The region was famous for its cotton manufactures and other related textile industries, indigo, and such precious items as stuffs made of gold and silver and inlay works of precious stones. The principal agricultural produce of the province included: Jowar, Bajra, Rice, Wheat, Gram, Barley, Pulses, Sugarcane, Cotton, Indigo, and tobacco. Besides the province was also rich in mineral deposits of Agate, Carnelian, Saltpetre, Gold, Lead, Silver, Zinc, Copper, Iron, and other such rock produces as Limestone and Lime. Ain-i Akbari described the manufactures and commerce of the province as follows:

Painters, seal engravers, and other handicraftsmen are countless. They lay mother-o-pearl with great skill and make beautiful boxes and inkstands. Stuff worked with gold thread and of the kinds chirah (partli-coloured cloth used for turban), Fotah, Jamahwar (a kind of flowered woollen stuff), Khara (undulated silk cloth), and velvets and brocades are here skilfully manufactured. Imitations of stuff from Turkey, Europe, and Persia are also produced. They make likewise excellent swords and daggers of the kinds Jamdhar and Khapwah, and bows and arrows. There is a brisk trade in jewellery and silver is imported from Turkey and Iraq.¹

The beginning of the seventeenth century saw the commerce and trade of the region burgeoning to unprecedented scales. The Mughal government in the region had by the time attained certain stability, which was missing during the initial years of conquest. The security

along the highways for the travel and transport of men and materials across the country, gave the much needed boast to forging of exchange networks across the subcontinent, thus bringing the markets and ports of the region in closer contact with those in the interiors and also with the ports and markets in West and Southeast Asia.

**OVERSEAS TRADE OF GUJARAT:**

The presence of Gujarati merchants have been noted in almost all of the major ports of west Asia. From Mocha, Aden, Jidda, Socotra in West Asia to Mogadishu on East African Coast, Gujaratis and their influence has been recorded and noted by the European merchants visiting these markets. Even in the inland cities like Sana and Tais, Gujarati presence has been recorded. The Gujarati traders also moved on to the Mediterranean ports, via the red Sea, for we have reference to Henry Middleton sending a letter to Cairo and Aleppo by a Gujarati trader.

However, the Gujarati merchants had competition in form of the Portuguese and the newly arrived English. The Portuguese with their system of cartazes had tried to rein in on the Gujarati shipping and commerce, however were not entirely successful, for the Gujaratis remained an important commercial community across the western corridor of the Indian

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5 Ibid, p. 207.
Ocean, as has been seen above, by the beginning of the seventeenth century. The Gujarati merchants initially tried to oppose the English entry, the arrest of Sir Henry Middleton and his crew at Mocha, and Gujarati complicity behind it, as well as the ill treatment of his crew by the merchants at Surat, are the case in point. He responded by selectively targeting Gujarati ships off the coast of Mocha, and inflicted severe loses. This made Gujarati's realize the English strength, and they saw in the English arrival an opportunity to keep check on the Portuguese. The subsequent engagement and victories of Captain Thomas Best off the coast of Surat convinced Gujarati's of the naval superiority of the English over the Portuguese. They awarded the English by allowing them to settle a factory at Surat, thus marking the beginnings of English presence in Western Indian coast.

The relation between the newly arrived European companies and the mercantile communities in the region could not however remain always cordial. The cracks began to manifest themselves as early as 1618, when the English responded with force after the Gujarati turned down their proposal to carry goods to West Asia, and enter the carrying market between Gujarat and West Asia. The English ambassador to Mughal court, Thomas Roe, in fact ordered English to seize all Gujarati ships carrying Portuguese passes. The Gujarati traders

10 Ibid, p. 131.
11 Ibid
12 William Fawcett (ed.) Letters Received by East India company from its merchants in the East, Vol. 1, p. 169.
14 The details of treaty allowing English to open a factory at Surat, signed between Thomas Best and the governor and merchants of Surat is given in William Foster (ed.) The Voyage of Thomas Best to the East indies, London, 1934, rpt. New Delhi, pp. 31-33.
15 William Foster, English factories in India, 1618-1621, p. 5.
16 Ibid, p. 20.
responded by boycotting the English trade and by deciding not to supply them anything worthwhile for the mocha trade.\textsuperscript{17}

Other European companies, such as the Dutch also tried to emulate English example by attempting to pressurise the local mercantile communities to trade with them.\textsuperscript{18}

The European companies continued to make sporadic attempts on Gujarati ships throughout the early seventeenth century. However, the Europeans were still dependent on Gujarati merchants for credit and money. Thus a middle ground was found in the treaty of 1624, signed by almost all the leading merchants of Surat, which sort of legalized English participation in carrying trade of Gujarat to West Asia, and allowed the Gujarati merchants some respite from depredation activities of the English.\textsuperscript{19}

However, the first major setback to the Gujarati trade with West Asia, occurred with the severe famine of 1630-31, which ravaged Gujarat and the countryside, almost depopulating the manufacturing centres and important cities. However the region recovered soon after and the trade with west Asia picked up. The European piracy though remained a cause of concern for major part of the mid decades of the seventeenth century.

The decade of 1740 saw an apparent setback to the Red Sea trade, with many Gujarati ships returning with their cargoes, due to lack of buyers at Mocha.\textsuperscript{20} The disruption of the Red Sea – Mediterranean link via Cairo due to the Turkish conquests had considerably affected business at Mocha. However, on the flip side there was a movement of bulk of European trade

\textsuperscript{17} Ibid, p. 56.


\textsuperscript{19} William Foster (ed.) \textit{English Factories in India, 1624-1629}, pp. 27-30.

\textsuperscript{20} William Foster (ed.) \textit{English Factories in India, 1637-1641}, p. 19.
to the Persian Gulf, from Red Sea. The English had by this decade began to make considerable progress in the carrying trade of Gujarat as well as emerging as major buyer in Gujarati markets. However, this did not meant a decline for Gujarati shipping, for merchants such as Haji Zahid Beg and Virji Vora, had continued to hold their own in face of European companies, for these merchants continued to command the inland markets and procurement centres in Gujarat and elsewhere, and the English continued to utilize their services which were essential for their survival in Indian market.  

However, the English withdrawal from the Red Sea trade in the 1650s and their closure of factory at Mocha, in face of dwindling trade and profits, had a positive effect on the revival of Gujarati shipping. In 1647 Dutch decided to monopolize the trade to Red Sea and forbade all ships without Dutch passport from entering Red Sea. The English decided to oppose, however could not find any takers among Gujarati merchants willing to ferry goods to Red Sea in English Ships. The English ships remained idle in harbour and for two consecutive years no ship was sent to Mocha.

The English withdrawal gave a boost to local shipping, and with the Dutch soon relaxing control, by 1670s we find considerable Gujarati hold over carrying trade to Red Sea. The English by this time were finding it easier to buy Red Sea goods from local markets in Gujarat.

22 Ibid, p. 144.
23 Ibid, p. 173.
However, the vitality of this trade did not remain so for long. With the emergence of Bombay as an alternate commercial mart in Western India, and the continuous political instability in the hinterland due to the Maratha inroads and general deterioration in law and order situation in the Hinterland, the vital energies of Surat’s and Gujarat’s maritime reach were being sapped. Moreover, the later decades of the seventeenth century saw considerable rise in incidences of Pircay off the Red Sea and Mocha coast. The Arab pirates of the coast of Muskat were the chief wreckers of Gujarati trade in the region.\(^{27}\) The problem was compounded with the entry of interlopers in the Indian seas and their piratical activities. Some of the major hauls of these pirates towards the end of the 17th century were the ships belonging to prominent Surat merchant Abdul Gafur and also one belonging to Aurangzeb himself, which was returning from Jeddah.\(^{28}\)

With the Persian Gulf region, the dynamics of trade and the impact of European competition took slightly different trajectory. The English aid to the Persians in removing the Portuguese from Hormuz, freed the region of Portuguese harassments,\(^{29}\) and the opportunity to assert was seized by both the Persians and the Gujarati traders.

