other contemporary sources indicate the lavish use of these metals by the upper strata. This abundance was due to the import of these metals.\textsuperscript{91}

The copper was obtained from the copper ore through the indigenous method of smelting. It was produced in large quantities up to the time of Emperor Akbar. Copper was in abundance in Vijayanagara.\textsuperscript{92} At Bhatkal, it was used for the manufacture of coins, cooking pots and other vessels.\textsuperscript{93} Copper industries were spread over the country from one corner to another. Each suba had two or more centers noted for copper and brass works.\textsuperscript{94} Northern India depended entirely on the produce of local mines whereas the south was furnished mainly with the supplies imported from

\begin{thebibliography}{99}
\bibitem{83} Early Travels in India, op. cit., p. 180.
\bibitem{84} A Forgotten Empire, op. cit., pp. 260, 328, 351, 358
\bibitem{85} Early Travels in India, op. cit., p. 28.
\bibitem{86} Monserrat, op. cit., p. 36.
\bibitem{87} Barbosa, op. cit., Vol II, p. 63.
\bibitem{88} Thevenot, op. cit., pp. 55-56.
\bibitem{90} Sarkar, Jagdish Narayan, op. cit., p. 60.
\bibitem{91} Tavernier, op. cit., Vol I, pp. 12-13, Early Travels in India, op. cit., pp. 112, 302.
\bibitem{92} Barbosa, op. cit., Vol I, p. 203.
\bibitem{93} ibid, Vol I, p. 191.
\bibitem{94} Watt, G., Commercial Products in India, being an abridgement of the dictionary of the Economic Products of India, Today and Tomorrows', New Delhi, 1966, p. 402.
\end{thebibliography}
outside. In the sixteenth century the urban coppersmith constituted an important section of artisans at Ahmadabad, Golconda and Goa.

The scarcity of copper occurred in the region of Akbar more so perhaps because it came to be used not only to supplement the silver currency but was also to a certain extent, employed as its substitute. This may be inferred from the fact that Akbar had elevated the copper dam as a standard coin along with the silver rupee. Another reason was the failure of copper mines of Rajputana and Central India since Akbar's reign. By the mid-seventeenth century, it is recorded that the Portuguese, English and the Dutch traders on the eastern ports had started bringing in large quantity of copper from Japan.

There existed copper mines in the subas of Agra at Parath, Singhahan, Udaipur, Kotputli, Khohana of Oudh, the village Dokan near Bahraich and of Ajmer at certain places. The copper mines at Singhana were recorded by Tavernier also. The South was deficient in the production of copper but the metal was not altogether absent.

Iron ores were located in Mysore especially in Chikkanayakanahalli, and Kolar districts. In Northern India, it was found in the Lahore subah, in the Ajmer subah at Kalinjar, Gwalior and Kumaon. Iron mines were found at Hyderabad and Assam. Iron was plentiful in Rajasthan where it was used for making arms, particularly at Mewar and Bikaner. It was largely used for military purposes, for manufacturing swords, bows, arrows, bucklers, daggers and battle axes. It was also employed in making household articles such as lamps, bedsteads and utensils. The 'best iron' along the east coast was mostly sold by the blacksmiths and iron founders at Narasapur shipyard at reasonable rates and all sorts of iron works like spikes, bolts and anchors were ingeniously performed by natives.

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95 From Akbar to Aurangzeb, op. cit., p. 183
97 Pelsaert, op. cit., p. 29.
101 A Forgotten Empire, op. cit., p. 369.
105 Watt, op. cit., p. 682.
Export of iron goods from Choromandel to Batavia began in the sixties of the seventeenth century. Iron was the only metal in which India was more than self-sufficient.

The existence of diamond mines in India was testified by a no of foreign travellers such as Ludovico de Varthema, Barbosa, Nuniz, Jourdain, Tavernier and Fryer. The diamond fields were mainly located in the Kurnool and Anantpur districts, especially at Vajra Karur in Andhradesha. Tavernier had visited diamond mines of Ramalkota, Kollur and Bengal and has described their working in detail. Similar description is found in Fryer's account also.

The bigger diamonds were included in the Royal treasury as nobody had got the right to possess or transact it. The ruler of the country of the Ghts, Adappanayaha, had to hand over to the king of Vijayanagur all diamonds above twenty mangelins (about twenty five carats) in weight. John Jourdain during the reign of Jahangir writes at Agra that none was allowed to sell any diamond above five carats within the dominion. If anybody was found doing he had to suffer the death punishment. Different travellers had given size of diamond above which it was included in the royal possession. Tavernier observes that above 60 carats it came to royal possession.

Regarding the price fixation of diamonds Barbosa and Tavernier had given some details. The diamond weighing one Mangiar (in Telugu manjali) was worth 30 fanams. The price was fetched on the basis of size and not on the weight. Thus, the bigger diamonds, though of the same weight, fetched a higher price. The four diamonds of the same weight (i.e., one manjali) were worth 60 fanams, and one diamond of the same weight was worth 100 fanams, finally one diamond of 8

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105. A Forgotten Empire, op. cit., p. 369.


107. Ibid.


109. Barbosa, op.cit., Vol. II, p. 221. He was talking about the false diamond fabricated in India.
mangiars fetched 1,400 fanams. Tavernier also gives the method of price fixation in vogue at that time for any good or bad diamond which has a weight of 3 up to 100 carats. If perfect in quality, the carat weight of the diamond is squared and the product multiplied by 150 livres. In this way the price of a diamond of 12 carats would be, 12x12x150 livres = 21600 livres. If not perfect, the carat weight of the diamond is squared further multiplied by 60, 80 or 100 livres, the unit values for a carat according to the degree of perfection of the stone.

The king of Vijayanagar possessed a great treasure which includes diamonds and other precious metals. After the fall of Vijayanagar its diamond trade was captured by Goa. “the greatest mart for small diamonds”.

Saltpeter was an important commodity craft that was carried on by the peasants for cooling water as early as the 16th -17th century. With the increase in demand of saltpeter its production increased in the 17th century as per the military needs in Europe.

Pelsaert, Bernier, Tavernier, Manucci, Bowrey and Alexander Hamilton had given some details regarding the product of saltpeter in the 17th century. Akbar monopolized it and had a godown at Ahmadabad to store several thousands of mounds. In the reign of Jahangir Pelsaert described the process of obtaining saltpeter from the salt-earth. The largest saltpeter centers were Gujarat, Bengal, Bihar, a number of regions of the present states of Uttar Pradesh, Andhra, Mysore, the district around Agra, and so on. According to Tavernier the Coromandel Coast, Gujarat, Patna, Agra regions and the Konkan ports together with Bihar Province were important centres for this product. The Dutch had established a depot at Chapra, which were 14 leagues above Patna. Salt petre was first refined there and then it was sent by river to Hugli. A mound of saltpetre was sold at 7 mahmudis. But Manucci states that “on account of the black fat earth saltpetre was largely obtained at Ajmere.” However, they don’t mention its export.

In the initial stages the trade in this commodity could not make much headway.

