A Review on Genesis, Growth and Development of Bengal Artisanal Silk Industry in India

Roy, Chandan

Kaliyaganj College, West Bengal

January 2022

A Review on Genesis, Growth and Development of Bengal Artisanal Silk Industry in India*

Dr.Chandan Roy

Assistant Professor & Head, Department of Economics,

Kaliyaganj College

Uttar Dinajpur, West Bengal, India

Pin-733129

Tel: +91-9932395130; Email: chandanroy70@gmail.com

The paper has been Published in **Integrated Journal for Research in Arts and Humanities (ISSN-2583-1712, Volume-2 Issue-4, July 2022, pp.27-37.[https://doi.org/10.55544/ijrah.2.4.54]*

A Review on Genesis, Growth and Development of Artisanal Silk Industry in India

With special reference to 'Bengal Silk'

Abstract

This paper explores how the silk production in India started flourishing from mid of the seventeenth century when the demand for cheaper Bengal silk began to rise in European market. Initially Dutch merchants were collecting the silk from domestic market for exporting it to Europe and later English East India Company (EEIC) took over the control of silk trade spreading their tentacles in different parts of Bengal. In order to improve the quality, EEIC introduced Italian technology of reeling in Bengal in 1769, though Bengal sericulture was unable to adapt the technology. Bengal economy was going through several natural calamities and domestic disturbances. From 1813 the company started selling its filatures. The economic power of *dadani* merchant, money-lenders started growing from this period and they formed a new middle class while the situation of artisan and farmer classes deteriorated. The condition of native artisans of Bengal further worsened under the rule of British Monarch as the Industrial Revolution in West set in. Being potential competitor of Machester Silk, Bengal silk faced serious crisis and eventually Bengal silk industries were transformed into suppliers of raw materials, which was driven by the national interest interests of the British Monarch.

Keywords: Artisanal Silk, Piedmontese Technology, East India Company, Bengal Silk

Introduction

The production of silk originated in China during 4th millennium BCE and remained confined within the country till the latter half of the first millennium BCE(Liangyun,1988; Vainker,2004). In India, Chinese silkworm, i.e., *bombyx mori* was smuggled during second and third centuries BC although the literary sources of 1300-1400BC mentioned the production of *tussah silk* earlier in the foothills of the Himalaya (Mookherjee, 1919; Federico, 1997). With the archaeological excavations in two sites of Indus Valley civilizations during 1999-2000, researchers started thinking about the origin of silk in Indian subcontinent in a different dimension. The volume of artifacts amassed from these two sites strongly indicates that silk manufacturing in India was equally prevalent like China and dated back to 2450-2000 BC (Ball, 2009). Fine structure of silk strands were observed in the necklaces and bangles excavated from these sites , while the precise shape of the individual silk threads determined the shape of the orifice through which they are executed. These also provide clues regarding the species of silk moths that produced the strands. Researchers show that Harappa and Chanhu-daro samples contained silk from species of Antherra moths indigenous to South Asia (Good et al., 2009). The silk fibers found in these excavations were processed using similar process of degumming and reeling as that of Chinese. Scanning electron micrograph, it has been found that some fibers were spun after the silk moth was allowed to escape from cocoons[1].

The artisanal expertise in Indian silk industry, especially in brocade weaving, was initially inculcated by Parsis in Gujarat, who had been migrated from Southern Persia (Faristan). Parsis came from the area of the Persian Gulf that was better known for its high quality pearls. They used real pearls in their manufactured silk embroidered fabric. The influence of this Gujrati silk-art work pervaded the rest of Indian silk industry in extensive manner. The silk weaving centers started developing in and around the capitals of the kingdoms and

around the holy-cities where people from affluent sections either dwelled or traversed. Along with these artisan classes a rich merchant class also developed who contributed substantially in developing of these artisanal silk with their advance capital. In the beginning their role seemed to be like a patron who sincerely desired to contribute with positive attitude that changed in course of time. The ancient silk weaving centers were situated in Lahore, Agra, Fatepur Sikri, Varanasi and Murshidabad, other than Gujarat and Malwa and South India. In subsequent sections of this paper the transforming characters of these native capitalists with the passage of time and their relation with silk artisans would be illustrated.

This paper will precisely review the genesis and development of silk industry in India since time immemorial up to the period of Independence. The historical trajectory of this artisanal growth of silk industry would be discussed with special reference to Bengal silk sector. Second section will elucidate the genesis and growth of sericulture and silk industry in Indian subcontinent starting from the ancient period up to the arrival of English East India Company in India, while the following section will at a time illustrate the problems and prospect of the artisanal silk industry during the period of British traders (1612-1757) and also for the period of the Company Rule (1757-1858). The subsequent section will explicate the situations of Bengal silk industry and the rise and fall of economic situations of Bengal artisans as resultant impact of British colonial policy. The last section will conclude the discussion summarising the over-all growth of the sector up to Indian Independence.

History of Silk Manufacturing in India till 1612

As mentioned previously, there exists an ambiguity regarding the origin of sericulture in India (Charsley, 1982). Commentators have remarked that perhaps wild silks (e.g., *Muga, Eri, Tassar*) were produced in ancient India since time immemorial. Literary source of Vedic

Period (c. 1500BC-500BC) and Epic-Purana Period (c. 200BC – 700BC) like Rig Veda, Ramayana and Mahabharata had indicated about silk. The earliest religious scripture 'Rig Veda' mentioned "urna", generally translated as some sort of silk (Dutta and Nanavaty, 2007), while another sacred law-book 'Manusmriti' referred to clothes made of silk and the great ancient Indian epic Mahabharata explained silk clothes as one of the array of luxury items brought to the court of Pandavas after their conquest of the kingdom. Again, King Yudhhisthhira received clothes woven from thread spun by worms as a gift from feudatory Princes. There are illustrations of the fabric in Ramayana too. The wedding gifts of Sita included among others 'fine silken vestments' of diverse colours. All these literary evidences point to the origin of silk (not mulberry but wild silks) in India by 1300-1400BC.

According to certain historians, the cultivation of silk first began in the sub-Himalayan areas flanked by the rivers Brahmaputra and Ganges. Mookherjee (1919) said that domestication of sericulture originated somewhere at the foothills of Himalayas. The Aryans also discovered the silkworm in these areas of Sub-Himalaya. Chinese and other Turinians found it in the ultra Himalayan regions and Semitics in the western Himalayas beyond Kashmir (Dutta and Nanavaty, 2007). However, some other commentators believed that mulberry sericulture might have entered India through overland routes from China around 140BC via Khotan (Ray, 1995).