The starting decades of 1630 saw the disruption of overland trade between Persian and Mughal Empire, due to breaking out of hostilities over the control of Kandhahar.\(^{30}\) The entire trade between the two states came to be directed through the ports of Gujarat. The scale of market was big enough to accommodate almost all the rival players in the maritime trade. The

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\(^{29}\) William Foster (ed.) *English Factories in India, 1622-1623*, p. xi.

Dutch soon began to rival English in their carrying trade between Gujarat and Persia. In one instance, the fleet from Surat to Bandar Abbas consisted of nine English ships, six Dutch ships, eleven Gujarati junk and frigates.

However, by the mid decades of the seventeenth century, the conditions of trade in the region suffered huge setbacks, with war breaking out between the English and the Dutch and the Portuguese and the Dutch. Also the Gwadar pirates of the coast of Kutch were becoming more and more enterprising and causing great damage to the shipping in the area. The last three decades of the century did not see any revival in trade links with Bandar Abbas or any other Persian port, due to series of political events which continuously kept the trade ties under curtailment.

However, the picture was not all that bleak for Gujarati merchants by the beginning of the eighteenth century. The Gujarati Muslim merchants had already established themselves strongly in the carrying trade to West Asian ports. The Banya merchants, bankers and moneylenders in the atmosphere of uncertainty which was slowly gripping the country, towards the end of the Aurangzeb’s reign, were able to do flourishing business in hundi and other related means of money transfer and exchange. Ashin Das Gupta had estimated the total value of trade at Surat by the turn of the century to be around Rs. 13 million per annum and the strength of commercial fleet of Muslims was about 112 vessels of medium size capacity.


32 Surendra Gopal, Commerce and Crafts in Gujarat, 16th and 17th centuries: a study in the impact of European Expansion on Pre-Capitalist Economy, New Delhi, p. 43.


34 Ibid, p. 166.

35 William Foster (ed.) English Factories in India, 1655-1660, p. 78.

36 Ashin Das Gupta, Indian Merchants and Decline of Surat, pp. 73-74.
However, the growing Maratha menace in the countryside, along with the increasing piratical activities along the Indian coast, especially of the European interlopers, dealt twin blow to the health of the mercantile communities and their trading activities in the region. The Indian merchant communities lost the security of the hinterland and as the hold over the internal market, and by the mid decades of the 18th century came to be more and more dependent on the European powers to protect and save them from their Indian counterparts, and in fact at times aided in the subjugation of the indigenous political entity by the Europeans as we saw with the case of Surat in the mid of eighteenth century.

MANUFACTURES & INDUSTRIES:

COTTON PRODUCTS:
The region of Gujarat was famous for its cotton products and cotton based weaving industries Van Linschoten mentioned that:

In the land of Cambaia... is made great store of cotton linen of divers sorts, which are called Cannequins (a low priced cloth), Boffetas (Bafta), Iorins, Chaulares and Cotonias, which are like canvas thereof do make sayles and such things, and many other sorts which are good and cheap.\[37\]

Edward Terry had described the process of Cotton plantation and the method of extracting cotton from the plant:

For cotton-wooll they plant seedes, which grow up shrubs like unto our rose bushes. It blowes first into yellow blosome, which falling off there remaies a cod about the bigness of a man's thumbe, in which the substance is moyst and

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yellow, but, as it ripens, it swells bigger till it breake the covering, and so in
short time becomes white as snow, and then they gather it.38

Cotton in the region was available both in raw form as well as finished products in such forms
as Calicoes, Chites, Baftas, sailcloths, carpets, and many others. Such products as Surfás
(table cloths), bedcovers, pillow cases, pocket handkerchiefs, waistcloths much used in Persia
and a sort of veil called Ornis which the women throughout Asia use to put on their heads
wrap about their necks were produced.39

Some of the principal cotton manufacturing and procurement centres in the region were
Broach, Baroda, Ahmadabad, Navasari, among other smaller centres. Tavernier listed Baroda,
Broach and Renonsari (Navasari) as important centres for procuring white cotton cloth.40
Gujarat also supplied unspun cotton, which was generally exported to Red Sea, Hormuz,
Bassora, and sometimes to the island of Sonde (Sunda) and to the Philippines.41 Further
inland, Sironj, Burhanpur and Agra were the areas from where Cotton was procured and
traded in the commercial centres of the region, and supplied to its industries. Sironj and
Burhanpur were also important centres of Manufacture of Chites or Painted cotton cloths and
various associated manufactures.42 Agra and Ahmadabad were also important centres for
procurement of baftas, or cotton cloths requiring dyeing.43

39 Ibid
p. 4
41 Ibid, pp. 6-7.
42 Ibid, p. 4.
43 Ibid, p. 5.
Situated on the mouth of River Narbada, the town of Broach was an important place for the procurement of cotton goods, and had an important weaving and bleaching industry function in its vicinity. Pelsaert wrote about the weaving industry:

The town depends on the weaving industry, and produces the best known fine baftas; all other sorts of cloth, for Mocha, Mozambique, and the South [Java, etc.], are also woven there, as well as in Baroda and other neighbouring places.44

Tavernier also mentioned the industry:

In this place baftas or pieces of long and narrow calico are made in quality; they are very beautiful and closely woven cloth, the price of them ranging from 4 up to 100 rupee.45

P. Della Valle noted that the city was known for its great trade in fine cotton cloth, or calicoes, which were sent to all parts of Asia and also to Europe. The cloth being packed in great bales as big as a Roman coach, for transport on board the English and Dutch vessels. The industry was a source of great wealth to the town and brought in great revenue from the custom duties.46

Baroda was also known for its cotton manufactures and weaving and dyeing industry. Tavernier describes the place as a large town built on a good soil, where there is considerable trade in calicoes.47 François Martin says of Baroda that the town is hill of artisans who

specialize in spinning thread, which is then used by weavers.\textsuperscript{48} He listed Baroda along with Ahmadabad and Nadiad as major centres of cotton production in Gujarat.\textsuperscript{49} The country round Ahmadabad, was known for its cotton manufactures, The towns of Nadiad and Mahmudabad, lying on road to Broach, near Sojitra, were important centres of cotton and indigo production. Mahmudabad was also known for its cotton thread industry.\textsuperscript{50} Thevenot also identified the place with the cotton thread industry, and says that it supplies the greater part of Gujarat, and the neighbouring countries with the produce.\textsuperscript{51}

**INDIGO:**

Indigo was another product of the region, much in demand in international market. Sarkhej was an important centre of production, and almost all the indigo sold at Ahmedabad came from there.\textsuperscript{52} In quality the produce was considered second only to the Bayana indigo sold near Agra. Mandelslo rated the indigo of the place to be best in the country.\textsuperscript{53} Indigo was also produced at 36 leagues from Burhanpur on road to Surat at a large village called Raout (Aravad in Chopra subdivision in Khandesh district), and other small villages in its neighbourhood.\textsuperscript{54} Indigo was also imported from Bengal.\textsuperscript{55}


\textsuperscript{49} Ibid, pp. 816-817

\textsuperscript{50} M.S. Commissariat (ed.) \textit{Mandelslo's Travels}, p. 29.

\textsuperscript{51} S.N. Sen (ed.) \textit{Indian Travels of Thevenot}, p.46.