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116 Ibid.
119 Chickerov, A. I., Economic Development in the 16th-18th Centuries, Moscow, 1971, p. 49.
120 Ain. op. cit., Vol. II, p. 239.
121 Pelsaert, op. cit., p. 46.
122 Chickerov, op. cit., p. 49.
with the result that between 1630 and 1650 the export was limited to 200 and 300 tons. However, by 1653 it became the monopoly of the English company which fixed an annual quantity at 800 tons. Besides this, the Dutch in the year 1661 shipped as large a quantity as 1480 tons (weight). The value of exported saltpeter has been estimated at Rs. 1, 00, 000 by Moreland.\textsuperscript{125}

Carpets were used for covering the floor of the houses of the upper classes. Fine carpets were used for the purpose of sitting at Malabar.\textsuperscript{126} Carpets were also stitched in Bengal.\textsuperscript{127} Though the references of carpet are found in the accounts of travellers who visited South India but the manufacture of high class carpets seems to date back from the time of Emperor Akbar. During his reign we find the mention of two varieties mainly Pile Stitch and Plain Stitch. Akbar encouraged carpet weaving extensively in Agra, Fatehpur Sikri and Lahore.\textsuperscript{128}

The accounts of foreign travellers inform that the carpets of three varieties were produced in India while Agra, Fatehpur Sikri, Lahore and Amritsar\textsuperscript{129} specialized in woolen and cotton carpets, Ahmadabad, Surat, and Cambay concentrated mainly on silk carpets.\textsuperscript{130} The wool carpets made such a tremendous progress in quality, texture and design that they compared very favorably with the superior carpets of Iran and Tehran.\textsuperscript{131} A beautiful garden carpet preserved in Maharaja palace at Jaipur which well manufactured during the reign of Mirza Jai Singh almost as good as the imported Persian garden carpets of those days.\textsuperscript{132} The manufactures of ordinary carpets were also very prevalent in the reigns of Agra, Fatehpur Sikri and Ahmadabad and in the State of Malwa.

The pottery was used as an important manufacture for every use in India as it was attached with the rural commodity-producing artisan.\textsuperscript{133} Pottery making is an ancient art in India. A higher degree of excellence prevailed which is obvious from the finds of Mohanjodaro and Harappa.

In the sixteenth and the seventeenth century in India the earthen vessels were

\textsuperscript{125} From Akbar to Aurangzeb, op. cit., p. 122.
\textsuperscript{126} Barbosa, op. cit., Vol. II, p. 9.
\textsuperscript{127} Linschoten, op. cit., p. 96.
\textsuperscript{128} Ain, op. cit., Vol. I, p. 57.
\textsuperscript{129} Pelsaert, op. cit., p. 9.
\textsuperscript{130} Tavernier, op. cit., Vol. II, p. 2.
\textsuperscript{131} Ain, op. cit. Vol. I, p. 57. Abul Fazl mentions that carpets of such a variety and texture were produced under the instruction of the empire. Early Travels in India, op. cit., p. 108.
\textsuperscript{132} Darbari Neera, Northern India under Aurangzeb, Social and Economic Condition, Shalabh Publishing House, Meerut. 1998, p. 185
\textsuperscript{133} Chickerov, op. cit., p. 77.
commonly used by the general masses as compared to metal vessels because the metal was scarce and therefore costlier. But it never meant that the superior ware was not manufactured.

The advent of Muslim rule in India made a new development in the pottery industry and there are informations regarding the progress of pottery industry in Medieval India in contemporary Persian chronicles. The glazed pottery which was hitherto unknown to Indian public was a notable contribution of medieval times.\(^{124}\)

There is paucity of references from the foreign travellers account on the manufacture of pottery for the period of study. Barbosa, the Portuguese traveller, mentions a potter caste called Kusawan of Malabar who were making pottery and bricks as their family business.\(^{125}\) Patna, manufactured so fine quality of earthen pottery that sometimes it looked even thinner than a paper and lighter than the china potters. This article was of great use in Europe. Allahabad also manufactured pottery but it was not as fine as that of Patna.\(^{126}\) However, there was import of Chinese porcelain of superior quality for use of the affluent section of society.\(^{127}\)

The use of paper was discovered by the Arabs or rather the paper makers of Samarkand which is firmly established by the recent researches. In India, the introduction of paper making is obscure. However, it is established that paper making was practiced at Sialkot (now in Pakistan) in 1288. Nicolo Conti who visited South India in the early part of 15th century mentions the use of paper by the people of Cambay. Amir Khusrau mentions the use of shami (Syrian) paper in Delhi which suggests the inadequacy and low quality of paper production.

Early sixteenth century travellers in the South India noticed that all writing was done on palm leaves.\(^{136}\) Pyrard who visited Malabar Coast in 1602, writes, “They write with iron bodkins upon palm leaves, which are yellow in colour and very thick.”\(^{139}\) As late as in 1625, Pietro Della Valle obtained a specimen manuscript which was written for him on palm leaves.\(^{140}\) The Portuguese at Goa imported their supplies of paper partly from Europe, partly from China and partly from the Cambay ports.\(^{141}\)

\(^{124}\) Watt, op. cit., p. 331.
\(^{125}\) Barbosa, op. cit. Vol. II, 57.
\(^{127}\) According to Ain-i-Akbari, Akbar left Chinese porcelain at Agra alone valued at two and a half million of rupees.
\(^{129}\) Laval, op. cit., Vol. I, p. 408.
\(^{141}\) Laval, op. cit., pp. 175, 211, 245.
During the Akbar's period the suba of Bihar was noted for the production of good paper.\textsuperscript{142} Whereas, Peter Mundy who visited during the reign of Shahjahan says that the best paper was made at Shahzadpore near Allahabad in enormous quantity and from there it was sent to other parts.\textsuperscript{143}

During the medieval period the building of indigenous ships has been described by various travellers in India. Marco Polo in the thirteenth, Ibn Batuta, in the fourteenth, Vasco Da Gama in the fifteenth and Varthema and Barbosa in the beginning of the sixteenth century has all described the existence of ship building in industry.

The effectiveness of ship-building activity is proved by the foreign travellers' account relating the size of the ships, the tonnage capacity and the composition of merchant's fleet. The Moors, according to Barbosa, in the days of their prosperity had built keeled ships which could carry 224 tons.\textsuperscript{144} Some of their ships had also the capacity of carrying as large 600 tons. However, the ships at Calicut were made of 300 to 400 butts or 200 tons on an average.\textsuperscript{145}

The ship-building received a great impetus during the reign of Emperor Akbar. It continued to develop and was speeded up as an art in the second half of the 17\textsuperscript{th} century. Indian ships were superior to those of the western nation especially because the Indian ships were made of teak wood which withstand the effects of saline water. King of Spain used vessels in Eastern waters built in India.\textsuperscript{146} Shivajee also liberally patronized the ship industry. Several docks were built, such as those in the harbours of Vijayanagara, Kolaba, Sindhvarga, Ratnagiri, Anjanvela, and so on where ships were built.\textsuperscript{147}

The centres for ship-building industry were many during the medieval period. On the Malabar Coast, the centres were Calicut,\textsuperscript{148} Cochin and Maldives Islands. Gujarat was another important centre which was famous for its maritime activity. During Akbar's reign the chief centres were Bengal, Kashmir and Thatta. Ships were built in Allahabad and Lahore also. Abul Fazl tells us that in the Circar of Thatta there

\textsuperscript{142} Pant, op. cit., p. 92.
\textsuperscript{143} Peter Mundy, op. cit., Vol. II, p. 98.
\textsuperscript{144} Barbosa, op. cit., Vol. II, p. 77.
\textsuperscript{145} Varthema, op. cit., p. 154.
\textsuperscript{146} Laval, op. cit., p. 182. Federici refers to the ship-building from the timber of coconut tree without the mixture of any other tree. Purchas, op. cit., Vol. X, p. 91.
\textsuperscript{147} Duff, James Grant, History of Mahrattas, First Published, 1863, rpt. 1990, Low Price Publications, Delhi, Vol. I, pp. 172.
\textsuperscript{148} Varthema, op. cit., p. 152.
were to be found 40,000 vessels ready for here.\(^{149}\)

In the second half of the 17\(^{th}\) century ports like Bombay, Surat and Hugli which had a long tradition of ship-building, gradually flourished into very developed centres of ship-building.\(^{150}\) Narsapore (45 miles north of Masulipatnam) abounded in timber which was used in the building and repairing of ships.\(^{151}\) Madappollam was also a flourishing ship-building and manufacturing station.\(^{152}\) The country was not only self-sufficient in the requirement but occasionally supplied to the English and the Dutch merchants.