References were cited by Banabhatta, the famous court-poet of King Harshabardhana (AD 606- 648), about the glories of silk in India during the time of early Christian era. King Harsha had decorated his entire palace with rainbow coloured silks at the time of the wedding of his beloved sister Rajyashri. That was the richness, love and tradition of Indian silk during the reign of Kings in the past. During medieval period (800AD-1800AD) silk production was practiced in India as a dependable livelihood in Kashmir, Bengal, Mysore and other parts of India. Silk production was also greatly patronized under Mogul Regime in India (1526AD-

1857AD). The writings of many medieval historians contain frequent references of silk industry and sericulture. Mirza Haider (1499 -1551) in his 'Tarikh-i- Rashidi' refers to large number of mulberry trees among the wonders of Kashmir (Mirza, 2008). Similar references are found in 'Ain-i-Akbari'(Constitutions of Akbar) in sixteenth century. In Akbar's court, Kashmiri shwals and woven silks were quite popular. As a matter of fact, Gujarati silk manufacturers and artisans were brought to the royal workshops in AD 1572 by Emperor Akbar (Blochmann, 1873). He took an intensive initiative to supervise the royal textile workshops at Lahore, Agra and Fatepur Sikri where skilled immigrated weavers from different background used to work together. The intermingling of their creative techniques brought about a great transformation in the artisanal silk industry of India. The exquisite latifa buti was the outcome of the fusion of Persian and Indian designs.

During fourteenth and fifteenth century, Moors (Medieval Muslim inhabitant of Morocco) used to export Kashmir and Bengal silk from India to European market (Nananvaty, 1990). But the Bengal silk failed to make any big dent in the European market by that time (Foster, 1622-23). During the sixteenth century, commercial production of silk had been started in Bengal by the last ruling Sultan Hussain Shah. However, prior to 1650 the Dutch company traded Bengal silk involving not greater than 10,000 rupees per annum (Prakash, 1985). During that period, performance of English company was even worse than Dutch Companies, i.e., not more than 17 percent of their meagerly invested capital in this trade in 1651 (Bal, 1924). When the British company came in India in 1612 AD, they found silk as a potentially flourishing trade. The East India Company set up trade centers at ports of Surat and Maslipatnam and a filature of silk at Patna. Later, Kassimbazar and Murshidabad in Bengal became major hubs of silk trading in India.

Meanwhile, in Gujarat, a rich section of middlemen developed between the village artisans and traders, who were known as *dadani* merchant or silk merchants. These silk dadani

merchants were having inward-looking approach and they never tried to venture the procurement and overseas interests at a time like Surat, Malabar and Coromondel Merchants (Mukherjee, 1994). These local merchants were actually intermediaries between native producers of raw silk and the exporters of raw silk and silk textiles. They used to receive the advances from Asian or European export merchants and distributed them to rural poor producers. At the time of harvest, they collected the raw silk from those poor producers and brought it to manufactories (*arang*), where export merchants could get the raw silk rewound and sorted by local artisans before sending it to European market (Chaudhury, 1995). From the third decade of the seventeenth century (with the expulsion of Portuguese forces from Hugli by Mughal forces), the influx of Gujarati merchants in Bengal became vibrant. Bengal-Surat trade developed directly in this century bypassing Coromandel ports, but the control of trade was more in the hands of Surat merchants and their Bengali agents (Chaudhury, 1971; Arasaratnam, 1987; Marshall, 1987). Thus up to mid seventeenth century, the Bengal silk industry was mainly sustained under the aegis of domestic traders (besides Gujarati traders, there were other merchants from Lahore, Multan, Banaras, Gorakhpur, Hyderabad, Delhi, Banaras and Agra) , who traded Bengal silk in Agra, Delhi, Lahore and Surat. The mid of the seventeenth century witnessed a strong connection between North India and Bengal Economies through inter-regional silk trade. John Kenn of British East India Company wrote in 1661 - '*According as the silk sells in Agra, so the price of silk in Kassimbazar riseth and falleth. The exchange of money from Kasimbazar to Patna and Agra riseth and falleth as the silk findeth a vent in Patna and Agra*' (Wilson, 1895). However, the market of this exotic fiber was still not large enough due to lack of sufficient traders and their ignorance about the market price of distant places. India's domestic market was also restricted due to ban on indiscriminant use of silk-clothes during the Mughal period.

In the international market silk trade was mainly governed by Italy and France till the seventeenth century. During 1619-1622, there was an accelerating trend in silk price due to Mediterranean crisis and famine of Italy (Ball, 1977; Romano, 1985; Cipolla, 1976). To meet the demand gap, Persian silk started dominating the market. However, that too had stopped after 1650 due to severe internal political disturbances in those regions. That was the time when the Dutch traders started importing Chinese silk and a cheaper substitute of that, i.e., Indian Silk, to European market, which ultimately made Kassimbazar (now in Murshidabad district of West Bengal) a famous silk hub in the history of silk trade.

Cheaper price of Bengal silk was explained by several historians in different ways. The most common explanation was the provision of low cost economy. Bengal could easily afford all necessities of life almost at a price that was half of that in other parts of India (Foster, 1911). Another explanation might have been the employment of family labour in the industry – the engagement of artisans' wives in winding and spinning and their children in sundry affairs (Robert, 1805). Involvement of family labour gives the Bengal artisans a cost advantage to make their products exportable. During 1635 to 1650, the volume of silk exports from Bengal to European market had risen from 15-20 thousand pound to 50 thousand pound. The year 1693-94 was marked as the highest volume of silk exportation from Bengal to Europe by the Dutch traders. Bengal silk accounted for 57.8 per cent of the total Dutch exports to Europe and 37.3 per cent of total Dutch exports to Japan (Prakash, 1985). The Dutch merchants introduced Bengal silk in Japan's market in the late seventeenth century (ibid, 1985).