\textsuperscript{52} ibid, p. 16.

\textsuperscript{53} M.S. Commissariat (ed.) \textit{Mandelslo's Travels}, p. 29.

\textsuperscript{54} J.B Tavernier, Travels, Vol. 2, p. 7.

\textsuperscript{55} Ibid, p. 8.
Indigo was prepared from a plant which was sown every year after the rains, and cut depending on the amount of rainfall around September or early October. On the manner of cutting of crop, the principal authorities of Tavernier and Pelsaert differed on two main accounts. Although agreeing that the crop was harvested thrice, Tavernier recorded that the plant was cut thrice a year. However Pelsaert was of the view that the plant was cut thrice over a period of three years. He named the three crops as Nauti (the first crop), zairie (second crop), and Katel (third crop). Considering that the crop attained full maturity in about 4 months, Tavernier’s assertion regarding three harvestings in a year seemed off mark, and Pelsaert’s more acceptable.

Again on the quality of the produce Tavernier was of the opinion that the first crop produced better quality indigo than the others:

> The first leaf is certainly better than those that follow, the second yielding less by 10 or 12 percent than the first, and third 20 percent less than the second. It is classified by colour, determined when a morsel of the paste is broken. The colour of the indigo made from the first crop is of a violet blue, which is more brilliant and livelier than the others, and that of the second is livelier than the third.

However Pelsaert opined that the second crop produced the best quality: 'The zairie indigo is superior in quality to the nauti, giving a violent infusion.' He further compared the nauti

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57 F. Pelsaert, Remonstrante, p. 10.
60 F. Pelsaert, Remonstrante, p. 11.
crop with a young man yet to attain his prime and vigour, the ziarie with the man in his vigorous prime and katel with an old and descript man. 61

The first cutting took place when the crop was about 2 to 3 feet high and was then cut to within 6 inches of the ground. The second crop was cut in a similar manner around following August. 62 Pelsaert went on to give a complete description of the process of extraction of the dye from the leaves of the plant. Converted into hemp called put, it was allowed to stand for about 16 hours in water, after which the dye, which had gotten mixed in the water settles down. The dye was then taken out and spread on cotton cloths was left to dry, and then converted into balls. The balls were placed in earthen vessels, which were closed tightly to protect it from air and light, so as to prevent it from drying. 63

SILK MANUFACTURE:

The region was also famous for the silk products and manufacturing industry. Ahmadabad was one of the principal manufacturing centres in the region. Pelsaert writing about the Dutch trade at Ahmedabad wrote of the silk manufacture at the place:

Ahmadabad ... receives annually from Agra large quantities of goods, for examples, much Patna silk, is to be manufactured there into ornesines, satins, velvets, and various curious stuffs, so that there is here little trade in Chinese silk manufactures. Carpets are also woven there with an intermixture of silk and gold thread. 64

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63 Ibid
64 Ibid, p. 19.
Manufacture of velvets, embroidered with gold or silver, in the royal factories of Ahmadabad deserves mention for the beautiful pavilions made from the material adorned the imperial court on several occasions. In 1635, Sipahdar Khan, viceroy of Gujarat, sent a velvet pavilion prepared in the government workshop by skilful artists of Gujarat in various artistic designs at an expense of one lac of rupees and gold embroidered velvet canopies with gold silver pillars to the royal presence. Tavernier tells us that the silk in the region was primarily imported from Patna and Bengal, and was then woven into varieties of fabrics, such carpets, embroidered with gold and silver threads, satins of different colours and other cloths of use:

All these silks (from Kasimbazar) are brought to the kingdom of Gujarat and the greater part come to Ahmadabad and Surat, where they are woven into fabrics. Firstly carpets of silk and gold, others of silk, gold and silver, and others altogether of silk, are made in Surat. In the second place, satins with bands of gold and silver, and others of bands of different colours, and others all uniform are made there and it is the same with the taffetas. Thirdly, patoles, which are stuffs of silk, very soft, decorated all over with flowers of different colours are manufactured at Ahmadabad.

It town of Pattan was another important centre for silk manufacture, of which Thevenot mentioned: '...it is a great town, heretofore of much trade, and affords still abundance of silk stuffs that are made there.'

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67 S.N. Sen (ed.) Indian Travels of Thevenot, p. 45.
**Precious Stones:**

The province of Gujarat was also famous for precious stones and other items of rarities. Van Linschoten commented on the precious stones to be obtained from the region:

They have diverse sorts of precious stones as Espinelle, Rubies, Granadis, lasnites, Amatistes, Chrysolites Olhos de gato, which are cattes eyes, or Agats, much jasper stone, which is called bloud or milke stone and other kinds. 68

Thevenot also mentioned the trade which took place in precious stones at Surat: 'there are Diamonds, Rubies, Pearls and all other precious stones which are found in the east to be sold there also.' 69 Ovington also lists the commodities traded at the place:

The abundance of Pearls that are brought hither from Persian Gulph; but likewise for Diamonds, Rubies, Sapphires, Topazes, and other stones of splendour and esteem, which are vendible herein great qualities: and for Aggats, cornelians, Nigganees, Desks, sarutores, and boxes neatly polishet and embelisht, which may be purchased here at very reasonable rates. 70

Ceaser Frederike during his stay at Cambay, noted that the place was residence of large number of Artficers that made bracelets called Mammii, or bracelets of Elephant teeth, of divers colours. 71 Mandelslo remarked about the mining of Agates in the mountains located Southeast of the town of Broach, and the industry of Agate carving, which flourished at Cambay:


69 S.N. Sen (ed.) *Indian Travels of Thevenot*, p. 25.


In the mountains to the Southeast of the town (Broach), which extended beyond Burhanpur were found the agates from which were made the beautiful drinking cups, seals, handles for knives and daggers and other rarities which are commonly manufactured in and sold at Cambay.\textsuperscript{72}

Pietro della Valle also confirmed the above assertion, while describing the countryside around Broach:

Some miles distant from this city were located the famous mines for Agate and chalcedonies, white and green, but these stones were carried less to Broach than to Cambay because the latter was a sea port and there was a much larger concourse of foreign merchants there.\textsuperscript{73}

Thevenot informs that these agates were mined out at the quarries of a village called Nimodra (Limodra), which were about four leagues from Cambaye, upon the road to Broache; but the pieces that are got there were no bigger than ones fist.\textsuperscript{74} Tavernier described the town and commerce of the place in precious stones: 'Cambay is a large town at the end of the gulf; which bears its name. Here those beautiful agates, which come from India, are cut into cups, handles of knives, beads and other objects of workmanship. Indigo of the same kind as that of Sarkhej is made, also in the vicinity of the town...\textsuperscript{75} Thevenot described the market at the place as: ....the shops are full of Aromatick perfumes, spices, silken and other stuffs. There are vast numbers of ivory Bracelets, Agate cups, chaplets and rings made in this town.'\textsuperscript{76}

\textsuperscript{72} M.S. Commissariat (ed.) Mandelslo's Travels, p. 15.

\textsuperscript{73} Pietro della Valle, The Travels, Vol. I, p. 64.

\textsuperscript{74} S.N. Sen (ed.) Indian Travels of Thevenot, p. 18.

\textsuperscript{75} J.B Tavernier, Travels, Vol. I, p. 56.