The ship-building started deteriorating when the trading by sea had changed hands from the Indian to the foreign merchant. The adverse affects of the advent of the English and the Dutch on Indian Shipping was minimized by Moreland.\(^{153}\) He thinks that it was the result of a policy of force exemplified in repeated acts of violent piracy.\(^{154}\)

**Trade and Commerce**

During the sixteenth and seventeenth centuries the trade and commerce of India flourished as the volume of trade and the variety of the articles of trade increased considerably. A revolution took place in the trade and commerce of India with the coming of Portuguese in 1498 A.D. Moreland remarks the sixteenth century as, 'a period of unstable equilibrium' which began with the political control over the oceanic commerce. The trade became their (Portuguese) state monopoly. The seventeenth century caused even more far-reaching revolution in commerce. The Portuguese were replaced by the Dutch and the English who changed the trend of India's trade with East Africa and Asia and established a new direct trade with new markets in Western Europe in certain articles (cotton, saltpeter and indigo). They firmly established on India's seacoasts from Sind to Bengal and also penetrated into Bihar and Uttar Pradesh. By the end of the century they established direct trade with Europe in Madras calicoes, Bihar saltpeter, Bengal silk and Bengal sugar. The costly “toy trade” of Europe came to be patronized by the rich.


\(^{154}\) *Ibid.*
The articles of trade were generally same in both the centuries under study. India imported a few necessaries, some raw materials and luxuries. Among the exports including textile fabrics, common food articles, black pepper, indigo, raw silk, raw cotton, cotton goods, especially the coarser ones, were the most important and extensive. In the seventeenth century indigo became a 'prime commodity' in Indo-European trade, while Bihar saltpeter was found to be indispensable for the growing munitions industry in Western Europe, and Bengal now supplanted other countries in supplying raw silk (yarn) to Europe.

The demand for India’s goods in European countries exceeded her need for import as the imports included mainly the articles of luxury which were not consumed by the general masses.

The balance of trade was favourable towards India is also indicated well by the accounts of the foreign travellers when Sir Thomas Roe remarks, 'Europe bleedeth to enrich Asia'. William Hawkins recorded, "India is rich in silver for all nations bring coin and carry away commodities for the same and this coin is buried in India and goeth not out". Gemelli Careri writes in Aurangzebs period, "all the gold and silver which circulates throughout the world at last centres here."

The foreign travellers who visited India during those two centuries were mainly interested in the trade and commerce of our country. Their accounts on trade and commerce are even more significant both qualitatively and quantitatively as compared to the Persian chronicles of the period. The travelogues of the period throw much light on the various aspects of trade and commerce such as on the articles of trade, transport and communication, commercial centers, internal trade, foreign trade, etc.

Foreign Trade

The foreign trade in India was mainly sea-borne in nature which may be grouped into two broad categories as (i) Ports on the Western sea-coast (ii) Ports on the Eastern sea-coast

These ports were again into regional groups. The western sea-coast was divided into five regional groups- (a) The Indus Delta or The Sindh group (b) The

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156 Early Travels in India, op. cit., p. 112.
157 Careri, op. cit., p. 246.
Gujarat group (c) The Konkan group (d) The Kanarese group (e) The Malabar group. On the other hand, the eastern sea-coast was divided into four major groups- (a) The Coromandel Coast ports (b) The Gingelly coast (c) The Orissa ports (d) The Bengal ports.

Further for the convenience of the study the chief ports participating actively in the India's foreign trade may be divided according to their significance in the northern and the southern India. The chief sea-ports in the north were (a) The Indus Delta or Sindh group (b) The Gujarat group and (c) The Bengal ports. Whereas the chief sea-port groups in the south consisted (a) The Kanarese group (b) The Malabar group and (c) The Coromandel Coast ports.

The importance of the Indus Delta was due to the port Lahiri Bander which was internally connected by Thatta, Multan, and Lahore by the water routes whereas its export trade by sea was carried on with Arabia and Persia, particularly with Ormuz. Towards the end of the sixteenth century it lost much of its importance with the fall of Ormuz.

The chief seaports under the Gujarat group were Cambay, Broach and Surat which traded with Arabia, Africa and indirectly with Europe in the west and with the Straits of Malacca in the east in trade items as textiles, metals, spices and luxury goods. In spite of being under Mughal control, their sea-borne trade was dominated by the Portuguese who had owned two ports, Daman and Diu, at the southern point of the Gujarat group and fortified them thus bottling up the shipping at Cambay, Broach and Surat.

As the water in the Cambay Gulf was shallow, large trading vessels could enter it only at great peril, and therefore the merchandise was generally unloaded at Diu or Ghoga which was under the Portuguese hold, and was then carried to the ports in the Gulf through shallow water by flotillas of small vessels called tauri or ghurab. The ships laden with cargoes from Cambay used to sail to distant places such as Mombasa and Zanzibar on the African coast as well as to the Persian Gulf. It was visited by many vessels from different foreign countries. Ships from Cambay also

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158 India at the Death of Akbar, op. cit., p. 204.
160 India at the Death of Akbar, op. cit., p. 205.
sailed to Bantam and Malacca touching *en route* Chaul, Goa and the Bengal coast.  

The exports of Cambay included silk textiles, quilts, carpets, indigo, paper, leather goods, opium, ginger, sugar, drugs, iron, hides, myrobolans, asafoetida and precious stones. The imports comprised velvets, sandalwood, vermilion, Damisqui, rose water, China silk, Ethiopian slaves, gold, silver, copper, and horses. Akbar levied 2½% customs duty on these goods and subsequently it was raised to 3½%.

Surat, another important seaport of the Gujarat group, assumed great importance as an emporium towards the end of the sixteenth century. It was a walled town with an impregnable fort built within the wall. The wall had seven gates. The Surat harbour was located at a distance of three miles up the Tapi River, which was navigable for vessels weighing up to 50 tons.

One of the specialties of this port was that every year the *Haj* pilgrims sailed from Surat to Mecca carrying much merchandise with them, and while coming back brought in exchange silver, gold, treasure and other commodities. Thus the voyage of the *Haj* pilgrims achieved the twin purposes of pilgrimage and commerce. Early in the seventeenth century the Dutch and the English trading companies were firmly entrenched in the Surat port. These companies shipped Indian goods abroad and unloaded foreign goods at Surat when they were sent to their branches inland, where they were disposed of by selling to Indian merchants and customers. Surat became a large store-house for these companies which stored the goods in their factories before they were sent either to foreign countries or to their branch offices inland for further distribution. Surat also served as an exchange market for the goods of Hindustan and South India. Custom duties were levied on the imports and exports at various rates at different times, and a separate customs officer was appointed for looking after the matters relating to transit dues, as distinct from the *Kotwal* of Governor of Gujarat.

