

**SILK INDUSTRY OF MALDA AND
MURSHIDABAD FROM 1660 TO 1833 :**

**A STUDY OF ITS PRODUCTION ORGANISATION, PRODUCTION
RELATIONS, MARKET AND THE EFFECT OF DECLINE
ON THE ECONOMY OF THE PEOPLE**

181551

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INTRODUCTION

Of the two major industries of pre-colonial Bengal, one being the Silk and the other textile, the silk industry used to play a significant role to provide employment for the Bengal artisans. Silk production was indeed voluminous, and in the domestic market as well as in the export trade, since early 17th century, silk's importance as an export commodity was undeniable. Not only that, even when the textile trade started to decline the preference for Bengal raw silk in the European market was steadily sustained by the in-put requirements of the expanding industrial sector of England. In the years 1775 and 1780 the total textile export of the East India Company amounted to £280190 and £128570 respectively while silk export during the same years amounted to £297645 and £515913. So, for one reason or the other the European Joint Stock Companies which were operating in Bengal since the 17th century appeared to have enhanced their investment in Bengal silk.

But what was crucial for Bengal silk industries was that the East India Company, being the most important of them, not only changed its investment policy but it had changed its import policy too in the 18th century. The imperatives of market for the industrial products of England served to dictate the commercial policy of the East India Company. A preventive tariff imposed by the British Parliament in 1701 on imported Bengal silk fabrics destroyed its competitiveness in the English market, and further, it gradually excluded silk fabric from the E.I. Company's shopping list. Whatever silk product was imported by the E.I. Company that we have collected from the records of the Board of Trade was induced by Bengal silk's non-British consumer market. However, while importing Bengal silk fabric another policy change had been introduced, and instead of importing finished silk products such as Choppis and bandannas i.e., printed and embroidered silk, as in the previous decades, the preference shifted to the import of corah silk fabric, a kind of plain cloth which could be worked upon according to the taste of the European consumers. For all practical purposes,

from the middle of 18th century import of raw silk from Bengal ruled the roost. It is interesting to note that during the early decades of the 19th century another abrupt swing took place in the export market replacing quality raw silk by chussum, a kind of waste silk.

While the market forces appeared to have operated whimsically with reference to Bengal raw silk corresponding to the E.I. Company's ascension to political and economic power, its procurement policies also had undergone debilitating change for the industry. Initially, the E.I. Company acted within the framework of the indigenous market forces and financing policies. From outright purchase the Company switched over to partial financing either through the 'dadni system' i.e., advances offered to the primary producers through the middle men, or by contract, popularly known as 'contract system'. So, the E.I. Company, along with other European companies, had been seeking to set up their Factories in the vicinity of the production centres to gain advantage. And in the process many aurangs i.e., ware houses were also established in the proximity of the silk villages. There was no monopsonistic tendency observable at that time. Nor were the companies appear to be interested to interfere in the production process. A free market economy stimulated production, dictated profit and wages and in the absence of sufficient working capital the industry suffered technology shyness.

But the post-Plassey and post-Dewani phases were significant in the sense that a radical change was introduced in the E.I. Company's commercial policy. It sought to interfere in the production-organisation by disturbing the erstwhile production-relations. From a trading organisation the E.I. Company emerged as a producer organisation by not only introducing filature but also by undertaking reeling operation itself. Besides, in moriculture as well as in sericulture the Company undertook experimental measures with new in-puts. All of it, it is understandable, had been done to step up production and to standardise the product needed by the European market.

Consequently, competitive market had gradually disappeared and all that remained of the Bengal silk industry was a subordinate ancillary of the British textile manufacture. Political power enabled the East India Company to bring about this transformation.

All the studies of Bengal silk industry at the inception were addressed to explore its commercial aspects, examining mostly the European market. Later, after the industry had almost collapsed some efforts were made to understand modalities of production in this industry to revive it. But those exercises appear to us to be insufficient. While the need to revive the industry justifies us to undertake this research, the inadequacy of all previous studies further necessitated our exploring those aspects of silk production which were integral to the system. Marketing mechanism of course has changed over the years and the capital in-put from the official sources too has increased many times, yet Murshidabad had succeeded to produce inferior quality silk only, while Malda could not be activated even now as production centre. Silk does not occupy the place which it once proudly held in the economy of Bengal.

After independence, the service sector has certainly opened new employment opportunities in these regions but the absence of any substitute industry and only marginal improvement in agriculture have left the economic scenario full of misgivings. Therefore, it may be presumed that there is no substitute of silk in this sector. So, its revival requires another serious investigation not only in the export market and the production-organisation but in the vital production-relations also in order to put the industry to familiar terms. The nexus between different caste operating in different ancillaries of the silk industry, the indigenous finance and the marketing mechanism, which had existed long before the intrusion of colonialism and its put-out system, do not seem to have lost all its relevance even now for the resuscitation of the industry. Besides, its employment capacity too has been examined in order to high-light the fact that either the silk industry should be revived to enhance

the employment potentiality in the region to the early 19th century level, or some other appropriate measures should be taken for income generation here.

According to our calculation about 30% of the working population of Malda and Murshidabad had depended on silk manufacture for subsistence. And after its dissipation all of them had turned into economic fugitives. It is not that the technology had disappeared a sizeable section of the population had been dispossessed of a gainful occupation. The collapse of the industry had left a void in employment which continued to survive till today. The burgeoning global silk market has impressed upon the government the necessity of its revival, but what is wrong with the government policy is to try to revive it in unfamiliar grounds, while the experience of the Malda and Murshidabad artisans suggests that the industry should pick up its lost thread from here.

LOCATION MAP OF MALDA AND MURSHIDABAD DISTRICT

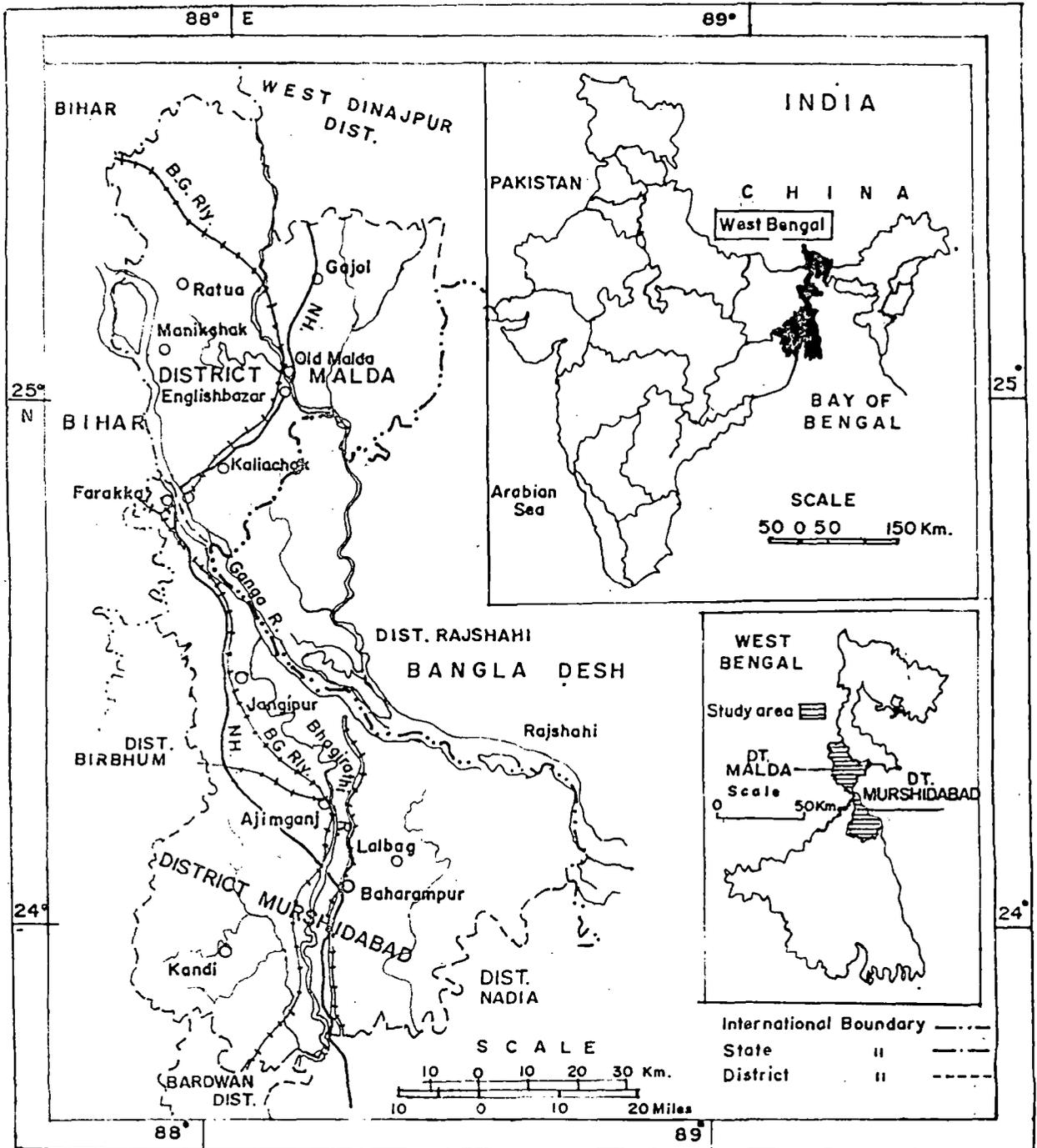
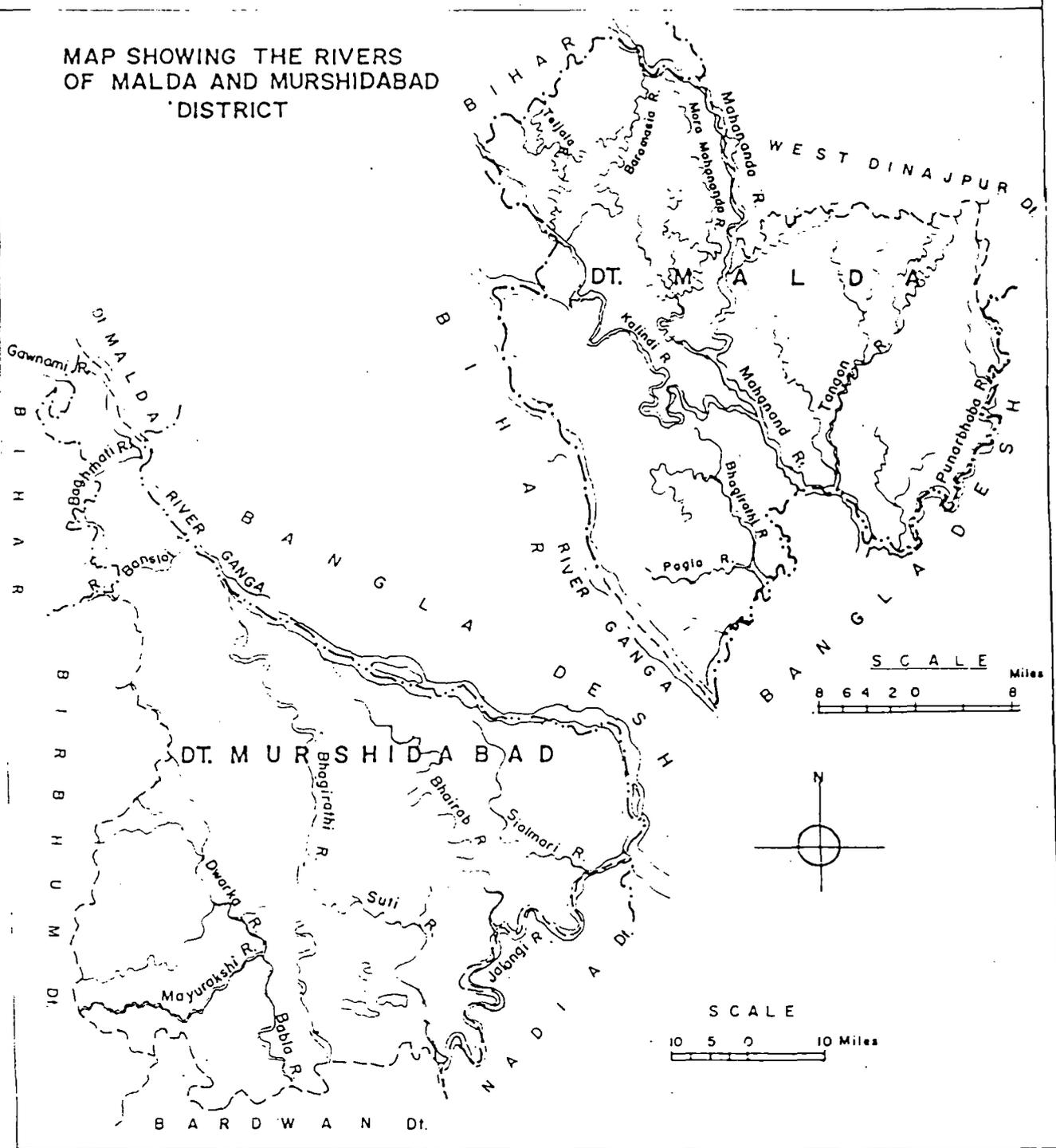


Fig - I

MAP SHOWING THE RIVERS
OF MALDA AND MURSHIDABAD
DISTRICT



CHAPTER I

THE GEOGRAPHICAL DISTRIBUTION OF SILK GROWERS IN MALDA AND MURSHIDABAD AND AN ASSESSMENT OF THE ECOLOGICAL AND OTHER IMPORTANT FACTORS FOR THE GROWTH OF THIS INDUSTRY IN THE AREAS STATED ABOVE.

The history of any country is inseparably connected with its geography. Dr. Hem Chandra Roy Choudhry said, "a knowledge of space, no less than that of time, of geography no less than that of history is an indispensable pre-requisite for a proper understanding of history."¹ The statement of Dr. Roy Choudhury is truly applicable to the history of Bengal. The geographical position and ecological setting of Malda and Murshidabad helped the growth of silk industry there and mulberry plantation and cocoon-growing were greatly influenced by the climatic conditions of the regions.

I

The Ganges played a vital role in the ecology of Malda and Murshidabad and the soil of the river banks was very much helpful for the cultivation of mulberry. It formed the boundary of Malda along the western and south-western frontier, and of Murshidabad from the extreme north to the south-east. The soil of Malda was loamy and composed of hard red-clay. It was enriched every year by the alluvial deposits of the Ganges and its off-shoots and tributaries. William Hunter remarked about the soil of Malda that the river basin was "Sandy, but enriched each year by the deposits of mud that are left by the inundations of the Ganges."² The geographical environment of Malda was very much helpful for the development of sericulture and "the town of Malda is situated close to the muhana, or conflux, of the rivers Kalindri and Mahananda. In ancient times the Ganges in full pride flowed through or close by the mighty city of Gour, and riparian changes led to Malda becoming the port for both Gour and Pandua."³ In 1676, Mr Edward wrote about Malda, "the Town is small, but conveniently seated on a branch of the Ganges and a small river from Morung which joyne (join) a little above the Town, which is of great resort, being the

staple of cloth etc., for that part of the country, and comes in from all parts within thirty or forty miles (miles)."⁴ Old Malda was not only the centre of great trade but also remarkable centre of Silk and Cotton manufactures from early times. Shortly after 1579 A.D., it was written in Tarikh-i-Sher Shahi of Abbas Khan Sarwani that " Sher Khan gave to Shaikh Khalil money, rich clothes and manufactures of Malda and Bengal in enormous quantity."⁵

Malda is in between Rajmohal hills in the west and Garo hills on the east and the entire area was covered by alluvium which helped cultivation of mulberry. The rise of the silk industry at Malda and Murshidabad was largely due to the "geographical importance it commanded" for the mulberry culture, silkworm rearing and for the pursuance of Silk trade. Milburn depicted Malda as the greatest centre of production of raw silk from the cocoons.⁶ The enormous silk production was mainly "due to the edaphic excellence of her Gangetic alluvium and consequent higher yield of mulberry."⁷

The soil of Murshidabad was equally suited to the culture of mulberry. It was "greyish or reddish, mixed with lime and oxide of iron; and beds of nodular limestone (kankar) are to be seen scattered here and there."⁸ Streysham Master wrote in 1676 that "all the country or great part thereof about Cossimbazar, is planted or set with mulberry trees, the leaves of which are gathered young to feed the worms with and make the silk fine, and therefore the trees are planted every year. The soil of Bengal is very fertile, being a kind of a loose fat earth, and in some places a fat sand."⁹ The extent of cultivation of mulberry in Murshidabad was estimated at 50,000 bighas, an estimate more probably under than above the mark.¹⁰ The position of Murshidabad on the bank of the Bhagirathi made the town an important centre of silk trade."Situated as it (Murshidabad) was on the bank of the river Bhagirathi, flowing from the Ganges to the sea, it had a commanding view of the boats laden with goods of Indian and foreign merchants plying between the south and north-western regions of the province. It was adjacent to Kasimbazar, the most important centre of the silk trade in

Bengal, where the European traders carried on extensive investments, and as such it brought the European Companies and the Government of the country closer to one another."¹¹

The geographical position of Murshidabad helped the city to reach its pinnacle of glory. Even after Plassey, Robert Clive remarked, "the city of Murshidabad is as extensive, populous and rich as the city of London."¹² During this time, the largest dimensions of the city were 5 miles long along the Bhagirathi and 2½ miles in breadth. The economic prosperity of Murshidabad was mainly depended on its silk industry and trade. But after the British occupation, the development of the city came to a stand still. The battle of Plassey resulted in the decline of Murshidabad. With political factor, the geographical factor was also responsible for the decline. The changes in the course of the Bhagirathi, the natural calamities and political change caused the downfall of Murshidabad.

II

The rivers of Malda and Murshidabad were helpful for navigation and the soil of the river banks was enriched with alluvial deposits. Francis Buchanan mentioned in his report that "both cultivators and breeders should chiefly occupy the immediate vicinity of navigable rivers, so that the leaves might be transported in canoes, at a moderate expense, to the villagers in which the worms happen to thrivethe banks of the Mahananda are peculiarly favourable, and were they cultivated with care, from the Kalindi to the Punarbabha, might probably supply all Bengal."¹³ The most characteristic features of the physical geography of Bengal were its rivers and the influence of the Ganges and its offshoots on the history of Bengal and particularly on the history of Malda and Murshidabad was no doubt great. The Ganges with its many tributaries and "a hundred mouths" used to carry boats of merchandise throughout the province and supply the needs of north-western and eastern India.¹⁴ According to Dr. R.K. Mukherjee, "the whole of Bengal is a fertile alluvial plain, but this can be divided into four natural regions¹⁵ according to the extent to which the soil is

enriched by silt deposited when the rivers are in flood."¹⁶

In the early days of the British rule, the Bhagirathi served as the main water way in Murshidabad. And on the bank of it the city became the chief centre of commerce. Mr. Hamilton remarked in 1820 that "Murshidabad was the gate of a heavy inland traffic and river was seen constantly covered with boats which were examined at the Custom house."¹⁷ According to Rennel's map the Bhagirathi flows past Jangipur, Murshidabad, Kassimbazar, Burhampur, Plassey, Cutwa, Ahgadeep, Nuddeah, Mirzapour, Bansbarya, Hoogly, Chandernagore, Serampour, Calcutta, Budge budge and Fulta.¹⁸ But the course of the Bhagirathi gradually changed due to silting. This silting of river started as early as 1666. We got the testimony from the French traveller Bernier when he came to visit Murshidabad.¹⁹ This was perhaps the earliest reference to silting up the Ganges.²⁰ The Bhagirathi, which was the channel of conveyance between Malda and Murshidabad and Calcutta, was not navigable in the dry season.²¹ The river system of Murshidabad and Malda was mainly constituted by the Ganges and the Mahananda. It made the communication easy and facilitated commerce. Alexander Dow rightly remarked that "the easy communication by water from place to place facilitated a mercantile intercourse among the inhabitants. Every village has its canal, every pergunnah its river, and the whole kingdom the Ganges which falling by various mouths into the Bay of Bengal lay open the ocean for the export of commodities and manufactures."²²

Murshidabad occupied the convenient position for river traffic, "lying between the two first offshoots of the Ganges, which leads southwards direct to Calcutta."²³ The eastern side of the district being surrounded by the Ganges, the Bhagirathi and the Jalangi made the transportation easy. The Ganges was navigable throughout the year for large boats of "100 maunds burden or say four tons."

In the rainy season, the rivers Bhagirathi and Jalangi could float boats of equal burden and in summer they became fordable at many points. The Singa, the Bansloi & the Dwaraka rivers of Mursidabad were navigable for boats of 50 maunds (or say two

tons) during the rainy season. Many important towns of Murshidabad were situated on the banks of rivers. Thus the geographical situation of Murshidabad was highly favourable for the expansion of trade and the river traffic helped in the dissemination of silk trade. The steamers would regularly ply between Murshidabad and Goalundo and Calcutta. The Ganges or Padma was navigable throughout the year. The other rivers like Bhagirathi and Jalangi were also navigable except in dry season. The river Bhagirathi was flowing from the north to the south in the district. It divided the district into two equal parts and formed a contrast to each other. The portion to the west of the river was Rada and that to the east was Barendra. The principal seats of trade of the district were Azimganj, Jangipur, Jiaganj, Khagra and Dhulian. The Jain merchants of Azimganj were very famous for their wealth. The other important markets were Bhagwangola, Beldanga, Saktipur, Jalangi, Kandi, Gokarna, Lalbagh, Sagardighi, Baluchar and Chhapghati. Periodical fairs were also held at Dhulian, Jangipur, Chaltia, Santipur and Kandi. Silk was the chief export of trade.

The river Mahananda divided Malda into two parts. In the dry season the navigation in the district was limited to the Mahananda, the Atreyi and the Karotoya which were navigable at all seasons for boats of "500 mans burthen". The rivers which were navigable all through the year for boats of 100 maunds were the Ganges, the Mahananda, the Kalindri and the Punarbhaba. The other four rivers, viz. the Tangan, the Pagla, the Sonakhali, and the Suarmasa were navigable only in the rainy season for boats of 50 maunds or 2 tons burden. The river system of Malda was mainly constituted by the Ganges and the Mahananda.²⁴ The river traffic system was good in the country. The Ganges connecting Malda and Murshidabad with the other parts of the country made the communication easy and facilitated the development of the Silk industry there.

Besides the water routes, there were land routes also. Easy communication of Malda and Murshidabad with the other parts of the country both by land and water was helpful for the development of silk industry and trade there. Malda and

Murshidabad were connected through the Ganges with the important towns like Calcutta, Dacca, Patna, Mirzapur and Benares. There was also trade connection with Nepal, Bhutan and Sylhet. Burdwan was not so important a town at that time. Still it was connected with important roads not only with Malda and Murshidabad but also with the other parts of the country. As for example, there were roads running from Burdwan to Chandernagore and thence to Calcutta, one to Ghyretty Cantonment by Dhaniakhali, one to Rajmahal, one to Radhanagar, one to Chanderkona.²⁵ Kasimbazar was the important Silk centre and it was also connected by many important roads with the different parts of the country. There was "one from Cossimbazar to Patna, one to Burdwan, one to Jalangi and thence to Dacca, one to Rampur-Boalia, one to Meenkhot and Dinajpur, one to Malda, one to Rampur."²⁶

III

Climate played a significant part on the ecological setting of Malda and Murshidabad. The essential factor for the growth of sericulture and silk industry there was climate. It helped the silk worms to live, grow and form cocoons. The silkworms formed cocoons "in a temperature between about 60° and 85°F the best temperature being 70°-75°F with about a similar percentage of humidity."²⁷ The quality of the filament of the cocoon depended on temperature. "The quality of the filament does not solely depend upon the food of the insect, but is also influenced by the degree of temperature in which it is reared."²⁸ The very high or low temperature and very high or low percentage of humidity in the atmosphere created an obstacle for the silkworms to thrive. Temperature had a direct effect on the worms and both in very high or low temperatures eggs would not hatch properly, the silk worms would not feed, grow or spin properly and the moths would not lay eggs properly.²⁹ Humidity had also an equal effect on the worms and 70 to 75 percent humidity in the air was always better for the growth of the healthy worms. Too dry and too humid atmosphere retarded the functions of the worms and variations in temperature were always fatal to the rearing of silk worms. Both the temperatures and humidity in the topography

of Malda and Murshidabad were admirably suited to the growth of silk industries. The humidity of the atmosphere was high throughout the year. It was lowest in March, after that it increased steadily and reached the highest point in August-September. In October, there was a slight fall and at the beginning of February it began to decrease further till the lowest grade of saturation was reached in March.³⁰

The climate of Malda and Murshidabad was generally hot and dry. An oppressive summer season, well-distributed rainfall and high humidities all through the year were the main characteristics. Sky became cloudy in the monsoon season while it began to clear up in October, and the sky would remain clear or lightly clouded in the rest of the year.³¹ The post monsoon season was fairly pleasant. The solar heat helped in the cultivation of mulberry. But the scorching ray of the sun in Bengal, particularly in the areas of Malda and Murshidabad, was not suitable for maintaining the natural quality of silk as it "burns the thread, weakens it, crisps it, tarnishes the colour of the silk, and renders it worse in the hand of the dyer."³² Therefore, the cocoon-growers killed the chrysalis in the cocoons not by sun heat but by hot woven.

Irrigation was not needed for the culture of mulberry at Malda and Murshidabad due to sufficient and well-distributed rainfall there. The average annual rainfall in Malda district was 60-64 inches and on an average there were 67 rainy days at Malda. August was the month with the heaviest rainfall and the variation in the rainfall from year to year was not large.³³ So, irrigation was not necessary, as almost the whole of the cultivated fields would go entirely under water during the rains.³⁴ In Murshidabad, the average annual rainfall was 50.91 inches and the number of rainy days were 60.34.³⁵

Water is a vital factor in the growth of silk industry. Clear water helped not only in winding off the cocoons, but also in maintaining the glossiness of silk. Climate made the water of Malda and Murshidabad clear and such clear water "facilitated

the winding off the cocoons, and gave a rich gloss and brilliancy to the colour of the silk."³⁶ It was inevitable to keep the reeling basin always full of water in order to maintain in the silk a fine colour.

The climatic condition of a region helps in the production of abundant foodgrains also. "It is rainfall rather than soil conditions, which for the most part govern agriculture, and condition population-density in the plain."³⁷ Sufficient rainfall favoured the cultivation of various crops in Bengal and this gave the people of Bengal some sorts of leisure which helped them in cultivating arts and crafts. Forbes J. Royle remarked that "this (climate) would have allowed leisure to some of the people to practise useful arts and to pursue a scientific course of observation, or a philosophical train of thought."³⁸ If it was true for the whole of Bengal, it was particularly true of the people of Malda and Murshidabad where artistic skill in silk industry grew from early times on account of easy availability of food grain. The French traveller Bernier and Tavernier were impressed by the "fertility of the alluvial soil of Bengal, its tropical flora and the ease with which crops were raised."³⁹ Some salient meteorological statistics is given in the Table 1:1 for the town of Berhampore (Murshidabad).

T A B L E 1:1

Months	Temperature					Humidity	Cloud	Rainfall	
	Mean	Mean maximum	Mean minimum	Mean Daily	Range Month	Mean	Mean	Inches	Days
January	65	77	53	24	25	87	1.5	0.47	1
February	70	82	57	25	34	80	2.2	0.92	2
March	80	93	66	27	38	71	2.7	1.05	2
April	88	100	75	25	29	76	3.8	1.75	3
May	87	97	77	20	23	82	5.6	4.88	8
June	86	92	79	13	17	88	8.1	9.87	12
July	84	89	79	10	12	92	8.7	10.31	16
August	84	89	79	10	10	92	8.9	10.98	16
September	84	89	79	10	11	90	7.2	9.79	12
October	81	88	74	14	20	85	3.6	4.71	5
November	73	82	64	18	25	85	1.9	0.40	1
December	66	77	55	23	26	85	1.4	0.10	...
Year	79	88	70	19	23	84	4.6	55.23	78

Source: O' Malley, Bengal District Gazette, Murshidabad, 1914, P. 18.

IV

In their report about the culture of mulberry in the soil of Bengal the Directors stated "so luxuriant a soil, with so happy a climate for vegetation as Bengal was described to be, might possibly made the leaves of the mulberry-tree too fibrous, or the fibres too tough; it was therefore suggested to adopt the practice as in Italy, by sawing off the taproot of the tree, which being thus deprived would draw less juices from the earth."⁴⁰ The fertility, wealth and beauty of the kingdom of Bengal attracted Francis Bernier, the French traveller, very much. He said, "in regard to valuable commodities of a nature to attract foreign merchants, I am acquainted with no country where so great a variety is found."⁴¹ The beauty of Bengal was very charming. In describing its beauty Bernier also remarked, "throughout a country extending nearly an hundred leagues⁴² in length, on both banks of the Ganges, from Rajmahal to the sea, is an endless number of channels, cut, in bygone ages, from the river with immense labour, for the conveyance of merchandise and of the water itself, which is reputed by the Indians to be superior to any in the world. These channels are lined on both sides with towns and villages, thickly peopled with Gentiles; and with extensive fields of rice, sugar, corn, three or four sorts of vegetables mustard, sesame⁴³ for oil, and small mulberry-trees, two or three feet in height, for the food of silk-worms."⁴⁴

Therefore, environment appeared to play an important part in the growth of mulberry trees, as its cultivation mainly depended on climatic conditions and soil types. Malda and Murshidabad had qualified in this regard. Besides, irrigation was not needed, for abundant rainfall on such a soil made cultivation easy and profitable.⁴⁵

The silk rearing community of Malda and Murshidabad got every advantage of the ecological setting of the areas, and mulberry plantation, cocoon-growing, silk winding and silk weaving became

feasible in the natural environment of the regions. Land was elevated and the productions of mulberry leaves were in abundance there. In consideration of this congenial industrial climate R.C.Dutt held the view that "the silk worm was principally confined to Bengal, it would not flourish in Northern India, and the soil of Bombay was not suited to the mulberry culture."⁴⁶

Consequently, silk became an established industry of Malda and Murshidabad. The ecological setting favoured the growth of moriculture, sericulture, silk-worm growing, silk throwing, silk weaving and silk trade and, thereby, paved the way for economic development of the regions. The communication and transport of Malda and Murshidabad being carried through the rivers with the other parts of the country also helped to stimulate silk business and to localise silk industry. Merchants from distant places assembled there, and conducted a wide range of trade in silk. "The silk industry has been the principal non-agricultural industry in Murshidabad for the last three centuries."⁴⁷

Geographical position, soil condition, easy communication, temperature, humidity and precipitation had combined with the inherent skill of the people of Malda and Murshidabad to build the reputation of silk industry and trade. Geography encouraged the silk growing community to settle there. The silk weavers also became a sedentary community and they attained proficiency in their calling on account of the fact that "proficiency was transmitted for centuries from father to son."⁴⁸ Further, they had their slender and delicate physical frame and fine sense and taste which helped them to become adept in the production of silk.