\textsuperscript{76} S.N. Sen (ed.) Indian Travels of Thevenot, pp. 17-18.
SALTPETRE:

Saltpetre was obtained from Chhala-Bahra in Ahmadabad\(^{77}\) and Malpur in Sabar Kantha.\(^{78}\) The region around the towns of Dholera and Viramgam also had the soil conditions suitable for the Saltpetre manufacture. The product was also imported from near Ajmer and from near Patna in Bihar.\(^{79}\)

LAC:

The countryside around Baroda was also known for trade in Lac. Thevenot mentions that a store of Lac to be found in territory of one of its bourgs called Sindiguera.\(^{80}\) Lac is described as being of red brown colour in its natural state. But when well dried and beaten to powder, the people could give it any colour they liked – black, red, green, yellow, etc.

Mandelslo informs that the article was much in use during the period mainly for sealing in works as adorning and beautifying household furniture such as chests, cabinets, tables, beds, etc. and that the village of Sankhed near Baroda produces around twenty five thousand pounds of Lac annually.\(^{81}\)

SALT MANUFACTURE:


\(^{79}\) S.N. Sen (ed.) *Indian Travels*, p.74.

\(^{80}\) S.N. Sen (ed.) *Indian Travels*, p.44

\(^{81}\) M.S. Commissariat (ed.) *Mandelslo’s Travels*, pp. 16-17.
The region also contains vast areas covered with salt, particularly in the area of Rann.\textsuperscript{82} Salt was also obtained from along the coast of Gulf of Cambay, at Maqbulabad in the sarkar of Broach.\textsuperscript{83}

**Principal Ports and Towns:**

Among important ports in the region may be listed Anjar, Mandavi, Porbandar, Diu, Ghoga, Cambay, Broach, and Surat among many others. In fact Mirat lists around 27 seaports (where big ships anchor) and 45 baras (meant for small boats) by the middle of the 18th century.

**Diu:**

On the coast of Kathiawar, Diu was the most important port. The port during the period was under the control of Portuguese who obtained its possession in the year 1515, and later on repaired the fort in about 1534. Ralph Fitch called it the strongest town that the Portugales have in the vicinity of Gujarat. Barbosa described the town and the commerce at Diu, towards the closing years of 16\textsuperscript{th} century:

> Along the coast there is a point where the land projects into the sea, on which there is a great town named by the Malabares Devixa and by the Moors of the land it is called Dio. It is on a small island, hard by the main and has a light good harbour, a trading port used by many ships with exceeding great traffic and commerce with the Malabar, Baticala, Goa, Chaul, and Dabul. Ships also sail


\textsuperscript{83} Ibid, p. 261.
hence to Meca, Aden, Zella, Barbora, Magadaxo, Mehinde, Brava, Mombaca and Ormus with the kingdom thereof.\(^{84}\)

**CAMBAY:**

Cambay was a flourishing port during the 16th century, however by the beginning of the 17th century, the trade at the port was much diminished, and Pelsaert described the trade at the place about the year 1626 as nearly or almost wholly at an end. He says, formerly three caravans, or kafilas, used to come every year...Now the trade is so much decayed that this year, 1626, only 40 merchants' fustas arrived, carrying goods of small value.\(^{85}\)

**GHOGA:**

Due to the silting of the port at Cambay, the port of Ghoga functioned as an anchorage for the ships bound for Cambay, from where goods were transported to Cambay on small boats. The Mirat-I Ahmadi makes a particular note of the transportation of goods in these small boats between Cambay and the port of Ghoga, which during the period was serving as the harbour for Cambay: '...the port of Ghoga, is situated on open sea, where big ships which cannot enter the port of Cambay anchors, and the cargoes are landed by lighter.'\(^{86}\)

**SURAT:**

In the course of seventeenth century, Surat had emerged as the most important port in the Mughal Empire. J. Tavernier who visited India during the reign of Shah Jahan wrote of Surat as the sole port in the Mughal Empire.\(^{87}\) Mandelslo opined that '...no ship would consider its

\(^{84}\) Duarte Barbosa, *The Book of Duarte Barbosa*, p. 128.


voyage complete until it had cast anchors at Surat. The gradual decline of Cambay as the chief mart in the area, from about the beginning years of the seventeenth century due to a multitude of factors, ranging from political, economic to environmental; aided in the growth of Surat. Father Manuel Godinho, who visited the city in 1663, wrote of the commerce of the place in the following manner:

The commerce of the place is carried by the English and Dutch from Europe, by the ships of the Red sea from Africa, and by the natives from Asia and Asia Minor. The best of the goods come into Surat from inland by caravans of bullocks and camels, which enter its gates every hour...of the foreign ships that call at this port there is no count. There will be found at all times of the year in Surat, ships from china, Malaca, Macassar, Malucas, Jacatara, Maldives, Bengal, Tenacerin, Caxcm, Mascut, Madagascar, Ormuz, Basra, Sind, England; infact from whatever part of the world one is after.

The principal towns and commercial centres which were flourishing and famous during the period were Pattan or Anhilwara, which was the capital of the region from about 746 to 1194 and Champanir was the capital of the sultanate of Gujarat from 1494 to 1560.

AHMADABAD:

Ahmadabad became the chief administrative and commercial centre of the region with the Mughal occupation, and remained so till the end of the Mughal rule in Gujarat. Situated on the banks of river Sabarmati, in a country known for its cotton and indigo produce, Ahmadabad acted as a hub for the merchandise destined for the ports of Gujarat, both from

88 M.S. Commissariat (ed.) Mandelslo's Travels, p. 9.

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neighbouring areas as well as from the regions around Agra and Delhi. The city was known for its cotton industry manufacture of gold and silver brocades, varieties of silk, velvets, taffetas and carpets. That Ahmadabad was a great centre for inland trade can be accessed from the willingness of the factors of the English company at Surat, to shift base to the city. A letter addressed to the company at England by the president and council at Surat in April 1636, sheds important light on the motives and benefits perceived by these factors for shifting base to Ahmadabad:

We advised the last year that, presupposing peace with Portugall, Amadavad would be most properly the centre of your affairs... Amadavad holds weekly correspondences with Agra and Synda and (is) so much nearer to both as it is distant from this place. Amadavad is such a soile as to be fit for travels in the winter season; from whence we might pass to Brodra and Cambaya upon everie occasion; whereas here in Surat we remain coopt up whilst the raines continue, not able to remove one half mile, if we should be fired out of the cittie. 

BARODA:

Among other important towns in the province may he listed Baroda, which gained administrative and political ascendancy with the establishment of the Gaikwar rule in the province towards the latter half of the eighteenth century. The city was famous for its industries in cotton, and production of lac, as already noted.

BROACH:

Famous for its trade in cotton products, Broach was another important commercial and political centre in the region. Mandelslo described the city of Broach as one standing on high

90 William Foster (ed.) English factories in India, 1634-1636, p. 211.
mountains surrounded by walls of free stone, and so well built that it may be numbered amongst the strongest places of all of Indies.\textsuperscript{91} Thevenot wrote of Broach as flourishing towns and one of the chief strengths of the province, situated at 21 degrees 5 minutes North latitude, some 30 miles from the mouth and on the right bank of river Narbada:

The town lies upon the side and at the foot of the hill, looking towards the river of Nerbada. It is environed with stonewalls of about three fathom high, which are flanked by the large round towers at thirty or thirty five pace distance from one another.\textsuperscript{92}

\textbf{NETWORKS OF COMMERCE AND MODES OF TRANSPORT:}

... at first sight, it would seem that the existence of a network of routes necessarily implies the active and earnest co-operation of nature and man; that the very structure of country must determine the tracks in advance, and make them into regular channels; in other words, that the problem of routes must be a geographical one.

- Lucien Febvre\textsuperscript{93}

The interaction between humans and nature can be most clearly and vividly seen in the networks of routes stretching across countries and continents, facilitating movement of goods and armies over and across centuries, for in the study of these routes, does one come across some of the most intense and close interactions which the humans have had with their natural

\textsuperscript{91} M. S. Commissariat (ed.) Mandelslo's Travels, p. 14.