In the Bengal group there were principally three ports, Satgaon, Hugli, and

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166 Peter Mundy, *op. cit.*, II, p. 29.
169 *Early Travels in India, op. cit.*, p. 300.
Sripur. Barbosa speaks of a seaport called Bengaia on the Bengal sea-coast, and it is generally identified with Satgaon situated up the river Hugli. Large ships could not be anchored here from the sixteenth century necessitating ships to be anchored at Betor, and the unloaded goods to be carried to Satgaon in flotillas of small boats. Satgaon was visited by mercantile ships from China, Arabia, Armenia and Persia. From Satgaon were exported cotton and silk stuffs, ginger, myrabolans, long pepper, lemons and the like.

Hugli also located on the bank of the Ganges, was at a distance of half a kos or one mile from Satgaon. Hugli was in the beginning dominated and controlled by the Portuguese, who were granted this port by the Mughal emperor. The ships laden with merchandise comprising silks, carpets of Jaunpur, quilts, tent materials, amerties, sugar, rice, ghee, indigo, long pepper and other articles, bound for the western countries such as Persia and Arabia and the eastern countries like Malacca and China, used to sail from Hugli. The imports included costly textile stuffs such as velvets, brocades, damasks and satins, metals like copper and tin, precious stones like jewels and pearls, spices like cloves, nutmeg and mace, piece of furniture, sandalwood and other sundry goods. From Hugli the goods were sent up overland to Hindustan and South India.

The ports of the Kanarese group extended from Goa in the north to Mt. Delli in the south, and included such important harbours as Mirjan, Honnavar, Bhatkal, Barkur, Basrur, Mangalore and Kumbla.

According to Barbosa this harbour (Goa) was exceedingly good, and hence it had a flourishing trade. The rulers received much revenue from the trade of Goa. The horses of good breed constituted a very important item of the import trade Vijayanagara, and they were imported through Goa. Every year many ships laden with horses came to Goa from Ormuz and these were purchased by the merchants of Vijayanagara and the Deccan. In return the Ormuz ships carried from Goa cargoes of rice in large quantities, sugar, iron, pepper, ginger, various kinds of spices and drugs. Goa was also visited by ships laden with merchandise from Mecca and Aden. Its coastal trade was carried on by ships coming from Malabar, Chaul, Dabhol and

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173 Ibid.
175 Ibid, p. 195
176 Ibid, 195, 214
Goa, though the starting point of the Kanarese group, lay outside it. The first seaport of this group was Mirjan situated on the bank of the river of the same name. The Malabar vessels called Zambuquos brought here cocoanuts, coconut oil and jaggery in large quantities and carried away in return black coarse rice. Honnavar traded with Malabar in black rice, cocoanuts, coconut oil, palm-sugar and palm-wine.

Bhatkal was a seaport of considerable importance. "It was a very noble city of India.....walled and very beautiful and almost a mile distant from the sea. Its king is subject to the king of Narasinga." It was a large town of very great trade in merchandise, inhabited by many Moors and Gentiles, who were a commercial people. Its principal exports to Ormuz consisted of white rice, powdered sugar and iron. Spices were carried by the ships of Moors bound for Mecca. The Malabaris purchased from here loads of iron and sugar. The Ormuz ships brought to Bhatkal every year large numbers of horses and pearls. The Malabaris sold here palm-sugar, cocoanuts, coconut oil, palm-wine, large quantities of pepper and drugs. The other imports consisted of copper used of coinage, for making cooking pots and other utensils, quicksilver, vermilion dye, coral, alum and ivory. But in the times of Alexander Hamilton, the former glory and grandeur of this port had vanished and its importance was considerably diminished. The remains in the city of Bhatkal, says Alexander Hamilton, showed that it must have been a large and flourishing city formerly. When the traveller visited it there was nothing left of its former splendor, except ten or eleven small temples covered with copper and stone. The country yielded a good deal of pepper. The English Company had built their factory there.

The port of Honnavar was a notable town since a very long time. Honnavar literally means "a golden village". The River on which it stood was the Sarasvati. Pietro Della Valle, describing the port in 1629 A.D. Writes, "Onar is a small place by the sea-side, but a good port of indifferent capacity, which is formed by two arms of rivers which running one Southward and the other Northward meet at the Fortress, and are discharged with one mouth into the Sea."

178 Varthema, op. cit., p. 119.
Another city of considerable commercial importance in the coastland was Basrur, which, standing as it did on the old embouchure of the Kundapur River in olden days had become a centre of traffic from where men traded with distant lands like Arabia and Egypt. Husked and cleaned good rice was exported in large quantities from Barkur and Basrur to Malabar, Ormuz, Aden, Xaer, Cannanore and Calicut, and the imports consisted of copper, coconuts and molasses.

Mangalore was the greatest mart for trade in all the Kanara dominions though it had lost much of its importance towards the close of the 17th century. The chief exports of Mangalore to Aden and Malabar were black rice, which was "better and more wholesome than the white," and pepper. From Kumbla likewise was exported black rice to the Maldive Islands and Malabar. In return it got coir made out of the husks of coconut from the Maldive Islands. In general it may be said that the Kanarese group of seaports traded with Malabar, Maldive Islands, Arabia, Persia, Aden, Ormuz and Mecca, in such commodities as rice, pepper, coconut oil, coir, jaggery, sugar, iron, copper, horses and pearl.

The Malabar group consisted of a greater number of ports, as many as twenty-five, lying between Mt. Delli in the north and Cape Comorin in the south. The volume of trade from these ports also was more than that from the Kanarese ports. The Malabar group, whose chief port was Cochin, had trade relations with six foreign markets located in Africa, Europe, Arabia, Persia, Ceylon and South-east Asia. The chief trading centres on the east African coast were Sofala, Mozambique, Mombasa and Magadoxo. The exports from Malabar to these trade centres were textiles, spices, drugs and provisions. In return these African ports shipped to Malabar gold "which was the real foundation of the trade with Sofala and Mozambique", ivory, amber, ebony and slaves.

To Persia, whose chief seaport was Ormuz came ships from Malabar laden with cotton fabrics, sugar, pepper and other spices. Malabar received from these markets coined silver, horses, pearls and silk fabrics. The markets in South-east Asia for Indian foreign trade were Malacca, Java, Sumatra, Moluccas, Banda, Borneo and Celebes. The Indian exports were mainly the textiles and some other goods. In the list of imports spices came first, followed by gold, China goods, drugs and perfumes. From Malacca were imported porcelain goods, lacquered ware, camphor and perfumes. Pepper and gold came from Java and Sumatra. Gold was also available from Borneo and Celebes. Cloves were furnished by the Moluccas, and mace and
The chief seaports of the Malabar group were Cannanore, Dharmapattanam, Calicut, Cochin, Kayankolam, and Quilon. Cannanore or Kannanur or simply Kannur was a port of considerable importance. Its king bore the title of Kolattiri. The rich merchants of this port possessed their own ships in which they traded with Dabhol, Chaul, Goa, Cambay, the Coromandel Coast, Ceylon, the Maldive Islands, Banda and Oman. It was visited by as many as 200 ships every year. Horses were imported from Persia. The merchants of Dharmapattanam likewise were very rich and owned many ships.