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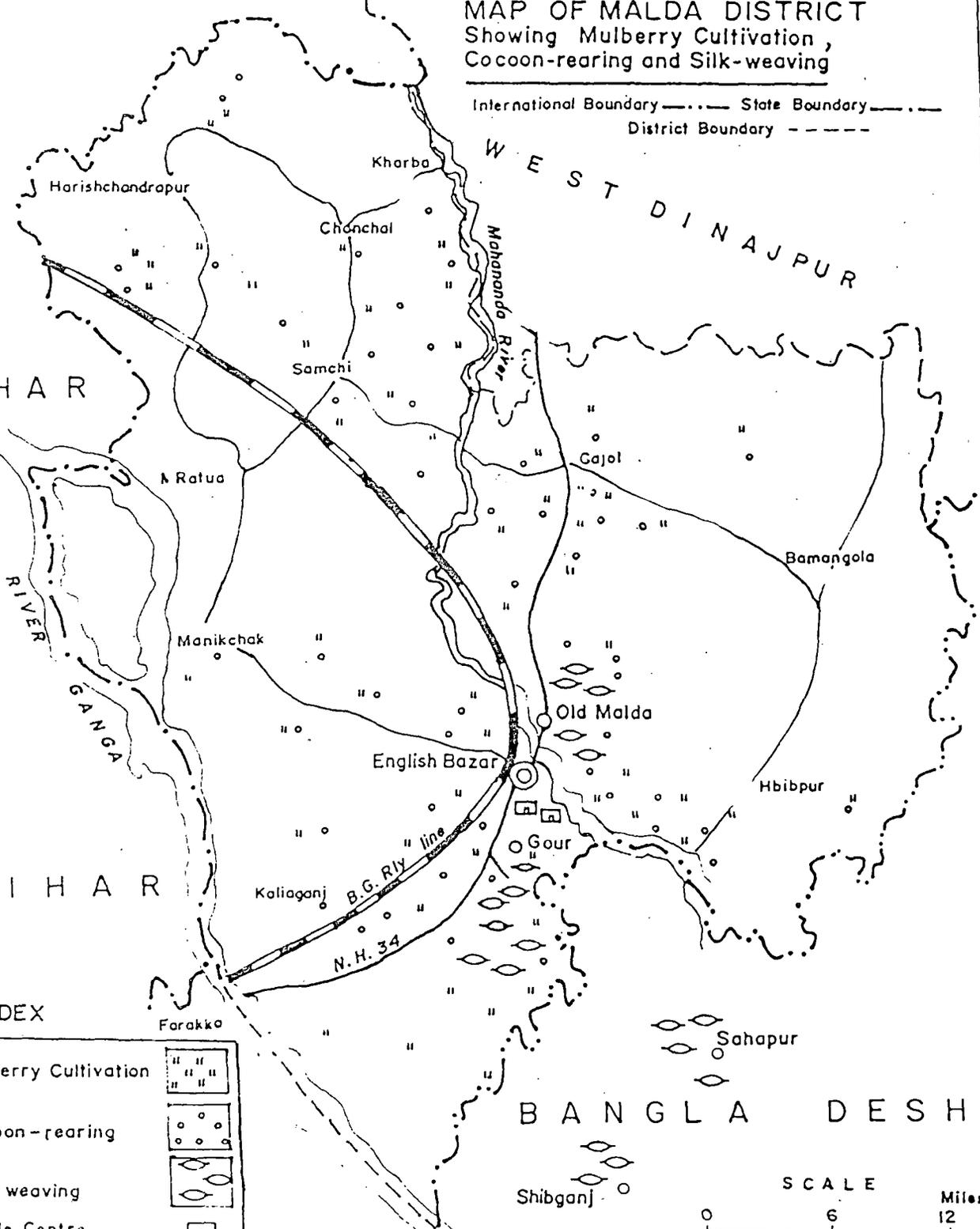
88° E

MAP OF MALDA DISTRICT Showing Mulberry Cultivation, Cocoon-rearing and Silk-weaving

International Boundary — · — · — State Boundary — — — —
District Boundary - - - -

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Silk-weaving	
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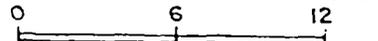


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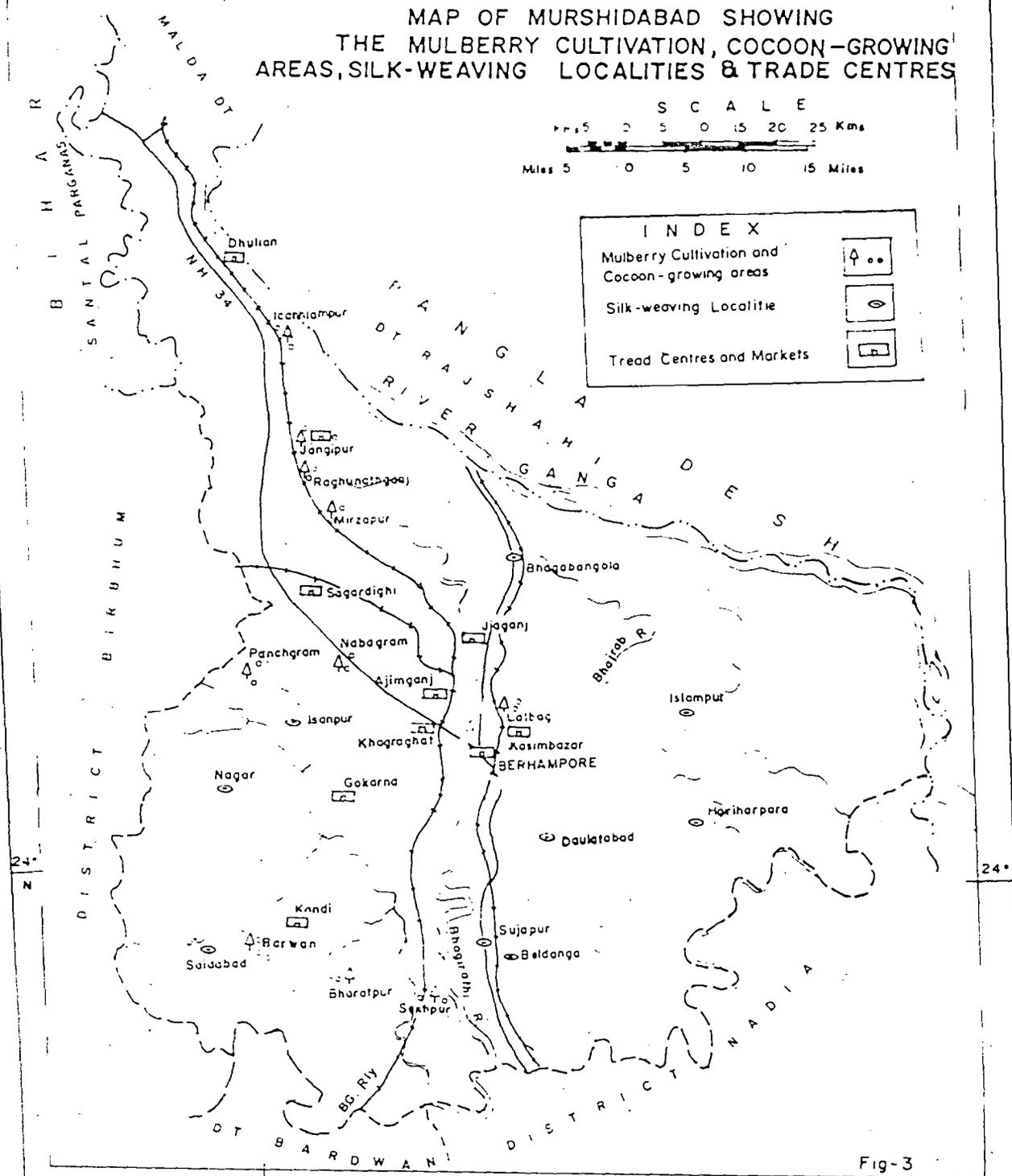
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88° E

MAP OF MURSHIDABAD SHOWING THE MULBERRY CULTIVATION, COCOON-GROWING AREAS, SILK-WEAVING LOCALITIES & TRADE CENTRES



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Mulberry Cultivation and Cocoon-growing areas	
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24° N

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Fig-3

CHAPTER 2

PRODUCTION-ORGANISATION: THE TECHNOLOGY OF MULBERRY PLANTATION, THE COCOON-GROWING CULTURE, WINDING AND WEAVING OF MALDA AND MURSHIDABAD.

There were two kinds of Silk, viz., mulberry silk and non-mulberry silk. The mulberry silk was commonly known as silk and it was largely cultivated at Malda and Murshidabad, and the economy of the people there was greatly influenced by it. The non-mulberry silk comprised Eri, Tasar and Muga. It was cultivated outside Bengal specially in Assam, Bihar, Orissa and Madhya Pradesh. The eri silk was cultivated mainly in Assam and to some extent in Bihar and Orissa. Tasar was cultivated in South Bihar and the adjoining districts of Bengal (viz. Midnapore, Bankura and Birbnum) and Madhya Pradesh and to a small extent in Orissa. The muga silk worms were reared only in Assam. The non-mulberry silk industry mainly gave occupation to adibasis and hill tribes. The eri silk worms were reared on Castor leaves and were domesticated like silk-worms. The tasar and the muga silk-worms were reared on asan, sal and oak trees.¹ Both the mulberry silk and non-mulberry silk belonged to the natural silk category and India was the only country that produced four commercially known varieties of natural silk (mulberry, tasar, eri and muga).

Silk industry was divided into four heads - (a) Moriculture, (b) Sericulture, (c) Silk winding and (d) Silk weaving.

As cocoon growing was much more profitable than any other agricultural products, a proper care was always taken for its culture so that the crop could be assured. For the success of cocoon-rearing, the following criteria were generally followed -

- i) A proper care was always taken in the culture of mulberry and mulberry must not be cultivated repeatedly in the same spot.
- ii) The superior cocoon of European, Japanese or Chinese (i.e. Bombyx mori) variety were cultivated.
- iii) Precautions against silkworm diseases were taken so that the silk worm epidemics might be avoided.
- iv) A fewer 'bunds' or crops were generally cultivated instead of many.

v) A better and more liberal treatment in the culture of silkworms were observed.

However, cases of violation of these principles were not infrequent.

I

MORICULTURE:

The soil of Malda and Murshidabad was suitable for the cultivation of mulberry and it was cultivated 'as bush', dwarf or tree' for growing silk worms. Mulberry lands were of two kinds, known as dishi tut and mathal tut. The first was high land near the village, and was particularly favourable to mulberry cultivation. Mathal tut was highland in the open, away from the villages; it was not so strong as the dishi tut.²

Mulberry was a perennial and profitable crop, and it grew in all kinds of lards or soils. Therefore, the best plot of land and the richest soil were preferred for its cultivation. "Clay soil lying fallow for a number of years, or soil prepared by uprooting stumps of bamboo from an old bamboo garden, is most eminently suited for growing mulberry."³ The mulberry gardens were kept close to the house and were exposed to the full light of the Sun. Proximity to the house was necessary, for, the mulberry leaves were not only the food of the silk worms but also the fodder of goats and cattle. So, care was taken that goats and cattle did not get to eat it. It was normally encircled by a fence. The main food of the silk worms was the leaves of the mulberry tree. Hence, the first object which drew attention for the production of silk was the culture of mulberry plants.

Mulberry is a deep-rooted plant and, therefore, the cultivated land is necessarily arable and deep. The mulberry plants needed more air, moisture and minerals than the shallow rooted plants. Indian soils were classified mainly into four parts - (i) the alluvial, (ii) the black, (iii) the red and (iv) the laterite soils. Mulberry grew on all soils excepting the place which is heavily water-logged or very sandy. The laterite soils were more suitable for the growth of mulberry. The soil of Malda and

Murshidabad was both lateritic and alluvial.⁴

Mulberry plants were propagated in four ways - by seed; grafts; layering and cutting. The first one was known as sexual method and the rest three were known as a-sexual or vegetative methods. Mulberry was propagated mainly through cuttings and the aim of this method was to obtain higher yield and to stabilise the crop.⁵ The mulberry tree that grew from seeds usually produced thinner leaves than those from grafts or cuttings. The thin leaves were useful in the early stages of rearing the worms. But in the later stage, the thick leaves were preferred, provided they were succulent.

The wide cultivation of mulberry plants was a common feature in the rural scene of Malda and Murshidabad district. It gave occupation to the villagers and the peasants who fed their own silk worms and gave full employment to their families.⁶

Cultivation of mulberry plants was carried on either alone or with other agricultural crop. As the product of sericulture was always uncertain, so the peasants had to depend on other agricultural production. Even today the villagers of Malda and Murshidabad, connected hereditarily with sericulture, also had other agricultural pursuits along with it.

The cuttings of the mulberry trees were planted in wet season, whenever a 'new field' was required and cuttings were obtained from the prunnings of the trees. Adequate care was taken in the cultivation of mulberry. The field was ploughed and nicely hoed and fertilised with manure in preparation for planting. It took six months or more, according to climatic conditions, for harvesting the useful leaves. The mature stalk of mulberry, not thicker than a man's thumb, was cut by a billhook into pieces about a 'span'⁷ long, placed in a hole, covered from the sun and watered regularly until at the end of a fortnight they began to vegetate. Then the cuttings were transplanted into the holes of the field. The holes were one 'span' deep and the distance between the holes would be 1½ to 2 feet and the plants were laid down in lines. The lines were marked 18" (inches) apart along

side. Mulberry cultivation resembled that of tea. The principal centres of cultivation were called 'juars.' The mulberry land was opened with the spade in the cold season and the ground was well broken with the plough upto one 'cubit'⁸ and levelled with the ladder. The dug up land was to be left untouched until May and after the first rain the land would be ploughed both length and breadthwise. In June, July and August ploughings were also done once in a month. In September or October when the rains were over, three or four ploughings and ladderings (harrowings) were required to make the land cultivable. Four or five cuttings were placed in the hollows (made with the spade) obliquely so that the buds looked upwards. The cuttings would not grow if planted upside down. The cuttings were planted in September and October in Malda and Murshidabad side. It was generally found that in the good soil the mulberry trees lasted for ten years, and in the poor soil the plants would last for four to five years. But sometimes the mulberry fields existed even upto 40 years. Usually not more than 2000 plants and not less than 1000 saplings were planted in a bigha. There was a belief that the first crop became poisonous, so should be avoided in feeding the worms. In the last stage of the worms, the first leaves were not given as it produced grasseri. The first growth of leaves was called 'naicha.' The first leaves were used for cattle feeding.⁹

The Hindus and Mahommedans of Malda and Murshidabad used to cultivate trees and rear the silk worms. Though the fact remained that the rearing of the silk worms was mainly done by the Mahommedan community, still it was also practised by the different low castes of the Hindu community. It was by no means inevitable that the same person had to cultivate mulberry and rear the worms which would feed on it. In the medieval period the mulberry cultivators were mainly Hindus and the rearers were Mahommedans. Then the rearers had to purchase leaves from the cultivators. Even today, this process was continuing in some areas of Malda and Murshidabad. Some grew mulberry without any intention of rearing. This position had changed and there are evidences to indicate that some persons started simultaneously cultivating mulberry in their own land and rearing silk worms in

their dwelling houses. Gradually, a large number of the mulberry growers combined silk worms rearing in their profession. Almost all the mulberry growers also combined the cultivation of mulberry with other agricultural pursuits. In my field study at the villages of Malda and Murshidabad, I found that the mulberry planters were not absolutely depending on the cultivation of mulberry even now. Each of them had to perform agricultural activity as a subsidiary source of income. "The production of sericulture proper was an agricultural home industry. Along with other agricultural crops, the peasant cultivators grew mulberry trees and reared silk worms in their houses on the mulberry leaves."¹⁰

As mulberry was a costly product and there was every uncertainty in the rearing of silk worms, so the farmers and rearers had to depend on 'dadans'. They got advance from the 'Mahajans' or the 'dallals' and the 'pykars'. The money-lenders were eager to give advance in exchange of silk and the rearers had to sell their products to them. The Company with the help of the intermediaries used to supply advance and collect and purchase the products from the producers. So, the small producers were always found to be in the 'vicious circle' of advance system. It was not possible for them to rear silk worm and cultivate mulberry by themselves. It was left to the well off amongst the villagers who had necessary resources for ploughing, manuring and maintaining bullocks for the cultivation of mulberry and erecting adequate house for silk worm rearing to undertake the burden of the industry. Notwithstanding this fact, in comparison with the standards of the then affluent society, they were nothing but poor.

The cultivation of mulberry was the agricultural part of sericulture. Sericulture further was comprised of silk worm rearing and silk breeding. Mulberry played a significant role in determining the production cost of cocoons and silk, as it was estimated that 60 per cent of the cost of cocoons went to silk.¹¹

The production of mulberry leaves varied from place to place. Buchanan reported that in Malda the average production of leaves

was 82½ seers, whereas in Purnea it was 171 seers.¹² The price of a basket of leaves differed at different times from 1 to 30 rupees.¹³ The silk worm rearers of Malda and Murshidabad having 3-4 bighas of mulberry cultivated lands with 8-10 family members could earn a tolerable livelihood by cultivating leaves and rearing worms. "Four bighas were sufficient to supply a breeder with the usual quantity of leaves that he required."¹⁴ The rivers of Malda and Murshidabad were helpful for transport. Buchanan mentioned in his report that "both cultivators and breeders should chiefly occupy the immediate vicinity of navigable rivers, so that the leaves might be transported in canoes, at a moderate expense, to villages in which the worms happen to thrive.... the banks of the Mahananda are peculiarly favourable, and were they cultivated with care, from the Kalindito the Punabhaha, might probably supply all Bengal."¹⁵

Mulberry was a hardy tree and was of easy growth. The leaves of the white mulberry were liked by the silk worms due to its tenderness. Then came the red mulberry. The black mulberry was in least demand due to the harshness of its leaves. The leaves of the Alba i.e., white fruited mulberry were taken eagerly by the silk worms. The white mulberry tree was of quicker growth. The constant plucking of leaves did not injure the trees.

The filament of the white mulberry cocoon was finer than that of the red and black mulberry cocoon. The quality of the filament of the cocoon was also influenced by temperature. "The quality of the filament does not solely depend upon the food of the insect, but it is also influenced by the degree of temperature in which it is reared."¹⁶ In cold climate, the black nigra i.e., the black fruited species throve better than the white mulberry. The leaves of the red species did not come out before ten to fourteen days later than those of the white mulberry. It was less subject to injury by frost and this was the reason for its cultivation. On the other hand this was the cause why it was not suitable for cultivation in other climates.¹⁷ "If leaves of the white, the red and the black mulberry be given at the same time

to the insect, it will eat first the white, next the red, and lastly the black, in the order of the tenderness of the leaves."¹⁸

Though the moist land of the river side was very useful for the rapid growth of the mulberry plant, the leaves of these trees contained too much watery substance and were harmful to the worms. The worms took these leaves voraciously but the quality of their produce was affected by the weakness of constitution resulting from excess water consumption.¹⁹ The mulberry trees planted in dry soil produced fewer leaves, but they offered greater nutrition. The worms consuming these leaves naturally produced superior quality silk. As a matter of fact, mulberry leaves, "are then to be considered as being only a mine worked by the worms; and this mine is more or less proper to furnish the fine substance, according to the soil and climate."²⁰

Cuttings were the best method for the development of mulberry trees. It was the most easy and expeditious way of raising it. Though a great number of trees could not be obtained by this method, as from seed, still there was a great advantage of it in point of strength as well as in rapid growth.²¹

As the leaves of the mulberry trees were the vital food for the growth of silk worms, so great care was taken for the growth of leaves. More attention was necessary for dressing and pruning the overgrown branches. It would then furnish abundance of good leaves. When the trees were young, it was harmful to strip them because leaves were the most vital organs that fulfilled important functions in plant by absorbing moisture from the air and light from the sun. In cold season the leaves of mulberry were destroyed by frost. When the winter was mild the trees brought forth leaves very early. It was better to hatch the worms in the hot climate when it was easy to get the leaves. So far as the nutrition of the mulberry leaves was concerned it was composed of five different substances- (i) the solid fibre, (ii) the saccharine, (iii) the resinous substances, (iv) water and (v) colouring matter. The leaves containing the most nutrient were supplied to the silk worms.

The fibrous substance, water and colouring matter could not alone be said to contribute towards the nourishment of the silk worms. The saccharine substance was very much essential for the development, size and health of silk worms. The resinous substance in the leaves was necessary for getting silk proportionate to the weight of the worms. The resinous substance was that "separating itself gradually from the leaf, and attracted by the animal organisation, accumulates, clears itself, and insensibly fills the two reservoirs of silk vessels. According to the proportions of the elements which compose the leaf, it follows, that cases may occur in which a greater weight of leaf may yield less that is useful to the silk worm, as well for its nourishment, as with respect to the quantity of silk obtained from the animal."²²

The mulberry leaves containing adequate nutriment helped the growth of silk worms. It was better for the worms to take a few leaves of saccharine substance than a good number of malnutrition leaves. If the worms ate huge quantity of leaves they would be fatigued and were likely to be attacked by the disease. Moreover, if the resinous substance was not found in the leaves the worms grow but not produce silk in proportion of its weight.²³ The old mulberry trees yielded better leaves than the young ones. As the tree grew older the leaves would diminish in size, but at the same time it would materially improve so that at length it would attain to a state of very excellent quality.²⁴

It was necessary to consider the age of the worms before feeding. The young worms needed young leaves and the mature leaves were to be supplied to the worms of more advanced age. The young leaves were filled with aqueous matter and helpful for the body of the young worms for its continuous evaporation. While the mature leaves contained nutritive matter had helped the older worms for its better development. "To give old leaves to young worms, or young leaves to old worms, would alike prejudicial."²⁵

The greatest care was taken to prevent the leaves to be heated or fermented. The slightest fermentation would waste the nutritious substance of the leaves. It was always essential to

give the dry leaves to the worms. Otherwise, contagious and fatal diseases would occur. It was considered that a well-cultivated mulberry tree yielded in each season about 14 kg. of good leaves.²⁶

It was said that no insect excepting the silk worm would feed on the mulberry leaves. Consequently the mulberry gardens were kept free from the depredations of other insects, on the assumption that it could be exclusively devoted to the use of the silk worms alone.²⁷

The mulberry leaves were plucked in the morning or in the evening only. A day's supply of leaves should be obtained in advance. So long as there was dew on the leaves, or so long as the leaves were wet after shower, they were not collected and were not fed. If it was raining continuously for two or three days, the leaves so gathered were dried by fanning. In hot climate, if the leaves became dry, they were kept normal by sprinkling a little water on it. In cloudy weather or if rain was apprehended in the evening, the leaves were collected before hand. The wet, fermented, muddy and dusty leaves were never be given to the worms. As the Silik worms increase three times in size after every moult, they require three times as much food, and at the last stage they require five times as much food as they ate during previous stages.²⁸ "Tender leaves of mulberry are cut up very fine and sprinkled over the newly hatched worms."²⁹

Every cocoon-rearer had his own mulberry land for the rearing of silk worms. When his own supply of leaves fell short, he took leaves from non-cocoon-growers who had mulberry cultivation. Many high-caste men of Malda and Murshidabad district had lands where they used to cultivate mulberry plants. Men holding other occupation had also plots of mulberry. A bigha of mulberry in silk district like Malda and Murshidabad was considered a little fortune. Sometimes, the mulberry growers got usually high price for mulberry leaves. When the needs became very pressing at the last stage of

rearing, thier necessity made the rearers to pay willingly high price for it.³⁰ Though the vital food for rearing silk worms was mulberry leaves, there was also the substitute food for the worms and it was 'the osage orange, the lettuce and the tender leaves of the peepul.' In case of failure of the mulberry crops the substitute food were given in the early stage of the worms. However, the worms reared only on the substiute food could not spin cocoon, or if spin at all, the cocoon would be poor in quality. So, in the absence of mulberry leaves the tender peepul leaves were allowed for feeding the worms for sometimes, but in the later stage mulberry leaves were procured to feed the worms in order to get cocoons.³¹

The social position of mulberry growers, in comparison with the cocoon-rearers, spinners and weavers, (who had no other profession) was no doubt high. The persons who had mulberry cultivation with other profession could not be regarded as the mulberry growers. It was found that a zamindar or a silk factor had mulberry plantation for his extra income but he could not be recognised as the mulberry grower. In that case he would be treated by his principal profession. A man having two or three bighas of mulberry lands but did not rear silk worms was considered more substantial than the cocoon-rearer with two or three bighas of mulberry fields. There was always a risk in cocoon-growing as there was every chance of the cocoons being attacked by the epidemics. Mulberry-growing presumably was scarcely attended with any risk. So it was regarded as a 'safe and profitable industry.'³²

The rent of the mulberry land was always high. The famine of 1770 swept away one third of the population of Bengal and as a result the cultivation of mulberry suffered much. The famine caused escalation of silk price. "The prices of most of the Company's assortments of silk are 80% dearer than in 1768 and the piece-goods 50 or 60%. The famine might justly cause an enhancement of about 35%."³³ In 1767, Harry Verelst, Governor

of the Bengal Council, urged the Zamindars, gathered at Murshidabad for the 'punya' ceremony at the conclusion of the revenue year, to give all possible encouragement to the cultivation of mulberry trees. In his letter on the Burdwan affairs Verelst mentioned that "the influence of government may be exerted for the encouragement of the growth of the mulberry trees, and every other means must be thought for the extension of this valuable branch of our trade."³⁴ The Court of Directors in their letter dated 24th December, 1776, gave instructions to the servants of the Company for rendering all suitable encouragement for the cultivation of the mulberry plants and for the increase of raw silk. They pointed out that the vast track of lands should be cleared for producing mulberry shrubs and the cultivation would promote the interest of the company and of the nation because raw silk was a beneficial article of imports and of great consequence to the manufactures of Britain."³⁵

"The cultivation of mulberry was recommended in the strongest manner to the Zamindars and landholders, and all possible encouragement afforded for the clearing of such lands as would best answer the purpose."³⁶ The committee of Circuit recommended certain measures for the improvement and the company paid attention to the cultivation of mulberry. "It was declared that all new and waste lands, laid out and improved for the cultivation of mulberry, could be held rent free for two years and afterwards laid out at half the price of the ancient mulberry grounds of the same 'pargana' for the third year, and in all succeeding years payment was to be made at full rates, but they were to keep in cultivation the lands which they actually held at the time by their original pattas."³⁷ Due to the adoption of this policy, the mulberry plantations were significantly refurbished. As mulberry plantation and cocoon-growing were highly expensive and the pecuniary condition of most of the planters and cocoon-growers was not good, there was, therefore, a need in advancing money to them, and the company enhanced its silk investment so that the planters, growers and weavers, through the brokers and paikars who had a direct contact with them could resume their production

activities soon. Lakhs of rupees were advanced in the form of 'dadan'. The brokers had to take guarantee for 'investment'. In the manufacture of silk, money was advanced to the people of Malda and Murshidabad "where large tracts of low land were taken into cultivation for growing mulberry plants and for the working of the filatures. As the quality of the silk largely depended on a full supply of good and fresh leaves to the worms the demand for mulberry fluctuated according as the worms were plentiful or scarce. The worms thrive best in the cold season, and hence the November band silk was better in quality and more valuable than any other type."³⁸

Silk was 'reaped' three times in a year. The local name of the harvest was 'bund'. There were three bunds- (1) November bund, (2) March bund and (3) July bund. The November bund was gathered from October to February. The March bund was gathered from March to June and the July or Barsat bund was gathered from July to September. The winter cocoon was the best in nature and hence expensive. After the November bund came the March bund, and the July or Barsat bund was the last when the cocoons became poor in quality.³⁹ "All the country or great part thereof about Kasimbazar is planted or set with mulberry trees, the leaves of which are gathered to feed the worms with and make the silk fine and therefore the trees are planted every year."⁴⁰

The extensive cultivation of mulberry trees was a feature of the rural scene in Murshidabad and it provided occupation to many people, because the peasant who fed his own silk worms gave full employment to his family. It was a common saying in the Murshidabad district that mulberry is a greater source of wealth and happiness than even that of one's son. 'Ja na kare pute, ta kare Tute.'⁴¹

Various kinds of wild mulberry were found throughout the Himalayan regions at an altitude of 500 to 4000 feet high. There were references in the Sanskrit literature that sericulture was carried on in ancient time by the hilly tribes and Manu in his 'Smriti' had specially mentioned about the mountain tribe

'Pundrakas'. The cocoon-growing caste of Malda still styled themselves as 'Pundas'. They perhaps originally came from the Himalayan regions, where mulberry grew wild.⁴²

In Europe, the two kinds of mulberry trees- white mulberry (Morus Alba) and the black mulberry (Morus Nigra) were preferred for agricultural purposes. In comparison with the black mulberry trees, the white mulberry trees were largely propagated. Because, the white mulberry was much better than the black one for the rearing of silk worms. The foliage of morus alba grew rapidly and remained soft, whereas the leaves of the morus nigra were hard and rough. The silk worms preferred to eat the leaves of the white mulberry trees. The cultivation of the white mulberry trees was introduced in Europe in the 12th century. Both the species originally came from Central Asia or India into China and later on into Europe.⁴³

For the propagation of the several varieties of mulberry the cultivators used to seek the help of local plant experts. Where the help of an expert was not available, the following criteria were applied.

- 1st, A mulberry tree that yielded no fruits should be preferred.
- 2nd, Where all the trees yielded fruits of the same quantity, the trees that yielded small or insipid fruits should be preferred.
- 3rd, The mulberry trees that grew the largest of leaves should be cultivated.
- 4th, The trees that bore largest quantity of leaves should be preferred.
- 5th, The mulberry trees that grew fastest should be preferred.
- 6th, It was a vital thing for sericulture that the mulberry leaves should be smooth, succulent and thick and not leathery.

The takra-laga was a dangerous disease for the growth of mulberry leaves. The leaves affected by takra should be carefully avoided for feeding the silk worms. If the worms ate these leaves they would naturally be attacked by flacheri or

grasseri . This disease of the mulberry plant did a great deal of harm to the silk industry. In rainy season, the mulberry fields were badly affected by takra and the leaves remain stunted in growth. The affected leaves were unsuitable for the rearing of silk worms. After rainy season, the disease went on abating. In November, the silk worms got the fresh mulberry leaves free from this disease and, therefore, the November bund was the best for rearing the worms. Takra was caused by a minute insect which could easily be killed by kerosine emulsion, but this treatment was not known to the 17th/18th century planters.

The health of mulberry plant and the condition, quality and yield of its leaf was an agronomical problem. "Mulberry is a factor for non pollution; it protects the soil against water (erosion) and fire (conflagration) and eventually, furnished feed for cattle."⁴⁴

In the sixth decade of the eighteenth century, the prices of mulberry leaves were high and, so, the cultivators were able to pay as much high rent as Rs.50 per acre, charged by the Zamindars for the lands. But when the prices fell and the rent remained high, the ryots turned from mulberry cultivation to other crops. This was one of the factors that led to the decline in the production of raw silk in Bengal even in the years following the revival of silk market in Europe.

II

SERICULTURE:

Mulberry silk worm rearing was a very important industry in Malda and Murshidabad. The silk worm growing was an art in the hands of the rural people there and it was normally carried on within the dwelling houses of the rearers. The silk industry of Bengal was in existence since the 15th century, though we could not ascertain the date. Some of course would like to attribute to it a more ancient legacy but on insufficient grounds. "It is impossible to discover the date at which the silk industry commenced in Bengal, but it must be of great age."⁴⁵ The silk

industry was one of the earliest of all industries which preoccupied the servants of the East India Company in Bengal. The silk worms were indigenous and its first home was said to be in the Brahmaputra Valley. "The sericultural industry of India is traceable not to China but to the Himalayan country."⁴⁶ The Punda Caste was the hereditary silk worm rearing caste and they lived mainly in Malda and in parts of Bogra, Rajshahi and Murshidabad. They were "the best, the most intelligent and the most prosperous of all cocoon rearers."⁴⁷ In Bengali, mulberry meant tunt; and the cocoon-rearers were known as tuntias, tuntia Kaibartas and tuntia-chasas.⁴⁸ The number of the Muhammedan cocoon-rearers was no doubt large. The total number of cocoon rearers in Bengal, including those who added cocoon-rearing to other profession, was about 90,000.⁴⁹ The position of the cocoon-rearers in society was higher than that of most cultivators. Cocoon rearing was limited to the lower castes among the Hindus and the higher caste Hindus like Brahmans, Baidyas and Kayasthas considered it derogatory to rear cocoons. All the rearers styled themselves as 'Bosni.'

The most ancient naturalist Aristotle gave the account of silk worm and described it as a horned worm which he called bombyx that passed through several transformations in the course of six months.⁵⁰ Three species of silk worm were mainly reared in Bengal. Bombyx textor (i.e. 'bara palu') was reared in a year; Bombyx fortunatus (i.e. 'deshi palu'); and Bombyx craesi (i.e. 'nistari'). There was also a China worm i.e. Bombyx sinensis which was also reared in Murshidabad district. It was crossed with the desi species in Kasimbazar. Bombyx textor furnished the major part of the march bund and it was considered good silk. This worm was furnished in the Jungipur Circle. Bombyx fortunatus furnished no less than five crops viz., March, April, June, July, October and November. They were not of equal value. The crops of April, June and July were the worst in quality and that of March was often precarious. The silk produced in October and November was the best in quality. Bombyx Sinensis was largely cultivated in the Jangipur Circle and yielded cocoon from January to May. Murshidabad was not self sufficient in the production of cocoons and had to import largely from other parts,

specially from Malda where Bombyx Craesi gave no less than six harvests, the best of which were in April, June, July and September.⁵¹ The worms reared in Malda and Murshidabad districts fed on mulberry (tunt) leaves. For the quality and proportion of silk, the Chhoto palu (Bombyx fortunatus) came next to the Bara palu (Bombyx textor), though the fibre of Nistari (Bombyx craesi) was finer and softer. The Nistari was reared more than the other varieties, though it yielded a smaller proportion of silk. The quality of the principal three kinds of Bengal cocoons for textile purposes was to be marked in the figures given.