\textsuperscript{92} S.N. Sen (ed.) Indian Travels of Thevenot, p. 9.

world. The sailing across seas and oceans, the movement of goods and armies across plains and valleys and through such inhospitable terrains as deserts and high snow-capped mountains and plateaus, required humans to pit their will and ingenuity against the barriers of nature.

Geography and topography to a large extent determined the direction and routes which the humans took to move across the length and breadth of Indian subcontinent. This was more so the case during the period prior to the invention of steam locomotion and industrialization of the 19th century. The roads generally followed the banks of rivers, across plains, through openings in the mountains cut by rivers and their tributaries and along the coast. The terrain and the peculiarity of flora and fauna also played a deciding role in influencing the mode of transportation utilized. Pack animals such as oxens and buffalos, and such animals as horses, camels, and others were utilized in accordance to their adaptability to a particular climatic condition through which one plans to traverse. Moreover travelling was not always easy, the rivers and streams presented peculiar problems related to fording. Not all of them were easily fordable, and the problem was compounded during the rainy season, when the movement of goods and people across subcontinent more or less ceased. The dense forest cover and foliage also made travelling across or through them difficult. The high mountains in North and east of the subcontinent were virtually inaccessible but through the passes cut by rivers. Similar was the case with the mountains of Western Ghats and even the low-lying chain of Sahyadris, Satpuras and Aravali.

The Northern plains and valleys of such rivers as Narmada and Tapty, and the areas along the coast were the regions which were easily accessible and criss-crossed across centuries. The Indo-Gangetic plain of North India is run across by one of the oldest routes in human history. The Uttarapath of the Mauryan and Gupta age, the land route re-laid and developed by Sher
Shah, and the Grand Trunk road of the British followed an almost similar trajectory, running from almost near the Ganga-Brahmaputra delta in eastern India to the passes across the high mountains of Hindu Kush in the Northwest of the subcontinent.

The navigation along the coastline, within the length of rivers, and across seas and oceans, presented more difficulty and peculiar problems. The movement of winds and the changes in it in accordance with the seasonal movement of sun and temperature differential between land and ocean, were the deciding factors behind fixing of directions and season of sailing, for the sail ships and boats of the period unlike the steam ships of industrial age were dependent upon winds and currents of the sea and oceans for movement. The design of fishing boats and of sail ships, their tonnage and size were all decided in accordance with the topography of the coastline and by the intended use.

The presents section thus while enumerating and discussing the geographical setting of the region of Gujarat, also attempts to dwell upon the routes of communication which traversed across the province and connected it with rest of the subcontinent and also of the conditions of navigation which were faced by the sailors and ships of the period, in peculiar those in the coastal waters of Gujarat.

**MAJOR TRADE ROUTES:**

The major trade arteries, which linked these ports with the major trade and production centres situated in the interiors, were the ones running from Surat via Ahmadabad through Ajmer to Agra and the other one from Surat to Burhanpur in Khandesh, from where the route bifurcates into two, one leads northwards through Gwalior to Agra and the other one through Aurangabad to Golconda in Deccan.
VII. The roads in Western India prior to the Mughals.

The route via Ahmadabad ran through such important centres as Broach and Baroda. The list provided by Thevenot mentions such places in between Surat and Ahmadabad; as the town of Berio; the river Kim; town of Ouclisser; river Narbada; Broach; Sourban (Sarbhon); river Dader (Dhader); village Debeca (Debka); Petnad (Petlad); river Mahi; Sousentra (Sojitra); Mader; Gitbag. 94

Tavernier took the route going from Broach to Baroda, and moving onwards through Netjade (Nadiad) to Ahmadabad. 95 In order to take the way to Cambay, Tavernier says that the diversion had to be taken from Broach. 96 Whereas Thevenot detailing the route to Sojitra says that a diversion had to be taken from the place to the village of Canara (Nagra), which was a league and half from Cambay. 97 In fact Thevenot lists three ways of reaching Cambay from Surat one through the route just detailed above, the other through sea, by taking a boat to Surat and the third one by passing through the bottom of the gulf in a chariot, over against Cambaye, at low water; and one must go three leagues and a half in water, and once past it was only about eight and twenty leagues to Surat. 98 Tavernier mentioned that one could also reach Ahmadabad from Cambay, by moving north through Chiidabad, which is at a distance of about 9 kos from Cambay and 5 kos from Ahmadabad. 99

Situated on river Tapti upstream towards east from Surat, Burhanpur was another important centre for trade in the neighbourhood of Gujarat. The city had emerged as an important

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94 S.N. Sen (ed.) Indian Travels of Thevenot & Careri, p. 82.
96 Ibid, p. 56.
97 S.N. Sen (ed.) Indian Travels, p. 17.
administrative centre and military base for the Mughals, for launching strikes against the Deccan sultanates of Bijapur and Golconda. Commercially the city was at the confluence of three major routes, linking it with Surat, Agra, and the Deccan cities of Aurangabad and Golconda. Tavemier mentions that the travellers from South enroute to Agra, as those from Surat, Goa, Bijapur, Golkonda, Masulipatam, could not avoid traversing this path, for there was no other way except the one which ran through Ahmadabad.\textsuperscript{100}

The route leading from Ahmadabad to Agra passed through some important centres of textile production in the region. For e.g., the town of Sidhpur (Tavernier's Chitpur and identified on the map of Bernier as Chitpur) was an important centre for trade in coloured cotton fabrics called chites.\textsuperscript{101} The route from Burhanpur also passed through some of the important centres of commerce and administration of the period, such as Sironj and Gwalior. Sironj was an important centre for trade in coloured calicoes, called chites. Mundy says of produce at Sironj that, 'In this place are made great quantities of excellent pintadoes or chints, much nominated and esteemed throughout India, and next in goodness to those of Masulipatnam.'\textsuperscript{102} The city of Gwalior had been identified by the contemporary sources as a state prison under the Mughals, where they send princes and great nobles for safe custody.\textsuperscript{103} The province of Ajmer, in the north of Gujarat, was also an important area of resource procurement for the merchants of Gujarat. The vicinity about the town was famous for its Saltpetre manufacture and its perfume industry.

\textsuperscript{100} Ibid, p. 49.

\textsuperscript{101} Ibid, p. 65


\textsuperscript{103} J.B. Tavernier, Travels, Vol. 1, p. 52.
Detailing the route to Golconda, Tavernier says that the route passes through Daulatabad, Aurangabad. On route one passes through such places as Navapour, where he says that the best scented rice grew in the world, and the entire distance from Surat was about 324 kos. Another route, which he says, one can take from Surat to go to Golconda, was along the coast to Goa and from there on to Bijapur to Golconda.

**Modes of Transportation:**

The principal modes of transportation in India were the oxen driven carts for the transport of goods and merchandise, and for travelling light carriages and Palkis were employed. Tavernier gives an interesting description of the modes of transport in the country. The oxen or the wagon comes as the principal instruments of carriage. Peter Mundy described these carriages in the following words:

> The coaches in this countrie are generally drawne with Oxen, never above two to a coach, which have but two wheeles, in all things resembling a little carte, the cover excepted, which is like that of a coach on England.