The ruler of the kingdom of Calicut was known as Zamorin. The merchants of Calicut built in the city "keeled ships of a thousand and a thousand and two hundred bahares burden." Every year they exported to the Red Sea, Aden, Mecca and Jidda in ten or fifteen of their ships pepper, ginger, cinnamon, cardamoms, myrobolans, tamarinds, canafistula, different kinds of precious stones, seed pearls, musk, ambergris, rhubarb, aloes-wood, cotton stuffs, and porcelains. The ships of Calicut brought from Jidda copper, quicksilver, vermillion, coral, saffron, coloured velvets, rosewater, knives, coloured camlets, gold, silver and many other goods. This trade, says Barbosa, made the merchants very wealthy. The foreign merchants accompanied these ships on their return voyage to India, and settled here only engaged chiefly in shipbuilding and commerce.

The port of Cochin traded in arecanuts, cocos, pepper, jaggery, and palm-sugar with the Coromandel Coast, Dabhol, Chaul and Cambay. In this country grew ginger, cardamoms, myrabolans, canafistula, zerumba, zerodary and wild cinnamon. The Portuguese had a fine fortress at Cochin where ships were built and repaired. The ships built were generally of the type of galleys and caravels. Large quantities of pepper grown here, and many other spices and drugs reaching here from Malacca were made up into cargoes sent in ships to Portugal every year.

Quilon, the southern-most seaport of importance in the Malabar group, had early developed a good trade with the East, especially with China. It had become an entrepot for the Chinese goods. The Chinese merchants carrying goods for the western
markets used to halt at Quilon. Cochin also shipped its own goods to Aden. The Moors and Hindus of this place were great traders and had their own trading vessels. They exported a variety of goods to Ceylon, the Coromandel Coast, Bengala, Malacca, Sumatra and Pegu, but not to Cambay. Pepper was a chief article of trade here, of which Quilon had large quantities.

The chief ports of Choromandel group consisted Kayal, Negapatam, Mailapur, Pulicat and Masulipatam. The principal foreign markets for the trade of this group were Ceylon, Pegu, Malacca, Sumatra, and China. Kayal was famous for its pearls. The merchants of this place and of the Choromandel Coast were known as Chattis or Settis who were men of high standing and traded in sea-pearls and other precious stones. Kayal was visited by trading ships coming from Malabar and Bengala. Kayal at this time was not subject to Vijayanagar. Mailapur seems to have been a port of some importance in early medieval times.

Pulicat, the northernmost port in this group, was certainly a flourishing emporium. Not only by sea, but also by land came many traders to the market of Pulicat. From Pegu were exported to Pulicat large quantities of rubies, spinels and musk. And they were quite cheap here. Pulicat produced abundance of printed cotton stuffs, which were exported to Malacca, Pegu, Sumatra, Malabar and Gujarat. It imported from Cambay, Malabar and Mecca copper, quicksilver, vermillion, Cambay wares, dyes and grain, Mecca velvets and rosewater.

Masulipatam was the important port from which ships sailed to the coasts of Bengal, Arakan, Pegu and Tenasserim, laden with all sorts of cotton cloths, glass, iron, cotton yarn, both red and white; tobacco and cowries, used as money in Bengal and Arakan, and also some spices and sandalwood. Linschoten has referred to the cotton fabrics of Negapatam, San Thome and Masulipatam in 1595. The Shah of Golconda agreed to supply annually several thousand pieces of red cotton stuffs to the Shah of Persia for the latter's army by sea and controlled the trade. Hence the Dutch found difficulty in procuring red cotton cloth through the middlemen at Petapoly (1607-08). Subsequently in the 17th century Masulipatam had to face competition from the English in Madras and the Armenians in San Thome. But it possessed unquestioned importance as a port of call for all Indian ships moving in and out of Bengal.

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188 Barbosa, op. cit., Vol. II, pp. 97, 123, 125, 130-32.
Internal Trade

The internal trade in India was equally brisk as compared to the foreign trade of the time which is amply evidenced by the foreign travellers. Internal trade played the role to make available the requirements of the peoples within a region also that were produced or found in other regions owing to the different climatic conditions and natural resources found in different parts of the country. Thus internal trade was of two types (i) Intra-local trade and (ii) Inter-regional trade.

Intra-local Trade

The Intra-local trade when held at the lower level at villages which were self-sufficient and the markets things of day-to-day consumption such as salt, edible oil, ghee, spices, vegetables, thread, coarse cloth, agricultural implements and ordinary utensils were generally available, and were exchanged according to the requirements of the people known as barter system. Thus, the cereals and other grains were exchanged for the non-perishable articles of daily use of farmers from the village Banian in the weekly market or sometimes more market days in a week. "Even in the smallest villages, rice, flour, butter, milk, beans and other vegetables, sugar and other sweetmeats, dry and liquid can be procured in abundance." The village markets were wholesale markets Unlike the bazars which were generally retail markets.

The intra-local trade in towns such as Agra, Delhi, Patna, Surat, Goa and Hugli were in prevalence. All these towns had several markets or bazaars, besides the one which was chief or great baazar. In baazar at Surat, it was difficult to pass through the multitude of Bannias and other Merchants that expose their good. Fryer observes, "Being more like pedlars stalls, we crossed several bazzars, which yielded sustenance to many mouths." The producers like the textile weavers marketed their own products. The chief feature of intra-local trade in towns was availability of a particular product in a particular centre.

Inter-local trade

The inter-regional requirements of articles were fulfilled by this type. The overproduction or the underproduction of certain articles in one region was the major factor responsible for inter-regional trade. Kashmir was the manufacturer of prominent luxury goods which were in use in every part of India. The iron from Gwalior mines was used to produce 'numerous articles' which were sent to the principal cities of the Mughal Empire. Likewise the abundance of tobacco at Burhanpur was exported to other parts in India. The main industrial and commercial centres were Delhi, Lahore, Punjab, Agra, Ajmer, Gujarat, Banaras, Patna, Bengal, Orissa and Kashmir.

Delhi being situated on the bank of river Jamuna was well connected through river and also. The rich market of Delhi displays the fine cloth, silk, brocade, butter, piles of baskets filled with grains, rich fruit shops supplied with dry fruits from Persia, Balkh, Bokhara and Samarkand.

Lahore was described as, "second to none either in Asia or in Europe" in the days of its glory. "Lahore and Multan emerged as important bustling centres of trade and commerce". The traders of India went to Kabul and Multan to buy these articles of trade.

Punjab was an important centre of inland import and export of various goods. The articles of exports included cotton, silk, woollen fabrics, beads, borax, lac, sealing wax etc.

Agra being the capital of the Mughals during this period was the most developed and flourishing trade centre of Northern India. There was a brisk trade on and along the Ganges and Jamuna up to Agra. Agra imported raw silk and sugar from Bengal and Patna and exported provisions which included rice, wheat and ghee from eastern provinces without which it was said, it could not have fed itself. Agra exported salt, cotton and opium to Bengal and sugar, wheat and Bengal silk to Gujarat.