T A B L E 2:1

Title : The difference in quality of the three kinds of Bengal
Cocoons

	Bara Palu	Chhoto Palu	Nistari
1. Average length of fibre in a cocoon in metres	270	215	210
2. Weight of reelable silk in each cocoon in milligrammes	60	45	36
3. Weight of unreelable portion in each cocoon in milligrammes	20	16	16½
4. Proportion of reelable silk in the fresh cocoon per cent.	08	7½	06
5. Diameter of fibre (bave) in millimetres	16½	20½	20
6. Average weight of test skeins of fibre (bave) 476 metres long, in deniers	02 ^{1/3}	02	1 ^{3/5}
7. Tenacity of fibre (bave) in garments	06 ^{1/3}	06 ^{4/5}	04
8. Percentage of elasticity of <u>bave</u>	16	12½	12
9. Percentage of loss on weight due to boiling off	24	30	25

Source: N.G. Mukherjee, A Monograph on the Silk Fabrics in Bengal, Calcutta, 1903, p.9 (para 26).

The above figures were no doubt convincing with regard to the merit of the Bara palu cocoon and the silk as compared with the other two varieties.

Three or four crops of cocoons were reared out of eight crops during the year i.e. three of Nistari and one of Chhoto palu. It was not feasible to take 8 crops though the Bombyx textor, Bombyx fortunatus, Bombyx Craesi and Bombyx Sinensis bred eight times in a year. The parasitic fly would make cocoon growing impossible if all the crops were taken in the same locality. Therefore, it was found to be good to rear silk worms in one 'joar'⁵² and mulberry to the next. The seed, thus, was kept separately as one bund in one joar and another bund in another joar. The cocoon rearers went to distant joars for seed and, thus, walked sometimes 60 or 80 miles for getting good seeds. The Bachra and Bhattamati joars of Murshidabad and Dhantala Ganipur joar of Malda were famous for seed rearing and thousand of cocoon growers were used to go there in search of good seeds. Exchange of seed was also beneficial for the health of the silk worms. The principal cocoon growing bunds in Murshidabad were Aghrani (November), Chaitra (March), Srabani (July), while in Malda were Kartika (October), Baishaky (May), and Bhaduria (August).⁵³

The rearing houses of Malda and Murshidabad were of thatched roof and made of mud walls. It was well ventilated and the door and windows were protected by the bamboo chick or net so that the parasitic flies could not enter into the rearing rooms. The houses were generally about 24 feet long, 15 feet broad and 9 feet high. The floor (i.e. plinth) of the house was also high. The position of the door should be on the south. Two windows were enough for a rearing room of the said dimensions. A rearing house- thus built would hold 256,000 worms i.e. 200 kahans.⁵⁴ It would be filled with 5 ghurrahs,⁵⁵ each with 16 'shelves',⁵⁶ measuring 5½ feet by 4½ feet. The dalas were 'leaped' with cowdung. Each dala contained 3,200 silk worms i.e. 2½ kahans. The dalas were supported by bamboos resting on earthen saucers filled with water to protect the silk worms from ants.⁵⁷

At the young stage of the silk worms, the fine cut up mulberry leaves were given for feeding, and when the worms grew the larger leaves were supplied; and in the third and last stage, the entire branches would be placed on the shelves of the worms. The silk worms were at least fed four times a day. Silk worms required cleanliness and it was a vital factor for the healthy growth of the worms. Fresh supplies of leaves were required at every four hours. Dirty and stale leaves should be cleared away from the dalas. The cleaning was effected before the midday. It was said that a dirty rearer would never be prosperous as the silk worms needed cleanliness and attention. With the growth, the silk worms began to change skin and with each change slight change of colour appeared to be seen. When the time of the change of skin was approaching the silk worms became sluggish and did not feel any interest to eat leaves. At the time of moulting no food was given. For safety the moulting worms were placed on the shelves apart from the rest. The period of larval stage was nearly four weeks. If a silk worm died, it was at once removed from the shelf and that part of the shelf was sprinkled with lime. When the silk worms were ready to spin it became translucent and changed from " a greenish cream to a mellow light orange colour" and started to spit out silk from the mouth. This time, the worms were placed on the chandrakies⁵⁸ for spinning. At night a lamp was kept burning, because in the dark the worms tended to slacken off and spinning was thus delayed. "The average time taken for cocoon spinning is 56 hours."⁵⁹ When the spinning was completed, the cocoons were removed from the chandrakies and spread out on the shelves. Those required for seed should be kept separate and the rest were to be exposed to the direct heat of the sun for the killing of the grub so that the moths could not come out by cutting and spoiling the cocoons.

The refused mulberry leaves and the droppings of the silk worms were cleaned regularly from the rearing-house. These excretas were never allowed to get dry. It was left in a litter basket attached to the cowshed. The falling of cattle in it would prevent the litter from getting dry. Dry litter would create

dust and the dust mixed with air would enter the rearing-house and cause disease to the silk worms. So, the litter-basket was carefully preserved and after the dirt having rotted well, it was used as manure in the mulberry fields.

The moths, male or female, were called chakra - chokri. The moths cut its way out quickly. It commenced in the early morning and made its way out by noon. The females were larger and fatter than the males, because of eggs and not so active as the males. The sexes were separated two or three hours after their emergence. The females laid about 400-500 eggs and soon after, the moths died.⁶⁰

There were four stages in the development of silk worms. "Mulberry silk-worm passes through four distinct stages in its life. The moth lays eggs (1st stage) from which tiny larvae or caterpillars (2nd stage) hatch, feed on mulberry leaves, grow and spin cocoons when fully grown; inside the cocoon the caterpillar transforms into pupa (3rd stage), and the pupa develops into a moth (4th stage), which cuts an opening through the cocoon, emerges from it and lays eggs again, so continuing the cycle. The time taken to complete the cycle depends on the nature of the silk worm and the climate."⁶¹

The best silk came from the univoltine silk worms which passed through one cycle in a year. These silk worms were generally reared in cool climate. But in tropical climate the multivoltine races were reared and they gave 5-6 crops a year. Each cycle lasted for about six weeks. The period was lengthed in cold season.

When the larvae appeared the trays were covered with perforated paper and fine chopped mulberry leaves were spread over the covering. The worms began to crawl through the opening and fed on the leaves. The silk worms required careful nourishment for 20-35 days and during this time they felt a voracious appetite excepting the four periods of slumber lasting a day at a time. This time the silk worms refused to eat leaves. On awakening

from slumber, the silk-worms shed their old skins and then started feeding. After the fourth or last moult the silk worms took the final feed lasting 7-10 days with great avidity. During this time the silk worms grew rapidly and reached their full development and, therefore, number of trays were needed to hold them. The silk worms gained in weight about 10,000 times during the whole feeding period. It became 5 to 9 cm in length when fully grown. In this stage, the silk worms turned into creamish-white caterpillar, nearly transparent and filled with liquid silk. Its aversion to eating and constant restless movement of head from side to side indicated that the silk worm was ready to spin cocoons. The 'ripe' worms were taken from feeding trays and were placed on spinning trays for making cocoons. The silken case spun by larvae was an oblong object and its size was 2.54 cm x 1.25; weight 0.42 g including pupa.⁶²

The best quality of cocoons were preserved for seeds and the others were 'subjected to a treatment whereby the chrysalises were stifled' without damage to the cocoons. Suffocation was done by exposure to the sun, or by steam, or by hot air. The last method was the best method and it gave the best results.

The silk worms needed a proper space at the time of spinning inasmuch as inadequate space led to the formation of double cocoons⁶³ from which 'raw silk popularly called dupion was produced.' The thread of the double cocoons became fluffy and, therefore, became difficult to reel. It was used for obtaining seed. The formation of double-cocoons was rare at Maldá and Murshidabad. It was common in Japan and China and in Europe. It was seen that the tendency of forming the double cocoons was hereditary.⁶⁴

As the silk worm is a species of caterpillar and undergoes a variety of changes, it increases its size within a short space of time. Its weight also multiplied many folds in course of one month. The silk worm have sixteen legs in pairs. The first six legs are covered with scale and placed under the first three rings. The other ten legs are called holders. The holders were membraneous, flexible and attached to the body under the rings. These are also furnished with little hooks. These hooks assist

the worms in climbing.

Like other caterpillars, the silk worm is not a warm-blooded animal. Its body temperature is always equal to that of the atmosphere in which it is placed. The number of eggs produced by the female moth varied in numbers. some accounted 250, while others reckoned 400 to 500. This variation had happened due to the circumstances of the place where the sericulture took place.⁶⁵

Climate played an important role on sericulture. Fresh air and cleanliness in the rearing room were necessary for the healthy growth of silk worm. The number of worms under rearing was necessarily large and they were more or less crowded together. So, a proper ventilation in the rearing room was indispensable. If the rearing room became stuffy it would affect the health of the worms and the worms would be attacked by the diseases. The silk worms took breath through nine pairs of breathing holes opening on the body. The lack of fresh air, high and low temperatures and high and low percentage of humidity in the atmosphere created an adverse effect on sericulture.

Since the Silk worm was a cold-blooded animal, therefore, temperature played a vital part on its growth, fecundity and mortality. "The optimum temperature in cocoon rearing is 30°C from the 1st to the 3rd instars, 25°C in the 4th instar and 20-25°C in the 5th instar."⁶⁶ Cocoon growing at these temperatures was always useful for the decrement of duration of the larval stage and the mortality. It also helped to increase the weight of cocoons as well as production. The suitable temperatures for the rearing of silk worms in all stages should be 75°F. It might range from 70° to 80°F. When the temperature in the atmosphere became low or high of these ranges, the silk worms were bound to suffer unless arrangement could be made to keep the rearing room warm or cool as necessary. Both in very high and low temperatures eggs would not hatch, silk worms would not feed, grow and spin cocoons properly.⁶⁷ The temperature of the rearing room was kept at about 23°C and humidity between 65 and 75%.⁶⁸ Without suitable climatic conditions, it was

impossible to produce silk. Variations in temperature were fatal to the rearing of the silk worms. The climatic condition of Malda and Murshidabad offered a suitable position to the rearing of the silk worms.

The silk worms were able to resist high humidity at the early stage. But in the advanced stage, high humidity combined with high temperature affected the silk worms and caused mortality. At the time of spinning, high humidity reduced the quality of the cocoon.⁶⁹ When the humidity was too low the air became too dry. It caused the mulberry leaves dry up quickly and, thereby, added troubles to the silk worms. The worms did not grow well, spin only small cocoons and the eggs did not hatch well. If the humidity in the atmosphere was too high, the worms became fat, attacked by the diseases and the silk formed fluffy texture which was difficult to reel. If there were high temperature and high humidity in the air, it was bad for the silk worms more than high temperature combined with low humidity or low temperature combined with high humidity.⁷⁰ The humidity and temperature of the work-room had a great impact on the quality of the silk produced. Nature favoured Malda and Murshidabad in this regard.

Light was also a factor for the hatching of the silk worms. Hatching usually occurred in the morning. In dark, emergence became slow and irregular. But sudden illumination caused rapid emergence. In my field study in the villages of Malda and Murshidabad the silk growers admitted that they got a good result by illuminating a bulb at night in rearing room. "The most effective illumination for synchronisation is a periodic light and dark regime consisting of 12 to 18 h light and 6 to 12 h dark."⁷¹

Dr. Buchanan estimates the yield as follows:- In Dinajpore, on the Mahananda, particularly in the Malda region $2\frac{1}{2}$ seers (of 88 sicca) of cocoons produced 15 sicca weight of silk or 6.8 percent. More to the east, on the Karatoya, the yield was said to be $2\frac{10}{16}$ seers to 28 seers of cocoons, or just 4 percent.⁷² Mr. Monkton, however, put it at one-eighth the weight of the

cocoons, or 12.5%. In the then district of Purnea west of Malda the yield was 1 in $17\frac{1}{2}$, or 5.7%. The papers published with the report of 1836 ofcourse did not give any full information as to the yield of silk from the several species of cocoons. The Sonamukhi Resident, however, calculated the yield of 103,500 kahans of cocoons of the annual species at 150 factory maunds of silk, a kahan being 1,280. This would show that it took 903,200 cocoons to yield a factory maund of silk. Mr, Shakespear also furnished the following figures: 48 kahans (61,440) of cocoons of the October, November, or January bunds yielded 2 seers 12 chattaks of silk, 24 kahans (30,720) of the annual cocoons yielded 2 seers four chattaks. In the March bund 45 kahans (57,600) of the small cocoons yielded 2 seers 2 chattaks of silk. These figures assuming Mr. Speed's calculations as to weight of cocoon would give an yield of 8.3% on weight of cocoons for the small size, and 9.4% for the annuals.

According to Mr. Speed cocoonson the fifth day required to make a seer of 80 sicca weight was deshi 2,080, Madrasee, 1,760, annual, 1,280 i.e., 256,000 desi cocoons would weigh 123 sicca seers. The yield of these 123 seers had been set down at 11 seers $1\frac{1}{2}$ chattacks 'by customary limit,' and 13 seers 11 chattacks 'by private accomplishments'. So, for the annual cocoons he gave an yield of 8 seers 13 chattacks by 'customary limit' and 10 seers $8\frac{1}{2}$ chattacks 'by private accomplishment' from 157,000 cocoons weighing 122 seers. The case of the Madrasee cocoons could not be made out clearly. However, a percentage calculation of yield per seer gave us some idea. The yield assumed to be desi 9% 'by customary limit' and 11.1% 'by private calculation' an annual 7.2% 'by customary limit' and 8.6 'by private accomplishment'.

A. Ramsay, in his examination before the Select Committee of the House of Lords in 1830 stated that the quantity of spun silk to be obtained from Bengal cocoons would be only 5%. But figures given by W.Princep in 1832 had contradicted Ramsay's assumption. Princep was of the view that 1 maund of 80 sicca to the seer (annual) yielded 3 seers of silk i.e., 7.5%; 1 maund (desi)

would yield $2\frac{1}{4}$ seers of silk i.e., 5.6%. Later, another estimate was given by Turnbull of Ghattal to the effect that annual yielded 5.6 to 6.9% of silk, Madrasee, 5 to 6.25%, desi, 5.7 to 6.25%, and China, 5.4 to 6.25%. Geoghegan mentioned that some silk which had won the Horticultural Society's medal in 1839 was reeled from annual yielding 14.3%.⁷³

The gratest obstacle to sericulture was the diseases of silk worms and these diseases were of many kinds viz., Pebrine (kata), Muscardine (Chuna-kete or Calcino), Flypest (Kuji), Flacherie (Kalsira), Gatine (Salfa), Grasserie (Rasa or Jaundice), Court (Rangi, Lali) and the Dermestes Vulpines. The cocoon rearers of Malda and Murshidabad were very much aware of these diseases and they tried to fight it out so that the cocoonaries could be saved from these fatal diseases.

(i) Pebrine :

Pebrine was always a dangerous disease and affected seriously the growth of the silk worms. In the initial stage of the disease it was not possible to mark it in naked eye. It was visible when the disease was far advanced. The worms attacked by Pebrine became more and more unequal in size, some grew normally while others remained very small. They became sluggish and slow and irregular in passing their moults. Pebrinised worms became always pale and more translucent than the healthy ones. It caused a considerable mortality among them. It was a slow acting disease and took 30 days for complete development. So, the pebrinised worms died off at the last stage all of a sudden. The dead worms did not become at once rotten or soft but tended to be dry and firm.

"The most characteristic feature of the disease, however, is the presence, in different parts of the diseased caterpillar's body; but especially in its gut, of nemerous minutes oval bodies, which are the spores of the parasite which causes the disease."⁷⁴ The silk worms affected by pebrine spin cocoons but the cocoons would be flimsy and poor. The moths cut out of them would be deformed and the eggs laid by them would not hatch, if

hatch, many might give rise to diseased caterpillars. Pebrine was highly contagious and hereditary in the sense that germs present in the body of parents passed on to the offsprings. "The famous Louis Pasteur investigated it, found out the causal agent and evolved a method of controlling it by microscopic examination of the body tissue of mother moths after eggs are laid and rejecting the eggs of those having pebrine corpuscles in their body."⁷⁵ Pebrine was not a new disease. The germs of it were in India and the causal organism was in the worms all the time that began to cause disease. Now it is found that microscopic examination and cleanliness of the rearing house would help the rearers to check pebrine. The silk growers of Malda and Murshidabad were fully conscious of that.

(ii) Muscardine (Chuna-kete or Calcino) :

Muscardine was an epidemic of the silk worm caused by a parasitic fungus. It could be checked by dis-infection of eggs and all the appliances used, and rearing the worms in a clean way. Muscardine was visible to the naked eye when the disease was fully developed. When the silk worms were affected by muscardine they gradually turned into lime like in appearance. The Italian name of the disease was Calcino and the Bengali name Chuna-kete. A pale rose-colour was seen all over the body just before death. The body became limp and lost its elasticity. It ceased to move and rapidly died. After death, the worms look like a piece of chalk. Like pebrine, muscardine was "always been known in Bengal." The caterpillars attacked by muscardine at its last stage would spin cocoons, but the moths would not emerge from it and on opening of the cocoons the pupae would be found white efflorescence. When the muscardine broke out, it was stopped by keeping the worms fasting for a few hours and burning sulphur in the rearing room thoroughly shutting it up.

(iii) Fly Pest (Kuji) :

The damage caused by the silk worm fly to the silk worms was not always regarded as a disease. Yet, it caused a great deal of damage to the mulberry cocoons of Bengal. The fly pest generally attacked the silk worms when they crossed the 3rd or 4th moult. If the damage was serious, the caterpillar would not spin cocoon

and if the damage was not so serious it would spin but at that stage the moth would never be formed inside the cocoon. Moreover, the cocoons thus got would be useless for reeling.

The eggs of the fly pest hatched into maggots which penetrated into the body of silk worms and killed it when they crossed the 3rd or 4th moult. If a silk worm died after making its cocoon, a number of maggots of the fly pest instead of a moth would come out of the cocoon. It would mar the rearing room and the next crop would not be possible to rear. So the rearers of Malda and Murshidabad preferred alternate rearing for the sake of healthy crops and went to distant places for the collection of good seeds. With the seed-cocoons a few maggots of the kuji came into the village and some sort of damage was always done. Therefore, the rearers did not allow themselves 'to take two crops in succession'. In each joar, the silk worm rearers reared the worms at alternate bund to avoid excessive loss from the parasitic fly and the dermestes. The ventilator and the window of the rearing room were covered by net so that the fly pest could not make any entry inside the room. To protect the silk worms from the damage caused by the fly pest, the silk rearers of Malda and Murshidabad, took every care to keep the fly out of the rearing room.

(iv) Flacherie :

When the silk worms were attacked by flacherie, the body became all black and, therefore, the disease was known to the silk rearers as Kalsira. The external symptoms of the disease were well marked. The worms attacked by flacherie became sluggish and motionless. Flacherie generally occurred when the silk worms became full grown and were about to spin. Then the worms used to vomit and it was a clear brownish liquid. The disease was always known to Bengal. The mulberry leaves affected with tukra caused flacherie or grasserie to the worms when they ate it in the absence of proper leaf. A minute insect caused tukra, which could easily be wiped out now by kerosine emulsion.

(v) Gatine (Salfa) :

The silk worms were usually attacked by gatine in its earlier stages. It was a form of indigestion and was caused due to excessive heat or cold. When attacked by gatine, the worms lost appetite and did not like to eat mulberry leaves. There was a similarity between gatine and flacherie. In both the cases, the silk worms turned into black and putrid. Gatine was not so fatal and it did not spread so rapidly as the flacherie. If the normal temperature could be restored, the silk worms would start eating and the epidemic could be prevented. This disease was not very common to the sericulturists of Bengal.⁷⁶

(vi) Grasserie :

Grasserie was not an infectious disease. It was caused due to the sappy conditions of the mulberry leaves and lack of proper ventilation in the rearing room. As the unsuitable food and faulty ventilation were the main causes of the grasserie, so the improvement of the rearing room and proper care of feeding helped to prevent an out-break of the disease. Like flacherie, the grasserie was also the result of climatic condition. As climate could not be changed so proper care was always taken by the rearers, and the silk growers of Malda and Murshidabad were also aware of this inasmuch as grasserie was more harmful to silk worm than flacherie. Grasserie attacked the silk worms at its larval life, usually after the 4th moult and when attacked the silk worms became restless and turned into yellow colour. "If the mulberry could be grown and used at such times, the bad effects of very succulent leaf would be avoided."⁷⁷ The disease was also known as Rasa or Jaundice to the rearers. So the rearers of Malda and Murshidabad used leaves from large mulberry trees and avoided the use of shrub leaves as far possible. In Bengal, more loss took place from grasserie than from flacherie.⁷⁸

(vii) Court :

It is not a disease. It was a symptom of disease and caused from pebrine. So the use of good seeds had helped the silk rearers to avoid that. "Court, called in Bengali Lali, Rangi or Kurkutte, is more an abnormality than a disease."⁷⁹ The court was more common

in the month of February and March. When the worms were given 'naicha'⁸⁰ leaves or leaves from the shady places, or given an insufficient supply of leaf at the last stage, this abnormality was seen amongst the silk worms. When the worms were affected with Court they turned chrysalises. At this stage it did not make cocoon or if they did it at all, the cocoon became flimsy. The chrysalis might turn into a moth but the eggs laid by it were not free from Court. It was hereditary.

(viii) The Dermestes Vulpinus :

It was a kind of beetle and ate up silk worms in all its stages. This pest took shelter in the cocoon godowns and came with the seed cocoons. So the seeding was done outside the rearing room. The appliances were always kept clean so that the epidemic from pest could naturally be checked.

The silk growers of Malda and Murshidabad generally had no prejudice in rearing silk worms. "In Malda there was no objection on the score of caste to sericulture or to mechanical or agricultural occupation."⁸¹ But the worms were believed to be surrounded by devatas and hobgoblins. At one time, of course in early twentieth century, there was a belief among them that the use of microscope caused a cholera and, so, they were reluctant to use it. When the rearers came to realise that the microscopic experiment was helpful for detecting pebrine, then they gradually became habituated in the use of that. So was the case in the use of sulphur. The rearers believed that they would incur a curse if they used sulphur for fumigating their rearing rooms and appliances. The burning of sulphur was considered an act of profanation by 'pundas' of Malda inasmuch as they believed this substance to be of some kind of uterine discharge of the goddess Bhagobati.⁸² As soon as they realised the benefits of the experiments, they gave up these superstitions. But the rearers maintained rituals and practices in rearing the silk worms as they treated the worms sacred. It was neither 'noisy, dirty nor dangerous.' when the silk worms were attacked by the diseases or when their normal growth retarded, the rearers used to abstain from carnal pleasures and offered prayers for their healthy growth. At this time, the rearers would neither wash nor be shaved. They also maintained restrictions in their diet and

did not take 'fish, turmeric, garlic and onions.' Snuff and tobacco were also forbidden. An old shoe was hung on the door way of the rearing house. The polluted women were not allowed inside the rearing room; and "women, parturient or menstruating were forbidden to approach the sheds."⁸³ The silk worms growers were very particular in maintaining the sacredness of the rearing house and they knew that the success of silk worm rearing depended on their urge and interest and, therefore, they found in it a real cohesion between man and insect. They fully identified themselves with the silk worms' life and sericulture was a pleasure and job satisfaction to them. No allergic reaction was reported from the use of silk and, infact, it would protect human body against the ionizing radiations.⁸⁴ So, Sericultural interest of the rearers helped them not only to give good silk, but it also made an impact on their health too.⁸⁵

III

SILK WINDING :

The silk worm in its ripe stage was put into the Chandrakies⁸⁶ for making cocoons and after the spinning was over the cocoons were taken from Chandrakies by the silk growers for the use of seed, sale and winding. The healthy cocoons were, always, kept for seed and the silk rearers travelled 30 to 40 miles for getting that from village to village and joar to joar. The rearers, sometimes, took the cocoons to the nearer hat (weekly market) for sale and, sometimes, the paikars or agents of the European filatures used to come to purchase that from the houses of the rearers. The cocoons meant for reeling were kept in the sun for a few days to kill the grub by sun heat. It was also done by steam heat, when the sunlight was not available. Whether the chrysalises were alive or dead, the cocoons were placed in basket and the basket was placed on the basin in which water was kept boiling. The whole was covered with a blanket or a thick cloth. After about half an hour the steamed cocoons were ready for reeling.⁸⁷ Oven heat was better than the sunheat as it made the cocoons easier to reel. The ovened cocoons were not sprayed out in the sun to get dry. They were kept indoors in machans (bamboo shelves) and reeled off within 3 to 4 days. "The Sun, scorching as it is in Bengal, burns the thread, weakens it,

crisps it, tarnishes the colour of the silk, and renders it worse in the hand of the dyer. The heat of the oven, by which the worm is killed within the space of one or two hours, helps to strengthen the substance of the gum. The worm being sweated by the heat of the oven, the remainder of its gummy substance, which oozes through the threads of the cocoon, gives a greater degree of consistency to the silk."⁸⁸

The pierced cocoons could not be reeled in the same manner as the whole cocoons with dead chrysalises inside them. The rearers of Malda and Murshidabad made four to six harvests each year to rear cocoons and, thereby, used five or six kahans of seed each time. Thus, after seeding i.e., after the moths cut out of the cocoons, a large number of empty cocoons had accumulated in every rearers house and these pierced cocoons were spun into a coarse thread and utilized for 'matka' cloth. Usually, the poor Mohammedan women were engaged in matka-spinning. "Matka-spinning and matka-weaving give occupation to the poorest of women and the least artistic among the weavers."⁸⁹ The mulberry cultivators of Malda and Murshidabad were generally cocoon-growers, and, the cocoon-rearers were also generally silk-winders. This 'cross-division' in sericultural industry was unavoidable.

Two methods were applied in silk reeling. One was country wound silk and the other was filature wound silk. More than half of the cocoons were spun into thread by the country method of reeling. This was known as Khamru, Khangru or bank silk. Bank was the name of the machine by which Khamru silk was made. This machine was commonly known as ghai. The ghais were chiefly worked by Mahommedans but silk winding in the indigenous method was also done by the Hindus. Mud, bamboos, wood and iron were mainly used in the construction of ghais.

Each ghai had a reeler (katani) who sat in front of the basin and looked after the boiling cocoons and the reeling of them. Ghais, Karais or basins were warmed by the fire place. A pakdar or winder stood on the far side of the basin and turned the handle of the reel. Bantikals were placed near the katanis. This consisted of a block of wood to which an iron portion was fixed.

The arc-shaped portion had two, four or six holes according as two, four or six skeins of silk were reeled off at a time. Through these holes, the fibres from a number of cocoons in the basin were passed and carried on as a single thread to the reel. The reeler first boiled the steamed cocoons in the basins and worked them with a bundle of sticks. The cocoon should be dipped in the boiling water and its end attached to the brush. The end was taken with the left hand, and with the right hand the cocoons were lightly shaken so that a greater length of the fibres worked off. Ten or twelve cocoons were separated from the lot of the cocoons in the basin and the ends of which were passed through the eyes or holes of the kal. There were usually two upright wires on the kal to keep the two lots of fibres separated during the reeling. These served to give two croiseurs to the fibres, one, between the holes of the kal and the upright wires, and the other between these wires and the reel. The friction caused by these croiseurs agglutinated the fibres together and made them pass on to the reel as to firm and single thread. Crossing the threads before being passed on to the reel was a European innovation introduced in Bengal in 1770, and it was still rather the exception than the rule in the reeling of Khamru silk. The pakdar turned the reel and the cocoons in front of the reeler began to work off. The reeler marked and separated the cocoons entangled or jumbled up and supplied the new cocoons and the reeling was going on. When there was any break in reeling the pakdar helped the reeler in continuing the work. When one lot of cocoons was finished, another lot was supplied and the reeling was going on until the day's work was done.⁹⁰

In khamru reeling the reelers did not take any trouble to find out the end when there was a break and put a knot as was done in European filature. But the union was effected and, so, it was difficult to unwind a skein of khamru silk than a skein of filature-reeled silk. Khamru silk was much coarser and uneven than filature-reeled silk. "The silk being wound from the cocoons, and reeled into skeins after the crude manner

immemorially practised by the natives of India" was inferior in quality and was known as "country wound".⁹¹

In filatures, 4 - 6 cocoons were usually used to reel off together to form a single thread, but in native ghais 8 to 20 cocoons were used. Selective cocoons were used in European filature, but the cheaper and rainy season cocoons were chiefly used for the ghais. The ordinary price of khamru silk was Rs. 10 to 12 a seer. The khamru silk of Malda had a great demand to the local weavers and a good deal of khamru silk was employed in local looms. Half of the total quantity of khamru silk produced in Bengal was taken away by dealers from Benares, Nagpur, Karachi, Mysore, Sholapore and other parts of India where the silk weaving was done. A small quantity of filature-silk was used in Bengal looms. The weavers of Murshidabad called filature silk 'Latin silk' due to its improved "Novi"⁹² pattern introduced by the Italian experts in the English East India Company. The weavers used the 'Latin silk' only for some exceptionally fine silk muslin fabrics and for which they paid Rs. 17 to 20 per seer instead of Rs. 10 to 12.⁹³

The khamru silk spinning industry was in a flourishing condition at Malda and Mursidabad. In Malda khamru reeling was in practice in all the joars, mainly in English Bazar and the villages adjacent to it. And in Murshidabad, khamru reeling prevailed chiefly in the Jungipur and Kandi subdivisions. "Malda produces about 2,000 maunds of khamru silk; Murshidabad about 800 maunds,.... the total quantity (in Bengal) being five to six thousand maunds per annum and the tendency has been upwards."⁹⁴ The khamru silk worked cheaper than the filature -reeled silk. A winder could wind three times as much khamru silk as filature silk. In Malda, six skeins of khamru silk were turned out at a time but the numbers of winders required less. The establishment charges of European factory were, no doubt, great. The yield of khamru silk was larger. "From a maund of green cocoons $2\frac{1}{2}$ to $3\frac{1}{2}$ seers of khamru silk is obtained, the out turn of filature reeled silk being about half-a-seer less in either case."⁹⁵ To the native reeler it was profitable to reel coarse

khamru silk and a great quantity of khamru silk was produced in Bengal than the filature-reeled silk. The European factors had, therefore, to face a keen competition with the native reelers and to avoid the competition they recognised the khamru silk as an article of export, and bought up large quantities of it, re-wound it, and sent it to the European market.

Nearly all the superior raw silk to that of khamru silk was exported to Europe. It was spun both in European and Bengal filatures. The European silk factors purchased the produce of the local filatures on a contract basis.⁹⁶ The Bengal Silk Company and Messrs Louis, Payen and Company were the biggest filature owners in Murshidabad.⁹⁷ The out-turn of the European filatures were no doubt greater than that of the local filatures and the regular export of raw silk from Bengal began in 1772.

The annual average export of raw silk from Bengal for 100 years since 1773 is mentioned in the table given below.

T A B L E : 2:II

Title : Export of Bengal raw silk from 1773-1875

Year	Annual average export of raw silk
1773-1792	409,000 lbs.
1793-1812	438,554 lbs.
1813-1834	982,761 lbs.
1836-1855	1,435,225 lbs.
1856-1875	1,690,836 lbs.

Source: N.G. Mukherjee, A Monograph on the Silk Fabrics of Bengal, Calcutta, 1903, P.32.

It was seen in the table that the average export of raw silk was greater at every succeeding 20 years. Raw silk for export was made in large factories and the main differences between the khamru and filature systems were: (i) In filature the boiling of water was

done from a Central boiler with steam, but in khamru a fire was kept under each basin to heat the water. (ii) In filature method, the winders had to go under strict discipline and a constant watch was kept on their work and that made the silk turned out of evener size than khamru silk. (iii) A knot was put when there was a break in filature silk but that was not done in khamru silk. (iv) In filature reeling crossing of two threads were done to give them firmness and roundness, but in khamru reeling it was not done or rarely done. And, so, filature silk was finer than khamru silk.