Regarding the light carriages, used mainly for personal transportation, Tavernier says, they have also for travelling, small very light carriages, which can carry two persons; but usually you travel alone, in order to be more comfortable. The Palaki is described by Tavernier as a comfortable mode of travel, for those who can afford it. Writing further:

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105 Ibid, p. 119.
106 Ibid, 121.
107 Peter Mundy, *Travels*, p. 189.
It is a kind of bed, 6 or 7 feet long and 3 feet wide, with a small rail all round. A sort of cane called bamboo, which they bend when young, in order to cause it to take the form of a bow in the middle supports the cover of the palankeen which is of satin or brocade...The ends of the bamboo are attached on the both sides to the body of the palankeen between the two poles, joined together in a saltier...and each of these poles is 5 or 6 feet long.\textsuperscript{109}

The caravans or caphilas, sometimes includes as many as 20,000 carts and oxen laded with variety of stuffs. Thomas Roe met on his journey from Surat to Khandesh as many as "10,000 bullocks in one troupe laden with corne, and most days, others, but less."\textsuperscript{110} Peter Mundy travelling from Surat towards Burhanpur, on his way to Aga, describes his caphila as "consisting of such a multitude of carts and people, which drew to such a length, that hitherto wee could never see both ends from one place, and yet increasing dayly."\textsuperscript{111} At another place on the same journey, he saw near Sirohj, "many thousands of Oxen laden with provision, it was as at least 1½ miles in length, and as many more returninge emptie to bee reladen."\textsuperscript{112} Further in his travels through the country he once met a caravan of oxen, in number 14,000, all laden with graine as wheat, rice, etts.' Two days later he encountered another of oxen, numbering around 20,000 laden with Sugar.\textsuperscript{113}

\textbf{ENVIRONMENT \& ECONOMY:}

\textsuperscript{109} Ibid, pp. 37-38.


\textsuperscript{111} Peter Mundy, \textit{Travels}, p. 45.

\textsuperscript{112} Ibid, p. 56.

\textsuperscript{113} Ibid, pp. 95-98.
GEOGRAPHICAL SETTING AND COMMERCE OF THE REGION:

Situated on the extreme northern end of the western sea front of the Indian Subcontinent, the ports and the cities of Gujarat had a natural advantage over the ports located down south along the Malabar and Konkan coast, in the sense that they had an unrestricted access to a large hinterland area of Northern India and the Deccan the routes to which ran across the northern plains of Gujarat and Rajputana, and along the river valleys of Narmada and Tapti. Presence of Western Ghats almost along the entire length of the western seaboard facing the Arabian Sea made Gujarat and its ports the natural gateways to the riches and wealth of North Indian Gangetic heartland, since the presence of steep mountains southward of the province made transportation across them extremely difficult and dangerous.

Again various relief features along the coastline, such as hills or a peak in the vicinity helped the navigators to identify the places along the coast, and the directions to be taken thence. The Table Mountain at the Cape of Good Hope on the Southern tip of Africa and the Girnar Mountain visible along the Gujarat coast, were two important relief features, which the sailors had identified to make a clear understanding of their location during their voyage to Asia from Europe.

PROBLEMS IN NAVIGATION:

Again, in times when the navigation on high seas was dependent solely on the location of the stars, the wind patterns and currents, and seafood for survival navigators preferred to sail as close to the land as possible. The log books of the navigators of the English ships which visited in the region during the period, lists number of places on the West and East African coast, on their way to India, and moves along the coastline of Persia, Sind, before reaching the
ports of Gujarat. In fact, ships destined for any part of Asia, had to move along the coastline of Gujarat, and it was not before the discovery of trade winds that the ships could sail directly from the Cape of Good Hope to the ports in Southeast Asia. Moreover the journey in spite of all the precautions was not free from troubles. The ships sometimes had to face the trouble from lack of winds' which forces them to stay at a point for days altogether with no movement altogether, or more dangerously had to face threatening storms and tempests during the course of their journey.

John Fryer on his way to India had to face both the extremes, and he details an interesting account of the troubles which one faces on their way to the Indies, from the elements of nature as heat of Sun, wind and rain. Detailing his experiences with the storms around the Cape of Good Hope:

The wind that till now seemed to daily, proves in good earnest, and begins a frowning April, driving the trembling sea on heaps, and on them piling more, till the swelling surges menace the lowering skies, leaving a hollow where they borrowed their gigantine vastness, as if they were intended to exenterate the treasures of deep. At the top of which it was dreadful to behold the angry surface of the foaming bellows, descending down beneath no less uncomfortable, when the vans of the next ship (though groveiling with a neighbouring wave) cannot be discerned...but when a fret of wind rowled the waves athwart our quarters. It made our ship shake, proving the soundness of her sides, where had she given way never so little, we must have sunk without bail or mainprize. Still the tempest increases and brings with it gusts of rain and dismal darksome weather,

whereby we were separated from the rest of our fleet...and were left alone to
shift with the boisterous winds.\footnote{Ibid, pp. 12-13.}

**Tidal Waves, Sand Banks and Difficulties in Navigation Along the Coastline:**

Another peculiar feature of the coastline of Gujarat and especially in the Gulf of Cambay and Kutch is the furiosity of tidal waves (bores) and formation of sandbanks at river mouths. Thevenot wrote of the tidal waves to the north of the Gulf of Cambay as: “the tides are so swift that a man on horseback cannot keep pace with the first waves.”\footnote{S.N. Sen, *Indian Travels*, p. 18.} Pietro della Valle noted that the flux and reflux of sea near Cambay was more impetuous and violent, and with more rapid currents than perhaps in any other part of the world,”\footnote{Pietro Della Valle, *The Travels*, Vol. 1, p. 63.} and writes of his experiences of Witnessing a tidal bore at Cambay, during full moon night, when it was greater than usual:

> We saw the sea coming roaring afar off like a most rapid river, and in a moment overflows a great space of land, rushing with such fury that nothing could have withstood its force; and I think it would have overtaken the swiftest race horse in the world. A thing very strangely since in other places with the rising and falling of sea in flux and reflux is done in full 6 hours, and with so little motion that it is scarcely perceived.\footnote{Ibid, p. 103.}

With regard to the commercial traffic and the navigability along the Gujarat coastline we find that the various sandbanks particularly in the Gulf of Cambay also acted as serious deterrents.
The decline of Cambay as a major port had been attributed in part to the silting of harbour at Cambay. Fredricke who visited the city in about 1563 noted that the harbour of Cambay can only be reached by small barkes since big ships were not able to reach because of the shallowness of the waters near the city: “no great shippes come tither by the reason of the shouldness of water there abouts, and these shoulds are an hundred and fourscore miles about a straight Gulfe.” Tavernier noted with regard to Cambay: “...formerly the sea came close to Cambay...but for some years past the sea has been receding day by day, so that vessels are now unable to come nearer than four or five leagues of the town.” Thevenot also gives a similar description of the sandbars at the mouth of Tapti:

The bar at Surrat where ships come at present, is not its true port; at best it can be called a road...it is called the Bar, because of the sand which hinders ships from coming further in. The truth is, there is so little water there, that though the vessel be unloaded, the ordinary tides are not sufficient to bring them up, and they are obliged to wait for a spring tide; but then they come up to Surrat, especially when they want to be careened. Small barks come easily up to the town with least tides.

However these sandbanks also provided the ports and harbours in the region protection from direct tidal action, and in cases safe roads for the ships to anchor, as was the case with Swally. Regarding Swally, Pelsaert noted that the place is desirable for loading and unloading of goods, because of the presence of a sand bank, which is exposed at low waters, and gives

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121 S.N. Sen, Indian Travels of Thevenot, p. 37.
shelters at high tide.\textsuperscript{122} Father Manuel Godinho wrote that deep hollows were dug in the bed of the river Tapti, for allowing heavy vessels to lie on the silt in low tides.\textsuperscript{123}

**SOIL CONDITIONS AND AGRICULTURAL PATTERN:**

The fertility of the soil and its nature was also an important deciding factor in the nature of crops and agricultural techniques adopted. In terms of Agricultural production Ain considered the province to be rather backward in agriculture and this attributes this apparent backwardness as the primary reason behind the divergence of the energies of its inhabitants towards commerce and industry. However, foreign merchants and travellers who visited the region during the course of seventeenth century expressed an opinion, which was quite in contrary to the above assertion.