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193 Bernier, op. cit., p. 492.
197 Monserrate, op. cit., pp. 159-60.
198 India at the Death of Akbar, op. cit., p. 219.
Ajmer produced salt and saltpeter as the chief articles of trade. "The saltpeter was carried to the seaport town and especially to Surat where the Europeans and others bought it". 202

Gujarat was famous for its production of fine cloth. The varieties included the silver, gold and flowered silk. 203 The silk clothes manufactured in Gujarat were sold all over India. 204 It imported silk from Bengal. Other than cloth Gujarat imported "wheat and other food grains from Malwa and Ajmer and rice from Dakhin. Rice was also brought by sea from Malabar". The exports of Gujarat included cotton, opium to Kerala, tobacco to Thatta. 205 Ahmadabad occupied an important place in the commercial field of India from the early seventeenth century. The vast hinterland of Ahmadabad provided good quantity of calicoes and other goods to the different parts of Northern India. Baroach and Surat were its main trading centres. "The commodities that are most traded in at Ahmadabad are satin, velvets, taffetas and tapestries with gold, silk and woolen gowns, cotton clothes are sold there also; but they come from Lahore and Delhi; they export from thence great quantities of Indigo, dried and preserved ginger; sugar, cumin, lac, mirabolans, tamarind, opium, saltpeter and honey". 206

The city of Banaras was famous for its gold and silver work which was not only consumed by the local population, but was an article of Indian export. It had trade links with towns like Agra, Delhi, Patna and Bengal.

Patna was also an important centre of trade. It was quite popular for the fine cotton and silk cloth which piled the market shops. Quite a considerable quantity of saltpeter was produced here which was stored in Bengal. Bottles were also made and cups of clay sometimes finer than glass and even lighter than paper were carried all over the world. 207

Bengal topped the list of inter-regional imports and exports in Northern India. It may be considered as the richest province from the point of view of trade. Bengal traded through its "important trade routes, with Coromandel and the Malabar coasts, Konkan and Gujarat. It had trade links with Agra, Banaras, Punjab, Lahore and other

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202 Thevenot, op. cit., p. 74.
206 Thevenot, op. cit., p. 17.
207 Manucci, op. cit., Vol. II, p. 84.
Sugar was manufactured in abundance. Cotton and especially silk cloth manufactured in Bengal was of world fame. It was also "a principal emporium of saltpeter; a prodigious quantity was imported from Patna, carried down the Ganges. It is from Bengal that the best gul-lac, opium, wax, civet, long pepper and various drugs are obtained and butter is in such a plenty, that although it be a bulky article of export, yet it is sent by sea to numerous places". It seems that Bengal had sufficient articles of export within India. Its richness in cultivation and favorable climate with huge quantity of silk-cloth production made it famous all over the world. Rice and salt were other important articles of inter-regional trade of Bengal.

Bengal not only sent its articles of trade to different parts of India, it also imported goods from various parts of India; ships arrived from the Coromandel coast loaded with copper, zinc, tin, tobacco, spices and the famous chintz of Masulipatam, from Kashmir they brought wool, from the North-west province salt, opium, tin, carpets and other goods; from the Malabar coast pepper and other things.

Dacca was the capital and the largest town of Bengal province. The muslin manufactured at Dacca was sometimes so thin and fine that many yards of it could pass through a ring. Dacca had its trade relations with Patna, Benaras, Delhi and Agra and other parts of Northern India. Its main trading centres were Hariharpur and Balasore. Other centres of Bengal where considerable trade was carried on were, Sonargaon, Chittagon, Hoogly, Kasimbazar and Murshidabad. All these centres were mainly famous for the fine white and silken cloth production. Besides cloth, foodstuffs like rice and sugar were also important articles of export there.

Orissa had also developed inter-regional trade with other parts of Northern India. Its main production was fine cloth. Orissa had inland trade relations with Chromandel and Malabar Coast. Both Hindu and Muslim merchants of Orissa had a dominant role in the trade activities. They traded with rice, silk and ivory also.

Kashmir had enough of wool and wooden goods to meet the demands of different parts of India.

In South India also the internal trade was going in between Cambay, Bhatkal, Mangalore, Malabar, Cochin, Kayal, Pulicat, Motupalli and Masulipatam. Rice,

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208 Chicherov, op. cit., p. 105-106.
210 Chicherov, op. cit., p. 106.
211 Ibid. p. 105-06
coconuts, jaggery and other commodities went from Malabar to Cambay and Surat, from where cotton and silk stuffs, etc. were brought to the Malabar Coast. Malabar also sent its products to Kayal, Negapatam, Pulicat, Motupalli and Masulipatam round Cape Comorin. In return Kayal despatched seed-pearls, Pulicat textiles, Motupalli and Masulipatam diamonds and precious stones to Malabar, Goa, Surat and Cambay and also to the Bengal Coast.

**Transport System**

Transport and communication transforms the organization in industry, creates great cities and raises the standard of living, promotes culture and unites politically. Thus, the significance of transport and communication is obvious in the overall development of any socio-economic and cultural life. The transport and communication system in India during the sixteenth and the seventeenth century was not as advanced as it is today. There were no metalled roads.\(^{112}\) Even the insecurity on routes are highlighted by the sources on and off more especially by the foreign travellers. Sometimes bad arrangements at *serais* and even non-availability of *serais* were the common grievances of the travellers. In spite of these it is generally known that the routes and transports were adequate for the need of people and administration of the country.

The transportation system was similar in North and South India. Unfortunately, there is a dearth of evidences in the contemporary sources regarding this topic for South India. The foreign travellers such as Barbosa, Paes, Pietro Della Valle gives some stray pieces of information while describing the routes of their journey and notable places on their way. The transportation system under the Great Mughals finds much mention in the travelogues of the period based on the first hand experiences of the period.

The transportation was performed by two ways i.e., (a) land transport and (b) water transport. Land transport was made by different land routes available. These routes formed the artilleries of the empire connecting one region with the other enhancing transportation and communication.

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\(^{112}\) Pant, *op. cit.*, p. 57.
Land Transport

The most significant route followed during the reign of Akbar was from Surat-Burhanpur-Gwalior-Aholpur-Agra-Delhi-Lahore-Kabul-China-(Lahore-Multan-Kandhar-Persia).

Another route followed from Surat to Agra during the period was Surat-Broach-Baroda-Ahmadabad-Ahmadabad-Roha-Bagra-Merta-Ajmer-Bayana-Fatehpur Sikri-Agra. Agra was connected to Bengal via Benaras and Patna in the manner, Agra-Etawah-Allahabad-Benaras-Mughal Serai-Patna-Bengal. This route was followed by Ralph Fitch for reaching Agra. Agra was considered the heart of the empire.

During the reign of Jahangir the route followed for Agra to Surat and vice-versa was as follows-Surat-Burhanpur-Dholpur-Agra and Agra-Fatehpur Sikri-Sikandrabad-Hindaun-Chandangaon-Ahmadabad. De Laet had described the route from Agra to Jaunpur and also from Agra to Ajmer. The above routes were also testified later by other travellers of the time like Roe, Jourdain, Pelsaert, Mundy, Tavernier and some others.