European trading houses were ignorant about Bengal silk even in the second decade of seventeenth century. A letter of English factories in 1622-23 (Foster, 1908) indicated, "*Wee are glad we are acquint of further search after Beng silke, whereunto wee were somewhat engaged, for beinge (m)isleed through a veyne promise of an unable merchante to write of*

some large hopes of good quantetyes procurable in these parts, which after soe longe expectaction vanisheth into smoke, for here seldome comes anye eyether in itts quantety or condiction worth the surveigh…". [Letter of W.Methwold and F.Futter at Masulipatam to Surat, in William Foster, The English factories in India, v.2, 1622-23, c.2]

According to another study (Master, 1911), the EEIC was investigating the possibilities of buying Bengal silk instead of Surat silk mainly due to cheaper cost of the raw silk. In the 1620's, the commercial mission of Hughes and Parker was to ascertain the commercial value of Bihar and Bengal silk. They reported back to their superiors that the best silk came form the vicinity of Murshidabad, where silk could be bought 20 percent cheaper than the rest of India. Thus within the mid of seventeenth century, history witnessed East India Company setting up their permanent silk factories in Bengal. They established silk factories in Baulia, Kumarkhali, Kasimbazar, Jangeepur, Malda, Radhanagar, Sarda, Rangpur, Sunatia, Haripur, Shantipur and Sonamukhi. They competed with Dutch companies for control over the supply of Bengal Silk in European market. They started filling their coffers with raw silk. They set up their trade centers in parts of Surat and Maslipatnam and a filature at Patna to decentralize the location of sericulture.

British East India Company was very much eager to exploit the inner potential of Bengal silk artisans in world market. They identified mainly two shortcoming of Bengal Silk- Firstly, the presence of different sorts of the threads in the same skein; and Secondly, the fact that Bengali artisans did not cross filament of cocoons when they reeled the silk which made the silk lacking of roundness and lightness. In order to increase the volume of sales of Bengal silk, the Court of Directors drastically changed the Bengal reeling technology. In 1769, the company contacted with experts to introduce Piedmontese-technology to Bengal sericulture (Davini, 2008). The introduction of Piedemontese reeling method brought about a revolution in both Bengali cottage productions and marketing organization. To assess the impact of this

Piedemontese technology, Moioli (1981) explained that Mediterranean low quality silk was driven out from the London market as the first wave of panic of this British experiment with Bengal Silk was spread to the areas like Lombardy, the lower Rhone Valley, Calabria and Valencia. In 1681 the company invested £ 230,000 in Bengal Silk Industries. In 1698, Bengal silk fetched a peak price in London as the silk crop failed in both Italy and France. Within 1740, the English East India Company (EEIC) emerged as a greater trading company as compared to Dutch. The year 1813 was marked as the end of the monopoly power of the East India Company in terms of trade. But Bengal silk was still reigning in the export-basket of British traders.

Regarding British silk trade Bal Krishna(1924) remarked, '*This trade was, in fact, so vigorously pushed up that during the next five years [1680-81 to 1684-85] an unparalleled advance was made in the quantities to be procured in Bengal. In the earlier or subsequent history of the Company up to the Battle of Plassey(1757), such extensive amounts were ordered.'*

The French Company also appreciated the merits of Bengal Silk yarn. In a letter written in 1660's Berneier[2] urged the French to concentrate on Bengal silk, that according to him would be as good as Lebanon Silk or Syria Silk with little improvement (*Indes Orientales : Correspondence General, 1666-1676).* However, the access of French traders to the Bengal silk market was not as vibrant as Dutch and English traders in the pre-colonial era.

Indian Artisanal Silk Industry during Company Rule (1612-1858)

The commencement reference frame has been chosen since 1612 as it demarks the arrival year of the English East India Company (EEIC) in India and EEIC would be playing a dominant role in changing the trade and commercial policies of India in later phase. During

1612-1757, the East India Company set up various factory towns in coastal India with the consent of the native states mainly to strengthen its business interest while its close competitors were Dutch and French companies. After the Buxar war in 1764 and Battle of Plassey in 1757, the company virtually became ruler of the Presidency and continued to remain so till its cessation of power by British Monarch in 1858. During 1757-1858, EEIC had adopted several policies to improvise the artisanal silk sector though the consequential adverse impact could never be undermined. This section would attempt to portray the chronological progress of the artisanal silk sector during the period 1612-1858 with special reference to Bengal silk industry.

During 1870 to 1930, a national market emerged in a number of basic goods and services that were imperfectly traded before and agricultural goods were certainly amongst them. Labour which became more mobile than before was another. It was opined by many economists and historians that India's history and political economy was overwhelming and more powerful during this time. Handloom weaving industry was deeply influenced by the exposure to import substitutes. It was also explained by several commentators that industrialization in Britain meant deindustrialization for her colonies. There was a sharp contrasting view which states that creative impact dominates. In either view, the dominant source of change was long distance trade. The sixty years between the opening of Suez Canal (in 1869) and the Great Depression (in 1929) witnessed an almost continuous growth of external and internal trade and changes in the nature of trade in India. Foreign trade became an immensely more powerful economic variable than before. Exports expressed as a ratio of national income increased from small amounts in pre colonial period to 10-11per cent in the inter war years. This ratio has been assumed to be a rough ratio of the importance of trade by many experts. In 1925, it was about 11 per cent of national income. The value of exports increased fifty

times during1835 to 1925 and possibly over a hundred fold between 1760 and 1925 (Guha, 2013).

However, raw silk production in India (precisely, in Bengal) continued to be an independent peasant activity and free from supervision and control by any higher authority, starting from its commercial introduction in sixteenth century till the adoption of Italian technology (i.e., Piedmontese technology[3]) in 1769, by the English East India Company (EEIC), The activity was dominated by a large section of poor farmers and sericulture artisans, applying rudimentary method of production and lacking sufficient capital to invest in it. The peasants harvested cocoons four to five times a year and the mulberry was cultivated on the best of the lands. The use of family labour made the activity more intensive despite having several quality related loopholes. The next stage of operation was reeling, which was again under the control of peasant-artisans (mostly the same person). The artisans had two choices regarding this particular activity. They could either use their own family labour (especially the domestic women) to reel the yarn or they could have them reeled in *Putney* by *Cuttani* (the reelers visiting the village market) during the harvest season. In *Putney* cocoons were reeled and then the merchant's agent brought them in manufacturing centers *(arang*) to rewind and sort it by the winders (naccuds) (Williamson, 1775; Mukherji, 1903).