The contrast between the above assertions may stem from the fact that the foreign travellers have had a limited exposure to the conditions of the region. Moreover the contacts and the movement of travellers were generally in the coastal areas and in the fertile central plains of Gujarat. Again Abu'l Fazl wrote from the records available to him, towards the end of Akbar's reign, when the stability of Mughal systems have just started to make an impact, and long period of relative stability throughout the course of seventeenth century most certainly would have made a considerable impact on the general agrarian prosperity of the region.

The variance in the crop pattern with in the region and the reason behind the assertions regarding the relative backwardness may also be sought into the variance in soil conditions existing in the region. The sandy and barren plains of Kutch thus are generally devoid of any strong vegetation. Moreover the inundation of a considerable portion of the territory – Rann -

\textsuperscript{122} F. Pelsaert, *Remonstrante*, p. 9.

\textsuperscript{123} G.M. Moraes, "Surat in Sixteenth century", p. 124.
makes the region particularly unfit for any type of crop to be sown on a seasonal basis: The region is sparsely inhabited and has very little or no vegetation...and except a stray bird, a herd of wild asses, antelopes, or an occasional caravan, no sign of life breaks the desolate loneliness...\textsuperscript{124}

The case with the peninsular region was a bit different in the sense that the interiors of the region was rocky and hilly region, moreover the rivers in the region were primarily rain fed in nature, thus making the soil conditions primarily unfit for agriculture. Moreover the heavily forested region was primarily a source for fire wood and wood for the industry and as such was highly inaccessible. However, along the coastline the soil condition was extremely suitable for agriculture. Thus we find Mirat commenting on the fertility of soil in the region of Sorath, towards the southwest of the peninsula:

\begin{quote}
The soil is black. There are mountains and stony regions... it is without fruit bearing and other trees. But some of the mountains and places have mango trees, rayan trees, tamarind trees, and forests of acacia trees. Spring produce of cereals is more than autumn...Soil being strong needs no sweeping at the time of cultivation...it is a kingdom which is very fertile.\textsuperscript{125}
\end{quote}

One of the most fertile tracts in the province was the region between the ports of Surat and Broacllh known for its cotton produce, and such crops as Barley, Corn, Rice, millet and Sugarcane. 'The country between these two towns abounds with com, rice, millet, and sugarcanes.'\textsuperscript{126} On discussing the soil condition around Surat, and in the region of central heartland of the province and the produce of the area, Thevenot found it to be 'off a very

\textsuperscript{124} \textit{Imperial gazetteer of India - Bombay Presidency}, Vol. 2, p. 185


\textsuperscript{126} J.B. Tavernier, \textit{Travels}, Vol. 1, p. 54.
brown earth. Further elaborating he writes: 'And was so very rich that they never dunged it. After the rains they sow their corns i.e. after month of September, and they cut it down after February. They plant sugarcane there also.' He further states that the soil about Surat is good for rice also, and there is a great deal sown.¹²⁷

The soil conditions were suitable in the region for cultivation of cash crops such as Cotton, and indigo. Thus we find that many centres as Broach, Baroda, and Ahmadabad during the period emerge as important centres of cotton procurement, due to the soil conditions in the region which were suitable for cotton cultivation and indigo plantation. Fryer, gives a description of the country in his memoirs:

It is a land in all places very fruitful, and enjoys a temperater air...it produces 3 harvests in some places, but generally two'. Moving on, he adds the plain country is rich in all things necessary; pasturage by reason of long summer drought being the only lack; which in the rains and cold seasons they have time and store to provide against. Cocos grow all along the seaside round India with in the tropics and bettle nut is in great request... and these are peculiar to Low Countries as are watermelons. Other fruits are grapes, mangoes and likes are common in India. Rice thrives best in watery places, it swimming always there in till harvest, when the water is let out by drain. All other corns rejoice better in drier grounds. Cotton is lower of the fame, from

**RAINFALL AND AGRICULTURE:**

Also most of the rivers in the region, especially those of the peninsular Gujarat were rain fed, and this made the annual rainfall even more determining a factor for the agricultural
sustainability and commercial prosperity of the province. More over most of the important rivers in the region, particularly Mahi and Narmada were not fit for canal irrigation, since their banks were too high. Thus agriculture was primarily rain dependent and water was obtained by harvesting rainwater in the numerous tanks and wells, which attracted special attention of the visitors to the region. The need for these tanks and cisterns has been examined by P Della Valle:

They are made in divers places by Princes, Governors of Countries, or other wealthy persons, for the publick benefit and as works of charity, because the soil suitable to the climate is sufficiently hot, and aboundeth not in water: Rivers are not in all places; and other running waters and springs, there are scarce any, especially in the more inland parts remote from the sea.128

Of the famous tanks in the region, Gopi Talav at Surat was the most described and detailed by the foreign visitors to the region. Mandelslo described it as being made of eight square of the stone and so spacious that it contained enough water to supply the whole city even in the hottest months of the year.129 Similarly the city of Vadnagar has been described as having 3000 pagodas, with each having its own tank for collecting rainwater.130 The region of Kutch presented a different challenge for the porous nature of soil in the area, storage of water in ponds and reservoirs is difficult, and thus brackish water, which was found in rocks at no great depth from the surface, was used, and wells of this kind are fairly numerous in the area.131 Other than the rains, presence of numerous springs and falling of dews at some places

129 M. S. Commissariat (ed.) Mandelslo's Travels, p. 11.
as Kathiawar has been noted, as important source for much need water for crops: 'The corn
land is never watered, because the dew that falls plentifully in the morning is sufficient for
it.' Mirat mentions that the soil gets moistened with the help of dew, which falls too much
there.

P. Della Valle describing the months of rainfall, made an assessment of the importance, which
the annual rainfall holds for the inhabitants, and for their survival:

Rain likewise very seldome during the whole year, saving in that season, called
by them Pansecal (comrption of Barsa-kal) which signifies the time of rain,
bring about three moneths, beginning about the middle of June, and during
which time the rain is continual, and very great; whence some upon this account
call these three months winter, although the weather be then hottest, as well in
India as in all the rest of the northern hemisphere. And this no doubt proceeds
from the providence of God; since were it not for these great rains, India would
be in regard of the great heat and drought at this time uninhabitable.