Though the filature winders and spinners were both the Hindus and Mahommedans, the percentage of the Mahommedans was more than the Hindus and they came from the lower level of the society. They worked on a system of advances and got very small wages of Rs. 4 to 6 per month.⁹⁸

The silk twistors were also known as chambulias and they belonged to both Hindu and Mahommedan communities-usually the latter. In society they occupied an intermediate position between the weavers and the winders. They were considered better than spinners, but not so well off as weavers.⁹⁹

There were various colours of silk and the recognised colours were deep blue, grey, red, yellow, orange, purple, sonali (golden) and asmani (sky-blue).¹⁰⁰ Bleaching and dyeing made the silk glossy. In the process of bleaching silk lost some weight, but it again gained a certain weight when dyed.¹⁰¹

As the filature wound silk was better than the country wound silk, similarly in comparison with the European and Japanese silks, the European filature reeled silk of Bengal was, no doubt inferior. The inferiority was caused not for workmen or machine but for the inferiority of the Bengal cocoons. The length of the fibre of a Bengal cocoon was about 200 to 250 yards, while on a Bombyx mori cocoon it was about 800 yards i.e. four times with less joinings.¹⁰² The Bombyx mori cocoons were better than the Bengal cocoons and, therefore, the Bara palu variety were generally cultivated for the development of silk industry.

IV

SILK WEAVING:

The silk weaving industry of Malda and Murshidabad had a long antiquity and the silk weavers there were deeply connected with it and greatly benefited by it. It was not only their profession, it was an art and a matter of joy to them. The hereditary skill of the silk weavers was a legend and the use of silk was in vogue from the Vedic days. In the Rig Veda, it was stated that the use of silk cloth was a common feature in the marriage ceremony. Kshoume' basane' basa'na'-ma'gni-madhiya'ta'm :The bride was to worship the fire decked in silken cloth.¹⁰³ A common practice grew to the Hindus, all over India, to use silk clothes in every religious occasion. So silk fabrics had a great demand in the market. But in the colonial age, the silk-weaving industry got a serious set back in the hand of the English East India Company. The Company gradually took interest only in the production of raw silk and not of silk fabrics. In 1769, the Directors wished that the manufacture of raw silk should be encouraged in Bengal, and that of silk fabrics discouraged.¹⁰⁴ The Company sent raw silk to England to be used in the textile industry there. The indigenous silk weavers became the worst victim of that policy. The machine-made silk goods of England captured the market and, thereby, the economy of Bengal was shattered.

The weavers of Malda and Murshidabad were more depended on silk weaving than the cocoon-growers on cocoon-growing and the winders on silk-winding. Most of the cocoon-rearers were also mulberry cultivators. The 'Pundas' of Malda were the only exception and they mainly depended on cocoon-rearing. "About half the cocoon-rearers of Bengal are also cultivators in the ordinary sense."¹⁰⁵ The spinners were too poor to own land and, when, they were not spinning matka or working in filatures, they were usually employed as labourers. There were very few weavers who had got their own land. As they enjoyed better social position than that of the cocoon-rearers and spinner, so working as labourers was considered degrading to them. A weaver-family would suffer privation and incur debt before it chose a lower

position in society. Their economic position was comparatively better and the silk weavers as a class were more prosperous than even cotton-weavers. Silk weaving was done by adult males. Children and women assisted them in preparing the thread and fixing the warp only.¹⁰⁶

The silk weavers of Murshidabad were mainly Hindus and they belonged to the Tanti Caste. Though they were the majority in number, still there were other castes who also were engaged in this industry, and they were Kaibartas, Vaishnavas, Mals, Bagdis, Chandals and Muhammedan jugis. The families of weavers were always interested in their ancestral occupation and, thereby, achieved a hereditary skill. "In Murshidabad about 15,000 persons depend on silk-weaving, and there are over 2,500 looms at work."¹⁰⁷ And in Malda, there were over 25,000 silk weavers and they all belonged to the Tanti caste. Muhammedans also took part in silk weaving in this district.¹⁰⁸

Malda and Murshidabad were the heart of the silk weaving industry. There were many varieties of silks woven in these districts. The principal types of Murshidabad silk fabrics were-

- (i) Plain fabrics, either bleached, unbleached or dyed.
- (ii) Striped fabrics
- (iii) Checks.
- (iv) Bordered fabrics.
- (v) Printed fabrics
- (vi) Banhus.
- (vii) Fabrics made with naksha loom for weaving figured silks.
- (viii) Embroidered and other hand-worked fabrics.

And in Malda, silk saris, handkerchiefs, sheets and pieces of coating were manufactured.¹⁰⁹

The East India Company manufactured silk in three of its residencies, but mostly from country wound silk. The stuffs seemed to have been undyed piece-goods, known as corahs and bandannas. Buchanan gave an elaborate description of the silk manufacturing in Malda and the neighbourhood. The cloths made were almost all mixed, the warp being silk and the woof cotton.

The warp was generally disposed in stripes, the woof being of one colour. The pattern did not display much variety. There were said to be about 11,000 looms, but not one half of them, at the time of Buchanan's visit was constantly employed. Buchanan estimated the value of the stuffs exported to the west, to Murshidabad and Calcutta at no less than ten lakhs annually, which, of course, was a gross underestimation.¹¹⁰

Weaving was universally done in pit-loom. A few stages of preparatory work were involved before the actual weaving operation started. Preparation of warp yarn consisted of sorting the thread for different assortments and for different part of warp. Approximately eighteen days were taken to soak, rinse and dry the yarn several times before it was ready for weaving. The warp was next laid by two men, sometimes even women, over bamboo sticks which had been fixed at regular intervals in the shaded ground. The warp was fixed to the loom by two men while the reel was attached to the warp by two. It took two men ten to thirty days to fix the warp. Weaving required one or two persons, though for flowering, which was embroidered on the loom a third weaver worked on it. Ordinary assignments were made in ten to fifteen days, The fine varieties required twenty days and the superfine thirty days.¹¹¹

Before it was considered ready for export the silk cloth off the loom had to be processed in various ways. The requirement of washing tank or wide grounds for drying necessitated investments beyond the capacity of small dhobis. For washing a deep tank sufficed.¹¹² In addition to the washing grounds of the company there were those of the wealthier dhobis who rented washing ground or experienced washermen. Although the implements used for this purpose were very simple the intricacy and repetition of the process required a functional specialisation. The washing operation involved soaking the cloth in large earthenware vessels gamlas, immersing the cloth in alkaline (soap or impure carbonate soda) and drying the cloth on grass and sprinkling regularly with water.

Since the threads of the cloth were often damaged or displaced in the course of washing they had to be skillfully rearranged;

the piece was rolled and the damaged portion was brushed with a rattan comb. The darning of broken threads were undertaken by rafugar while the remaining spots and stains were removed by dagh dhobis who used the juice of amroola plant for iron marks caused during weaving, and ghi, lime and mineral alkali for other stains. After the removal of the stains the cloth was beetled or kundied with smooth chauk shells by kundigars. The colouring of silk thread was always done by specialists known as rang-rez. According to Buchanan about five hundred butidar families were employed in Malda for embroidery work.¹¹³

Bleaching and dyeing made the silk fabrics attractive. Bleaching was done before weaving and the art of bleaching was in practice from the early days. It was also mentioned in the 'Institute of Manu.'¹¹⁴ The silk weavers of Malda and Murshidabad were expert in the art of bleaching and dyeing. The yarn of filature-reeled silk or country-reeled silk or twisted or untwisted matka thread was to be bleached first before weaving. In the case of corah bleaching was done after weaving. The colour of the silk was yellow i.e., like cocoons from which it was made. This was not permanent colour and it was to be removed by bleaching before dyed. The silk of the Bara palu cocoons was white and it was also bleached before being dyed.¹¹⁵

The silk weavers usually performed the work of bleaching and dyeing, though there were professional bleachers and dyers in Murshidabad and Malda. The corah silks were normally bleached by dhobis or professional washermen. Men were assisted by women in the work of bleaching and dyeing. The professional silk bleachers of Murshidabad lived mainly at Khagra, Saidabad, and Kunjaghata, where the principal dyeing establishments were set up.¹¹⁶

Dyeing was done both in silk thread and silk fabrics, and before dyeing, bleaching and mordanting took place. The colours recognised in Bengal silk fabrics were: (i) Indigo, (ii) Black, (iii) Blue, (iv) Grey or light blue, (v) red, (vi) Light red or anardana i.e., pomegranate seed colour, (vii) Yellow, (viii) Orange, (ix) Cream, (x) Purple, (xi) Banesh i.e., Chocolate,

(xii) Pitambari, (xiii) Sonali, (xiv) Hiramankanthi, (xv) Mayurkanthi, (xvi) Dhupchhaya i.e. light and shadow and (xvii) Asmani. Of these colours used in Bengal silk fabrics, black and blue colours were scrupulously avoided.¹¹⁷

The colour in the silk fabric was made by the combination of different colours. Pitambari colour was produced by red warp and orange weft. Sonali colour was produced by green warp and orange weft. Hiramankanthi i.e., parrot neck colour was produced by green warp and red weft. Mayurkanthi i.e., peacock-neck colour was produced by red warp and green weft. Dhupchhaya i.e., light and shadow colour was produced by red warp and blue weft. Asmani i.e., Sky colour was produced by blue warp and red weft. The silk fabrics made of combined colours were known as shot-silks.¹¹⁸

The different colours and the excellent quality of silk fabrics of Malda and Murshidabad made it attractive and, thereby, created a wide market both inside and outside the country. The silk weaving industry was always more extended than the manufactories of raw silk. The demand and market of the Bengal silk fabrics continued for a long time (i.e., upto to the eighteenth century). But after Plassey, the economic policy of the English Company seemed to turn the silk districts from manufacturing silk cloth to producing raw silk. Malda and Murshidabad were adversely affected by this policy.¹¹⁹

The silk weavers of Malda and Murshidabad were also their own dealers. The general rule pursued by them for the disposal of their goods when accumulated was that they went to the nearest towns for sale and what they could not sell they took to the Mahajans, or merchants, or shop-keepers, carrying their goods in their own hands. Sometimes, it was found that a rich weaver secured silk goods from the small weavers and disposed that to the rich merchants. The Mahajans were well acquainted with the quality and price of silk and, so, they always tried to get silks cheap and charged the weavers heavy rate of interest 12-36% per annum for the advance. The weavers had to depend on the Mahajans or money lenders for advance for the purchase of

thread and the support of their families. The Mahajans also supplied thread to the weavers for making pieces of cloth and the weavers got nothing but only wages. The average income of a silk weaver was 4 to 6 annas a day i.e., 8 to 12 rupees a month. The silk weaving industry was controlled by the Mahajans (i.e. the rich money lenders) and the growth of the silk industry was greatly impeded by their grabbing policy. These Mahajans were not interested in silks, in particular, they were interested in the business of jewellery and grain. Besides, they liked to invest money on land.¹²⁰ Fortunately, there was another trading community in silk and they were the silk merchants both European and Indian. The silk merchants were interested in the development of the silk industry and they pursued a liberal policy. They made advances to the weavers and purchased their silk goods at reasonable rates and, moreover, they competed with each other to the benefit of the weavers. At Berhampore, Rampur Boalia, and English Bazar, there were many silk merchants who maintained their business houses, and made purchases for transmission to various parts of India and abroad. The family of Tanti Ram Babu of Berhampur was well-known among the silk-weavers' family. They were famous exporters of silk and became Zamindar. Rai Mukundlal Barman Bahadur was also a rich silk merchant of Berhampur. His firm dealt principally with the Maratha-country. The French firm of Messrs. Louis Payen & Co. also dealt in silk piece goods. Mrityonjoy Sarkar, a talented silk weaver of Mirzapur rose from ignominy to the position of a renowned silk merchant and earned a lot of money through silk trade. He introduced many improvements in the silk weaving industry of Jangipur circle and, therefore, the weavers of Mirzapur recognised him as their master. Bishen Chand Babu and Khetu Babu of Baluchar were both silk merchants and Mahajans and bought up large quantities of silk directly from the weavers.¹²¹

The silk fabrics manufactured in Malda and Murshidabad were enormous in quantity and always had a great demand, and were exported by the Mahajans and other silk merchants to Calcutta, Benares, Mirzapur, Jaypur, Bombay, Madras, Sind, Central and North-western provinces, Burma, and the countries outside India were Europe, America, Russia etc. The silk fabrics which were not sold at the local hats or periodical fairs were sent outside

by roads, canals and rivers. The Ganges helped Malda and Murshidabad in transporting silks outside. There were one or two shops in English Bazar where silk fabrics were sold. The two principal firms of Benares who had establishments in Malda for purchasing silks were Messrs. Dwarka Das-Raghunath Das and Messrs. Saligram-Jaganath Das. The finest clothes were made at Shibganj in Malda and the best weavers there did not earn more than Rs. 8 to 12 a month. The weavers seldom sold their fabrics to the consumers direct and those who worked on their own capital were in a much more favourable position. But as a class, their economic condition was not good and they were involved in debt. They did not work for themselves. They worked for the silk dealers who supplied them materials and paid them for their labour. The weavers of Kandi sub-division of Murshidabad found silk weaving little profitable and gave it up and took to agriculture. The mahajan machination accounted partly for the decline of silk industry in Bengal.

V

MARKETING MECHANISM :

With the European traders taking interest in silk the intermediaries came to play a significant role and the silk market of Bengal in the eighteenth century was largely dominated by them. They maintained link between the primary producers and the silk merchants and, thereby, served the need of foreign Companies as well as of the Indian merchants. The Banyans,¹²² the Gomastahs, the Dallals and the pykars belonged to the same group of intermediaries and occupied a central place in conducting the silk industry and trade of Bengal.

Banyan:

" A Banyan is a person ... by whom the English gentlemen in general transact all their business. "¹²³ The banyan was an Indian partner of the foreign silk merchants in India and supplied money to the young writers and officials of the Company for their trade and extravagant habits. They had necessary knowledge about the market and got political protection from the

writers and conducted partnership business on commission basis. The banyans guarded the various transaction of his partner whether Indian or European. They were more or less merchants, rather than intermediaries. Cantoo Baboo, the famous banyan of Warren Hastings, became a notable silk merchant of Kasimbazar and founded Kasimbazar palace and got the title Maharaja from the English East India Company.

The banyans often had to advance money to the young Writers, though the risk was not inconsiderable. Sometimes, the young writers became extravagant and could not pay and the banyans did not get their money. But lending continued on account of the fact that the support of the Writers helped the banyans to establish a mercantile aristocracy. Before Plassey, the banyans were mostly Vaisya caste. But after Plassey the high caste Hindus also took it as a profession. The most famous banyans in the second half of the eighteenth century were Gokul Ghosal, Baranasi Ghosh, Hydaram Banerjee, Akrur Dutt, Monhur Mukherjee and their names frequently occurred in the judicial records of the time.¹²⁴

Gomastah :

The gomastahs are salaried agent and the other intermediaries were commissioned agents, i.e., the persons employed by the Company in the provision of silk-piece-goods whether they are gomastahs paid monthly wages by the Company or dallals paid by the commission at a fixed rate for his goods.¹²⁵ The gomastahs were regular employees of the Company and connected with factory administration. Their salary was fixed and sometimes, they were paid commission for inducement. Their position was also the same in the case of private trade and they had hardly any share in the profit and loss of his employer's business. So, the position of the gomastahs was different from that of the dallals and pykars appointed for business transaction in any specific goods. They did not belong to any mercantile community like the banyan. A merchant-cum-banyan was respected more than a gomastah. Nevertheless, the gomastahs were not debarred from enjoying the benefits of trade on his own behalf and on behalf of his employer. Being backed by the power and influence of the Company, they exercised arbitrary power and compelled the weavers to take

advances against their will and after that established a monopoly both upon the workers and their work. "The assent of the poor weaver was not deemed necessary; for the gomastahs, when employed on the Company's investment, frequently make them sign what they please; and upon the weavers refusing to take the money offered, it has been known they have had it tied in their girdles, and they have been sent away with a flogging."¹²⁶ The artisans had no legal protection against the fraud and violence by these agents.¹²⁷ The agents in their malpractices were always supported by the Residents and junior servants of the Company who were usually deeply engaged in private trade.¹²⁸ Gomastahs, "Under the sanction of the Company's name" and "under the pretence of securing an investment for the Company" used to practise the "most unbounded tyranny and extortion on all manufacturers and weavers of silk" for their own selfish ends.¹²⁹

Dallals :

The dallals¹³⁰ were brokers. They brought sellers and purchasers to each other and acted as the bridge between the two. They were essentially contact men and information suppliers and received commission if their transaction was successful. As the dallals were commissioned agent, so no capital was necessary for their work. "Many mutasaddis being devoid of capital had chosen the profession of a broker."¹³¹ Hence the dallals or brokers were not traders or manufacturers. They were mainly engaged in contacting sellers and purchasers. Though the dallals were commissioned agents, still they were treated as pariah in the mercantile community.

The Pykars :

The part played by the pykars in running the silk industry and trade of Bengal was no doubt great. They had the direct contact with the silk growers and purchased and collected the cocoons from them. "The cocoons are produced by a lot of people called chassar They are purchased by another description of men called the pykars who govern the country collecting them."¹³² So the pykars were the linkmen between the cocoon-rearers and the commercial Residents of the Company. The Residents supplied them

money which they advanced to the producers for getting the raw materials. "The agent who comes in the immediate Contact with the Company is a middle man, called pykar to whom advances of cash are made by the Commercial Resident which the pykar circulates among the breeders of silk worms throughout his district."¹³³ The pykars like the gomastahs were not the salaried employees of the Company. They were trader-cum-contractors and made agreement with the Company to supply cocoons on an agreed price. They travelled from village to village in the muffassil, and purchased cocoons from the cultivators of lands.¹³⁴ This made them members of the trading community and distinguished them from the dallals or brokers. The dallals were engaged by their employers to find goods for them and received a small commission for that.¹³⁵ The pykars, on the other hand, like the banyans were not the business partners of the Commercial Residents and had no share in the profit or loss. They only collected raw materials according to the agreement and specific order and became the chief supplier of raw silk of Malda and Murshidabad. The pykars were generally independent and had a close contact with the merchants and became the chief supplier of goods for the Company and other European traders who could not penetrate into the lower levels of trade and production.¹³⁶

The functions of the pykars were indispensable for the supply of cocoons and without them it was not feasible for the Company or the the private traders to collect cocoons from the interior areas of Bengal. The chassars were reluctant to sell the cocoons to the filatures established by the Company in the late eighteenth century and, therefore, collection of cocoons was difficult and dependence on the pykars was unavoidable. Hence, the role of the pykars should be judged from the view point of the Company, the private trader and the primary producer.

As the pykars were the dadni merchants, so they received advances from the Company and distributed that to the primary producers on the basis of getting cocoons.

The pykars came from the agrarian society and, therefore, they got the opportunity to maintain a constant link with the silk rearers and that helped them a lot in collecting cocoons. Sericulture was costly and the chassars were poor. So, they had to depend upon pykars for money. This borrowing of money, which was in the form of advance, forced them to sell their cocoons to the pykars. The poverty of the chassars made the situation easier for the operation of the pykars. Like the banyans, money lending was also a function of the pykars.¹³⁷ Another important function of the pykars was to spread the filature system in Bengal for Italian mode of winding silk. They established a number of new filatures for the diffusion of the new technology. The filatures set up by them met the rising demand of filature silk. Sometimes, they also hired filatures from others and spread technology to distant villages.¹³⁸ The pykars collected cocoons from the far-off villages and deposited that to the factories. They guided the rural-urban trade. They were 'itinerant pedlar' engaged in collecting materials from distant villages.¹³⁹

Thus, the intermediaries strengthened the link between the raw-material producing villages and manufacturing centres and, thereby, developed well-populated business towns and silk emporiums like Kasimbazar. The silk industry of Malda and Murshidabad owed much to these intermediaries.

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CHAPTER 3

PRODUCTION-RELATIONS: A STUDY OF THE NEXUS BETWEEN PRODUCERS, FINANCE, INDIGENOUS PATRONAGE AND THE EAST INDIA COMPANY'S INVESTMENT IN SILK.

Silk industry reached a stage of perfection in Bengal and it was one of the major industrial activities of the people of Malda and Murshidabad. It had a flourishing trade in the European markets. I would now analyse the different components of the production relations without which the push factors in the growth of silk industry of Bengal cannot be fully comprehended.

During the British period the production relations in Silk industry, like the cocoon industry, underwent several important changes. The changes should be studied in four main heads - (i) the condition and nature of production relations before the consolidation of the British Power in Bengal, (ii) the emergence of a new type of production relation during British rule, (iii) the mechanism of enforcing the new system¹ and (iv) the role of the women of Malda and Murshidabad in the silk industry.

I

The silk industry of Malda and Murshidabad was organised on a domestic basis. Every silk weaver's cottage was a workshop. There was not a single village at Malda and Murshidabad without such cottages. It was involved inextricably with the life of the people." In the province of Bengal ... it is difficult to find a village in which every man, woman and child is not employed in making a piece of cloth."² The manufacturing of silk goods was done by hand. It took much time. It also depended on the skill and patience of the weavers. The silk weavers of Malda and Murshidabad achieved that quality. The indigenous mode of production was very simple. But the products of the little loom were really very excellent. Baines was moved and he remarked that the products of the indigenous looms "might be thought the work of fairies or insects rather than of men."³ Birdwood also

remarked that "it is only through generations of patient practice that men attain to the mystery of such subtleties."⁴ Baines was very much inspired by the characteristics of the Indian manufacture. It was the extraordinary skill of the weavers that made the products superfine and Baines was moved to say, "it cannot but seem astonishing that in the department of industry, where the raw material has been so grossly neglected, where the machinery is so crude and where there is little division of labour, the results should be the fabrics of the most exquisite delicacy and beauty, unrivalled by the products of any other nations even those best skilled in the mechanical arts."⁵ The silk manufacturers of Malda and Murshidabad got the assistance of all the members of their family in all the stages of manufacture. A great number of workers were engaged in different stages of silk production and obviously the outturn was considerable. "It is further remarkable, that every distinct kind of cloth is the produce of a particular district, in which the fabric has been transmitted, perhaps for centuries, from father to son - a custom which must have been conducted to the perfection of the manufacture."⁶ Samuel Charls Hill stated that Bengal was rich in the production of commercial goods and produced "cloth of all kinds, most beautiful muslins, silk, raw or worked."⁷

The silk of Bengal, particularly of Malda and Murshidabad, had a flourishing trade both in and outside India. "The Hindu, Armenian and Muhammedan merchants carried on a brisk trade with other parts of India and with Turkey, Arabia and Persia ... The despotism of the Nawabs of Bengal never degenerated into absolute oppression, commerce and manufacture were encouraged up to the battle of Plassey, the balance of trade was in favour of Bengal."⁸ This was the impression of most contemporary observers such as William Bolts and Robert Orme.

Bolts remarked, "in those times every possible encouragement was given by the Moguls to merchants of all nations, who, very contrary to the present impolitic conduct of the English East India Company, were allowed free ingress and egress for their traffic to and from Bengal, by land and by water; insomuch that

large caravans over land were used to come from the most distant parts, even from Muscovy, as well as large fleets of boats down the river Jumna and Ganges, for the purpose of trade, into Bengal and the adjacent provinces."⁹

According to Orme, "Bengal by its situation and production has the most extensive commerce of any province of the Empire. Delhi is from hence supplied with all its linens and silks, raw and manufactured, with cloths, with sugar, opium, grain etc. The European nations make their largest and most valuable investments here."¹⁰

In Bengal, both agriculture and manufacture went side by side and the weavers produced silk and cotton goods of different qualities - fine, superfine etc., and that had a great demand in the internal and external markets. "The demands for Bengal manufactures can never lessen, in regard that their quality is so peculiar to that country, that no nation on the globe can either equal or rival them."¹¹ There was also a considerable production of cotton and silk at much cheaper rates and "the greater part of these manufactures and of the raw silk, is exported, and Europe receives the largest share, the rest goes by land sea to different parts of the Empire."¹² Bernier who visited Kasimbazar in January 1666 mentioned that "the Dutch have some times seven or eight hundred natives employed in their silk factory at Kasimbazar, where in like manner, the English and other merchants employ a proportionate number."¹³ In the words of Tavernier Jean-Baptiste, a French doctor and traveller, "Kasimbazar, a village in the kingdom of Bengal, can furnish about 22,000 bales of silk annually, each bale weighing 100 livres. The 22,000 bales weighing 2200,000 livres at 16 ounces to the livre. The Dutch generally took, either for Japan or for Holland, 6000 to 7000 bales of it, and they would have liked to get more, but the merchants of Tartary and of the whole Mogul empire opposed their doing so, for these merchants took as much as the Dutch, and the balance remained with the people of the country for the manufacture of their own stuffs. All these silks are brought to the kingdom of Gujrat, and the greater part come to Ahmedabad and Surat, where they were woven into fabrics."¹⁴ The silk industry of Bengal was considerably improved during the

period 1708-1757 and there was keen competition among the European Companies for securing raw silk and silk fabrics of Bengal.¹⁵

"Murshidabad was the store-house of Bengal silks, and a fairly large silk industry existed, both in rearing the worms, reeling and throwing the silk and in weaving all manner of silk goods."¹⁶ There was abundant quantity of silk in Murshidabad which could be provided in infinite quantities "at least 20 percent cheaper than in any other place in India and is of the choicest stuff, where are also innumerable silk winders, expert workmen and labour cheaper by third than elsewhere."¹⁷ Bernier also stated that "there was in Bengal such a quantity of cotton and silks that the kingdom may be called the common store house for those two kinds of merchandise, not of Hindustan or the empire of the Great Mogul only, but of all the neighbouring kingdoms, and even of Europe."¹⁸ The silk cloth of Malda was known as Maldahi cloth and it had a great demand for its pattern in the European markets. In those days the principal patterns were mazchar, "ripples of silver", bulbulchasm, "nightingale's eyes," Kalintarakshi "pigeon's eyes", and chandtara, "moon and stars." It is on record that in 1577 Shaik Bhik of Malda sent three ships of Maldahi cloth to Russia by the Persian Gulf.¹⁹ The city of Murshidabad along with Benares and Ahmedabad was also famous all over the world for its gold brocades or kincobs.²⁰

The Mogul rulers were great patrons of silk fabrics and in the Mughal age there grew up state Karkhanas for manufacturing textiles of variety. Bernier found in 1666 such Karkhanas in many places which he dubbed 'Halls'.

"Large halls are seen in many places called karkhanas or workshops for the artisans. In one hall, embroiderers are busily employed, superintended by a master, in another you see goldsmiths, in a third painters, in a fourth varnishers in lacquer work, in a fifth joiners, turners, tailors, shoe-makers, in a sixth manufacturers of silk brocade and fine muslins."²¹

Taylor²² mentioned that these Karkhanas or factories were superintended by the 'Darogas' and they inspected the work of the weavers regularly. The constant supervisoion of the 'Mookeems' and 'Darogas' deterred the weavers from taking any improper practices. The weavers, on the other hand, cultivated their arts and that made them more skilled and adept in manufactring. In the State Karkhanas, "the artisans repair every morning to their respective workshops where they remain employed the whole day and then in the evening return to their homes."²³ In the 'Halls', the skilled artisans were selected and supplied raw materials for manufacturing goods for the use. They were salaried employees and paid from the state treasury.²⁴

The 'royal Karkhanas' set up by the Mughals produced silk cloths of finer quality for their use. In the Ain-i-Akbari, Abul Fazal mentioned the existence of Karkhanas or workshops maintained under the patronage of the Emperor, where goods of great artistic skill were produced.²⁵ The weavers were always patronised by the Nawabs and native princes. The royal patronisation helped the poor artificers to develop their skill in a particular pattern of work. "Artificers confine themselves to one sort of work, so that a goldsmith will not work in silver, nor a silversmith in gold. In the Aurungs, or looms a weaver will only weave one single sort of stuff during his whole life unless he be compelled to take another in hand."²⁶

No doubt, as a result of over specialisation the industries had to suffer from the usual defects. Nonetheless, the fact remained that the constant encouragement which the weavers received from Nawabs, as, the Nawabs were in the habit of making gifts to the Imperial Court at Delhi of the choicest local products, helped the weavers to develop craftsmanship and thereby stimulated to maintain the beauty of the regional and local industries.²⁷

"The native princes, and chiefs of various description, the retainers of numerous dependent, afforded a constant employment to a vast number of indigenous manufacturers, who supplied their masters with gold and silver stuffs curiously flowered plain muslins, a diversity of beautiful silks and other articles of Asiatic luxury."²⁸ Thus, the luxury and pomp of the muslim princes encouraged a spirit of expense and large sums thus found

their way into the hands of the artisans.²⁹

These establishments were run only by the expert indigenous workmen, though on a small scale. Bernier also referred to such private manufacturers. He observed, "rich merchants and tradesmen ... pay the workmen rather higher wages."³⁰ Luiller reported in 1702-03 that the indigenous merchants "apart from their large number of agents maintain a great number of workers, whom they make to work for very little."³¹

Caste consideration appeared to be a dominant factor in the production relations. Every work was hereditary. Each craftsmen or menial inherited the right to work for certain families.³² However, the caste system was not the only decisive factor in the productivity of silk industry. Other factors also played vital roles in it. In early days, weaving was carried on by the weaver caste. At that time the villages were self-sufficient, the need of the people was minimum and the presence of the foreign trade in the country was almost negligible. But when the demand for the indigenous goods had increased on account of the expansion of domestic market, the limit of the caste system was crossed and weaving consequently became the profession of other non-weaving castes also. However, the different castes engaged in weaving retained their entity. Still, they all were the members of the same guild.³³ It was the 'guild'³⁴ that regulated the industry instead of caste. Membership in the guild was hereditary. The new comers could be admitted in the guild on production of entry fees. The guilds were conscious in maintaining the standard of their art and, therefore, kept a constant watch on the admission of unqualified persons. The working hours, holidays etc., were fixed by the guilds. It made regulations about the various nature of work.³⁵ In the early stages of the guild, there was little division of labour.