The silk artisans of India (precisely of Bengal Presidency[4]) faced several hazards starting from lack of usury capital, technical know-how and quality-control supervision to external intrusion which acted as a hindrance in the development of sericulture as a dependable livelihood during the colonial period. The problems can be categorized under following heads:

- Incursion of Maratha (1740), Bengal Famine (1768-69) and intensive flood of 1787 hit silk areas particularly very hard. The Marathas had exclusive intention to destroy the silk centers of Bengal Province (Dimock and Gupta, 1965).

- Capital insufficiency was another reason which made the poor artisans getting exploited in the hands of *dadni*[5] *merchant.* EEIC was successful in conquering most sericulture artisans through a commercialization process imposed upon a subsistence domestic economy by making him dependent on usury capital (Davini, 2008). From 1790 onwards these artisans were forced to sell their cocoons to company's agents at a very low price. They were compelled to accept the lower price of the company because they had to pay higher rents for the land of mulberry cultivation. The silk artisans were left with no choice other than the market relation with EEIC (Mukhopadhyay, 1995).

- The Bengal silk artisans failed to produce quality silk due to lack of supervision and quality control by the authority. During the Mughal and Nawabite period, the state's interest was centered on revenue collection from mulberry land. The merchants and bankers were interested about marketing and exporting and never tried to intervene in quality augmentation procedure. *Zamindars* and *taluqdars* preferred to cultivate rice instead of mulberry and collect taxes from peasants on behalf of government (Dutta, 2000).

- Fluctuating costs of alternative crops made the sericulture farmers unsteady with his production. The farmers kept on changing his production crops which affected the expertise of the artisans and their power of precision with certain specific skill required

in silk production. According to Chowdhuri (1998), peasants' decisions to enter and exit from the silk sector were purely rational as they wanted to allocate their resources in the best possible way. But this fluctuating behaviour had degraded the intensity of silk production by artisans to considerable extent. For example, at the beginnings of 1780, the peasants who entered the silk sector because of EEIC's lucrative offer a decade ago, decided to stop the production of silk.

- During the late seventeenth and eighteenth century (1689-1763), the war between France and American colonies had affected the EEIC's decision about investment in silk production. The rice shortages in Northern India at the same time raised the price of rice. This induced many farmers to reconvert their lands for rice production.

- EEIC decided to introduce the Piedemontese technology in Bengal in 1769, but the Bengal Famine (1768-69) had taken away one-third of agrarian Bengal population which made the technology temporarily ineffective for the labour scarce economy of the then Bengal. However, from 1789 to 1822, the Bengal population has shown an impressive growth rate of population from 22 million to 37.6 million (Bose, 1993).

- The village money-lenders (or *mahajan)*), who were inserted in the official list of intermediaries, made the life of sericulture farmers miserable to a greater extent. These *mahajans* were protected by the Company against any social injustice they had committed. They used to charge higher rates of interest on exchange of several consumption loans and the poor farmers usually got trapped in these loans net. Like company intermediaries, the *mahajans* used corporal force to confine farmers in case

they failed to give their produce. These kinds of torture led to inter-regional migration of farmers in many areas (WBSA, BoR, 1791).

Hutkova's analysis (2015) threw search lights on deficiency in production organization, which she identified as the chief contributor of this failure. She opined that factor endowments including low labour costs, cheap cocoons, everything was compatible to this new technology. But too much attention to technical aspects of production without efficient management practices and system of organization made this venture unsuccessful.

East India Company's Incentive Policy for Sericulture Artisans

In order to encourage the sericulture farmers, especially in the context of depopulated Bengal economies, English East India Company (EEIC) introduced some policy incentives in their Regulation 1972. The company explicitly affirmed that coercion policy would not be exercised. The peasants who decided to enter the sericulture sector would receive favourable rent. This regulation contributed to the increase in mulberry cultivation in 1770.

In 1789, following the devastating flood in Bengal, a similar situation of diminishing sericulture interest was observed among the Bengal peasants. The company again tried to convince the farmers to return to sericulture by proposing the same regulation as in 1772. The most significant observation in this context is that the farmers this time clearly understood the policy of incentives better than before and they bargained for cash incentives (*taqavi)* this time (WBSA, BoR, 1789). Peasants became prudent enough to deal with these incentive policies in the context of depopulated areas. Very often they filed grievance petitions to the Collectors of Districts giving subtle threat of leaving their abode which was again sent to

Board of Trade or Board of Revenues. Thus the peasants were able to turn the political economy of external power to their own advantage.

History of Indian Silk Industry during the Colonial Period (1858-1947)

The period under the British Raj was commenced after the Indian Rebellion of 1857 and subsequent transfer of administrative right from EEIC to the British Monarchy. Although the process of extension of market economy had begun from early decades of nineteenth century, it gathered momentum only after 1850. Around this time the colonies of Europe were turning into suppliers of food and raw materials for the sake of the on-going industrialization process in Europe (Roy, 2000), while raw silk sector was one of the leading sectors for India. Peasants, artisans and merchants responded positively to this decision which resulted into increased export oriented production.

In 1860, the usual unit of operation in weaving was the household, where the adult men were working as weavers and adult women on winding and sizing the operations and children as assistants in both weaving and winding. These factories employed mainly migrant labour and made money out of silk trade (ibid, 2000). Capital and labour involved in these silk manufacturing industries became increasingly mobile and there was migration from rural regions to new points of trade, as evidenced in Burhanpur and Surat. The weavers usually used to come from depressed or over populated regions.

Since 1873-74 the price of Bengal silk continued to fall in the international silk market and gradually the silk industry diminished down to nowhere before the end of the British colonial period. Though Bengal and Kashmir silk artisans shared the same fate of decline, the worsening situation of the former was greater than the later. On the other hand, the sericulture started rising with new vigor in Mysore under the supervision of Tipu Sultan in eighteenth century. Tipu made Mysore a leading silk producing state and took help of the foreign

government to train artisans. Hanumappa and Erappa (1988) had elaborated how sericulture fuelled the rural artisans in this princely state. The technology was transferred from Bengal. Japanese and Italian silkworm strains were imported and experts were also hired from these countries (Navanty, 1990). Spread of disease during 1866 and the world depression in 1929 along with competitions from imported silk and rayon lead to downfall of Indian Silk Industry on the eve of World War-II. A tariff protection commenced from 1934 to save the industry from cheap imports of silk (National Commission of Agriculture, 1976). During the Second World War there was a temporary boom in the Indian silk industry due to the demand from the Allies for silk manufacture of parachutes.