During the reign of Shahjahan Peter Mundy had even recorded the distance between Agra to Surat as 414 kos. Tavernier had given the most elaborate and significant account regarding the routes followed scattered in his account. The routes in Tavernier’s account cover almost the whole range of North and South India and form the basis of many scholarly modern works. However, with some limitations Tavernier’s account on the routes followed remains the most outstanding contribution on the subject. The routes from Aurangabad to Hyderabad, Burhanpur to Hyderabad and Surat to Aurangabad have been referred by Thevenot. Abbe Carre describes the routes from Bijapur to Hyderabad, Chaul to Goa and Madras to Hyderabad. Careri and Master refer to the routes from Goa to Galgala and Madras to Masulipatnam via Nizampattam.
At Vijayanagar in South India there was a road to Goa via Bankapur. There was a land route from Goa–Bhatkal–Honnavar–Bankapur–Banavasi–Ranebennur–Hospet–Vijayanagara.\textsuperscript{224} There is no clear picture regarding the highways in the South.

Security on the routes was the much talked issue by most of the travellers of the time especially those who visited North India i.e., the Mughal Empire. Many contemporary sources show that many routes were infested with gangs of thieves and robbers. In the reign of Akbar, Father Monserrate came across a large number of thieves on his journey from Surat to Agra.\textsuperscript{225} Ralph Fitch recorded the presence of bandits in the region of Patna.\textsuperscript{226} Abul Fazl also mentions that many routes in the Deccan were unsafe. In the reign of Jahangir, William Hawkins observed that “the country is so full of outlaws and theves that almost a man cannot stirre out of doores throughout all his dominions without great forces”.\textsuperscript{227} William Finch in his journey from Agra to Ahmadabad found the route infested with thieves at several places such as at Bhadwar, Sunenarra (Sunera), Sipri etc.\textsuperscript{228} On the way he came across Gracias near Sunenarra in Malwa and Koli’s near Ahmedabad who were “thievish people”.\textsuperscript{229} He concluded his observation in this way “from Geloure to this citie is all a sandy woody countrey, full of theevish beastly men and of mankind....”\textsuperscript{230} He found the way between Surat and Cambay “theevish” also.\textsuperscript{231} Finch also heard the news of sacking of Kabul by the Potan robbers.\textsuperscript{232} Withington himself was robbed on several occasions. They even took away his cloths and he had to beg for food.\textsuperscript{233}

Peter Mundy who visited India during 1628-34 presents a picture of Indian routes infested by robbers and rebels. In coming from Agra to Surat in 1633 he records several incidents of robberies and illegal exactions. Near Sironj he records a place where the Dutch Caphila was assaulted by bandits.\textsuperscript{234} Mandelslo observed that due to the presence of 'Rasboote', the road between Ahmadabad and Cambay had

\textsuperscript{224} A Forgotten Empire, op. cit., p. 119.
\textsuperscript{225} Monserrate, op. cit., p. 13.
\textsuperscript{226} Early Travels in India, op. cit., p. 23.
\textsuperscript{227} Ibid. pp. 113-114.
\textsuperscript{228} Ibid. pp. 136-137, 144.
\textsuperscript{229} Ibid. pp. 142-143, 173.
\textsuperscript{230} Ibid. p. 174.
\textsuperscript{231} Ibid.
\textsuperscript{232} Ibid. p. 167.
\textsuperscript{233} Ibid. pp. 211-216.
\textsuperscript{234} Mundy, op. cit., Vol. II, p. 265.
become very dangerous. He met a caravan from whom the highwaymen had extorted one hundred rupees and again Mandelslo encountered a party of Rajput robbers near Anklessor. An English caravan from Lucknow was robbed at Jettenore, where three carts was looted, causing a loss of at least 5000 rupees. Thevenot who visited India during 1666-67 informs us that the Gracias (girasyas) inhabiting the villages from Cambay to Broach, make their living by robbery. The "Thugs" in the region of Delhi are "the Cunningest Robbers in the world". Hamilton encountered Baluchi and Makran robbers in the regions of Sindh.

Another type of problem that travellers faced on the route was the illegal exactions that the jagirdars and the zamindars often realized from them. Aurangzeb himself was so hurt by the collection of rahdari that he said "this is not rahdari but rahzani (highway robbery)".

Faced with such insecurity, merchants had to make different arrangements for their protection. Often they would take guards at their own cost. William Hawkins, in 1608, going from Surat to Agra took 'Pattan' (Pathan) soldiers. Mundy hired horsemen and footmen at various places during his journey from Agra to Ahmadabad. Mandelslo during his journey from Surat to Ahmadabad, met an English caravan consisting of 12 English armed soldiers and as many Indians for conducting the caravan in safety in view of the threat from the Rajput highwaymen who frequented the country and lived as robbers. Hamilton records, how with the help of "thirteen best firemen" he forced the Baloch and the Makran robbers to retreat, during his journey from Larribandar to Thatta.

Another arrangement for security on the route was to undertake journey in a large caphila or caravan. Withington records that on the way from Surat to Cambay at a place Barengoo (Bareja) the caphila of Cambay met and kept company for fear of

\[243\] *Early Travels in India*, *op. cit.*, p. 76.
the theeves.\textsuperscript{247} Della Valle travelled from Cambay to Ahmadabad with a \textit{qafila} which consisted of above a hundred coaches, besides footmen and horsemen and great laden wagons.\textsuperscript{248} Thomas Roe met with 10,000 bullocks in one troop laden with corn. Mundy met a \textit{qafila} of 800 camels near Sironj. The Banjara caravan had upto 20,000 pack oxen.\textsuperscript{249} Thomas Roe met with 10,000 bullocks in one troop laden with corn.\textsuperscript{250} The size apparently inhibited attacks.

The system of \textit{hundi} (bill) and \textit{bima} (insurance) was an important private arrangement in Mughal India.\textsuperscript{251} Suraj Rai describes the \textit{hundi} enthusiastically, regarding it as one of the wonders of India. Describing it he says, “if due to danger on the routes any person cannot convey the sums of money to a near or distant place, the \textit{Sarraf} take it from him and give him a piece of paper written in \textit{Hindi} characters without a seal or envelope addressed to their agents (\textit{Gumashta-na}) who have their shops in various towns and place throughout these lands, and this paper in the language of this country is known as ‘\textit{hundi}’. The \textit{gumashtas} of these honest dealers pay out money in accordance with that document without any argument or objection”. He further informs us that the \textit{hindi} piece of paper was transferable.\textsuperscript{252} Abul Fazl has also described this system for the transition of money. This institution was so efficient that even the Imperial revenue was transmitted through it. Mandelslo make special reference of the facility with which bills of exchange could be secured at Ahmadabad by merchants from the Banya shoroffs, who had their correspondents in all parts of Asia and also as far as Constantinople in Europe.\textsuperscript{253} As to \textit{bima} were two types of insurance. One type of insurance only covered the risk of loss on the way, and in the other type the insurer not only took the custody of the goods but also arranged for their safe conveyance. Mundy mentions the professional carters ‘\textit{adowyaes}’ who took so much money on hiring that they could pay the transit dues etc. on their own risk for the safe conveyance of the goods.\textsuperscript{254}

The Mughal emperors were not indifferent to state of security and they adopted several measures to insure the peace and security on the routes. They held

\textsuperscript{247} Early Travels in India, op. cit., p. 206.
\textsuperscript{248} Della Valle, op. cit., Vol. I, p. 93.
\textsuperscript{249} Mundy, op. cit., Vol. II, p. 9.
\textsuperscript{250} Roe, op. cit., p. 67.
\textsuperscript{252} Bhandari, Sujan Rai, \textit{Khulasatul Tarikh}, ed. Zafar Hasan, Delhi, 1918, pp. 25.
\textsuperscript{253} Mandelslo, op. cit., pp. 27-28.
\textsuperscript{254} Mundy, op. cit., Vol. II, pp. 278, 291.
responsible all the officers such as subahdar, faujdar, kotwal, thanadar, jagirdars, etc. for all occurrences of disorder in their jurisdiction. If a case of robbery or theft was reported and the offenders were not traced, it was the responsibility of the officers to make up the loss of the victim. Most of the contemporary travellers and historians have recorded several incidences of punishment given to the outlaws.