Baines was of opinion that the processes of production were not divided among different groups.³⁶ But it was not static and was gradually changing with the growth of markets. As the demands of the goods increased so also the conditions changed. The early system of production was that a small independent manufacturer, generally a member of a guild, worked with his own

capital and employed his own labour for manufacturing goods. The customers had a direct contact with the producers. As the craftsmen and consumers directly dealt with each other, the possibility of fraud was very little.³⁷ But the interference of the middle-men, engaged by the Company, created a great hardship and loss to the silk producers. "The parties have been transacting business at a loss through middlemen or agents who are going fatat their cost".³⁸ The craftsmen were technically skilled and had apprentices under them who were paid small wages.³⁹ The wages paid to the 'Nikaris' and Karigars varied according to their ability to work. The skilled and small craftsmen, having two or three looms of their own, engaged usually an apprentice (Nikari) and a journeyman Karigar) for the production of silk. The apprentices were "fed by the employer mid-day and there was a personal relation between them as distinct form the cash-nexus of modern factory employment."⁴⁰

The silk producers of Malda and Murshidabad got the assistance and co-operation of all the members of their families in the production of silk. It was also equally true to the rest of Bengal. James Taylor wrote, "boys of fourteen years of age may be seen working at the loom and are very often very expert at the business."⁴¹ In the pre-colonial phase, the craftsman was independent. He combined in himself various functions of work-man, foreman, merchant and employer. But the growing demands of the market brought about a change in the production system and it was not feasible for the independent producer to cope with it. The change in the production system had a great impact on the producers. They lost their freedom and those who were independent earlier, now found themselves working under a 'Mahajan' who was more a merchant than a producer and invested only his capital.⁴² Mulberry silk production was costly and the producers having had no other means to finance their undertakings had to depend on advance for production. They received advances from 'Mahajans' and the 'Mahajans' used to give that for the supply of cloths at a fixed rate. The travelling agents of the 'Mahajans' were paikars who had a direct contact with the weavers. The paikars on behalf of the 'Mahajans', made the advances to the producers. Under the

paikars, there existed another group of experts called 'Mookeems' who travelled door to door in the weavers' colony to inspect cloth making. The exact relation between the 'Mahajan' and the weavers working for him was not definitely known. The Mahajans invested capital in the production and the poor weavers had to depend on them. It was the poverty that forced the artisans to depend on the money lenders. It was naturally easy for the 'Mahajans' to exploit the labour of simple and poor craftsmen. The producer-Mahajan nexus therefore was far from complimentary, though there was a homely relationship between the master craftsman and his apprentices. The apprentice was housed and fed by the master and besides that he received 2 to 10 annas as pocket expenses.⁴³

The artisans and manufacturers of Bengal enjoyed some opportunities upto the reign of Alivardi in freely manufacturing and selling their products. "It was then a common practice for reputable families of the Tantee or weaver caste to employ their own capital in manufacturing goods which they sold freely on their own accounts. "There is a gentleman now in England who in the time of Alivardi Khan, has purchased in the Dacca province in one morning eight hundred pieces of muslin at his own door as brought to him by the weavers of their own accord."⁴⁴ They were not forcibly bound to work in Company's filatures. "Before Plassey they were comparatively free. We cannot say that there was no oppression then. But there was no monopoly, not even a quasi-monopoly, and until the days of Siraj-ud-Daula there was the Nawab's administration, however corrupt, to appeal to."⁴⁵ But Plassey changed the situation and "since those days the natives have had no Nawab to apply to in cases of oppression, but such as were the dependent creatures of the English Company, against whom they could hope for no redress."⁴⁶

In the seventeenth century, the English, the French and the Dutch carried on extensive commercial transactions in Bengal. The simplification of the custom duties of the country attracted the merchants to come to trade. In the opinion of Robert Orme "the customs and imposts throughout Hindusthan are fixed and unalterable. The merchants may at any time make an

exact calculation of the deductions to which his trade was subject. Customs paid at any of the Mughal ports are not to be demanded at any other for the space of twelve months."⁴⁷ The Dutch trade was more prosperous than that of the English in Bengal and their main centres of trade were at Kasimbazar, Chinsura and Patna. The French got the permission of Shaista Khan, Viceroy of Bengal, for their commercial settlements and in 1693 succeeded in obtaining a farman from Aurangzeb for the trade in Bengal. The earliest factory of the English for the trade in Bengal was established on 14th May 1633 at Hariharpur on the Mahanady delta and from there they reached Balasore towards the end of June, 1633. The Hugli factory was founded in 1651 on the bank of the river Hugli. In 1658 another factory was opened at Kasimbazar, the emporium of silk trade. In 1668 a new factory was opened at Dacca, the then capital of Bengal and in 1680 another factory was founded at Malda. The foundation of Calcutta by Job Charnak in 1690 completed the process of factory settlement.⁴⁸ Farrukhsiyar's Farman of 1717 placed the English Company in superior commercial position in comparison with other merchants Indian or foreign. It was the sheet anchor of the Company's commercial right in Bengal till the battle of Plassey.

At the time of Alivardi there was readiness of sale, full competition among the English, the Dutch and the French, the Armenians and Indian traders.⁴⁹ Alivardi considered all the European companies equally and did not hesitate to inflict punishment on the wrong-doer. In 1748, Commodore Griffin of the English Company captured some of the trading vessels of the Mughals and the Armenian merchants. They lodged a complaint to the Nawab for redress. The Nawab immediately issued a Perwannah to Barwell, the Governor of Calcutta, and ordered for the immediate delivery of the goods to the merchants. The English were ultimately forced to comply with the order of the Nawab and accordingly made up the losses suffered by the Armenians.⁵⁰

From the death of Aurangzeb (1707), the disintegration of the Mughal Empire had started but the luxurious life of the Mughal Emperors continued. The rulers of the different parts of India used to think that they would command respect of the people of

the country if "they could make their courts miniature replicas of the Mughal Darbar."⁵¹ The demand of the silk piece goods of Malda and Murshidabad was naturally high to them. The merchants of the different parts of the country carried on a brisk trade of Bengal silk. Bolts remarked, "A variety of merchants of different nations and religions such as Cashmeerians (of Kashmir), Multanys, Patans (Pathans), Sheikhs, Suniassys (Sanyasis or mendicant traders of the Terai region), Poggyahs (up country merchants), Betteeas (Bhutias) and many others used to resort to Bengal annually, in Caffeelahs, or large parties, of many thousands together (with troops of oxen for the transport of goods) from different parts of Hindostan."⁵²

Before Plassey, the English Company had to face keen competition from the French, the Dutch, the Portugese, the Prussians, the Danes as well as the Asiatic traders like the Armenians, the Mughals, the Pathans who were actively engaged in the trade in different parts of Bengal. They sent their gomastas to the aurungs, who offered increased prices for cloths and other articles to the great inconvenience of the English traders.⁵³ The competition among the merchants was much beneficial to the weavers as it resulted in the increase of price. The custom house books at Murshidabad in the time of Alivardi showed an entry fee of Rs. 70 lakhs in raw silk "exclusive of the European Investment which was not registered in them as being either duty free or paying at Hoogly."⁵⁴ Verelst knew the condition of Bengal before Plassey and wrote thus about the time of Alivardi Khan - "The farmer was easy, the artisan encouraged, the merchant enriched and the prince satisfied."⁵⁵

II

The battle of Plassey changed the situation. It was the turning-point not only in the political condition but also in the economic position of Bengal. The age-long silk industry of Malda and Murshidabad received a serious set back during the British rule, as the English took interest in the production of raw-silk⁵⁶ and not in the manufacture of silk fabrics. They were deeply connected with the production of Bengal raw silk for the

benefit of home products. There was an increasing demand for raw silk in England. The English Company paid much more attention to sericulture than the weaving of silk stuff. The silk weavers of Bengal, particularly of Malda and Murshidabad, were badly affected by the new import policy. After the fall of trade in cotton piece-goods, the place was to some extent taken by silk manufactures. There was not a single house in the villages of Malda and Murshidabad where silk-manufacturing was not done. It formed an important aspect of the silk industry there. But the British interest in sericulture offered a serious blow to the weavers there connected with the manufacture of silk goods.

Bengal silk had a great demand to the public of great Britain and of the Continent. The English Company, therefore, took a serious interest in the production of raw-silk and taffeta to meet the taste and likings of the buyers there. The Company was careful in the production of raw-silk inasmuch as it had to compete with the Italian and French silks. The Court of Directors, therefore, sent regular instructions for maintaining the standard of raw silk in quality, colour and lustre. The Bengal Council was told "all taffetas to be made as near to the Italian fabric."⁵⁷ The weavers of Bengal could not always produce silk and taffetas as to the specification of the Company. The Bengal Council, therefore, requested the Directors to send dyers and throwsters to instruct the people engaged in manufacturing silk.⁵⁸ The Directors also realised that if it were so it was likely to open a great market for them in Europe. So, they sent Rowger Fowler in 1668, "an able, skillful dyer for the better carrying of this work."⁵⁹

Henceforth, they sent many experts in Bengal to organise silk industry conforming to the specifications of the Company. In 1679, the Directors reported that improvement done by the English dyers in the art of dyeing was of immense advantage to them.⁶⁰ The Court of Directors also cautioned the Company officials in Bengal to the effect that the easy life of Bengal would breed pride and laziness among the English dyers and weavers. "Such are the temptations and avocation from business of the luxurious country and such is the high pride and laziness of many of our countrymen, when they go abroad to ease and

plenty dominion and command over slaves, that they seldom prove intent upon their business although they did work hard for their bread at home and many times could not find to earn their bread by."⁶¹ Though the Directors realised that the service of the English dyers was indispensable to carry on the dyeing business in India and to instruct the indigenous people engaged in that art in English factory,⁶² still, they were reluctant to send dyers and weavers in Bengal.⁶³

The Company tried at one time to set up a silk industry in Madras. The position of the Company was much more secure there than in Kasimbazar, the main centre of silk industry of Bengal. The weavers of Kasimbazar were not willing to go elsewhere. In 1695, the Calcutta Council tried in vain to convince a few skilled silk weavers of Murshidabad to go to Madras with mulberry trees and silk worms.⁶⁴ The Factors reported that "these Bengal fellows will not leave their native country notwithstanding all the arguments we can use and promise of great wages ... "⁶⁵ The Factors realised that it was difficult to bring the weaver from Murshidabad for the making of taffetas and working of silk. The Company, therefore, maintained the silk factory at Kasimbazar for the procurement of silk and taffetas.

The techniques adopted by the Company in the organisation of silk industry were not new. These were already prevalent in Bengal. Yet, the European Companies introduced certain new elements in the organisation and production of raw silk which may hardly be called their innovations. The Company introduced the 'ideas of specific standardisation' for the production of silk regarding size, colour and quality as to the demand of the European market. As the demand of the Bengal silk was high, the producers did not bother about the standard. They were sure about the sale of their products to one buyer or the other. The indigenous merchants fixed the price of silk after getting the products and not at the time of giving advance. Fixing of price of the silk commodities according to the sample by the European Companies, before giving dadān⁶⁶ to the producers was a novelty in the production policies. "They (the Companies) also sometimes

set up establishments for the processing of cloth, especially bleaching and dyeing as also for winding or reeling of silk, employed weavers and artisans purely as a wage-workers and even brought throwsters, weavers and painters from Europe who instructed local artisans and weavers in these arts and tried to improve the quality and colour of the piece-goods or raw-silk."⁶⁷ These institutions were not new. They simply enhanced the very range of the manufacturing system in the region. The small manufactories under indigenous management were already prevalent in the country and the activities of the European Companies only extended the range of such establishments. The Indian merchants and tradesmen engaged artisans and weavers in their small manufactories; and the system was later accepted and extended by the Europeans.

It was found in the history of the Company's silk trade that the cheapness and superior quality of Bengal silk attracted the attention of British consumers and it was a fashion in England to use Bengal silk products. The universal use of Bengal silk goods impeded the home production and created "great discontent among the manufacturers throughout England more particularly in London, where they became very outrageous, and carried their violence so far, as to attempt to seize the treasure at the East India House."⁶⁸ The British Parliament thought about a remedy and to protect and encourage the home manufactures, an act was passed in 1701, forbidding the use of painted or printed calicoes. It was declared that no "wrought silk of Bengal and stuffs mixed with silk or herba, of the manufacture of Persia, China or the East Indies should be worn or used in England."⁶⁹ The act had a disappointing effect on the silk manufacturers of Bengal. But it did not seriously affect the silk industry of Malda and Murshidabad, inasmuch as, 'silk fabrics continued to be imported into Great Britain for re-export to other countries.' The act certainly induced the Company to turn to the raw-silk trade.

Four classes of people from Bengal were directly benefitted by the silk industry. The cultivators of the mulberry plants formed the first group. The people belonged to the second group were the silk worm rearers. The third group was the winders who

performed the duty of silk winding, and the fourth, or the last group was called silk weavers who were engaged in manufacturing. Of these groups the first two had to face uncertainty on account of natural reasons which used to hamper their economy. The yield of cocoons differed. Moreover, the silk worms also perished at certain seasons.⁷⁰ There was no certainty about the price of the mulberry leaves also. Buchanan reported that the price of mulberry leaves at Malda varied from 1 to 30 rupees per basket at different times.⁷¹ Sometimes the production of mulberry leaves and silk worms failed and thus caused enormous distress to both the planters and the rearers.

In comparison with the silk rearers, the silk reelers were in a safer position. There were numerous silk winders in the silk district of Malda and Murshidabad. The system of silk reeling had certain special features. The cotton-spinning was carried on by the independent spinners in their own houses. Whereas, the silk winders were mainly the employees of local manufactureres and later of the Company and were employed in the Company's factories for winding silk after the Company had set up silk factories. The new organisation of the silk reeling industry was like the factory system of present day, the cocoon-rearers supplied cocoons to the winders and received advances for that.⁷² Originally, the Commercial Residents had the direct contacts with these groups. Later, silk investment was increased but instead of direct purchase dallals or middle men were engaged. There were several 'bunds' i.e., silk seasons in a year when cocoons were obtained by the dallals. It varied from place to place. The workmen employed in the factories received monthly wages. The remuneration did not vary considerably from one factory to another. According to Valentia, the winders engaged in the Jungipur factory received Rs.4½ per month, and the boys who turned the wheels got Rs.3/- each. The superintendents got Rs.5/- each and also a commission of few annas from the wages of workmen under them.⁷³ Generally, there was no distinction between superior or inferior workmen, though, the skill winders received an extra remuneration as their reward.⁷⁴ There were exceptions; at "Malda and Gonutia the reelers were divided into classes and paid according to their merit."⁷⁵

The adults as well as the boys were employed in reeling. Lord Valentia visited in 1803 the noted silk factory of Company at Jangipur and found that boys served a period of apprenticeship before promoted into the rank of reelers.⁷⁶ Thousands of workers were engaged in each of these factories. Valentia found 3,000 workers to be employed at the Jungipur silk Kuthi i.e., factory, of whom 1200 were connected with the filatures. Besides that there were many who carried on independent reeling in their own houses. "The process of reeling consists in cooking the cocoons at a temperature ranging between 95°C and 97°C for about 4 to 5 minutes to soften the gum so that it becomes possible to unwind the filament."⁷⁷ The private winders also did not suffer for money as the Company and the private silk dealers were eager to advance them. The indigenous system of reeling was followed by them. The silk reeled by them was called Bengal-wound silk or country-wound silk. And the silk reeled in the Company's factory was known as Filature silk. Though the reelers of Malda and Murshidabad became expert in Italian method of winding and established filatures in their own houses, the indigenous system of winding was not fully discarded. The Company exported not only filature silk but also Bengal wound silk. In 1801, out of Rs. 8,52,500 allotted for raw silk investment, the sum of Rs. 2,25,000 was meant for Bengal-wound silk. Gradually, the ratio of country-wound silk to filature silk was reduced and in 1826 import of country-wound silk was prohibited by the Court of Directors, except under special circumstances.⁷⁸

Due to import restrictions imposed on silk fabrics since 1701 the trade of the East India Company in raw silk grew steadily. The English factories and the aurungs were scattered throughout the province. After Plassey, the Dutch and the French filatures disappeared or were taken over by the English. The English factories and the filatures came to play an important role in the procurements and production of raw silk and silk piece-goods. The Calcutta Council always kept a constant watch on the quality of the silk supplied by the factories and instructed them to improve the quality. To procure raw silk, the

Company advanced money to the 'dadni merchants'.⁷⁹ The merchants had to give security. They were warned against sending raw silk of inferior quality. Sometimes the contracts having failed, the security of the merchants was forfeited and they were put in confinement.⁸⁰ The merchants sometimes did not fulfil their contracts. So in 1746, the Court of Directors sent instructions to the Calcutta Council that the Council should make little advance to the merchants and should purchase the goods from the merchants by 'ready money'. Accordingly, Calcutta Council instructed the employees of the Jugdea Factory "to keep secretly ... the orders of the Home in not advancing for goods but to pay for them as were brought into the House."⁸¹

But the merchants replied that it was not possible for them to supply goods without 'dadan'. They said, "the most they could think of undertaking for ready money was one-fourth part of the investment and unless they received 'dadan' for the other three-fourths, they could not promise to complete the investment".⁸² The French Company's investment was operated by the same merchants who had worked for the English Company. The Dutch and the French Companies offered favourable terms with the 'dadni merchants' and as their terms were more lucrative, the merchants preferred them to the English Company.

Since the merchants were not willing and often failed to supply the full quantity of goods, the English Company replaced the system of dadni merchants (i.e. 'contract system') in 1753 by introducing 'Agency System'. The agents or the gomastas were instructed to collect silk directly from the aurungs.⁸³ The Court of Directors issued the following instruction to the Calcutta Council for the future course of action. "Great care must be taken not to risque too much of our estate at a time in the gomastas' hands and that they give at all times sufficient and undoubted security to be answerable for what they are entrusted with and that notwithstanding your method of sending a Cash Keeper with the gomasta, who by way of a check keeps one key of Cash Chest yet the gomasta is to be accountable for all

the money you advance him."⁸⁴

A Committee was set up in 1755 with Roger Drake as the President for supervising the conduct of the servants. Charls Manningham, Richard Bechar, William Frankland were appointed as the members of the Committee.⁸⁵ This new method of the agency system was successful for the time being. It also did not produce satisfactory result. This system vested the gomastas of the Company with powers "which were frequently abused," as Verelst rightly indicated, "to their own emolument and an authority given to enforce a just performance of engagements, became notwithstanding the utmost vigilance of the higher servants a source of new oppression."⁸⁶ So, the Calcutta Council restored the old system of contract with the merchants in 1775 for procurement of silk.

The first half of the eighteenth century did not show any remarkable progress in sericulture. The industry had various ups and downs.⁸⁷ The Company did not get sufficient encouragement from the Nawabs of Bengal and this lack of encouragement greatly hampered their efforts. Moreover, the political turmoils like the Maratha incursion into Bengal, at times, forced the Company to close down their factories. It had a depressing effect on the industry.⁸⁸ The workmen fled to distant parts on account of the Maratha inroads during the period from 1742 to 1751. The Directors suggested their servants to encourage mulberry plantations, cocoon-growing and silk winding in places of security and tranquility.⁸⁹ They wrote, "we recommend the country to the eastward of the Poddah as best adopted to our purpose. For in case Bengal should ever be invaded by the Marathas or any other country power, the enemy could not cross that great river to destroy the mulberryplantations or disperse the winders of raw silk."⁹⁰

'Plassey shattered law and logic'. The aim of the Company's servants was to make their own wealth as much as they could from

inland private trade by exercising political authority. The position of the gomastas after 1757 was that "even the authority of the Rajahs and Zamindars in the country durst not withstand."⁹¹ With the enhancement of the trade, the evils of the Company had greatly increased which were scarcely felt before Plassey. According to Bolts, "the Company's investment for Europe in a more peculiar degree, has been one continued scene of oppression: the baneful effects of which are severely felt by every weaver and manufacturer in the country, every article produced being made a monopoly; in which the English with their Banyans and black gomastas, arbitrarily decide what quantities of goods each manufacturer shall deliver, and the prices he shall receive for them."⁹²

After Plassey the E.I. Company thought of introducing new technology in the industry. The indigenous methods of winding were rough and uneven in the same reeling. The Company, therefore, took steps to instruct the people in the improved European method of filaturing. The Court of Directors sent Wilder in 1757 to Bengal for the improvement of winding technique. He served the Company from the end of 1757 to 1761 and died in harness at Kasimbazar. He was succeeded by Joseph Porichon.⁹³ According to the trading and manufacturing communities in England raw silk production in Bengal could be so improved and extended as to answer all the advantages of Italian or Spanish sorts, and then, any quantity of improved Bengal silk could find in England a ready market for sale.⁹⁴ After the acquisition of the 'Dewani' of Bengal in 1765, the English Company showed a serious interest not only in silk trade but also in the improvement and extension of the silk industry. The Directors pointed out that they did not wish to increase the Investment of raw silk by means of oppression to the natives. They suggested that the winding of raw silk should be encouraged not by wages but by moderate bounties.⁹⁵ But this position was soon revised by the Court of Directors. In a letter to the Bengal Government, dated 17 March 1769, the Court informed that the silk manufacturers were employed as winders in the factories

of the Company and they would not be allowed to work elsewhere "under severe penalties by the authority of Government."⁹⁶ While steps were taken for the improvement of mulberry cultivation, the Court of Directors sent out a batch of skilled silk manufacturers to Bengal to teach the Italian method of reeling to the indigenous reelers.⁹⁷

At this time the famine of 1770 occurred in Bengal which was a great disaster for the economy of the country. The mulberry planters, Cocoon-growers, silk winders and weavers received a serious blow. The famine "had swept away one-third of the entire population engaged in silk cultivation all over Bengal."⁹⁸ It also carried away many of the inhabitants of Malda. N.K. Sinha held the view that the famine of 1770 caused the economic ruin of north Bengal.⁹⁹ It caused a scarcity of weavers in the looms and filatures. The famine swept of multitudes of those whose profession was to breed silk-worm. The once flourishing state of the commerce of Bengal in silk industry began to decline. The Court of Directors realised the situation and decided to adopt remedial measures for the improvement of that. They wrote "On comparing the once flourishing state of the commerce of Bengal with the gradual decline it has undergone for several years past, it gives us the greatest concern that so unhappy a change should have happened under our Government and at a time when our influence over the whole country was sufficiently established to enable our servants to remove every visible source of this unnatural decay."¹⁰⁰ The remedy they suggested was freedom in trade. They thought that the liberty in buying and selling would encourage the manufacturers and their numbers would be enhanced.

In spite of this havoc, the Company continued to encourage the production of raw silk. A number of reeling factories were established about this time. The waste lands were given free for two years for the cultivation of mulberry. The rent of the third year would be the half of the ordinary rates in Murshidabad district of the time. Presumably, mulberry cultivation was

stimulated and it was extended even upto Bihar. Consequently, the production of silk had also increased but its quality did not improve significantly. The Directors, therefore, sent out Messrs. Weiss, Robinson and Aubert, with artisan reelers from Italy and France, for the improvement of the quality of Bengal silk. Mr. Aubert died on the voyage. Weiss and Robinson arrived in Bengal in 1770 and introduced new methods of reeling in Kasimbazar factories and elsewhere. In 1771, the Company imported 'seeds'¹⁰¹ from China to improve the Bengal species but the change of locality or bad management did not make it fruitful. In 1773, the Directors sent another batch of skilled Factors, Messr. Platell, Baumgartner, Frushard and Brigante for the upliftment of silk production and as a result the improvements went on steadily. And by the year 1775, a really satisfactory method of reeling was almost universal. The average export of raw silk to England between 1772 to 1775 was 187,494 "small pounds" for each year. But the next decade i.e. 1776 to 1785 showed a wonderful increase and the annual average was 5,60,283 "small pounds" while those from Italy, Turkey, did not exceed 282,304 lbs.¹⁰² The production of raw silk was visibly stepped up in Bengal.

Mr. Weiss was an expert silk manufacturer and under him four Italians were engaged to serve. He was assisted by Robinson and succeeded in establishing the new method of winding. The method was no doubt superior and that "at one operation from the pod it is capable of producing silk of any letter at the same time that its length and colour are preserved and it is free from the foulness which is peculiar of the country silk."¹⁰³ The Bengal winders had their inherent capacity to learn new methods and soon they became expert in acquiring the European method of reeling. For about a month the Italians were engaged in spinning to instruct the winders. After that, "one of the Italians acted as overseer over the new spinners. Another was entrusted with the making of reels and with teaching the inhabitants how to make them. A third Italian was employed in reeling off worms and in instructing the inhabitants in so doing and a fourth acted as overseer over the buildings and over the cocoonaries

showing how to preserve them. Thus the filature system developed and the inhabitants of Bengal became very efficient in all these branches. They learnt all the little niceties required to make good silk. Weiss was in a position to report in 1783 that Italian spinners were no longer wanted in Bengal."¹⁰⁴

Before 1786, the Company's purchases of raw silk were supplied mainly by contract and as a result the Company's interest had suffered. So, the Company adopted Agency System in 1787 and since the establishment of the Agency System the prospects of Company's silk trade became brighter. However, the revival of the silk trade was slow and the French Revolutionary War in Europe made the future of the trade to some extent gloomy. From 1793 to 1808, there were 'ups and downs' in silk trade and from the table given by Geoghegan in his book 'Some Account of Silk in Bengal', we found that there was a sharp fluctuation in the supply of silk from Bengal.

T A B L E 3:I

Title : Fluctuation in the supply of Bengal Silk.

Year	Company's Bengal raw silk imported lbs.	Private Bengal raw silk imported warehoused by Company lbs.	Total lbs.
1793	677,988	91,885	769,873
1794	494,487	...	494,487
1795	379,543	12,984	392,527
1796	340,060	21,046	361,106
1797	88,219	...	88,219
1798	352,780	...	352,780
1799	643,803	1,618	645,421
1800	454,600	...	454,600
1801	310,368	...	310,368
1802	78,950	35,794	114,744
1803	336,189	68,904	405,093
1804	415,917	205,793	621,710
1805	460,303	375,601	835,904
1806	235,215	173,308	408,523
1807	225,984	267,601	493,585
1808	325,243	53,225	378,468

Source : Geoghegan, Some Account of Silk in India, Calcutta, 1872,
P.4.

From the table 3:I it is found that the figures of Company's import in 1793 could not be reached till 1799. In that year the Company secured 677,988 lbs. of silk. But the worst year for the Company was 1802 and in that year the Company did not secure more than 78,950 lbs. In 1797, the total import of silk from Bengal was 88,219 lbs. and there was no private venture in that year. But in 1805, the total import of silk from all sources was 835,904 lbs. including the private import of 375,601 lbs. In the years 1794, 1797, 1798, 1800, and 1801 there were not at all any private import. The private imports of raw silk from Bengal were really very 'trifling'. The wars with Napoleon Bonaparte prevented the silk weavers of England for getting silk from Italy. They were eager to accept Bengal silk. The depression of the Company's silk trade ended in 1807. The continental system imposed by Napoleon Bonaparte "occasioned an active cessation of the customary importation of Italian raw-silk"¹⁰⁵ into England. The demand for Bengal raw silk was naturally high. The Bengal Government was told to enlarge silk production to at least four thousand bales.¹⁰⁶ To meet the demand, the number of filatures at the Company's silk factories was increased and the production of raw silk within a few years almost turned into double.¹⁰⁷ The investment in silk was enhanced.¹⁰⁸

The Company had reeling centres in all the factories from the beginning excepting Gonatea. Each had a number of out-factories under it. The annual production of silk at Gontea factory during the six years ending in 1813, amounted to an average of six hundred maunds. The silk factory of Rampur-Boalia produced an enormous quantity of silk and furnished "almost inexhaustible supplies of silk to merchants of all descriptions."¹⁰⁹ The quantity in the export of Bengal silk had increased after 1813 but at the same time the quality had declined. It was noticed from the writings of the Board of Trade. In 1814, the Board of Trade wrote about its deterioration and expressed their "surprise and displeasure at the very discreditable character and quality of the Boalia silk."¹¹⁰ In their letter to the

Commercial Resident at Jungipur they expressed the same dissatisfaction. "We are extremely concerned to observe", they wrote, "that the silk of this dipatch is of so very indifferent a quality, that it is spun in a very negligent manner, and sorted at the factory with equal inattention."¹¹¹ The quality of silk produced from Kumarkhali factory was also not good and "did not exhibit that degree of superior quality which was formerly characteristic of this filature."¹¹² So was the case with the silk of Rangpur.¹¹³ Bengal silk lacked that softness which was the characteristic feature of the Italian silk and it was one of the causes of the decline of the Bengal silk industry.

Though the Company took interest in the quantity of silk rather than quality, still the fact remained that they did not neglect the quality altogether. They supplied time to time the eggs of the Italian and French silk moths to the Commercial Residents for the improvement of the quality.¹¹⁴ The Residents also took steps for the qualitative improvement of silk. The Directors wanted both quantity and quality of silk, though it was always not feasible. The quantity of export of raw silk from Bengal had enormously increased in 1807, although the cultivation of mulberry leaves did not flourish accordingly. As the silk-worms were under fed, the quality of silk could not be maintained.¹¹⁵ The 'paikars' or the 'dalals' collected cocoons from chassars and supplied them to the factories of the Company for winding. They had the sole interest only in quantity and not in quality, because any quantity of cocoons they could obtain had been easily disposed off to the private silk dealers.¹¹⁶

The impulse given by the Charter Act of 1813 combined with the cessation of the hostilities in Europe in 1815 encouraged the Company to export silk to the European countries, particularly those that had discontinued their trade relations with India during the war. Moreover, the decline of trade in Cotton manufactures led the Company to invest more in silk trade. Bengal silk acquired pre-eminent position in the European markets and the average annual export of raw silk during the

eight years ending in 1820-21 was nearly 75 lakhs of rupees. Kasimbazar was the principal silk weaving centre of Bengal and its silk fabrics were purchased both by private and foreign merchants. "Cossimbazar is the general market of Bengal silk, and a great quantity of silk and cotton stuffs are manufactured here, which are circulated throughout great part of Asia; of the unwrought silk, 300,000 or 400,000 lbs. weight is consumed in the European manufactories."¹¹⁷ The other important silk-station was Malda in North Bengal. The Commercial Resident of Malda reported in 1817 that the silk-piece goods of Malda had an unprecedented demand in Europe. The existing factories were enhanced, new filatures were added and a new silk station was established at Santipur.¹¹⁸

The 'revived silk industry' helped a section of Bengal cotton weavers who were thrown out of employment due to the decline of cotton industry in the early years of the nineteenth century. It was found in some parts of Bengal like Malda and Murshidabad that the cotton and silk industries existed side by side. Nonetheless, the relief to the cotton weavers was not considerable in comparison with their displacement in cotton spinning and weaving. They rapidly lost their home as well as foreign market. The cotton weavers of Dacca, the principal cotton weaving centre, did not benefit from the increased raw silk demand, as it did not become an important silk station.¹¹⁹

In spite of the stimulus given by the Charter Act of 1813 in silk trade, the private traders failed to make any satisfactory progress in it. In silk, the Company's exports far exceeded that of the private traders. It was three times to six. The table given 3:II indicates the quantity of raw silk imported into London from Bengal during the years 1813-1826.

T A B L E - 3:II

Title: Bengal Raw Silk imported to London from 1813 to 1826

Year	On Company's account lbs.	On Private account lbs.	Total lbs.
1813	831,891	252,459	10,84,350
1814	722,727	114,239	836,966
1815	522,810	279,476	802,286
1816	381,215	398,549	779,764
1817	373,459	128,876	502,335
1818	758,116	402,860	11,60,976
1819	553,105	197,922	751,027
1820	811,875	259,572	10,71,447
1821	817,625	172,838	990,463
1822	845,382	197,235	10,42,617
1823	850,668	310,518	11,61,186
1824	660,012	271,637	931,649
1825	669,230	220,206	889,436
1826	989,338	338,635	13,27,973

Source: Hari Ram Ghosal, Economic Transition in Bengal
Presidency, Calcutta, 1966, P.288.

From the table 3:II it was found that only in 1816 the private trader's import of raw silk into England was 17,334 lbs. more than that of the Company. Otherwise, the Company's import was always much ahead of that of the private traders. The quantity of the silk fabrics exported by the Company to the European markets was insignificant in comparison with their export of raw-silk. The bulk of silk-piece goods exported to England were not intended for the home market but for re-export to other European countries. As the supply of cotton goods fell, so the demand for Bengal silk manufactures appreciably rose up not only in Europe but also in the non-European markets.¹²⁰ A kind of silk fabric, called 'corah',¹²¹ had a great demand all over Europe.¹²²

Under the provisions of the Charter Act of 1833, the English East India Company had to wind up their silk business from Bengal. They formally withdrew in 1835. Two years took to sell their filatures to the individuals or the private silk dealers.¹²³ Raw silk-production in Bengal was immensely increased by the British in the interest of their home silk industry, but at the same time the other aspects of the industry-the age-long silk-weaving industry of Bengal, which was the pride of India, lost the former position for ever.

III

After the establishment of the British Power in Bengal, a new system of production relation had emerged. The basis of this organisation was the system of 'dadán'. The Company had the monopoly right in giving advance to the weavers through their 'dalals'. The advance system was an old system. The Company did not develop it. It only established monopoly in the 'advance system'. The 'Plassey' and the 'Dewani' gave the English Company political and economic lever in the 2nd half of the eighteenth century, which helped them in imposing monopoly. The acceptance of 'dadán' involved obligations on the part of the winders and weavers to give the Company silk goods in return worth the value of advance. After Plassey, there was no free competition and the

artisans were obviously deprived of getting a fair remuneration for their products. As mulberry plantation and cocoon-rearing were costly production, the chassars and the nacauds had to depend on 'dadan'. The evils of the advance system could have been wiped out by free competition only, but the interference of the English Company prevented that. It was the policy of the Company to give advance to the silk producers before they received advance from any rival mercantile groups so that they might always be placed under an obligatory contract with the Company. The Commercial Residents gave more emphasis on the advance system for the production and purchase of silk. If the English Company could not make contact with the silk weavers beforehand for giving advance, there was every chance for them of taking advances from the French or the Dutch.¹²⁴ Because the terms of the French and the Dutch were lucrative to the weavers.