Bengal Silk Trade in Pre-Independent Period

The practice of sericulture and manufacturing of silk in Bengal had perhaps begun in the fifteenth century, though no specific evidence has been found till date (Guha, 2003). Walsh (1902) narrated it by stating 'it is impossible to discover the date at which the silk industry commenced in Bengal, but it must be of great age.' But the silk industry was one of the earliest of all industries which preoccupied the servants of the East India Company in Bengal. The trade status of Bengal silk bears a glorious heritage, as it has been noted by many famous travelers and historians during the period of Great Moghuls. Bengal silk fabric allured British traders to initiate silk-trade. In 1612, Sir Thomas Roe in his embassy to 'Durbar' of Jahangir offered silk clothes of Malda and Murshidabad in order to receive trade approval in Bengal silk. However, his mission remained partially successful, as Jahangir had granted them the right to establish farms in the port of Surat but not in Bengal Presidency. Richard Hughes, the Chief of Patna Factory, reported in 1620 about the potentials of Bengal silk farms. He informed the Surat Council that the Bengal silk could be easily procured in abundance in Patna at a price 35% cheaper than that of Agra. He further pointed out that at Murshidabad an infinite quantity of 'choicest staff' could be had, at least 20% cheaper than in any other place

of India. Though Bengal Silk was evidenced to be known as "Ganges Silk" in distant Italy as early as in thirteenth century, the East India Company started extensive silk trade in 1651 after receiving *Farman* from Prince Shah Suja.

The rural households of the then Bengal was mostly engaged in three stages of production: mulberry cultivation, silkworm rearing and reeling of yarn. They used to sell the raw silk to specialize weavers in nearby villages or towns and the trade volume was quite remarkable. The *Pundra* caste was the hereditary silkworm rearing caste and they practiced sericulture in Malda and parts of Borga, Rajshahi and Murshidabad (Guha, 2003). Pundra region in Bengal had started receiving importance almost equivalent to Benaras silk which possessed age-old reputation. As a matter of fact, the productive potentials of Bengal had attracted the European traders and from the modest beginnings in small trading posts, these English and Dutch Trading Companies came to dominate the trade. They gradually influenced the types of textiles produced and also organized a shift from textiles exports to the exports of raw silk, which was actually the requirement of far flung markets.

During the first wave of globalization, the progress of sericulture in Bengal was mainly trade driven which was clearly evident in the process of marketing organisation and production structure. The opening up of the Hugli Factory in 1651, the Kassimbazar Factory in 1658 and the Malda Factory in 1680 by the East India Company substantially helped them in conducting an extensive trade in Bengal (Chaudhury, 1975). In order to ensure steady supply of raw materials, the company made some strenuous efforts to increase the production of silk. The company expanded mulberry cultivation areas and silk factories and filatures. In a number of specialized villages scattered throughout the north western part of Bengal, peasants cultivated mulberry on their small plots of land, reared silk worms and reeled raw silk within their households. In Kasimbazar, the principal market of raw silk, the *dadani merchant*[5] received the advances from Asian and European export merchants and distributed

them to village producers. At harvest time, they collected raw silk from the peasants and brought it to the manufactories, where the export merchants could get the raw silk rewound and sorted by the native artisans before sending it to their home markets. Gujarati, Multani, Patna, Armenians and Europeans were the principal exporters while the Bengali dadani merchants specialized in the intermediation between the exporters and producers (Mukherjee, 2006).

Throughout the seventeenth century Bengal silk was the cheapest of all other silks including Persian and Chinese silk. In 1683, the Dutch company made a profit of about 200% in Bengal silk mainly due to its abysmally low price. The English company too made a profit of 250% in the sale of Bengal-silk brought by Maratha in 1695-96 (Chaudhury, 1975). Allured by this pay-off, the East India Company prohibited its servants in 1671 to deal in Chinese silk so that Company's monopoly in Bengal silk could be inflated. From the last quarter of the seventeenth century the Court of Directors urged to invest more and more in Bengal silk. "In 1675 they asked the Hugly Agency to take up twenty thousand pounds by exchange and invest in raw silk and repeated their instruction in their letter in 1676 (ibid, 1975). The court wrote in 1677 that the Malda goods had a great demand in the market. Thus a supply emphasis was laid by the Company on the trade of raw silk from Bengal.

In this way the foreign merchant driven growth of sericulture and silk industry kept on expanding till 1740 as it had attracted European companies for securing raw-silk and fabrics from Bengal, particularly of Malda and Murshidabad. From 1701 to 1740 raw silk import from Bengal was higher than that of China (see table 1). During 1740-50, no raw silk was imported from China to England.

During 1742-1751, the consecutive invasion of Maratha intruders destroyed the silk production and economic life of the artisans[6]. The Court of Directors finally took interest in

this regard and suggested EEIC to plant mulberries and establish cocoon rearing farms as well as reeling and weaving units in safer place (another side of the river Padma[7]). The Maratha invasion resulted into a considerable decline in the growth rate of imports that had been observed during the decade of 1740-1750. Again Anglo-French conflict and the wars with Nawabs of Bengal upset this splendid trade. During 1751-1760, East India Company's imports from China rose three times than that from Bengal. Bengal witnessed a serious recession in this phase. During the early phases of 18th century Bengal silk was so popular to British customers that a separate law was enacted to protect and encourage the woolen industry. However, that law could not affect the sericulture dependent economy of Bengal very seriously. As there was an increasing demand of raw silk in United Kingdom, sericulture received much more attention from the East India Company than the weaving of silk fabrics (Ghosal, 1966).

Table 1. Raw Silk Import from Bengal & China by EEIC during 1701-1740

Years	Raw Silk Import from Bengal (in lbs.)	Raw Silk Import from China (in lbs.)
1701-1710	514364	317539
1711-1720	578004	55180
1721-1730	1046861	85303
1731-1740	1416911	77063
1741-1750	896052	NA
1751-1760	428072	12995338

Source: K.N. Chaudhury (1978), Trading World of Asia and the English East India Company (1660-1760), Cambridge, 1978, pp 533-535.

The Company got the 'Dewani of Bengal' in 1765. After the acquisition of Dewani, the Company took serious interest in raw silk business. The silk manufacturers were forced to work as silk winders to the Company's factories and they could not work elsewhere (Dutt, 1956). The ryots[8] were encouraged to undertake mulberry cultivation and the waste lands were given to them rent-free for two years.