Again the time, duration and amount of rainfall is not predictable and they may vary from one
year to the next. In words of Bernier:

These rains are not however as exactly regular as to descend undeviating on the
same day or week. According to the observations I have made in various
places... they are never the same two years together. Sometimes they commence

132 S.N. Sen (ed.) Indian Travels, pp. 36-37.
or terminate a fortnight or three weeks sooner or later, and one year they may be
more abundant than another. 135

Again heavy rains may cause floods in the rivers, causing considerable damage to the towns
and human settlements located in the flood plains. The frequent mentions to floods in river
Tapti, and those in Sabarmati, which caused considerable damage to the towns of Surat and
Ahmadabad, are the case in point. Mirat notes an occurrence of flood in Tapti, and the plight
of the inhabitants in about year 1733-34:

The river Tapti rose in flood and entered the city. Boats were piled in lanes and
bazaars. Many persons sought refuge through fear of life on terraces of lofty
buildings and trees. Wealth and lives of many persons became as if they were of
the drowned. This continued for full three days... after two days water rose but to
a lesser height and remained for a day. 136

CONDITIONS OF FAMINE:

Any change or break in the regularity of the rainfall could also cause havoc in the region as it
did many times leading to severe famine conditions. Just to take an insight into the extent of
damage, which the rainfall failure can cause, one needs to take a look at the description
provided in our sources regarding one of the worst famines to hit Gujarat that of 1630-31, also
known as sattasiyah or 87th in Gujarat. Abdul Hamid Labori, in his Badshahnama gave an
account of the famine conditions in the region:

During the past year no rain had fallen in the territories of the Balaghat, and the
draught had been a deficiency in the bordering countries, and a total want in the

135 Francois Bernier, Travels, p. 432.
Dakhin and Gujarat. The inhabitants of these two countries were reduced to the direst extremity. Life was offered for a loaf, but none would buy; rank was sold for a cake, but none cared for it; the ever bounteous hand was now stretched out to buy beg for food; and the feet which had always trodden the way of containment walked about only in search of sustenance. For a long time dog's flesh was sold for goat's flesh, and the pounded bones of the dead were mixed with flour and sold. When this was discovered, the sellers were brought to justice... The number of the dying caused obstructions in the roads, and everymen who dire sufferings did not terminate in death and who retained the power to move wandered off to towns and villages of other countries. Those lands, which had been famous for their fertility and plenty, now retain no trace of productiveness.\textsuperscript{137}

Peter Mundy who visited the region during the period gave a graphic account of the suffering of the people in the country suffering from Famine conditions:

Noe less lamentable was it to see the poore people scrapeinge on the dunghills for food, yea in the very excreament of beasts, as horses and oxens, etts, belonginge to travellers, for graine that perchaunce might come undigestedf rom them, and that with great greedinesse and strifi among themselves, generallie lookinge like anatomies, with life, but scarce strength enough to room themselves from under mens feete, many of them expiringe, others newe dead. This was theire state in every streete and corner; and from Suratt to this place... all the highway was strowed with dead people, our noses never free of the stinck of them, especially about townes; for they drag them out by the heeles starke

\textsuperscript{137} Abdul Hamid Lahori "Badshahnama", extracts from I.I. Elliot and J. Dawson (eds.) History of India as told by its own Historians, Vol.7, p. 24.
naked, of all ages and sexes, till they are out of the gates, and there they are lefte, soe that they way is half barred upp. Thus it was for the most part hitherto.\textsuperscript{138}

That the famine conditions had adversely affected the commerce of the region, can be made out from the statements of the Dutch and English factors stationed at Surat, and at other places in Gujarat, who in their letters to the home company and regional councils expressed in their inability to send more goods and cargoes and constantly complained of the deplorable conditions in the countryside and at the centres of procurement, and of the depopulation of the countryside on account of deaths and migration of the population. Peter Mundy noted that due to famine and want of food many families in the area in search of better opportunities were leaving the region and moving towards Malwa and other areas which were free from famine, and that such was the extent of migration that his cafila which started with a total strength of about 150 persons and 15 to 20 carts had before reaching Burhanpur had swelled by upto 17 or 1800 people and about 250 to 300 carts, and that "the Cafila drewe to such a length, that 'hitherto wee could never see both ends from one place, and yet increasing dayly.'\textsuperscript{139}

Dutch factors at Surat wrote to the council members at Batavia that the destruction on account of famine had been almost total, and it will take not less than 3 years for the conditions in the area to get back to their normal state and the region had almost been totally depopulated:

...going to a village called Swally we saw there many people that perished of hunger; and whereas heretofore there were in that town 260 families, there was not remaining alive above 10 or 11 families.\textsuperscript{140}

\textsuperscript{138} Peter Mundy, \textit{Travels}, Vol. 2, p. 43.

\textsuperscript{139} Ibid, p. 45

\textsuperscript{140} William Foster (ed.) \textit{English Factories in India}, 1630-33, pp. 180-181.
They also made note of the lying of bodies in the country, with no one to cremate them and that due to the stench of the deads that the sound people that came into the town were with the smell infected and that at the corners of the streets: 'the dead lay 20 together, one upon other, nobody burying them'. As a result of the calamity the commerce of the region suffered adversely, so much so that the factors were forced to comment that 'in these parts there may not be any trade expected this three years'. English factors also had an almost a similar story to tell to their superiors in England and noted that the workers have fled the area and the prices of food grains and scarcity of manufactures have risen to the extent that it was becoming exceedingly difficult for them to meet the demands from Europe and other markets of Asia:

Indian goods provided for bantam before the arrival of the fleet amongst them 1000 corges of calicoes, which are not half bleaked (bleached) and could not be finished for want of workmen. Money lost through the recipients having died or run away. The country is in a miserable state through famine and mortality...a mortality unspeakable. Swally and the places near adjoining wholly dispeopled. No carriage for our goods; 2% rupees per small maund between Amadavas and Surat. Our own mariners employed at Surat instead of poters. A great mortality in our house. We recalled all our people to Surat from other factories...No workmen left, insomuch that one half for reaping and making the crop of Sarkhej indigo was offered for that labour. The only indigo they can hope to obtain is that of Agra.

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141 ibid
142 ibid
At another place the factors again complained that they cannot promise what all goods and quantity they could provide for the company's trade and that their own house and people have suffered because of the famine:

You cannot be privy to the universal calamity this country, by reason of dearth and famine, now grown to such an extreme that we ourselves are become beholding for come even to supply our household provisions. How destitute therefore we ourselves are of all means and hopes to furnish you with either bread or rice from hence let this just complaint of ours inform you, and make you sensible of misery... What we shall be able to provide in your absence we cannot promise, the distillers being all of them (or the most part) with their families departed into the parts of more hoped plenty as are many thousands besides, as well weavers, washers, dyers, etc; that put us almost into despair of a competent lading for the succeeding years home return; and yet these are but the beginnings of great woe yet to come. 144

Similar conditions of famine occurred in the region in the subsequent years such as in 1650, 1686, 1718, 1745, and 1790-91.

ENVIRONMENTAL PECULIARITIES:

Other than the above factors there were some very peculiar aspects of environment of the region such as the quality of water in Narmada, and the availability of quality wood and timber which could be brought down by its navigable rivers, which also played important role in the functioning of certain industries in the region.

144 Ibid, p. 97.
The bleaching property of Narmada, near Broach, enabled it to emerge as the leading centre for bleaching of cotton clothes and bales, which were brought there from far off places and production centres in North India. Thus Tavernier wrote:

The town has been widely renowned from all times on account of its river, which possess a peculiar property of bleaching calicoes, which for this reason are brought from all quarters of the empire of the Great Mogul where there is not so great an abundance of water.145

Another reason he gives the functioning of bleaching industry in the neighbourhood of Broach was growth of large quantities of lemons in the area, for the juice was important for bleaching:

...They (cotton fabrics) come in crude condition to Renonsan and Broach, where they have the means of bleaching them in large fields, on account of the quantity of lemons growing in the neighbourhood, for cotton cloths can never be bleached if they are not steeped in lemon juice.146

The ready availability of wood such as teak in the forests of the region which was suitable for activities such as ship building, along with the navigability of the rivers, to a considerable distance inland, aided in the growth of ship building industries in the region. Mandelslo notes the large quantity of timber being brought to Broach for building ships, which were mostly

146 Ibid, p. 5.
employed at the trade at Surat. P. Della Valle also confirms the existence of ship building industry in the town.

147 M.S. Commissariat (ed.) Mandelslo's Travels, p. 37.