"The English Company had to encounter the competition of the other European and the Asiatic traders. It is not true that the Dutch were the only European rival of the English Company in the field of Bengal's Commerce in the mid-eighteenth century. Other European traders, like the French, the Portugese the Prussians and the Danes, as well as the Asiatic traders, like the Armenians, the Mughals, the Pathans, and some others, were then actively engaged in trade in different parts of Bengal. They sent their gomastas to the aurungs who enhanced the prices of cloths, and other articles, to the great inconvenience of the English factors."¹²⁵

Therefore, the Commercial Residents of the English Companies adopted the business strategy to make advance to the weavers so that they were constantly employed and be in balance.¹²⁶ The instructions of the Court of Directors to the Bengal Government were that "in the purchase of silk from the first hands we recommend you to give an increased price, if necessary, so as to take that trade out of the hands of other merchants of Kasimbazar to prevent the 'surdars',¹²⁷ from winding off silk in their Houses."¹²⁸ The Directors wanted enhanced quantity of raw

silk, for it would bring home their 'Revenues'.¹²⁹ The Directors wrote again in 1769 that "we would have you endeavour to induce the Manufacturers of Wrought silk to quit that Branch and take to the winding of Raw silk."¹³⁰ It was the raw silk that guided mainly the advance system of the Company and for collecting that the coercive methods were also applied. Bolts was of opinion that the winders of raw silk called Nakads had been treated "with such injustice that instances were known of their cutting off their thumbs to prevent their being forced to wind silk."¹³¹

The advances were given "on a rough guess as to the amount required." It was always made against security and given in instalments during 'bunds' for the supply of cocoons. The final accounting was done after the completion of the 'bunds'.

"The Company's silk ... is provided by the advances of cash made from the factory to a class of native agents called pykars who in their turn made advances to the cultivators of mulberry and rearers of worms ... each of the Company's factories employs numerous pykars who give security for money advanced to them. The pykars deliver cocoons into the store houses of the factories ... The price is calculated upon the quality of silks the cocoons produce."¹³²

The pykars had to give security to the Company. Because if they fail to supply cocoons according to the agreement, their outstanding balances were recovered from the sale of the property of the security.¹³³ The Company preferred security on the landed property but that was not good or feasible for all the time. Then they had to satisfy themselves with the security of respectable merchants or others.¹³⁴ Sometimes, the pykars themselves stood as guarantors for others to get advances.

Both the pykars and the private traders preferred ready money purchase in transaction. "The pykars always sold their silk to the highest bidder and went for 'ready sale' for immediate cash."¹³⁵ Sadanand Bondapadhay was an agent of a Gujrati silk

merchant at Murshidabad who made a wholesale ready money purchase of silk at the village of Kumarkhali.¹³⁶

The pykars were the collectors of raw materials from the primary producers. The Company had the direct link with them. And the private traders made contract with the pykars through their 'dalals'. Prosperity of the pykars helped them in collecting cocoons from the rearers. Most of the mulberry cultivators and the silk-worm rearers were poor. They had to depend on the pykars for advance. This acceptance of advance forced them to sell their cocoons to them. The poverty of the artisans gave the pykars an easy access and operation with them. The primary producers had always to depend on one or another set of pykars for their daily necessities. The pykars supplied advances not only to the silk producers but also to the Company and private traders.

The advance system combined with the British monopoly forced the artisans to work for the Company. They had no other way but to work for the English Company and the Company took this advantage in exploiting the chassars and nacauds. The silk growers always preferred to sell their cocoons by cash. They generally got an extra advantage for that. But, by the 2nd Article of the Regulations of 1787 it was told that "the weavers who have not fulfilled their engagements to the Company shall not work for newer engagements or bazar sales until those engagements are completed." And the weavers once employed for the Company, there was almost no chance of being relieved. The Company's men always engaged their services "by pricing their cloths into inferior letters and always having a balance against them."¹³⁷

The previous balances were treated as a part of the advances due for the next year. The silk producers always complained that the balances were not justly due, as the Commercial Residents used to price their cloths into inferior qualities. It was the ultimate aim of the Company to retain the artisans and forced them to work under the Company. "The weavers were forbidden to

work for foreign merchants until English orders had been completed."¹³⁸

The weavers who did not like to work under the Company had no escape and the Company's men always compelled them to work under the pretence of balance. The weavers were forced to take advances and "there is every reason to believe that in many cases advances were forced on the weavers."¹³⁹

After the American War of Independence the English Company took a more generous view to private trade in raw silk. They had no surplus money and had to depend on loan for investment. So, the Directors gave permission to all the servants of the Company to export to England any quantity of raw silk from Bengal that they could procure on their own account. But they also intended that they would resume their right in the trade of raw silk as soon as their funds would permit. They emphasised their exclusive right of bringing raw silk from Bengal to England.¹⁴⁰ The Company shortly resumed the trade and with the adoption of the agency system in 1787 under Cornwallis, there was a revival of the Company's prospects in silk trade.¹⁴¹

The English Company had to face serious competition from the Dutch and the French traders in the purchase of cloths. The prices given by them were more than that of the English Company and hence the Company was unable to eliminate their rivals from the markets. The Company's men began to interfere directly with their rivals in silk purchase. The chief of the Dutch factory at Chinsura complained in his letter dated 9th July, 1785 to the Governor-General Warren Hastings that the English Company's gomastas of Mahanandpur and the places adjoining it under Malda factory had forbidden by sound of drums that the weavers would not be permitted to manufacture any cloths for the Dutch. They were further warned that if they tried to deliver any piece of cloth to the foreign merchants, they would be severely punished.¹⁴² Similarly, the gomastas and dalals of the Dutch Company at Santipur complained in 1786 that Mr. Beauland of English factory there had ordered the weavers not to make any cloths but for the English Company.¹⁴³

The French from Chandernagore complained to Lord Cornwallis in 1787 that Mr. Udney, the Chief of the English Factory at Malda, seized from their peons 'twenty-one-pieces of cloths that they were carrying to the French House of Commerce'. The trade of the Armenians at Malda also came to a stop by the interference of the Company. Sarkis Munassakar was an agent of the Armenian merchants at Malda for the purchase of cloths. He complained in the same year to the Board of Trade that he did not face any trouble at first, but now his dalals were forbidden by Mr. Udney, Company's Resident at Malda, in collecting and purchasing cloths. This has resulted in his loss of Rs. 35,000. Mr. Udney stationed his peons at the houses of weavers and ordered that Company's seal should be affixed on the cloths. Thus he had collected 52 bales of cloths and 5200 pieces for his personal trade.¹⁴⁴ In these ways, the English Company's men tried to eliminate the rival mercantile groups from the market.

The right of private trade given to the Commercial Residents was more harmful than that of monopoly. The private traders often abused the regulation XXXI of the Act of 1793 and forced the winders and reelers of silk thread or the weavers of silk-piece goods to accept the price they liked to give for their own private investment. The Board of Trade in its proceedings complained against the exactions and chicanery done by the native officers, on the other hand they also acquiesced to the same on the part of the Europeans.¹⁴⁵

The mulberry planters and the cocoon growers too did not get the proper price for their production due to the intervention of the middle men. The pykars or the dalals defrauded them of their proper share of profits. There was always an uncertainty which they had to face in every course of transaction. The weavers were often deprived of proper price of their cloths, as they found that a part of their cloths was rejected as below the Company's pricing. The price of the silk bunds was settled after

reeling. The primary producers were always subject to the 'vicious circle of the advance system'.

"Long before the advent of the season for a particular commodity the merchants of the Company would reach the actual cultivator or manufacturer through their native agent or broker, who work through a host of smaller agents, and advance money to them so as to obtain a right of pre-emption for the purchase of a particular commodity. The broker negotiated with the merchants, and on his recommendation the dadni or advances would be made to the merchants, whose business it was to establish contact with the dealers at different stages until the actual cultivator or producer was reached. The amount advanced varied from 10% to 70% of the value of the goods to be supplied."¹⁴⁶

It was difficult to expect the planter, the growers and the weavers to accumulate capital out of his remuneration to free himself from this cash-nexus. Dr. Buchanan Hamilton in his survey of the districts of Bengal mentioned the average remuneration of the mulberry cultivators at Rs. 5.12 as. per month, the cocoon growers at Rs.3.8 as. per maund of cocoons, the silk winders at Rs.7 per month and the weavers of mixed and silk goods at Rs. 5 per loom per month. The Company paid no higher wages to its worker. The price of foodgrains was high. The producers were caught in the 'whirlpool of world prices'. They did not get themselves free from the debt. In the continuous high price market they had to borrow money from one to satisfy another and thus found themselves enmeshed in indebtedness. The economic picture of the Bengal districts under the Company presented by Buchanan (1807-10) was really very sad.

"The cultivation of mulberry and the production of the cocoons were left to the people, the Company making advances to them, and setting the price after the delivery of the silk or the cocoons. The Company had eleven or twelve filatures in Bengal,

the machinery being on the Italian principle and very simple. The Company's Residents were paid by a commission of 2½% on the quantity supplied, and were also allowed to purchase on their own account."¹⁴⁷

The Company was interested in purchasing silk directly from the weavers and not from the Aurungs. The service of the brokers was, therefore, considered essential. They had a direct contact with the merchants and weavers. Lakhs of rupees were advanced by the Company to the weavers in the name of 'dadan' through the brokers. Sometimes, their activities disgusted the Company. The activities of Kantu Sarkar, the broker of Company at Kasimbazar, forced the Court of Directors to take decision in abolishing the post of the broker and accordingly instructed the Calcutta Council to do that. But the Council of the Company did not agree to abolish the post as because it would ultimately hamper the Company's 'Investment.'¹⁴⁸

"The Company had about twelve Residencies and extensive manufactories, but did not carry on the manufacturer beyond reeling."¹⁴⁹ As a result, the subtleness in manufacturing the finer silk had diminished. The English Company was only interested in the production of raw silk and the English silks were imported to a large extent. The age-long silk industry of Malda and Murshidabad which was famous for its sheen, lustre, longevity, colour and quality gradually lost ground under the colonial exploitation of the Company, though the British economist Vera Anstey said, "Indian methods of production and of industrial and commercial organisation could stand comparison with those in vogue in any other part of the world."¹⁵⁰

The "production by independent Indian manufacturers had been discouraged, sometimes by positive prohibition, later on by the influence of the Company's Residents. The weaving of fabrics had been largely discontinued. Men who had worked on their own

capital, produced commodities in their own homes and villages, and obtained their own profits, were now dependents on the Company's Residents, who supplied them with raw cotton and raw silk, and received prices which the Residents settled. They had lost their industrial and economic independence with their political independence, and obtained wages and prices for what they were told to produce. Thousands of them looked up to the Company's factory for employment, having ceased to be independent producers for the world's markets. The factories demanded raw produce; the people of India provided the raw produce; forgot their ancient manufacturing skill and lost the profits of manufacture. The public in England marked that trade between Europe and India had increased - the increase in the import of raw produce and the export of manufactured articles enthralled them and they further argued that by this trade India became prosperous. "The Lords and Commons inquired whether this increasing trade should be in the hands of private traders. None cared to inquire if this increase in exchange meant the extinction of Indian industries and the loss of industrial profits to India. None desired to inquire if it was possible to revive the weaving industry of India for the economic welfare of the people."¹⁵¹

IV

Though the history of the silk moth was closely associated with humanity still sericulture was the 'industry of the poor', and so, in the silk industry of Malda and Murshidabad the role of women was not only unavoidable but it was in fact very substantial. The women of Malda and Murshidabad were engaged in all the stages of silk production. In the cultivation of mulberry, the women worked with men and played a vital part in helping them in the production. Women chopped the mulberry leaves and fed the silk worm from its early stages. In the silk worm rearing, women took an active part and in all the phases of it their functions

were as much arduous as that of their menfolk. They maintained the cleanliness of the rearing house and disinfected the Dalas¹⁵² by using cow-dung and keeping it in the heat of the sun. When the silk worms became ripe, the women with all the other members of the family placed the worms in the Chandraki to enable the worms to make cocoons. They also helped the male members by keeping the cocoons in the sun or by boiling water to kill the insect inside the cocoons for reeling/filaturing. Those who were engaged in silk spinning were known as Katanis, and the katanis were women. They had an inherent quality and were expert in reeling. Women of Malda and Murshidabad, irrespective of caste and creed, achieved the skill in filaturing. "These women, who acquired their skill by culture through generations, developed a sense of most acute and delicate touch that enabled them to produce yarns which were finer and far more tenacious than any of the machine-spun yarns of Europe."¹⁵³

In Muslin, the spinning of the finest yarn was confined to the upper caste women of 18 to 30 years of age. But in silk, the work of spinning, reeling and filaturing was done by both the sexes of the Hindus and Mahommedans of all categories from low to upper castes. In silk weaving, the women had to wind off the raw silk from the pod of the worm. "A single pod of raw silk is divided into twenty different degrees of fineness; and so exquisite is the feeling of these women, that whilst the thread is running through their fingers so swiftly that their eyes can be of no assistance, they will break it off exactly as the assortments change, at once from the first to the twentieth, from the nineteenth to the second."¹⁵⁴ Usually these women were habituated to sedentary work. They had skill and inherent quality in silk weaving too. "They usually work in the morning and afternoon, when the light is less dazzling to the eyes, and there is moisture in the air to prevent the thread from breaking."¹⁵⁵ The work of floral designs, i.e., butidars was the exclusive preserve of the women.

Though women played a vital role in the silk industry of Malda and Murshidabad, the polluted women were strictly forbidden to enter the silk-worm rearing room and "women, parturient or menstruating, are forbidden to approach the sheds."¹⁵⁶ The superstition was so deep in the minds of the people on account of the fact that silk worm was associated with purity that the rearers were very particular in maintaining the sacredness of the rearing houses also. Purity was maintained from the very beginning of the silk production and, at all stages of its manufacture polluted women were dissociated from the process.

In the history of silk industry, the role of women (though they played a 'great part') remained untold and was not focussed properly. In spite of their periodic disability their contribution to the development of silk industry in Bengal, and in its world-wide fame was not only necessary but practically indispensable. However, it did never occur to any contemporary observer to study the intricate female association with silk production and examine the process of education through which they reached the state of perfection which they did to build up reputation of Bengal silk. Nor, do we have any reference to what wages did they earn. Silk remained the 'queen of fabrics', but sericulture was the 'industry of the poor' and it is presumable that though their products might have adorned others, they could not use it to adorn themselves.

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132. Simon's evidence, 1831-32, PP House of Commons, Vol.10, pt.2, P.103; Quoted in G.Bhadra's 'The Role of Pykars in the Silk Industry of Bengal', (C.1765-1833), Indian Historical Congress, Aligarh, 1975.
133. G. Bhadra, The role of the Pykars in the Silk Trade and Production of Bengal, (C. 1757-1833), 'Indian Historical Congress' (Aligarh, 1975).
134. Board of Trade (Commercial), 15 July, 1831, Prog.No.62.
135. Board of Trade (Commercial), 28 April, 1809.
136. Board of Trade (Commercial), 13 March, 1789.
137. D.B. Mitra, The Cotton Weavers of Bengal, Calcutta, 1973,P.8.
- 138.B. Choudhury, Growth of Commercial Agricultural in Bengal (1757-1900), Calcutta 1964, PP.75 & 83.
139. N.K. Sinha, op.cit., Vol. I, P. 162.
140. Letter from Court, 25th January, 1782.
141. N.K. sinha, op.cit., Vol.I, P.91.
142. Progs. Board of Trade, 16th august,1785,Prog.No. 37, Vol.48.
143. Progs. Board of Trade,18 July,1786,Prog.No.5,Vol.51,Pt.II.

144. Progs. Board of Trade, 24th July, 1787, Prog.No.70, Vol.58.
145. Progs. Board of Trade, 31 January, 1817.
146. S. Bhattacharya, The East India company and the Economy of Bengal, Calcutta, 1969, P.129.
147. R.C. Dutt, The Economic History of India under Early British Rule, London, 1906, PP. 188-89.
148. 'Investment'- Company's Purchases in India were known as investment.
149. R.C. Dutt, op.cit., P. 188.
150. Vera Anstey, The Economic Development in India, London, 1952, P.5.
151. R.C. Dutt, op.cit., P. 190.
152. 'Dalas' are made of bamboo and used for silk-worm rearing.
153. S. Bhattacharya, op.cit., P.175.
154. Robert Orme, Historical Fragments of the Mogul Empire, London, 1805, PP.412-13.
155. James Taylor, A Sketch of the Topography and Statistics of Dacca, Calcutta, 1840, P.168.
156. Walsh, History of Murshidabad District, London, 1902, P.106.

CHAPTER 4

THE SILK MARKET - A SHORT NOTE ON THE EXTERNAL AND INTERNAL TRADE.

Silk was an old item of consumption in India. In the days of the Ramayana, the Mahabharata and in the Manusmriti we found the use of silk as a sacred dress material. In the medieval period silk industry had flourished and under the English and other European Companies Silk turned into an important trading commodity. It was noticeable that among the articles exported from Bengal to Asia and Europe till the operation of mature colonialism, silk occupied an important place. Initially, the western demand for silk fabrics was first met by imports from Persia and China. The Bengal silk market gradually came into prominence after it was originally opened to Europe by the Dutch.¹ The sea-route between Europe and India discovered by Vasco-da-Gama through the Cape of Good Hope facilitated the extension of the Bengal silk market to Europe.

I

The English East India Company was founded on 31 December, 1600 with the blessings of Queen Elizabeth I for the purpose of trade to the East.² Sir Thomas Roe in his embassy to the 'Durbar' of Jahangir in 1615 presented silk cloths of Malda and Murshidabad to the Badshah and tried to get trading privileges in Bengal from him. But he was not successful in his mission.³ Nevertheless, Bengal silk fabric continued to lure the English. Richard Hughes, the Chief of Patna Factory, reported in 1620 that the trade in Bengal silk would no doubt be lucrative. 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 stuff' could be had, at least 20% cheaper

than in any other place of India. Murshidabad had an extensive number of expert workmen and silk winders. Labour was also cheaper there.⁴ Still, the possibility of trade of the English Company in Bengal raw silk had initially failed. It was only in 1651 after the E.I. Company received Farman from Prince Shah Suja and founded the Hugli factory that an extensive silk trade of the Company had started.

Though import of silk fabric was the prime concern of the Company till 1701, raw silk was the most important article of export in the Company's trade in Bengal since the beginning of the 18th century. In the first half of the seventeenth century, the demand of the English for raw silk was mainly met by the silk of France, Italy, Persia and China. The Dutch Company conducted the profitable trade, but in the middle of the Seventeenth century, the Dutch became more interested in the trade with Japan than with Europe. Moreover, the Dutch Company switched over to the trade of precious metals from Persia instead of Persian silk. The export of raw silk to Europe therefore became uncertain and obviously its supply had sharply declined. The English Company seemed to have been interested in the Persian silk trade in the early years of the seventeenth century and, therefore, it had to face a keen competition with the Dutch in addition to competition from the French and the Italian merchants. The monopoly of the Shah of Persia in the silk trade, and exactions and abuses practised by the officers of the Shah disheartened the English very much, and the Company, naturally, turned to Bengal, particularly to Malda and Murshidabad for the supply of raw silk. The opening of the Hugli Factory in 1651, the Kasimbazar Factory in 1658 and the Malda Factory in 1680 by the Company substantially helped them in conducting an extensive trade in Bengal.⁵ In order to ensure steady supply of raw material the Company made strenuous efforts to augment the production of silk. The production and quality of silk mainly depended on the supply of fresh mulberry-leaves to the worms, and the Company, therefore, extended mulberry cultivation and

established silk factories and filatures in the silk districts of Bengal. They realised its importance, and that Bengal silk was an important item in the presents offered to Farrukhsiyar by Surman indicated its role in the consumer market. Kasimbazar was the most important centre of silk trade and a large quantity of silk piece goods and of raw silk was exported every year to the European markets from there. The price of silk varied from Rs.3 to Rs. 7 per seer according to quality and supply.⁶

There were several qualities of Bengal raw silk. John Kenn, the chief of Kasimbazar, wrote in 1661 that silk was wound into three sorts - 'head', 'belly', 'foot' i.e., first, second and third quality respectively. The English Company, generally, used to purchase the first two sorts which were known as 'patta' or of Short skein. The other kind of silk which was superfine in quality was known as puttany and it would cost Rs.5¹/₄ to Rs 6¹/₄ per seer. The silk purchased by the indigenous merchants for Agra was called 'Dolleria', in which the 'head', 'belly' and 'foot' were all mixed together. The Dutch Company used to mention the three sorts by the Portugese terms as 'Cabessa', 'bariga' and 'pee'. There were other kinds of silk such as 'floretta' yarn, 'punia' silk, 'punjah, silk, 'Goragaut' silk etc.⁷

Bengal silk was the cheapest of all Asiatic silks and throughout the seventeenth century it was much cheaper than even the Persian and Chinese silk.⁸ The demand of Bengal silk was always high and the English Company was encouraged by the incredible profit it had earned in Bengal silk trade. In 1683 the Dutch Company made a profit of about 200% in Bengal silk.⁹ The English Company too made a profit of over 250% in the sale of silk brought by Martha in 1695/96.¹⁰ Considering the profitability of Bengal silk, the E.I. Company prohibited its servants in 1671 to deal in Chinese and wrought silk and again in 1682 prohibited all Englishmen from dealing in all kinds of raw silk so that the Company's monopoly could easily be extended.¹¹ In 1673/74, the Directors ordered about 470-570 bales of silk and during the

years 1674/75 to 1678/79, the orders varied between 600-900 bales. Thus the demand of Bengal silk began to rise sharply and in 1679/80, the order stood at 1,200 bales while in 1680/81 the order for Bengal silk went upto 1,800 bales, indicating a rise of demand by 50%. In 1681/82 the order for Bengal silk shot up unusually, as the Company ordered for 10,000 bales, each bale containing 160 seers. In 1682/83, the order for Bengal silk was further increased to 11,500 bales, and in the following year i.e., 1683/84, it stood at 11,200 bales.¹²

In fact, from the last quarter of the 17th century, the Court of Directors urged the Bengal factors to invest more and more in Bengal silk. And the East India Company's investment in silk became formidable by the time it reached the third quarter of that century. "In 1675 they asked the Hugly Agency to take up £20,000 by exchange and invest it in raw silk and repeated the instruction in their letter in 1676."¹³ The Court wrote in 1677 that the Malda goods (cotton and silk stuff) had a great demand in the market and, therefore, it ordered to supply to the value of 80,000 or 100,000 rupees.¹⁴ Thus a special emphasis was laid by the Company on the trade of raw silk from Bengal.

The most important centres of Bengal silk were Malda and Murshidabad. Silk was abundantly available in Murshidabad, "at least 20% cheaper than any other place in India and is of the choicest stuff, wound of into what condition you shall require it, as it comes from the worm; where are also innumerable silk winders, expert workmen, and labour cheaper by a third than elsewhere."¹⁵

The reputation and superiority of the Malda and Murshidabad silk were noticed by everyone, particularly of the English Company, which opened their silk factory at Kasimbazar in 1658. The Kasimbazar factory played a dominant role for more than two hundred years in the history of silk industry of Bengal. Since its foundation, the English made a rapid progress in silk trade inspite of the competition of the Dutch. Originally, the Dutch

Company was the main purchaser of Bengal silk, but the English Company took a definite lead in the second half of the 18th century.¹⁶ The difficulties of communication and the immobility of labour had helped to make the rural sector of Bengal self-sufficient. Nonetheless, there was an extensive foreign and inland trade in which both the inhabitants of the province and the people coming from the outside participated. The export trade was carried on by a host of merchants who came from different regions of Europe, as also of Asia. People from other parts of India - Punjab, Gujrat, Sind, Agra and Marwar came to Bengal in search of wealth, and many of them were enriched beyond their expectation. Some of the merchant adventurers, like the 'Seths of Murshidabad', settled in the province and became the founders of a mercantile aristocracy.¹⁷

The outbreak of the European war interrupted the Turkish and the Italian silk trade and the demand for Bengal silk increased considerably. The Directors, therefore, urged upon the Bengal factors to send enormous quantity of Bengal silk. They expected that "Raw silk must continue as a commodity of great price as it is now in all parts of Europe."¹⁸ But the English orders for raw silk in the first two decades of the 18th century were not consistent. The table 4:I for a six year period indicates that.

T A B L E - 4:I

Title: English demand of raw silk in the first two decades of the eighteenth century.

Year	I	Quantity	Year	II	Quantity	Year	III	Quantity
1702/3		60,000 lbs.	1708/9		110,000 lbs.	1714/15		600 bales
1703/4		190,000 lbs.	1709/10		50,000 lbs.	1715/16		600 bales
1704/5		190,000 lbs.	1710/11		20,000 lbs.	1716/17		600 bales
1705/6		50,000 lbs.	1711/12		40,000 lbs.	1717/18		300 bales
1706/7		75,000 lbs.	1712/13		180,000 lbs.	1718/19		300 bales
1707/8		160,000 lbs.	1713/14		120,000 lbs.	1719/20		150 bales
		725,000 lbs.			520,000 lbs.			2,550 bales
		i.e. an average of 121,000 lbs. approximate			i.e. an average of 87,000 lbs. approximate.			i.e. an average of 435 bales of 127,500 lbs. taking each bale to contain 4 mds. each md. of 75 lbs.

Source: S. Chaudhury, Trade and Commercial Organisation in Bengal, Calcutta, 1975, P.185.

On the contrary, Dutch orders for Bengal silk in the first two decades of the 18th century did not fluctuate sharply as could be found from the table given below (4:II). And the demand of the Dutch for Bengal silk was no doubt greater than that of the English.

T A B L E - 4:II

Title: Dutch demand of raw silk in the first two decades of the 18th century.

I		II	
Year	Quantity	Year	Quantity
1704/5	270,000 lbs.(Dutch)	1711/12	168,000 lbs.(Dutch)
1705/6	262,000 " "	1712/13	164,000 " "
1706/7	275,000 " "	1713/14	162,000 " "
1707/8	260,000 " "	1714/15	209,000 " "
1708/9	204,000 " "	1715/16	197,000 " "
1710/11	164,000 " "	1716/17	246,000 " "
1,435, 000 lbs. (Dutch)		1,146,000 lbs.(Dutch)	
i.e. an average of		i.e. an average of	
239,166 lbs. (Dutch)		191,000 lbs.(Dutch)	

Source: S. Chaudhury, Trade and Commercial Organisation in Bengal Calcutta, 1975, p.186.

However, compared to the supply of other commodities, the supply position of raw silk was not so good in the European market as was expected. For it was in the silk trade that the European Companies had to face the toughest competition from the indigenous merchants. Upto the first half of the 18th century, the indigenous and Asiatic merchants were the most formidable rivals of the European Companies in the silk market.

Silk industry of Bengal was improved considerably during this period and, so, it had certainly attracted the European Companies for securing raw silk and silk fabrics from Bengal, particularly of Malda and Murshidabad. The exports of raw silk from Bengal exceeded the import from China in England.

T A B L E - 4:III

Title: The quantities of raw silk imported from Bengal and China are given for decennial periods from 1701 to 1760.

Years	Raw Silk (Bengal)	Raw Silk (China)
1701-1710	514364 lbs.	317539 lbs.
1711-1720	578004 "	55180 "
1721-1730	1046861 "	85303 "
1731-1740	1416911 "	77063 "
1741-1750	896052 "	x
1751-1760	428072 "	1299538 "

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

From 1701 to 1740 there was practically little import of raw silk from China in comparison with Bengal and in the next decade i.e. in 1741-50 no raw silk was imported from China. But the Anglo-French conflict and the wars with the Nawabs of Bengal upset this splendid trade. During the sixties i.e. 1751-60, the imports of raw silk from China rose three times more than that from Bengal. Bengal witnessed a very serious recession in this phase.

The Company's trade in Bengal raw silk and silk stuffs in the 17th and early 18th centuries made it clear that there was considerable export of silk goods from Malda and Murshidabad into

England. Because, the fine quality and cheapness of the silk fabrics of Malda and Murshidabad attracted the English customers and use of silk became so common amongst them in the last quarter of the 17th century that the British Parliament thought it necessary to enact laws for the protection and encouragement of the woollen industry at home. The act of 1701 declared "that from Michaelmas,¹⁹ 1701, all wrought silks, Bengals, and stuffs mixed with silk or herbs, of the manufacture of Persia, China, or the East Indies, should be locked up in warehouses till re-exported; so that none of the said goods be worn or used, in either apparel or furniture, in England, on forfeiture thereof, and also of £200 penalty on the person having or selling any of them."²⁰ The act no doubt had a repercussion on the Bengal silk industry. Nevertheless, it was true that it could not affect the industry very seriously. The silk piece-goods began to be imported into England for re-export to other countries.²¹ Further, there was a policy shift as much in the import items as in the manufacturing sector. "The point is that as there was an increasing demand for raw silk in the United Kingdom, sericulture received much more attention from the East India Company than the weaving of silk fabrics."²²

Sericulture did not progress much in the first half of the 18th century as the indigenous workers were non-innovative and tradition bound. The Company also did not get sufficient encouragement from Home and as a result the efforts of the Company were also desultory. Moreover, the political turmoils of Bengal forced the factories to close.²³ The Maratha inroads into Bengal during the period between 1742-51 forced the workmen engaged in sericulture to run away at distant places. It had a depressing effect on the industry.²⁴ The Directors finally took interest in this regard and suggested that the Company should take steps in mulberry plantation, cocoon rearing and silk winding and it should be done in a safe place (another side of Podda) so that the attacks of the Marathas or any other country power could not easily be done.²⁵ In 1757, the Court of

Directors sent Mr. Wilder to Bengal for the improvement of silk winding and from that year the conditions began to improve.²⁶ Mr. Wilder successfully served the Company for four years and "died in harness" at Kasimbazar in 1761."²⁷ The Company got the 'Dewani' of Bengal in 1765. After the acquisition of 'Dewani' the Company took serious interest in raw silk business. Not only that, their business strategy too had changed overnight. The Court of Directors wrote on 17th March, 1769 to the Bengal Government that the silk manufacturers should be forced to work as silk winders to the Company's factories and not to work elsewhere "under severe penalties by the authority of Government."²⁸ The ryots were encouraged for the cultivation of mulberry plants and the waste lands were given to them rent-free for two years. A batch of skilled workmen was sent to India from Italy and France as we had already mentioned, to teach the Italian method of winding to the indigenous reelers.²⁹ For sometime the E.I. Company's effort in sericulture was infructuous. The terrible famine of Bengal occurred during this time which "swept away one-third of the entire population engaged in silk cultivation all over Bengal." After the famine had subsided the Company again tried its best to step up the raw silk production and established a number of reeling factories. The Company's first attempt to establish a silk-reeling factory at Budgebudge near Calcutta had failed. From 1770-75 some reeling factories were founded and the silk-reeling factory of Jungipur in the district of Murshidabad was established in 1773.³⁰ Simultaneously, the Company took interest in and put a stress on the cultivation of mulberry plants and it was extended upto Purnea and Bhagalpur in the province of Bihar.³¹ From the year 1771, the seeds of the silk worms were obtained from China and the skilled factors like Platell, Baumgartner, Frushard, and Brigante were sent to Bengal in 1773 for the development of sericulture and silk weaving industry.³²

Due to the above measures taken by the Company a satisfactory result was achieved by 1775 and the average export of raw-silk

to England during the following decade, rose to more than 5,60,000 'small pounds'³³ a year.³⁴ On the contrary, the total import of raw silk into England from the non-Indian countries like China, Italy and others during 1776-85 averaged only 2,82,304 'small pounds' a year.³⁵ The Company however had to sustain a loss in the silk trade during this time. On the other hand, the cost of production became high, on the other, the sale of the commodity in the British market had shrunk. The abrupt change in the profit margin is attributed to the procurement mechanism of the Company. It was known as the Contract System, contract being entered into by the Company agents in different Factories with the local suppliers to procure silk for the Company from rural manufactories. It would be clear from the Table 4:IV about the quantities of raw silk imported into England from Bengal and the quantities sold, the prime cost including duties, freight and charges; the sale amount with discount deducted and the loss sustained by the Company before the abolition of the Contract System.

T A B L E - 4:IV

Title: Raw Silk imported and the loss sustained by the Company.