Impact of Piedmontese (Filature) Technology on Bengal Silk

The major quality inadequacy with Bengal raw silk was its inequality in the same skin. The mode of assortment was also neglected. The Bengal artisans could not cross the filaments of cocoons when they reeled the silk, which resulted in lack of roundness and lightness indispensable to produce good thrown silk (Carlo Poni, 1981). The Court of Directors informed the Bengal Government that unless the defect got rectified the EEIC must throw out its exportation to England (Report on Silk, 1836). It was under these circumstances that the company decided to introduce the Italian method of reeling and spinning in Bengal, which came to be known as Piedemontese technology or Filatures. In 1769, the Company contacted with three managers – an Italian, a Frenchman and an Englishman to teach the native artisans about use of Piedemontese reeling machine and the management of filature.

The first filature in Bengal was built in 1770 and the first consignment of silk-filature that reached England was in 1772. It took about fifty long years for the Company to convert whole of its investment in silk into filature assortment. Introduction and consequent extension of this filature reeling method brought a revolution in Bengal cottage production as well as marketing organization of Bengal raw silk. EEIC had to struggle hard to make filatures acceptable in India. Although the entire project was beneficial for the rank and file, nevertheless it took much time to gain popularity due to traditional customs preferring orthodox artisans of Bengal. According to some historians, the conflict between original

Bengal cottage system and the new Piedmontese filature system had caused friction and tension because of widely differing interests of several sections of people (Mukhopadhyay, 1995). Under the traditional Bengal cottage organization, the peasants had complete autonomy over the quality they wanted to achieve. They decided whether to obtain a fast reeled coarse silk or a finer quality manufactured through slower and more accurate reeling. These decisions were simultaneously influenced by quality of cocoons and market trends. They knew that demand from different communities of raw silk exporters varied with place where subsequently the silk were woven. From 1790s onwards the peasants were forced to sell the cocoons to the company's agents at a very low rate. This force of commercialization had reduced the production cost of raw silk on one hand and also compelled the peasants to depend upon its agents by means of a debt bond created by the advance. Thus the peasants had no other market relation other than with the Company.

During the early colonial period, the Bengal mulberry cultivators demonstrated their capacity for improving their economic situation through entering silk sector when prices of other crops were low and abandoning silk sector as soon as the opportunity cost started rising. It was evidenced in 1780s, as the peasants who had entered into silk sector in the previous decade autonomously decided to stop their involvement with silk in the successive decades. Thus the social and demographic pressure drove the peasantry to turn the cultivation of high value and labour intensive crops to supplement a diminishing income from smaller plots of lands (Bose 1993). The war between France and America[9] also left some impact on silk production inside India as the company took the decision to stop its investment in silk. At the same time there was rice shortage in Northern India leading to a rise in price of Bengal rice. This resulted in most of the mulberry cultivators converting their lands to cultivation of rice.

The Court of Directors in a painful letter wrote to the Bengal Government about the depressing situation of silk market in Europe. The Director decided to reduce the quantity of

raw silk import due to fall in demand of silk throughout Europe. The company had a loss of more than 4 per cent on raw silk and many of silk goods remained unsold. However, the silk manufacturers of England in their memorial to the court pointed out that the ready availability of Bengal raw silk would be beneficial to national interests if surplus raw silk could be successfully brought to use at the silk factories of England (Millburn, 1813). Ultimately, the Court of Director accepted the proposals and accordingly instructed the Bengal authority to increase their supply of raw-silk. During the year 1803, the supply of Bengal raw silk rose to nearly 150 bales a year. From 1803, the export of Bengal silk to England rose steadily, but the silk supplied by the private traders was not of good quality.

Table 2 : Profits of EEIC by Imports of Raw Silk to Britain (1786-1803)

Year	Prime Cost (including Frieght & Charges) (£)	Profit (£)	Loss (£)
1786	192,898	5,609	0
1787	133,795	11,917	0
1788	212,357	9,531	0
1789	268,790	12,539	0
1790	274,553	34,203	0
1791	290,419	30,236	0
1792	378,512	13,415	0
1793	335,315	0	53224
1794	290,419	19,324	0
1795	378,512	2,873	0

1796	335,315	0	7888
1797	262,917	0	4273
1798	277,990	44,883	0
1799	324,460	65,689	0
1800	208,969	88,676	0
1801	262,428	132,982	0
1802	156,502	112,747	0
1803	195,117	97,542	0

Source: Millburn (1813)

Political economy of British Government was largely responsible why EEIC was sticking with the business of silk manufacturing in Bengal. The successive years after the introduction of Piedmontese technology witnessed steady rise in trends of profit earning with little aberrations, despite the low and sub-standard of Bengal silk. By 1780s Industrial revolution was set in Britain. Thomas Lombe's success in Derby's silk factories induced many others to open silk mills in London, Norwich, Macclesfield, Chesterfield and Stockport. These industries started demanding huge raw silk for production of silk clothes in their factories. In 1793, another silk mill in Kent was opened by George Courtauld and Peter Nouaille. Later, Courtauld opened his own mill in Essex, specializing in crape and hard silk used mainly for mourning clothing (Simkin, 1997). In this way, silk production in Britain increased rapidly. The British Government was dependent to their colonies for supply of raw-materials. This ultimately destroyed the production of silk fabrics in Bengal province and only raw silk material was imported to Britain by EEIC. Thus growth and expansion of silk production in Bengal was interpreted as extension of British policies.

The rigorous enforcement of the Continental System (1806-1807) by Napoleon and the entire cessation of the customary importation of Italian raw silk into Great Britain helped to

revive Bengal silk trade to some extent during the first decade of nineteenth century. The Bengal Government was asked to increase the annual export of Bengal raw silk by 4000 bales. The development in silk investment during this time was remarkable. Buchanan (1928) mentioned that in Purnea district about 47,000 persons got advances from factories of Malda, Murshidabad and Jungipur for the supply of cocoons and Purnea supplied around 44,000 maunds of cocoons to these factories every year during this time. In those days, important silk production centers were Kasimbazar, Jungipur, Malda, Kumarkhali, Rampur, Boalia, Rangpur, Radhanagr and Gonutea (Roy,2014).