The system of serais or walled lodgings and store houses designed for the travelers was one of the important arrangements for the safety on routes throughout the Mughal Empire. Some of these were like fortified palaces with bastions and strong gates. Most of them were built of stone or of brick and some of them even of mud. Some of them were in square like cloister in monastery and even some of them were built like palaces. The sarais were divided into dwelling rooms and the chambers for the attendants, who dressed the victuals to the travellers if they pleased only paying nominal charges for both men and animals. The gates were closed at sunset and opened only in the morning. Before closing and opening the gates the person deputed for this, cried loudly giving three warnings to the travellers to look after their things. If anyone found that he had lost his things, the gate remained closed till the thing was recovered.

The experiences of some travellers and merchants, like Manrique, Tavernier, Della Valle and Banarsidas etc. shows that journeys on the routes were not dangerous. The routes passing entirely through the imperial land were safer in comparison to the routes passing through the region of the tributary chiefs and neighboring kingdoms. Tavernier found that the route from Agra to Surat by way of Sironj and Burhanpur was safer than the route passing through the territories of the Chieftains. The Agra-Patna route was 'not very dangerous for robbers'. The experience of Thevenot in the kingdom of Golkunda, shows that the Mughal routes were more safer than other

262 Tavernier, op. cit., p. 31.
contemporary kingdoms. But Della Valle says that the highways in the country of Venkatappa Nayaka were very secure, and that on either side of the road leading to Ikkeri there were "such large and goodly trees, such spacious places underneath for shade and the place so spacious by the thickness of the boughs on high that indeed I never saw in my days a fairer natural grove."  

The various means of transportation were elephants, camels, bullocks, bullock carts, pack oxen, asses, horses and palaquins (litters) for both the centuries as recorded by the travellers. The use of elephants as a means of conveyance was reserved for the sovereign or to those whom he granted permission to use them.  

Except for elephants the other means were commonly used by the peoples for different purposes. Terry writes, "The inferior sort of people ride on oxen, horses, mules, camels, or dromedaries or else in slight coaches worth two wheels."  

At Agra goods were being sent down to Surat in huge camel caravans. Bullocks were used differently in riding which was common practice so was their employment as beast of burden by individuals, traders and merchants as on an average these could carry four great mounds of weight each. The oxen were described as "fair, large, white with two bunches like some camels, and run, and run, and gallop like horses." Fryer had also a great praise for the Indian oxen. Thomas Roe mentions the joyride of Emperor Jahangir with his beloved Nurjahan in an open wagon thus, "drawn by bullocks, himself carter and no man nearre."  

Mules and asses were commonly employed as beast of burden due to their less expense also conveyance of goods particularly through uneven paths were well suited for the use of lower segment of population for both purposes. Horses were at times harnessed in wheeled carriages.

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264 Thevenot, op. cit., p. 31.  
267 Early Travels in India, op. cit., p. 106.  
269 Mundy, op. cit., Vol. II, p. 95.  
271 Early Travels in India, op. cit., p. 311.  
273 Jourdain, op. cit., p. 127.  
277 Roe, op. cit., p. 426.  
called ghurbalhal but they were not much in vogue except in Gujarat. The use of horses was very little in transport at that time due to limited availability of horses in India and the very high price of the imported varieties.

Indian "Palanquin" had a special attraction on the foreign travellers as a means of transport discussed by almost all the foreign travellers for both the centuries in north as well as in south India also. Thus, a complete picture can be drawn from the travelogues itself regarding a palanquin which is strongly corroborated by the contemporary sources. (Plate-X).

Water Transport

In the North India there were three chief natural waterways, the Indus, the Ganga-Jumna and the Brahmaputra. First two river systems were used fully. In the South India there were also three important river-systems namely, the Godavari, the Krishna and the Kaveri. But, unlike the river-systems in North India these river-systems had some limitations like they were navigable periodically depending on the monsoon and also their course hindered by many natural obstacles.

All these rivers were employed as means of transport and communication carrying goods in vessels of different sizes depending upon the depth and breadth of the river. Boats and country made little ships were used for carrying trade and travelling on these rivers. The advantages of riverine transport were many like low cost, bulky goods of trade could be transported conveniently, etc.

Domingo Paes, Nuniz, Ralph Fitch, Peter Mundy, Manrique, Fryer, Bowrey, Ovington had mentioned the various types of boats in use at the time. Ralph Fitch in 1583 sailed from Agra to Satgaon in Bengal with 180 boats heavily laden with salt, opium, hinge, lead, carpets, etc., each weighing 400 to 500 tonnes. He mentions a boat called 'Pericose' having 24 or 26 oares to row them. The Thatta sarkar of Sind alone had 40,000 boats of various kinds, large and small. Not only quantity but there was also qualities of boats used during the period. Thomas Bowrey had laid a

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281 Barbosa, op. cit., Vol. I, p. 141. In Cambay, Barbosa says there horse carriages were common.
The various types of boats recorded by Bowrey are as follows. An 'Olocko' was rowed with 4 or 6 oares. A 'Budgaroo' was a sort of pleasure boat used by the English and the Dutch chiefs also by Moors Grandees or Governors. A 'Purgo' was another type of boat which was mostly used between Hugli and Balasore. These boats were made strong in order to carry 'sufficient load' for ships. A 'Boora' was comparatively a 'lighter boat' which was rowed with 20 or 30 oares. These boats were used for carrying saltpetre and other commodity from Hugli downwards. A 'Patella' was also used for carrying saltpetre and other goods down from Patna. It was very flat and strong. Besides these, Bowrey had also recorded the use of two types of lighter boats called a 'massoola' and a 'cattamaran' at the Choromandel Coast.

John Fryer had travelled in a massoola in 1673 from Hugli to Patna and has also given a good account of its structure and strength. Peter Mundy saw boats known as barges on August 12, 1632 at Jamuna. They were very light and mostly rowed between Agra and Etawa then from there to Patna and Bengal. They were usually laden with salt. They were generally 300 or 400 tons a piece both sides being extraordinary high used during the rainy season when the river was full and in swift current. Manrique used a rowing boat called 'Porca' which was common at Hijli. 'Dingi' was other small boat in use made from a single trunk. 'Baloan' was also a rowing vessel used in many parts of the Indies. The workmanship of Indians in ship-building was wonderful. The Indian teak used by Indians in building ships was better than the English Oak.

Paes and Nuniz mentions the use of small boats called 'basket boats' on the rivers of South India. These basket boats were made of cane inside and were covered with leather outside rowed with a kind of paddle were big and strong enough to carry 15-20 persons. Paes remarks, "in all the kingdom where there are streams there are no other boats but these."