Season	Imported	Sold	Total of Prime cost Duties, Freight and Charges	Sale amount Discount deducted	Loss
	<u>Small pounds of 16 ounces</u>				
1776	£515,913	£311,551	£409,851	£365,653	£ 44,198
1777	£563,121	£547,045	£440,877	£323,031	£117,846
1778	£602,964	£589,245	£472,114	£325,505	£146,609
1779	£737,560	£596,343	£421,899	£299,053	£122,846
1780	£235,216	£574,065	£288,933	£217,599	£ 71,334
1781	£785,673	£553,863	£629,438	£481,584	£147,854
1782	£ 77,610	£292,141	£ 64,160	£ 56,752	£ 7,408
1783	£611,071	£592,831	£480,515	£388,233	£ 92,282
1784	£1,149,394	£486,336	£874,097	£779,626	£ 94,471
1785	£324,307	£576,175	£252,617	£212,721	£ 39,896
Total	£5,602,829	£5,119,595	£4,334,501	£3,449,757	£884,744

Source: Milburn, Oriental Commerce, Vol.II, London, 1813, p.253.

With the hope to improve and make up the loss, the Company opened the silk trade to individuals enterpreneurs in 1783.³⁶ But the experiment failed. The 'adventurers' were interested in personal gains only.³⁷ The Company, therefore, placed the silk trade again in the hands of its own officers.³⁸ The agency system was adopted in 1787 for investment in silk. The adoption of the agency system no doubt made the prospect brighter and in the year 1792 the total value of raw silk exported exceeded twenty nine lakhs of rupees.³⁹

The establishment of the agency system in Bengal not only ensured silk procurement but turned the silk trade again into a profitable proposition. The table 4:V shows the profitability of the new system.

T A B L E - 4:V

Title: The Agency System of the Company made
Silk trade profitable.

Season	Prime cost including Freight and Charges	Sale Amount	Profit	Loss
	£	£	£	£
1786	192,898	198,507	5,609	- - -
1787	133,795	145,712	11,917	- - -
1788	212,357	221,888	9,531	- - -
1789	276,732	289,271	12,539	- - -
1790	268,790	302,993	34,203	- - -
1791	290,159	320,395	30,236	- - -
1792	262,902	276,317	13,415	- - -
1793	274,553	221,329	- - -	53,224
1794	290,419	309,743	19,324	- - -
1795	378,512	381,385	2,873	- - -
1796	335,315	327,427	- - -	7,888
1797	262,917	258,644	- - -	4,273
1798	277,990	322,873	44,883	- - -
1799	324,460	390,149	65,689	- - -
1800	208,969	297,645	88,676	- - -
1801	262,428	395,410	132,982	- - -
1802	156,502	269,249	112,747	- - -
1803	195,117	292,659	97,542	- - -
Total	4,604,815	5,221,596	682,166	65,385

Source: Milburn, Oriental Commerce, Vol.II, London, 1813, p.257.

The net profit of the Company in silk trade for 18 years from 1786-1803 was £616,781, which on an average was £34,266 per annum or about 13 percent.

The French Revolutionary war in Europe made the future of silk trade uncertain. The Court of Directors wrote to the Bengal Government on 25th June, 1793 and painfully remarked that "as the Silk Trade was beginning to revive in Bengal, it should suffer a depression in Europe."⁴⁰ Therefore, the Directors thought it wise to reduce the quantity of raw silk import for some time.⁴¹ There was a fall in the demand of silk all over Europe and the Company's sale price in London went down.⁴² In the sale of September, 1793 the Company had a loss of more than four per cent on raw silk and many silk goods remained unsold.⁴³ In the early part of 1794 there was an attempt to sell the unsold silk stuffs at a reduced price which forced the Company to incur a loss of £47,746.⁴⁴ But 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 the surplus raw silk could be successfully brought to use at the silk factories of England.⁴⁵ The Court of Directors accepted the proposal and accordingly instructed the Bengal authority to increase their supply of raw silk. The quality of the Bengal silk was very high "so as to rival the most perfect productions of Italy."⁴⁶ During the year 1803 the supply of Bengal silk rose to nearly one hundred and fifty bales a year.⁴⁷

To meet the future demands of the Bengal raw silk, the Court of Directors also suggested to the Bengal Government that it should send silk through the channel of private trade.⁴⁸ From the year 1803, the export of raw silk to England increased steadily.⁴⁹ But the silk supplied by the private traders was not good in quality, "being badly worked, foul and gouty, and partaking largely of those defects for which Bengal silk was formerly so much reprobated."⁵⁰

The depression in the Company's silk trade had ended by 1807. The rigorous enforcement of the continental system by Napoleon I "occassioned an entire cessation of the customary importations of Italian raw silk into Great Britain."⁵¹ It was a boon for the trade of Bengal raw silk. The demand of Bengal raw silk in the British market increased tremendoulsy. The Bengal Government was asked to augment the annual export of Bengal raw silk by four thousand bales.⁵² To meet the demand filatures were increased in number in the Company's factories and as a result, a satisfactory out turn was achieved and it nearly doubled within a few years.⁵³

This policy was reflected in the allotment of the total investment of 54 lakhs of sicca rupees in 1808 to different articles. In order of importance and of the total amount allotted, cotton piece goods came to be relegated to the second position.

T A B L E : 4:VI

Title : Company's Filatures and investment helped to increase the export of Bengal raw silk.

Items	Rs.	Annas	pie
Raw Silk	24,00,000	-	-
Piece goods	19,00,000	-	-
Sugar	4,93,418	3	3
Scunn	1,30,000	-	-
Hemp and Hemp seed	41,000	-	-
Worsted Carpet	2,500	-	-
Agent Commission	3,38,345	-	-
Export Ware Houses Charge	94,736	12	9
Total :	54,00,000	0	0

Source: Prog. Board of Trade, 10th June, 1808; Prog.No.27, Vol.221.

The development in the silk investment during this time was also noticed by Buchanan. He mentioned that in Purnea district about 47,000 persons got advances from the factories of Malda and Murshidabad and Jungipur for the supply of cocoons and Purnea supplied about 44,000 maunds of cocoons every year to the factories of Malda and Murshidabad.⁵⁴ Not only that, the indigenous workmen produced in their houses nearly two thousand maunds of filature silk and the value of that was about six lakhs of rupees.⁵⁵

From the report of Buchanan we came to know that the production of raw silk in Sahabad district was enormous and silk worth rupees 3,15,000 was annually exported from Sahabad to the Maratha country in the west. A large quantity of raw silk was also produced in Ramgarh and Bhagalpur districts, but it was of tassar variety.

In those days important silk production centres were Kasimbazar, Jungipur, Malda, Kumarkhali, Rampur-Boalia, Rangpur, Radhanagore, Rangamati and Gonutea. From the beginning the Company had reeling centres in all these factories and the exception was Gonutea of Birbhum from where the Company received the supply of raw silk from Mr. Frushard, the agent of the Company for twenty years (1787-1807), and after his death in 1807 the Company purchased the Gonutea factory and placed that under the Resident of Sonamukhi. The factory during the six years ending in 1813 yielded more than six hundred maunds of silk annually. Of all the silk factories, Rampur-Boalia was the most extensive and productive. It supplied the demand of the Company and furnished "almost inexhaustible supplies of silk to merchants of all descriptions." In respect of the quality of the produce, Gonutea and Kumarkhali were the most famous. Regarding the silk of gonutea, the Court of Directors remarked in 1819 that it "proved in general of excellence in colour and quality, free tolerably clean, and excellent."⁵⁶

The impetus given by the Charter Act of 1813 stimulated a remarkable increase in the export of Bengal silk.⁵⁷ Besides, the

conclusion of the Napoleonic wars and the slump in cotton textile market necessitated the revival of silk trade with India. The decline of the cotton industry and the fall in the export of Bengal cotton piece goods encouraged the Company to invest the major portion of their surplus money in the silk trade and Bengal raw silk became the most prominent item in the foreign markets. The average annual export of raw silk during the eight years ending in 1820-21 was worth nearly seventy five lakhs of rupees.⁵⁸

In the year 1819-20 the export of raw silk reached its highest level and was valued at Rupees 94,10,743.⁵⁹ The export to England alone was more than sixty seven lakhs of rupees.⁶⁰ The Company established a new silk factory at Santipur⁶¹ to meet the increasing demand of raw silk and the existing factories were enlarged by adding new filatures.⁶²

Naturally, the Company's imports were much more than that of the Private traders. A parliamentary paper gave the report of the raw-silk imports into London during 1813-28. We came to know from it that the quantity of raw silk imported by the Company was three to six times more than that imported by the private traders.⁶³

The statistical position would be clear from the table 4:VII which gave the reports on import of raw silk from Bengal in the years between 1792-1835.

T A B L E - 4:VII

Title: Raw Silk imported from Bengal by the Company
and the Private traders.

Years	Company's Bengal raw silk imported	Private Bengal raw silk impor- ted warehoused by the Company	Total Company's import and pri- vate import warehoused by Company.
1792-1835	lbs.	lbs.	lbs.
1792	372,553	28,892	401,445
1793	677,988	91,885	769,873
1794	494,487	- - -	494,487
1795	379,543	12,984	392,527
1796	340,060	21,046	361,106
1797	88,219	- - -	88,219
1798	352,780	- - -	352,780
1799	643,803	1,618	645,421
1800	454,600	- - -	454,600
1801	310,368	- - -	310,368
1802	78,950	35,794	114,744
1803	336,189	68,904	405,093
1804	415,917	205,793	621,710
1805	460,303	375,601	835,904
1806	235,215	173,308	408,523
1807	225,984	267,601	493,585
1808	325,243	53,225	378,468
1809	116,124	46,623	162,747
1810	373,598	211,120	584,718
1811	258,953	145,803	404,756
1812	558,862	423,565	982,427
1813	831,891	252,459	1,084,350
1814	722,727	114,239	836,966
1815	522,810	279,476	802,286
1816	381,215	398,549	779,764

T A B L E - 4:VII (Contd.)

Years	Company's Bengal raw silk imported	Private Bengal raw silk impor- ted warehoused by the Company	Total Company's import and pri- vate import warehoused by the Company.
1792-1835	lbs.	lbs.	lbs.
1817	373,459	128,876	502,335
1818	758,116	420,860	1,178,976
1819	553,105	197,922	751,027
1820	811,875	259,572	1,071,447
1821	817,625	172,838	990,463
1822	845,382	197,235	1,042,617
1823	850,668	310,518	1,161,186
1824	660,012	271,637	931,649
1825	699,230	220,206	919,436
1826	88,388	338,635	1,237,023
1827	926,678	99,361	1,026,039
1828	1,039,623	6,686	1,136,309
1829	1,129,710	258,044	1,387,754
1830	1,096,071	90,092	1,186,163
1831	1,030,280	64,597	1,094,877
1832	750,828	205,625	956,453
1833	698,851	52,129	750,980.
1834	757,517	53,124	810,641.
1835	721,509	6,026	727,535

Sources: (1) J. Geoghegan, Some Account of silk in India,
Calcutta, 1872, PP.4 & 10;

(ii) Reports and Documents connected with the proceedings
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The persons who came from England and built private filatures in Bengal failed in their attempts and had returned.⁶⁴ The high price demanded for cocoons was beyond the capacity of the British Private traders to pay.⁶⁵ Moreover, the rent of mulberry lands was charged four times higher than that of other lands.⁶⁶ It was complained that the Company kept the price high for avoiding the competition of the private traders. But the allegation was not true. The cause of its success has to be sought elsewhere. The Company was directly connected with Bengal and knew the pulse of the people. The experience and contact with the people helped the Company to run the business smoothly. That was the reason why progress in silk trade made by the Company was more satisfactory than that of the private merchants.

The quantity of silk piece goods exported by the Company were obviously less than that of raw silk. The silk manufactures exported to England were intended not for the British market but for re-export to other countries of Europe. In addition to it there was also demand for Bengal silk goods outside Europe and the demand steadily increased due to the fall of the cotton piece goods' trade.⁶⁷ After the Napoleonic wars, the export of Bengal silk goods to Europe increased inspite of the progress of silk manufactures in Italy and France.⁶⁸ A kind of unbleached silk called corah appeared to be in great demand in the markets of Europe. At the same time to check the import of Indian silk fabrics into England a duty of 20% was levied on it which ultimately diminished its import in England.⁶⁹ As a result of the restrictions imposed on the import, out of 3,10,000 pieces of corahs exported to Europe in 1838, only 16,000 pieces went to England and the rest to other countries where the duty was nominal.⁷⁰

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, the withdrawal of the E.I. Company had a serious adverse effect on the silk industry of Bengal. However, the silk business lingered in the hands of the private

companies,⁷¹ as it did not seem to have totally collapsed immediately after the 1833 Charter Act.

The figures supplied by the Collectorate of Customs showed that the total quantity of silk exported by sea did not vary much during the period 1838-1871.

T A B L E 4:VIII
Title: Quantity of Bengal silk exported during
the period 1838-1871.

Period	Average export in lbs.
1838-39 to 1841-42	1,384,242
1842-43 to 1845-46	1,555.130
1846-47 to 1850-51	1,290,024
1851-52 to 1855-56	1,511,506
1856-57 to 1860-61	1,511,768
1861-62 to 1865-66	1,485,763
1866-67 to 1870-71	1,558,246

Source: Calcutta Customs House Records, 1871.

To this was added for three last periods respectively 41,552, 616,138 and 740,398 pounds in chussums or waste silk; and in 1870-71, 164,164 pounds of cocoons. Cocoons were exported for the first time in the silk trade then. While the exports from Bengal had been almost stationary, those of China had, since 1841 when the treaty ports were thrown open, increased enormously, and in 1859 Japan Silk began to come into the London market. The imports into London of the latter alone ran up to 2½ million pounds in 1863. While it had been admitted that "the prices of Bengal Silk undoubtedly rule below those of China and Japan and a fortiori below the better Italian and Bruttia silks,"⁷²

import of Bengal silk was considerably reduced. This reduction can not be explained at all with reference to the operation of market forces. Nothing but the urgency of colonialism can account for the discriminatory treatment of the Bengal product.

II

The internal silk market was flourishing for a long time and the silk trade of Bengal was a boon to many. The merchantmen of various groups conducted an extensive trade in Bengal silk piece-goods in different parts of the country. As the Hindu population of Bengal and other parts of India used indigenous silk cloths on ceremonial occasions, so silk had always had a large internal market. Bernier wrote in 1660 that Bengal was richer than Egypt. It exported in abundance cottons, silks, rice, sugar and butter.⁷³ The inhabitants of Malda drove a thriving trade in khassas, malmals, alachas, etc., with merchants from Agra, Benares and Gujrat, the goods being conveyed both by land and water.⁷⁴ The principal trade centres of Bengal in the 17th century were Malda, Rajmahal, Murshidabad and Dacca. Cotton and silk fabrics were exported to all parts of India, to Masalipatan, Goa and other parts and along the Coromondal Coast and to Agra by way of the Ganges and the Jamna.⁷⁵

Till the first half of the 18th century, internal markets in the silk stuffs were undisturbed and it continued to flourish. The Indian traders from distant parts like Peshwar, Gujrat, Multan, Agra and Benares came to Malda and Murshidabad to collect silk fabrics for their business in and outside India. The indigenous merchants were said to ply between India and the Mediterranean countries to carry silk trade even before the establishment of the Roman Empire.⁷⁶ This trade, in no case, could have been

conducted on the basis of any product from Malda and Murshidabad.

Therefore, it is presumable that the European Companies had to face a keen competition in silk trade with the indigenous merchants. "The Dutch generally took, either for Japan or for Holland, 6,000 to 7,000 bales of it (silk), and they would have liked to get more, but the merchants of Tartary and of the whole Mogul Empire opposed their doing so, for these merchants took as much as the Dutch, and the balance remained with the people of the country for the manufacture of their own stuffs. All these silks are brought to the kingdom of Gujrat, and the greater part come to Ahmedabad and Surat where they are woven into fabrics."⁷⁷ The significance of the internal silk trade was that it not only affected the silk market it also affected the money market. "According as this silk ('Dolleria' from Bengal) sells in Agra, so the price of silk in Kasimbazar riseth or falleth. The exchange of money from Kasimbazar to Patna and Agra riseth and falleth as the said silk findeth a vent in Patna or Agra."⁷⁸

There was an extensive internal trade of raw silk . Ten thousand bales of raw silk were carried annually by land from Kasimbazar to Surat and it was the expectation of the Bengal factors that more would easily be transported if 'the manufactory increases'.⁷⁹

The demand of the indigenous merchants for Bengal silk mainly escalated the price of silk. The factors of Kasimbazar reported that there was a sharp rise in the price of silk in 1680, "more than one rupee in the seer than the last year." It was partly due to the fall of production and partly due to the fact that the Dutch were purchasing more. But the main cause for the rise of price was that "the Gujrat merchants buying up what fine silk" they could find.⁸⁰ Again in 1682, the Bengal factors

reported that they did not expect a rise of price in silk inspite of its failure in production as the "Gujrat merchants had no orders to make investment for Hindustan."⁸¹ In the same year the Company placed an order for large quantity of silk and the Hugli factors wrote to Madras" ... it will certainly cause all manner of silk to rise, at least keep its price which otherwise might and was appearingly falling, the Gujrat merchants at present holding their hands by reason of the troubles ... "⁸²

The price of raw silk fluctuated sharply from time to time. With the fluctuation of price, the quantity of raw silk exported from Bengal by the Company varied simultaneously. The keen competition which the Company had to face with the indigenous merchants and bad or good harvesting of silk were responsible for the change of price. In 1682/83, the price of raw silk went up to ₹ 298 per maund. In August 1682, the Hoogly factors ordered that the investment at Kasimbazar should not exceed £150,000 "considering Raw Silk is so much dearer as 50%."⁸³ But in the next years the price went down due to the fact that the Gujrat merchants did not compete in purchasing silk. "Among the merchants of the orient, the Armenians, the Moguls, the Lahoris and the Gujratis are prominently mentioned. The highest officials of the Government, the princes of the royal blood and members of the nobility often appeared as competitors in the field."⁸⁴ The Sannyasis and the Fakirs of Bengal had a wide organisation based on fraternity and conducted the internal silk trade travelling from place to place. In Benares, there were five hundred houses of Gosains who carried on an extensive trade and their numbers were about thirty-five thousand. In other places also there were Gosains, though small in numbers. Still a considerable amount of the internal trade was in their hands.⁸⁵ The merchants from the distant parts of India like Western

Provinces and Deccan also came to trade in Bengal and upto the first half of the 18th century, the internal trade conducted by the indigenous merchants was a great challenge to the English Company in procuring raw silk from Bengal and conducting silk trade to Europe. The trade of Bengal connecting Western Provinces, Deccan, Surat, Delhi, Agra, Madras etc. with the inland and inter-provincial trade of the country made her prosperous. The rich merchants regularly carried various commodities to Arabia, Persia, Basra, Ceylon, Coromandal Coast, Pegu etc. in collaboration with a host of merchants who came from the different countries of Europe and Asia and, thereby, the inland maritime trade helped in the expansion of commerce of the country. "The Ganges with its many tributaries and 'a hundred mouths' used to carry boats of merchandise throughout the province and supply the needs of north-western and Eastern India."⁸⁶ The commercial contact of Bengal with all parts of India and abroad contributed to the solvency of the country. Unfortunately, the post-Plassey East India Company's trade was depicted, "as the destroyer of indigenous industries, its finance as a medium of 'drain', its revenue policy as an incubus on agrarian development and its empire-building as the cause of the colossal India debt."⁸⁷

III

The battle of Plassey changed the political scenario of Bengal and the acquisition of 'Dewani' in 1765 made the English Company sovereign both in the political and economic spheres. The Company encouraged the production of raw-silk instead of silk piece-goods and as a result the silk weavers of Malda and Murshidabad were thrown out of employment. Before 1765, the Company had to depend on the Indian merchants for the supply of

money in conducting their trade. Now, the 'Dewani' made the Company economically solvent and with the few exceptions at the time of war, there was no need to depend on the indigenous merchants for their investment. Nor was finance obtained from England to continue the Bengal trade. The Indian merchants lost their position and could not compete with the Company and its servants. The famine of 1770 "carried off one third of the population of Bengal" engaged in silk cultivation. It caused the economic ruin of North Bengal.⁸⁸ The agriculture of the country broke down. The policy of the British Government and the trade policy of the Company with the famine of 1770 worsened the economic position of Bengal and ultimately India lost her economic stability. " ... upto the 18th century, the economic condition of India was relatively advanced, and Indian methods of production and of industrial and commercial organisation could stand comparison with those in vogue in any other part of the world."⁸⁹ And " ... it (the silk cultivation) provided employment for several years to many of those who had lost their occupation in cotton industry as a result of its decline."⁹⁰

"upto 1830 India exported more woven silk goods than she imported, but since 1840 her silk goods have been gradually outsted from both the internal and external markets."⁹¹ 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 to the people of the country. The market forces once encouraged the growth of silk industry during the pre-colonial and early colonial phases and Bengal gained economic stability through this industry. 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, also lost their financial base due to the economic dislocation caused by colonial economy under the Company.

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CHAPTER - 5

SILK IN THE ECONOMY OF MALDA AND MURSHIDABAD AND ITS DECLINE:

Silk being one of the notable industries of Bengal its decline in the colonial period affected not only the lives of the people of Malda and Murshidabad but the economy of Bengal also. It was not the policy of the East India Company to foster Indian Industries. The main object of the Company was to procure raw silk for the textile industry of Great Britain. The Court of Directors wanted that the production of raw silk should be encouraged and that of silk fabrics should be discouraged.¹ They further directed that the silk-winders should be forced to work in the Company's factories and were not to be allowed to work elsewhere "under severe penalties." A large number of people was engaged in weaving upto the 18th century. A few hundred-thousand men and women eked out their existence by their earnings from spinning and dyeing. But as a result of the policy of the Company the manufacture of Silk declined and the people who were engaged in previous centuries in exporting silk fabrics to the markets of Europe and Asia began to import them in increasing quantities.² Before going into the factors that expedited the decline of the silk industry, I would examine the position of silk in the economy of Malda and Murshidabad and what it had become by the early decades of the 19th century. That would help to disclose the East India Company's exploitation of the silk industry which was once interwoven with the lives and occupation of the people of Bengal.

I

As we have already explained, silk's importance as an article of dress was very old in India. According to Robert Orme it was difficult to find a village in which every man, woman and child was not employed in making a piece of cloth.³ Sericulture was largely practised and the people of Malda and Murshidabad were

expert in it. They knew the subtleness in the art of winding and weaving. Like Malda and Murshidabad there were other places outside Bengal that were also famous for silk manufacture. Benares was famous for the manufacture of costliest silk embroidered with gold threads. This type of silk fabric was not manufactured in Bengal. But the raw materials used in Benares looms were imported from Bengal and the Benares embroidered silk cloths were extensively used by well-to-do people of Bengal. "The silk industry of Benares was intimately connected with that of Bengal."⁴ It was also applicable to the silk weaving industry of Bombay and Gujrat. As the Hindu population of Bengal and other parts of India used indigenous silk cloths on ceremonial occasions, so silk always had a large internal market.

Silk was cultivated in large areas of Bengal. In Murshidabad, mulberry cultivation and cocoon-growing were in vogue in the areas of Chawk-Islampur, Saktipur, Jangipur, Bhadrapur, Balashpur, Rajarampur, Mirzapur, Raghunathganj, Panchgram, Nabagram, Lalbagh, Barwan, Gowas etc. and the silk weaving was carried on in the localities of Nagar, Sujaganj, Bhagwangola, Gowas, Daulatbazar, Manullabazar, Ashanpur etc. Mirzapur was famous for the production of superior silk fabrics. The other centres which were noted for silk weaving were Baluchar, Islampur, Kadai, Saidabad, Beldanga, Hariharpara etc. Berhampur and Jeaganj were famous as centres of trade. The wealthy merchants of Murshidabad used to reside there. In Malda, cocoon rearing and reeling were conducted throughout the district. But silk weaving was carried on at Shibganj, Shahpur (in the Gaur areas) and old Malda. Silk weaving was also practised in Rajshahi and Birbhum.⁵

Trained man power is one of the necessary resources for the growth of any industry. The skilled silk artisans were in abundance at Malda and Murshidabad which helped the silk industry to be prosperous. The weavers of Malda and Murshidabad were specialised in the production of different varieties of silk fabrics. The reasons of specialisation were not hard to

seek. It was the tradition which made them skillful. Moreover, they had their slender and delicate physical frame, and fine sense and taste which helped them in becoming proficient in silk manufacturing. A weaver "among the Gentoos was far from an unrespectable caste and proficiency was transmitted for centuries from father to son."⁶

James Mill said, "it is a sedentary occupation and thus in harmony with his predominant inclinations. It requires patience of which he has an inexhaustible fund."⁷ Climate was another vital factor for the development of silk industry. The temperature and humidity of Malda and Murshidabad were admirably suitable for silk manufacture. "The first factor for sericultural success is climate suitable for the worms which can live, grow, and form cocoons in a temperature between about 60° and 85°F the best temperature being 70°-75°F with about a similar percentage of humidity. Sericulture is not taken up in highly industrialised countries where people find more remunerative occupation in mills, factories etc. and is carried on in countries with poor peasantry."⁸ India was both an agricultural and an industrial country and a large number of the poor peasantry of Bengal, particularly of Malda and Murshidabad, got their livelihood in the production of silk. Before the colonial and in the early colonial phase, the silk industry of Malda and Murshidabad grew and flourished and thereby generated income for the people.

The causes of the concentration of mulberry planters, cocoon-growers, silk reelers, silk weavers and the silk traders in these districts were many - first, the geographical environment was congenial for the culture of silk, second, the availability of raw materials, third, easy transport by land and water, fourth, royal patronage and finally the silk market. The geographical impact and the easy transport by land and water were discussed in the first chapter and the favourable condition of silk market was discussed in the fourth Chapter. I would now analyse other factors for the development of silk industry which played a significant role in the economy of Malda and

Murshidabad.

The essential ingredient for healthy growth of silk worms was the easy availability of fresh and abundant mulberry leaves for feeding. The ecological setting of Malda and Murshidabad was suited to the culture of mulberry trees and the temperature and humidity of the regions were equally suitable for the rearing of silk worms. Thus, sericulture became the common feature of the areas and, thereby, attracted the silk winders and expert silk weavers to be settled at Malda and Murshidabad, more particularly in those areas of these two districts, where sericulture was largely practised. The building up of an industry primarily depended on raw materials, and the supply of raw materials for silk industry was always abundant in these places, though mulberry production varied from place to place. As the mulberry trees were greatly cultivated in the soil of Malda and Murshidabad, and the fresh leaves from them were also available throughout the year, so obviously the silk industry grew and flourished there. The silk growers got the mulberry leaves for rearing silk worms from their nearest places. The silk reelers also got their cocoons for reeling from their place and finally the silk weavers did not have to depend on raw materials from outside for their work. They always got the silk threads according to their needs from the nearest fairs to their villages. The easy availability of raw material helped to grow manufactories and attracted the artisans to concentrate in these regions.

The silk weavers were also encouraged by Royal patronage and this patronisation was one of the important factors for the development of silk industry in Bengal. The Hindu Kings and the Muslim Nawabs were great patrons of silk. "The native princes, and chiefs of various description, the retainers of numerous dependents, afforded a constant employment to a vast number of indigenous manufacturers, who supplied their masters with gold

and silver stuffs, curiously flowered, plain muslins, a diversity of beautiful silks and other articles of Asiatic luxury."⁹ After the establishment of the Mughal hegemony in Bengal, commerce flourished extensively. Silk was the fashion of the Mughal Court. In Ain-I-Akbari, Abul Fazal mentioned the existence of the 'Karkhanas' or workshops where articles of great artistic skill were manufactured.¹⁰ These karkhanas were superintended by the Darogas or Mookeems. The Empress Nurjahan was a great patron of silk fabrics. She brought a change in the fashion of the ladies dresses and encouraged the artisans and manufacturers. Charles Stewart wrote that "the delicate muslins of Dacca and silks of Malda constituted the chief part of the dress of the Imperial Court, whether male or female, and the fineness of its texture was such as can not now be imitated."¹¹ The political tranquility under the administration of Ibrahim Khan, a Mughal governor of Bengal, favoured the growth of agriculture, industry and trade in Bengal. The uninterrupted peace of Bengal, Bihar and Orissa attracted the merchants and traders from outside to trade in Bengal and they carried with them the costly silk fabrics and muslins of the Bengal looms to different parts of the country, particularly to the Courts of Agra and Dacca. The governors of Bengal regularly presented silk fabrics and muslins to the Mughal darbar and these fabrics were in the words of Willaim Bolts, "incomparably finer than anything of the kind produced in his life time"¹² and "they cost ten times the price of any linens permitted to be made for Europeans or anyone else in the Kingdom."¹³

The Silk and Cotton industries were also patronized by the nobility. "The nobles had to present the rarest products, both natural and manufactured, of their provinces, to the Emperor, the princes and the ministers. It would be not only a tactical blunder but also a breach of the accepted rules of social etiquette to approach the great Mughals empty-handed. The nobles, therefore, employed the best local artisans to manufacture for them articles worthy of presentation at the time of their next visit to the Court."¹⁴ The nobles did not maintain the

karkhanas but they encouraged the artisans by advancing money and, thereby, helped to develop the silk industry.

II

In Malda and Murshidabad a great number of people were engaged in different branches of the industry, though due to the lack of sufficient statistical data, it is difficult to assess the exact number of people who were engaged in silk industry. Even the Board of Trade admitted that the number of people engaged by the English East India Company was difficult to ascertain. A regular Census did not take place at that time. Walter Hamilton's book, A Geographical Statistical and Historical Description of Hindostan, was written on the basis of the information given by the Collectors to the Board of Revenue. Though it was a useful work, still we did not get much information about the number of people engaged in this industry. Buchanan Hamilton's Reports, though valuable, did not furnish the same. The proceedings of the Board of Trade (Commercial) contained useful materials about the European Commerce in Bengal. But the information regarding the number of various people engaged in different stages of silk manufactures was inadequate. Nevertheless, it is presumable that a large number of people was engaged in the silk industry of Malda and Murshidabad.

The lives of the people in Malda and Murshidabad turned round silk. In 1801, the total population of Murshidabad was 10,20,572 and in 1852-55 the entire district was surveyed by Colonel Gastrell, the Revenue Surveyor. In his Survey report we found that the area of the district was ascertained to be 2634 sq. miles and the total number of huts and houses was 2,20,014. Allowing 5 persons to each dwelling, the population came to

11,00070. According to the census report of 1872, the total population of the district was 13,53,626 and the total number of manufacturing classes was 31,913.¹⁵

In the Census report of 1872 it was stated that the total population of Malda district was 6,76,426 of which the Hindus were 3,56,298 and the Muhammedans were 3,10,890 and the number of other religious group was 9,238. The number of males were 3,31,087 and females 3,45,339. The proportion of males in the total population was 48.9 percent. The number of Sannyasis, who were wandering religious mendicants of Sivaite faith, was 190. The total number of Tantubaya i.e. weavers, traders, etc., given in the Census of 1872 was 4791 and the numbers of skilled workers, mechanics and artisans, according to their respective trades, mentioned in the Census report of 1872, were as follows:

T A B L E 5:I
Manufacturing classes and Artisans of Malda district.

Occupation	No. of Male Adults
Silk Manufacturers	7
Makers of looms	2
Silk weavers	287
Dyers	65
Silk spinners	107
Cotton carders	143
Cotton spinners	142
Cotton weavers	4654
Tailors	369
Embrioderers	7
Engravers	2
Braziers	561
Indigo manufacturers	6

Source: Hunter, A Statistical Account of Bengal, Vol.VII, London, 1876, P.100.

Compared to the dismal picture that emerges from the 1872 Census Return Buchanan's Report which was written almost at the time when the silk industry had already declined had been somewhat close to the reality in the pre-decline era. He noticed about 15,000 looms in Malda alone and if five persons are counted per loom to have been needed the total number of persons engaged in weaving alone would come to around 75,000. And those whose number even Buchanan did not record, people engaged in plantation, rearing, reeling, dyeing, bleaching, darning, embroidering and finally marketing would be many times over. Buchanan stated that five hundred families alone were engaged in embroidery and about 90,000 people were engaged in reeling in Bengal. Although he observed that half of the looms he noted were inactive it indicated that decline had set in. Though no reliable population data of Malda in the 18th and early decade of the 19th century can be had from any source it can be presumed from the population statistics of 1872 that it would be about six lakhs in 1801 counting on the basis of approximately 8% population growth in Murshidabad in fifty years between 1801-1852. It is not unlikely that about 30% people in Malda and Murshidabad were engaged in the silk industry and trade.