Finally, the Charter Act of 1833 compelled the East India Company to wind up its silk trade in Bengal and they had to withdraw in 1835. Presumably, this had a serious adverse effect on the silk industry of Bengal. However, the silk business lingered in the hands of the private traders. Cocoon exports were initiated from Bengal during 1870-71 and import of Bengal silk was considerably reduced. The once flourishing silk industry of Malda and Murshidabad, which was the glory of India became the worst victim of the British Colonial and industrial policy and thus caused economic distress among the people of the country. The market forces once encouraged the growth of silk industry during the pre-colonial period and early colonial phases and Bengal had gained economic stability through this industry (Anstey Vera, 1952). But, in the phase of full colonialism, India, which was the hub of a large part of the world's commerce, lost her position and the mulberry planters, the cocoon rearers, the silk reelers, the weavers, the indigenous merchant men, all who were connected with this industry lost their financial base due to the economic dislocation caused by the colonial policy of the company.

In the early twentieth Century, Bengal silk was pushed out from South Asian market especially by its domestic rivals Kashmir and Mysore silk. By the 1930s, Chinese and Japanese silk started replacing Bengal silk even in its domestic space. In terms of employment this resulted in loss of economic opportunities to hundreds of silk artisans in

Bengal. The area under cultivation of mulberry in Bengal fell from 54000 hectares in 1896 to 7000 ha in 1914 and 4000 ha in 1937. After partition in 1947, most silk producing areas of Bengal became part of West Bengal in India. Less than 10 percent of Bengal mulberry area was in Rajsahi, i.e., East Pakistan (presently In Bangladesh). At the time of independence, there was 4047 hectares of mulberry plantation area in West Bengal and annual production of raw silk was only 215MT.

Summary and Conclusion

I explored how the silk production in India started flourishing from mid of the seventeenth century when the demand for cheaper Bengal Silk began to rise in European market. Initially Dutch merchants were collecting the silk from domestic market for exporting it to Europe and later English East India Company (EEIC) took over the control of silk trade spreading their tentacles in different parts of inside and outside of Bengal Presidency. However, the British traders understood that only low-priced silk could not retain their market status; so they had introduced Italian technology (known as Piedmontese Technology) of reeling in Bengal Sericulture in 1769. Bengal sericulture was never an ideal place for the implementation of Piedmontese technology despite having abundant labour and cheap price of cocoons; moreover Bengal economy at that period was going through several natural calamities and domestic disturbances. Even the first half of nineteenth century witnessed prosperity in silk trade, while from 1813, after the loosing of EEIC's monopoly over trade, the company started selling its filatures. The trade was still growing as the filatures were purchased by other British and Indian traders. The economic power of *dadani* merchant, money-lenders started growing from this period and they formed a new middle class while the situation of artisan and farmer class were worsening day by day. The socio-economic condition of artisanal classes in Bengal was wretched compared to their counter parts in other portions of the country, though silk weavers were universally earning higher income than the coarse cotton

weavers in the colonial era. The condition of native artisans of Bengal further deteriorated under the rule of British Monarch. The orientation of the monarchy was never in favour of promoting this artisanal industry, rather it was being exploited as suppliers of raw metrials to the British silk factories which caused further fall of this domestic industry. Bengal silk was worst hit than any other parts of the country as it was potentially more competitive to Manchester Silk. Thus ups and downs of silk industry were mainly driven by the policies of British Government and trade interests of the foreign merchants.

Acknowledgement: I am grateful to Professor Sanchari Roy Mukherjee of University of North Bengal, for reading the drafts of this paper and helping me with her comments and suggestions.

End Notes

1. This spinning technique is exactly similar which has been promoted by Mahatma Gandhi much later.

2. Francois Bernier was French Physical of Mogul Emperor Aurangzeb, who visited Kashmir and Bengal and wrote 'Travels in the Mogul Empire' where indication of silk, muslin, fine brocade was quite prominent.

3. Piedmontese technology was the improvised Italian silk-reeling technology which was introduced in Bengal by British East India Company in 1769.

4. Bengal Presidency was established in 1690 which comprised the areas now within Bangladesh and the present West Bengal, Assam, Bihar, Meghalaya, Tripura, and Orissa. It also includes all the British Possessions of the Central Provinces (Madhya Pradesh) from the mouths of the Ganges and Brahmaputra to Himalayas as well the Punjab.

5. Dadani merchant is a local community specialized in the intermediation between the producers and exporters of raw silk and silk textiles.

6. See Edward C Dimock & Pratul Chandra Gupta's 'The Maharashtra Purana. An Eighteen Century Bengali Historical Text', Honolulu: East-West Centre Press, 1965.

7. The Podda (or Padma) is the main distributary river of the Ganges and also the transboundary river between two Bengals, West Bengal and Bangladesh.

8. A ryot was defined as someone who has acquired a right to hold land for the purpose of cultivating it, whether alone or by members of his family, hired servants, or partners. It also referred to succession rights.

9. This war was, alternatively known as Quasi War, which was an undeclared war fought between US and France during 1798-1800 on the ground of some economic issues.

Reference

Anstey, V. *The Economic Development in India*, London, 1952.

Arasartanam, S. 'India and the Indian Ocean in the Seventeenth Century', in A. Das, & M.N. Pearson eds, *India and the Indian Ocean 1500-1800*, Calcutta : Oxford University Press, 1978, pp 94-130.

Bal, Krishna '*Commercial Relations between India and England'*, London, 1924.

Ball, I. N. *Merchants and Merchandise, The Expansion of Trade in Europe*, London: Croom Helm. 1977.

Ball, P. 'Rethinking Silk's Origin : Did the Indian Subcontinent Start Spinning Without Chinese Know-how?', *Nature*, Feb 17, 2009.doi:10.1038/457945a.

Blochmann, H. *The Ain-I-Akbari by Abul Fazal 'Allami*, G.H. Rouse, Baptist Mission Press, Calcutta, 1873.

Bose, S. *The New Cambridge History of India. III:2 Peasant, Labour and Colonial Capital in Rural Bengal since 1770*, Cambridge University Press, 1993, pp 38-45.

Buchanan, F. *An Account of District of Purnea* in 1809-1810, Patna, 1928.

Carlo, P. '*Misuracontromisura: come il filo di setadivennesottileerotondo, Quaderni Storici*', 47(Aug), 1981, pp. 385-423.

Charsely, S.R. *Culture and sericulture: Social anthropology and development in a South Indian livestock industry* London: Academic Press,1982.

Chaudhury, K.N. *The Economic Development of India under the East India Company (1814-1858)*, Cambridge, 1971.

Chaudhury, K.N. *Trading World of Asia and the English East India Company (1660-1760),* Cambridge, 1978, pp. 533-535.

Chaudhury, K.N. 'Reflections on the Organising Principle of Pre-Modern Trade', in J.D. Tracy ed. *Political Economy of Merchant Empires*, Cambridge: Cambridge University Press, 1998.

Chaudhury, S. *Trade and Commercial Organisation in Bengal*, Calcutta, 1975.

Chaudhury, S. 'International Trade in Bengal Silk and the Comparative Role of Asians and Europeans circa 1700-1757', *Modern Asian Studies*, 29(2), 1995. pp 373-386.

Cipolla, C. M. *Before the Industrial Revolution, European Society and the Economy, 1000-7000*, London: Methuen, 1976.

Davini, R. 'The History of Bengali Raw Silk as Connective Interplay between the Company Bahadur, the Bengali Local Economy and Society and the Universal Italian Model, c.1750-c.1830', *Commodities of Empire*, Working Paper # 6, 2008.

Dimock, Edward and Gupta, C. P. *Maharashtra Purana : An Eighteenth Century Bengali Historical Text*, East-West Centre Press, Honolulu, 1965.

Dutt, R. C. *The Economic History of India under Early British Rule*, Routledge, 2000.

Dutt, R. C. *The Economic History of India under the Early British Rule, Vol.I,* London, 1956.

Dutta, R.K. and Nanavaty, M. *Global Silk Industry*, APH, Publishing Corporation, New Delhi, 2007.

Federico, G. *An Economic History of the Silk Industry, Cambridge Studies in Modern Economic History1830-1930,* Cambridge University Press, 1997.

Foster, W. *The English factories in India 1634-36*, Volume.5, Oxford, 1911.

Foster,W. *The English factories in India: 1622-23*, Clarendon Press. Oxford, 1908.

Ghosal, H. R. *Economic Transition in the Bengal Presidency 1793-1833*, Calcutta, 1966.

Good, I. L., Kenoyer, J. M. , and. Meadow, R. H. 'New Evidence for early Silk in the Indus Civilization', *Archaeometry*, Volume 51, Issue 3, 2009, pp. 457–466 .

Guha, S. C. *Silk Industry of Malda and Murshidabad from 1660 to 1833*, N.L. Publishers, Siliguri, 2003.

Hanumappa, H. G. and Erappa, S. 'Sericulture in Princely Mysore (1914-1945) a Survey', paper presented at seminar on *South Indian Economy, c. 1914 -1945*, CDS, Trivandrum, April, 25-28, 1988.

Liangym, M. *China's silk patterns through the Ages*, Beijing China Textile Press, 1988.

Marshall, P.J. *The New Cambridge History of India, II 2: Bengal: The British Bridgehead, Eastern India 1740-1828*, Cambridge: Cambridge University Press, 1987.

Master, S. *'The Diaries of Streynsham Master 1675-1680'* in R. C. Temple, ed. London,1911.

Millburn, W. *Oriental Commerce*, Vol.2, Black, Perry & Co., London, 1813.

Mirza Md. H. D. *A History of the Moughals of Central Asia: The Tarikh-i-Rashidi*, In N.Elias ed, E.Denison Ross (Translator), Cosmio Classics, 2008.

Moioli, A. *La Gelsibachicoltura nelle campagne lombared dal Seicento allo prima meta dell'Ottocento* (Trento : Libera Universita degli Studi di Trento), 1981.

Mookherjee N.G. *Monographs on the Silk Fabrics of Bengal*, Calcutta: Bengali Secretariat Press, 1903.

Mookherjee N.G. *Handbook of Sericulture*, Government Book Department, Calcutta, India, 1919.

Mukherjee, R. *Merchants and Companies in Bengal: Kasimbazar and Jugdia in the Eighteenth Century*, New Delhi: Pragati, 2006.

Mukherjee, R. 'The Story of Kassimbazar: Silk Merchants & Commerce in Eighteenth Century India', *Review*, vol. 17(4), 1994, pp 499-554.

Mukhpadhyay, B. 'Orientalism, Genealogy and the Writing of History : the Idea of Resistance to Silk Filature in Eighteenth Century Bengal', *Studies in History*, 1995, pp. 189-226.

Nanavathy, M. '*Silk, Production, Processing and Marketing'*, Wilely Eastern Ltd. N. Delhi, 1990.

National Commission of Agriculture *'Report of the National Commission on Agriculture, sericulture and apiculture'*, Government of India, Ministry of Agriculture and Irrigation, New Delhi, 1976, pp. 447-480.

Prakash, O. '*The Dutch East India Company and the Economy of Bengal, 1630-1720'*, Princeton University Press, 1985.

Ray, H. 'The Southern Silk Road from China to India – An Approach from India', in Y. –X. Jiang ed. *Studies of Ancient Silk in South West China*, Sichuan University Press, 1995.

Robert, O. *Historical Fragments of the Mogul Empire*, London, 1805.

Romano, R. 'Between the Sixteenth & Seventeenth Centuries: The Economic Crisis of 1619-1622', in G. Perker & L.M. Smith eds. *The General Crisis of the Century*, London: Routledge, 1985,pp. 165-225.

Roy, C. '*Resham Utpadaner Orthanaitik Itihas O Banglar Arthaniti'* (Economic History of Silk Production & Bengal Economy), *Itihas Anusandhan-28*, Paschimbanga Itihas Samsad, 2014, pp.345-351.

Roy, T. 'De-industrialisation: Alternative View', *Economic and Political Weekly*, 35 (17), 2000, pp. 1442-1447.

Simkin, J. 'Silk Industry', *Spartacus Educational*, www.spartacus_educational.com, 1997.

Vainker, S. *Chinese Silk : A Cultural History*, Rutgers University Press, 2004.

Walsh, J.H.T. *A History of Murshidabad District*, London, 1902.

WBSA, BoR (Miscellan) 'Complaints of the Ryotts belonging to the three shares of the Pergunnah Lushkerpore against the Merchants', enclosed in *Letter from the Collector of Moorshedabad* , 11January 1791.

WBSA, BoT (Comm), *Letter from Rangamatty*, 26 January 1789.

Williamson, G. *Address to the Court of Directors, together with the proposals to them for improving the Manufacturer of Silk in Bengal*, London, 1775.

Wilson, C.R. *The Early Annals of the English in Bengal being the Bengal Public Consultations for the First half of the Eighteenth Century,* London, 1895.