The weavers and artisans of Bengal never lacked enterprise. They were always willing to accept the new sort if they were encouraged by higher price. They had the natural propensity in accepting new technique in their work though they were reluctant to leave their traditional abodes. Despite the promise of 'great wages', the Company failed to persuade the 'taffeta weavers' to move from Kasimbazar and settle in Hugli. This immobility, they had, in their nature. After Plassey, the economic policy of the Company struck a severe blow to the interests of the silk weavers of Malda and Murshidabad and as a result, they were deprived of their age long profession and forced to become agriculturists and daily labourers. From the second half of the 18th century, the Company encouraged the production of raw silk and discouraged weaving. The manufacture of silk fabrics began to decline and the large number of weavers

connected with it began to be unemployed. After the decline of cotton industry, a large number of cotton weavers got their livelihood in silk industry. "One important economic point to be noticed about silk cultivation is that it provided employment for several years to many of those who had lost their occupation in cotton industry as a result of its decline."¹⁶ But the decline of the silk industry sealed the fate of the silk weavers and, therefore, the economic solvency of Malda and Murshidabad was lost.

Before the advent of the British in India and at least for one hundred years after their arrival till 1757, silk fabric occupied a major place in the economy of Malda and Murshidabad. "Of commodities of value, cotton cloths and silk stuff Bengal was the grand magazine, not only for the empire of the Great Mughals as far as Lahore and Kabul, but also for all the neighbouring kingdoms and for Europe."¹⁷ Verelst, the Governor of Bengal, depicted the prosperity of Bengal before Plassey to the "cheapness and quality and the prodigious traffic of her manufactures. Besides the large investments of the different European nations, the Bengal raw silk, cloths etc. to a vast amount were dispersed to the West and North inland as far as Gujrat, Lahore and even Ispahan."¹⁸ In the first half of the 18th century there were some factors which caused reduction in silk production and silk trade. The disturbances in the Asiatic countries, the break up of the Mughal Empire, the Bargi incursions into Bengal, the import of cheaper Chinese silk and Dutch sugar to the country, no doubt, led to a temporary reduction of Indian trade and commerce. But in no case the effects of these disturbances should be over emphasised. The Mughal Empire broke down but the tradition of the Mughals did continue. The Mughal noble men felt that they would command respect if only they could make their courts 'miniature replicas' of the Mughal darbar. So, inspite of occasional disturbances, the silk stuff of Bengal was sold as before in different parts of India and the neighbouring countries. At the time of Plassey, the

House of Jagat Seth was at the summit of its prosperity and wealth. The merchants from different parts came and assembled to trade in Bengal. Malda and Murshidabad were the main centres and silk was the main article of trade there. The following statement of William Bolts, though he did not mention the date, was true of Bengal at the time of Alivardi's death. "A variety of merchants of different nations and religions, such as Cashmeerians, Multanys, Patans, Sheiks, Suniassys, Poggyahs, Betteeas and many others used to resort to Bengal annually, in Cafeelahs, or large parties, of many thousands together (with troops of oxen for the transport of goods) from different parts of Hindostan."¹⁹

The total annual export of silk from Murshidabad District to Europe was estimated at 228,000 lbs., which at the average price of Rs. 15 per seer, would be worth £171,000. This only represented the out turn of the European filatures. The amount of native wound silk was also considerable and exported chiefly towards the north west in the form of manufactured goods. Kasimbazar was known as the 'silk emporium' of Bengal. Mirzapur was a flourishing town and it was also famous for silk trade. The weavers of Mirzapur town were numerous and prosperous. It was silk that guided the economy of the district. But with the decline of the silk industry, the towns like Kasimbazar and Mirzapur lost their previous glory, 'an atmosphere of hopeless decay broods over the whole place.' The decline in the silk weaving industry might be realised from the fact that at the time of Alivardi Khan, raw silk to the value of £875,000 was annually entered in the Custom House books at Murshidabad. This was exclusive of the European investments, which were not entered there, as being either duty free or paying duty at Hoogly.²⁰ But Plassey changed the position and from 1757 to 1772, the servants of the English East India Company combined with their agents and gomastas deterred the merchants from coming to Bengal.²¹ The British dominance completely changed the market position of Bengal and the

'prodigious traffic' of her manufactures became a thing of the past. The entire economy of Bengal was dominated by the needs of the European market in the 1760's, 1770's and 1780's.²² " This was the beginning of an economic drain which seriously crippled the resources at Bengal"²³ and almost the whole of the immense sum received from Bengal Subah was finally siphoned off to England. On the other hand the Mughal tradition was replaced by the Marathas. "The Mughals magnificent and ostentatious required every article of luxury. Towns and cities grew out of this spirit. The Marathas were averse from those costly modes of expense. Towns and cities were mouldering fast into ruin. In this cause may be traced the drooping commercial state of the provinces of Hindostan."²⁴ British domination in Bengal and Maratha hegemony in the greater part of India combined to cause the 'steady decline' of the Indian market of Bengal goods, specially of silk fabrics. The other factors like Bargi campaign and Maratha - Afgan contest in Northern India had some effect on the silk market of Bengal.²⁵ The British policy of deindustrialisation caused an enormous distress to the economic life of the people connected with the silk industry.

It is not difficult to understand the hardship that those associated with silk had suffered. If we assume that the monthly subsistence requirement of a family of five to be 4 maunds of rice, 1 maund of bootgram (pulses) and 3.12 seers of salt, then the monthly spending on food would rise from Rs.2.86 in 1700 to Rs. 3.37 in 1750 and Rs. 5.10 in 1800,²⁶ a percentage rise of 51.34. This estimate would exclude extra expenditure on gur, oil, ghee, vegetables, fish etc. The annual expenses of a family of five on their clothing, religious ceremonies, repairs to house etc. in Dinajpore - Rangpur was calculated at 25.8.0 by Buchanan - Hamilton towards the end of the 18th century.²⁷ The total annual expenditure can be calculated at Rs. 95, while the actual earning of a weaver would never exceed Rs.60.

III

The prosperity of Bengal and its abundant opportunity in trade encouraged the European Companies to come to trade in Bengal and "its fabrics, the most beautiful that human art has anywhere produced, were sought by merchants at the expense of the greatest toils and dangers."²⁸

The silk industry went on flourishing in Bengal. It was recorded in 1577 that Sheik Bhik, a silk merchant of Malda, exported to Russia three ships full of locally manufactured silk goods and that Malda alone used to send fifty ships full of silk and cotton goods to foreign countries every year.²⁹ Between 1600 and 1619 A.D., the English Company purchased large quantities of manufactured and un-manufactured silk goods in the shape of yarns.³⁰ The French traveller Bernier said that silk and cotton fabrics were so-extensively manufactured in Bengal that Bengal could be dubbed as the store-house of these two articles, for both Europe and Asia. He also mentioned that in the middle of the 17th century about fifteen to sixteen hundred people were employed in the silk factories of the Dutch and the English merchants. Another French traveller Tavernier also mentioned that from Kasimbazar alone 2200000 livres of yarns (at 16 ounces to the livre) used to be exported to foreign countries. The Dutch also used to export from 600000 livres to 700000 livres of yarns to Japan and England annually.³¹ By the end of the 17th century, the English weavers made an organised protest against the import of Indian calicoes and silks. The imports badly affected their silk industry. The perfect workmanship and 'great cheapness' of the Indian silk fabrics made it a formidable rival to the English silk goods. The Company admitted before the House of Lords that nine-tenths of the Indian silk goods imported into England were used by the people there. It was not possible to ascertain the exact quantity of manufactured silk goods of Bengal consumed in England; "but from the general use of silk in

every class of society, from the throne to the cottage, the quantity must be immense."³² "The exquisite workmanship of Indian weavers proved serious to the English weavers."³³ Therefore, in 1701, an Act was passed by the British Parliament for the protection of the Spitalfields silk manufacture. But the Act did not produce the desired effect, as it failed to check the prodigious import due to tempting cheapness of Indian silk goods at that time. For a long period, Bengal silk goods held their position in the world market which was gradually lost in the colonial age.³⁴

Upto the first half of the 18th century the English Company had to face competition in procuring raw silk and silk goods. The Dutch were not only rival in the field of Bengal's commerce. Other European traders like the French, the Portugese, the Prussians, the Danes, and the Asiatic traders like the Armenians, the Pathans etc., were then actively and widely engaged in the trade of Bengal.³⁵ Hence, the silk trade of Bengal was not a smooth sail for the English Company till the battle of Plassey. But after Plassey, the position was gradually changing and with the acquisition of the 'Dewani' of Bengal in 1765, the entire process was reversed in favour of the English Company. The success of 'Industrial Revolution' in England too depended on the supply of raw material from Bengal.

(i) One of the causes for the decline of silk industry was the degeneracy in silk worm rearing. The Bengal silk worms had lost its high racial quality. The yield of bara palu had diminished by 50% and the silk cultivators of Bengal observed this degeneration of the Bengal species. Some attempts were made to introduce the exhotic breeds, but the results were not satisfactory. Mr. Gallois of Midnapur who was engaged in silk manufacturing thought that the cause of degeneracy was in the cultivation of mulberry, as mulberry was cultivated repeatedly in one spot. Most of the Company manufacturers of silk held the

view that the natives stunted the silk worms and Mr. Atkinson, an English engaged in silk manufacturing said that he found it difficult to arrest this tendency among the local producers. Mr. Malcolm of Ramnagore, in Kandi Sub-division of Murshidabad, mentioned that the silk worms were injured by being forced into unduly rapid reproduction. Formerly, it was found that there were four breeds or bunds in a year. But in later time, it was enhanced upto six to eight.³⁶ The Bengal silk-worms were smaller and biologically of inferior quality than the European, the Japanese and the Chinese worms. Some remarked that the cause for the small size of the Bengalsilk worms was under-feeding. While it is partly true, the real cause of small size was heredity, developed due to malnutrition for generations. The cocoons of the small worms were not better than the average third grade cocoons of the univoltine worms. The silk fabric contained in Bengal cocoons was also inferior in quality. The average weight of a univoltine cocoon and the average weight reelable silk contained in it were respectively 1800 and 200 milligrammes, those of Bengal cocoons were only 600 and 40 milligrammes. The average length of each fibre was 600 and 200 metres respectively. These figures had been obtained from rearing under the same conditions.³⁷ The degeneracy of the Bengal worms was partly responsible for the decline of the silk industry.

(ii) Outside the nobility, silk's demand was somewhat limited. So, with the decay of the indigenous courts, the demand market of fine silk fabrics suffered serious set back. The successors of the nobility changed taste and instead of patronising indigenous silk, as it was done by their predecessors,³⁸ they rather preferred the showy and cheap machine-made silk goods of England. Because "to follow European fashion was considered the hall mark of enlightenment."³⁹ The decay of the indigenous courts and the change of fashion on European style, which the British rule had gradually introduced, were partly responsible for the decline of the silk industry of Bengal.

(iii) However, the Commercial policy of the English East India Company in the 18th and early 19th centuries delivered the mortal blow to the silk manufacture by protective measures against Bengal piece-goods. Due to the discontent of the silk manufacturers throughout England, more particularly in London, and on account of the revolt of weavers from Spitalfields against the import of Bengal silk goods in England, a new decision was unavoidable. The weavers of Spitalfields were benefitted by the supply of raw silk only. In 1697 a Spitalfields mob attacked the East India House. Consequently, the British Parliament was forced to pass an Act in 1701 prohibiting in England the use and sell of all wrought silks from Bengal, and stuffs mixed with silk or herba, and a penalty of £200 was imposed on the person having or selling any of them.⁴⁰ The act of 1701 against woven silks first reduced English demand, and later war, notably from 1756-1763 and 1773-1776, followed by the French Revolution in 1789 hit the European markets for Bengal silk. All these events had no doubt had repercussion on the growth of Bengal silk industry. Despite these events no serious effect was observed on the silk industry of Bengal, as silk piece-goods of Malda and Murshidabad appeared to have been imported in England for re-export to other countries.⁴¹

Since the import of silk piece-goods for the European market was continued by the East India Company for some more years they intended to exercise monopoly control over the entire range of silk manufactures by coercive measures. Post Plassey ascendancy of the Company in Political Power in Bengal stimulated the process. However, a new dimension was opened in the trade; as there was an increasing demand for raw silk in the United Kingdom; sericulture understandably received much more attention from the East India Company than silk weaving.⁴² This important policy shift in the English Company's trade adversely affected the silk weaving industry of Bengal. Further, the weavers were

forbidden to work elsewhere or for other foreign or local merchants until English orders had been fulfilled and they were thus deprived of free competitive markets for their goods.⁴³ Consequently, manufacture of silk fabrics declined and the people who had exported these goods to the markets of Europe and Asia in previous centuries began to import them from England for their own use.⁴⁴ Things came to such a pass that "the sons of the soil are now impotently looking on the foreigner for the supply of even the articles of every day need."⁴⁵

In the evidence of Mr. H.H. Wilson, it was stated in 1813 that "the cotton and silk goods of India upto the period could be sold for a profit in the British market at a price from 50 to 60% lower than those fabricated in England. It consequently became necessary to protect the latter by duties of 70 and 80% on their value, or by positive prohibition. Had not such prohibitory duties and decrees existed, the mills of Paisley and Manchester would have been stopped in their outset..... They were created by the sacrifice of the Indian manufacture British goods were forced upon her without paying any duty, and the foreign manufacturer employed the arm of political injustice to keep down and ultimately strangle a competitor with whom he could not have contended on equal terms."⁴⁶ Many more attempts were successfully made to encourage the British manufactures and to discourage the Indian industries. The import of Bengal silk fabrics to Europe was repressed by prohibitive duties and the export of machine-made silk goods of England was always encouraged in India with preferential tariff. The production of raw silk for British industries and the consumption of British manufactures in India were the two-fold objects of the new commercial policy of England. At the time of the renewal of the Charter Act of 1813, it was the main aim of the Parliament to serve the interest of the manufacturers of England, and the role of the East India Company in India during the years 1793-1833 was reduced to an agent for the implementation of the

economic policy formulated in England.⁴⁷ The Bengal silk fabrics were shut out from England by prohibitive tariffs, because the quality of silk which the Bengal weavers could be able to produce for their professionalism would be a very great impediment to the consumption of British silk. The high production cost coupled with exorbitantly high import duties could have handicapped the Bengal product in a competitive British and later Indian market.⁴⁸ Bengal was required to produce raw materials only. The actual percentage share of the important items of export trade of the East India Company in the total value after 1813 is illustrated by the table no.5:II. In spite of all coercive regulations it is seen that silk market did not altogether shrink, though it had diminished in size.

T A B L E - 5:II

Title: India's exports, commodity composition, percentage shares of selected items in total value.

Years	Indigo	Piece goods	Raw Silk	Cotton	Opium	Sugar
1	2	3	4	5	6	7
1814-15	20.0	14.3	13.3	8.0	Not Available	3.0
1828-29	27.0	11.0	10.0	15.0	17.0	4.0
1834-35	15.0	7.0	8.0	21.0	25.0	2.0
1839-40	26.0	5.0	7.0	20.0	10.0	7.0
1850-51	10.0	4.0	4.0	12.7	34.0	10.0
1857-58	6.1	2.9	2.9	15.6	32.7	4.3

Source: K.N. Chowdhury, The Economic Development of India under the East India Company, 1814-1858, Cambridge, 1971, P.26 .

In the words of Dr. K.N. Choudhury, "This broad structure of the commodity composition of India's export trade confirms the widely held opinion that the most striking change in the character of her international trade in the first half of the nineteenth century lay in the almost entire transformation of her exports into the category of primary commodities with a corresponding concentration on manufactured goods in her exports. The manufacturing and commercial interests in England were beginning to be aware of India's position as a potential supplier of raw material and the advantages which accrued from it to the home industries."⁴⁹ Upto the 18th century India was both a manufacturing and an agricultural country, and in the 19th century it was reduced from the state of manufacturing to that of an agricultural country. But the economic solvency of the rural Bengal never depended on her agriculture.⁵⁰ It was due to the economic policy of the Company that most of the weavers were thrown at large, some became sannyasis, some byragis, others coolies.⁵¹ "The disappearance of domestic handicrafts followed closely on the wake of the Permanent Settlement. The weaver-cum-agriculturist had now to depend entirely on agriculture, and this further weakened the position of the tenant vis-a-vis the landlord."⁵²

It was the heavy duties levied on Indian manufactures and later the continental system of Napoleon Bonaparte that affected the silk trade of Bengal in the European market. From 1806 on, the Berlin and Milan Decrees shut the European market for Bengal piece goods. The tariff policy of England and the Napoleonic war, no doubt, caused the decline of Bengal silk trade, but they could not have brought about its practical ruin.⁵³ Infact, the Industrial Revolution and the machine-made products of England that had combined with the commercial policy of Great Britain did bring about the ruin of the silk industry of Bengal. A market demand for the industrial products of Great Britain, which obviously was cost effective, involved the handicraft of Bengal in an unequal competition to which Bengal had virtually

succumbed. The replacement of the indigenous products by the British goods formed 'one of the saddest chapters in the history of the British India.' The decline of the indigenous manufactures hit the economy of the country. For all practical purposes, a few hundred thousand artisans and the silk weavers of Malda and Murshidabad were displaced from their traditional occupation. Obviously, it would have made the economic position of the silk weavers precarious. Having had no 'secondary avenue of employment' they migrated enbloc to agriculture for subsistence. But Bengal's unfavourable man-land ratio could not have sustained the economic fugitives. R.C. Dutt remarked, "a nation which depends entirely on agriculture can not but be poor."⁵⁴ On the contrary, the decline of the traditional silk industry of Malda and Murshidabad and the indifference to any new industrial venture not only caused poverty but caused the establishment of British economic domination also, and India came to be looked upon by the English as "a plantation, growing raw produce to be shipped by British Agents in British Ships, to be worked into Fabrics by British skill and capital, and to be re-exported to the Dependency by British merchants to their corresponding British Firms in India and elsewhere."⁵⁵

(iv) The application of Science and technology in Europe qualitatively transformed the production activity there. "Foreign competition, not because it is foreign, but because it is the competition of Nature's powers against man's Labour, - it is the competition of organised Skill and Science against Ignorance and Idleness, - is transferring the monopoly not only of wealth, but what is more important, of skill, talent, and activity to others."⁵⁶

The invention of powerloom and the increasing use of it, and the establishment of weaving factories in England gave a new turn to the British manufacture; it derived its strength from 'gigantic

machinery, large scale production, complex division of labour etc.' The cessation of Napoleonic wars in 1814-15 removed the constraints from Britain's foreign trade and so the manufacturers of England came to devote their full attention to production. As a result, large quantities of British made goods began to appear in the European market, which was once the domain of Bengal silk and cotton fabrics. Bengal piece-goods were rapidly supplanted by British manufactures in various European countries and "by the year 1827-28 there was hardly any country in the world, to which Bengal piece-goods were sent."⁵⁷ The Industrial Revolution helped England to oust Indian manufactures not only from India but also from the international market. "The Charter Act of 1813 and the cessation of the Napoleonic wars just accelerated the disruption which was but inevitable."⁵⁸

The export decline of country-made silk piece goods had been graphically described by Babu Kissen (Krishna) Mohun Mullick, in his "Brief History of Bengal Commerce," in the following manner.

"Choppas, bandannas and corahs come under this head. In the time of the East India Company, choppas and bandannas were printed at Cossimbazar of various colors and choice patterns, supplied by the Company's agent, and were in those days favorite articles with the English and foreigners, used as handkerchiefs and neckcloths. Their exports were heavy, and would find a ready market in England. But a taste for novelty so common in Europe as well as in other countries, which from time to time influences change of fashions, materially interfered with our printed goods, and printers, both in England and France, were busy in their designs, and printing there was thus stimulated to an enormous degree, upon plain cloths called corahs, imported to a large extent from this country for that purpose. Unfortunately, however, for our native manufacturers, the weavers in Europe stood in their way as regards the silk corahs with which they

took upon themselves to supply the markets of Europe for printing purposes. Although their make and texture are far inferior to ours, specially in point of durability, yet preference is given to them by the mass of the people there, for the sake of cheapness, resulting from the cloths being made of chussum or waste silk, the exports of which, both from here and China, of late have materially augmented, and hence our exports to Great Britain of choppas and bandannas as well as of corahs have dwindled down to mere trifles, as the following comparative statement will shew.

T A B L E 5:III

Title: The exports of country-made Silk piece-goods had declined

	1849-50	Value in Rs	1869-70	Value in Rs.
Corahs in pieces	633,729	34,63,000	80,373	6,21,164
Choppas and bandannas in pieces	69,764	4,01,700	2,167	18,198

Source: Kissen Mohun Mullick, Brief History of Bengal Commerce.

On the other hand, the exports of chussum to Great Britain materially increased; in all 1861- 93 and 1869- 14,000 maunds. This refuse in earlier days was as worthless as jute cuttings were, but now both are treated as important articles of merchandize. ⁵⁹

This position is endorsed by the Customs Department, Lower Provinces. For a statement of export from Bengal in different European countires, indicated not only a change in the export market but also in the commodity pattern as underlined by Sri Krishna Mohun Mallick.

"In silk, raw or chussum, there has been an export of 17,684 cwt., valued at Rs.1,22,83,377, being a decrease of 2,216 cwt. in quantity, and Rs.13,09,707 in value. Of raw silk 8,410 cwt., valued at Rs. 93,82,092, have gone to Great Britain; 1,455 cwt., value Rs.18,95,002, to France; and to Italy 135 cwt., value Rs.1,92,996. Great Britain has taken more than in 1869-70, but France only half of what she took in that year. Of chussum, 6,175 cwt., valued at Rs.5,21,396, have gone to Great Britain, but France has taken more than double of the quantity in 1869-70, viz., 879 cwt, valued at Rs.87,997.

Silk-piece goods have been exported to the value of Rs.10,35,938. Of this, Great Britain has taken Rs.6,98,972 worth in corahs, and Rs. 1,00,019 in tussers and Rs.17,214 worth in choppas. Of this latter description, Mauritius has taken Rs.10,180, and Bourbon Rs.11,110, Of other silk manufactures, France has taken Rs.12,408, Ceylon Rs.17,312, Penang and Singapore Rs.17,073, the Persian Gulf Rs.4,395, and America Rs.11,345."⁶⁰

The Industrial Revolution first started in England in the year 1784. The rapid progress of cotton manufactures in England on account of industrialisation, presumbaly, affected adversely in its market mechanism the silk trade of Bengal also. Cotton manufactures in England gradually became so overwhelming that it "almost entirely banished silk from the dress of British ladies."⁶¹ The demand for raw silk had fallen so greatly that the price had come down from twenty one to sixteen shillings a pound inflicting a heavy loss on the Company.⁶² It is substantially true that the continued growth of the English cotton industry, producing finer goods more and more cheaply, was to invade the markets for Bengal and English silks first in Europe and the 'Levant',⁶³ and finally in India itself.⁶⁴ In the colonial period, all the avenues for the growth of silk industry were ultimately closed and, thus, the economic growth of Bengal, which was once dependent on the silk industry, was greatly impeded. "There was no agricultural crop which would bring in money so quickly and so many times in the year."⁶⁵

(v) In the process of colonisation domestic market of Malda & Murshidabad silk could not escape but being seriously disturbed. The loss of foreign market was no doubt deplorable, but what was more pathetic was to lose the home market. Bengal had been transformed into an export market of British textile. From the 15th century, silk of Bengal had a great demand due to its name and fame. In fact, the hand-made silk fabrics of Malda and Murshidabad were far superior to those of machine-made silk stuffs of England in point of its quality, colour, lustre and longevity. But the customers cared more for cheapness than for anything else, and the hand-made products could not measure up to the machine made products in terms of production cost. A contemporary traveller Heber wrote that the manufactures of England were preferred by the people for their low prices.⁶⁶ Besides, the people of India were attracted more and more to the English made goods and there was a growing common feeling among them that anything made in England must be good and fine. The fascination for the English goods associated with other factors caused the decline of the domestic market of Bengal silk. D.R. Gadgil remarked that one of the most harmful effects of a foreign rule was the imposition on the conquered peoples of the ideals of the conquerors.⁶⁷

The aim of the English Company was to convert India into a procurement centre of raw materials and a market for British product. The battles of Plassey & Buxur and the acquisition of Dewani gave the Company a monopoly in exercising political power and the Company imposed heavy custom duties on the indigenous silk fabrics and imposed punitive restrictions on the silk weavers of Malda and Murshidabad which forced them to give up their ancestral occupation. As we have seen silk manufacture was costly, so was the mulberry cultivation, Chassars Nacauds and silk weavers had to depend upon 'dadan' and the Company supplied that through their agents. This made them completely dependent on the Company; besides, the silk weavers were not allowed to work elsewhere until "English orders had been completed."⁶⁸ The advances were forced upon them and the Company exercised such an

arbitrary power that "the chassars (cultivators), manufacturers etc. have been obliged to sell their commodities at any price to those employed to purchase for the English."⁶⁹ The prices fixed in 1833 were the following :-⁷⁰

				Rs. A			
March bund (or crop) large			8	8		Per seer (of <u>silk</u> , to wit)	
"	"	small	7	0		with certain additional	
April	"	...	7	0		remuneration for superior	
Rainy	"	...	6	2		colour or fineness.	
October and November	...		7	2			

It is interesting to note that with a slight change in silk trade policy of the British after the East India Company withdrew from the trade and the market forces were partially allowed to operate freely both silk export and its price in the domestic market indicated an upward swing. The Agri-Horticultural Society gave the figures as the prices of raw silk for the 12 years ending in 1870.

T A B L E 5:IV

Title: A little change in silk trade policy caused
escalation of silk price.

	Per seer					Per seer			
	Rs.	As.	to	Rs. As.		Rs.	As.	to	Rs. As.
1858	8	0	-	16 0	1864	11	0	-	17 0
1859	9	8	-	16 12	1865	11	0	-	19 0
1860	10	0	-	21 0	1866	14	0	-	26 0
1861	9	8	-	19 0	1867	12	0	-	25 4
1862	7	0	-	15 8	1868	11	0	-	26 0
1863	9	8	-	19 8	1869	15	0	-	27 0
					1870	16	0	-	25 8

Source: Report of the Agri-Horticultural Society, 1870, P.85.

All those who were connected with the production of silk could not escape the vicious circle of 'dadan'. Interest accumulated all through the year and "the manufacturers were unable to escape from the obligations except by flight from the profession."⁷¹ The servants of the Company enjoyed all the power but did not take any responsibility of good government. "The banians and gomastahs of the Company and its servants saw their opportunity to turn the power and prestige of their masters to the mutual advantage of both."⁷² Thus the oppression, exercised on the weavers by the Company after the 'Dewani', ultimately destroyed the 'industrial spirit of the people of Bengal.'

The Nawabs of Bengal were despotic. But their despotism, 'never degenerated into absolute oppression.' It was the policy of the English Company to make India's economy to the 'heels of the British economy' and the silk growers, silk weavers and silk traders of Malda and Murshidabad became the worst victim of that. Their bonds were made tighter. The silk manufacturers lacked a free, competitive market for their goods. Due to the decline of the Mughal Darbar and the Nawabs of Bengal, the silk industry lacked the valuable source of indigenous patronage. The alternative outlet was also closed by the activities of the English Company, as it ousted the other European competitors from the market. The influx of Chinese silk in Bombay and Madras squeezed the market in those provinces for Malda and Murshidabad silk. The famine of 1770 carried off 'one third of the population of Bengal.' The servants of the Company at Murshidabad wrote to the President and Governor Cartier of Fort William in their letter dated 11 November, 1771 about the decay and diminution of silk growth and manufacture and they attributed it to the incredible mortality which had happened among the ryots due to the famine of 1770. A great deal of mortality occurred among the chassars, nacauds and the silk weavers. Many artisans had died for want of food, many of them

had deserted, and those who survived were incapable of working.⁷³ The silk industry could never recoup its former shape after the set back caused by the catastrophe of 1770. As the industrial pursuits became less remunerative than agriculture, so a large number of skilled silk manufacturers were forced to seek sustenance from land.⁷⁴ It was no doubt detrimental to the interest of the country and, therefore, Montgomery Martin said, "India is as much a manufacturing country as an agricultural one, and he who would seek to reduce her to the position of an agricultural country seeks to lower her in the scale of civilisation. She is a manufacturing country, her manufactures of various descriptions have existed for ages, and have never been able to be competed with by any nation wherever fair play has been given to them."⁷⁵ Where the interest was the only thing, the question of 'fair play' did not arise. It was always the design of the Company to convert India into a producer of raw materials which altered all previous production relations. The Company, "on the ruins of Indian handicrafts, which could provide jobs to millions, introduced new industrial infrastructure."⁷⁶ Malda and Murshidabad became worst victim of that. "Murshidabad formed one of the few examples of a District which declined in opulence and importance under British rule."⁷⁷ It was equally true of the district of Malda.

Since we have not discussed the Indian reaction to the detritious colonial policy of the British, as it has never been central to our investigation, it would be presumptuous to assume that the Indian manufacturers had suffered without protest. In fact, the whole of North Bengal was rife with discontent, and the entire period between 1780-1800 is marked by organised armed uprisings popularly known as Sannyasi and Fakir revolts. The mendicants from amongst the Hindus and Muslims called sannyasis and fakirs were also itinerant merchants trading in silk and textile. Their dislocation by the post-Plassey trading policy

of the East India Company necessitated the protest. And their leadership in the revolt was occasioned by their wide acquaintance with the terrain, disgruntled manufacturers with whom they had been attached for professional reasons and comparative ease on account of minimal material risk usually involved in similar sub-altern revolts. The revenue policy during the early British rule dispossessed some traditional landlords who enjoyed their title to land since the reforms of Murshid Quli Khan, a Bengal Governor in the early 18th century. The dispossession of the landlords affected their peasant subjects too who became economic fugitives being depeasantised by the five-year settlement policy of Warren Hastings. On the other side the cotton textile and silk manufactures were seriously affected by the imposition of new commercial policies of the Company dictated by political power and economic greed. It also affected the pre-colonial nexus between the producers, finance, marketing communities and the indigenous consumers. The combined effect of this economic dislocation caused armed eruptions and if Majnu Shah, the merchant lead the revolt in one sector, Devi Chaudhurani, the Zamindar lead it in another sector with similar purpose and urgency. Colonial administration finally repressed it in 1800.

The members of the Court of Directors always considered the activities of the Company on the basis of pecuniary returns. As long as the return was safe, they did not bother about the nature of the administration. They were simply satisfied with the profit that they received from their Indian investment. But when the surplus had change into deficit they reacted.⁷⁸ The unjustifiable influence of the Pykars and Dallals over the chassars and ryots helped them to exercise oppressive measures in stabilising their procurement. "The original advances having been studiously made, so as to leave a balance at the close of the year against the industrious cultivator, this balance becomes immediately burthened with an exorbitant rate of interest, which continues to accumulate in such a proportion as

to leave the poor labourer totally incapable of ever satisfying his merciless creditor."⁷⁹ In this way the ryots and the chassars were reduced to a state of actual slavery. If they tried at any time to break the chain of this bondage for getting the right of a free subject, every sort of tyranny and oppression were unleashed and their families were reduced to poverty."With every species of monopoly, therefore, every kind of oppression to manufacturers, of all denominations throughout the whole country, has daily increased; insomuch that weavers, for daring to sell their goods, and Dallals and Pykars, for having contributed to or connived at such sales, have, by the Company's agents, been frequently seized and imprisoned, confined in irons, fined considerable sums of money, flogged, and deprived, in the most ignominious manner, of what they esteem most valuable, their casts. Weavers also, upon their inability to perform such agreements as have been forced from them by the Company's agents, universally known in Bengal by the name of Mutchulcahs, have had their goods seized, and sold on the spot, to make good the deficiency: and the winders of raw silk, called Nacaads have been treated also with such injustice, that instances have been known of their cutting off their thumbs, to prevent their being forced to wind silk."⁸⁰ This state of affair forced the chassars and ryots who were habituated in the life of ease and indolence to give up that branch of culture attended with insupportable bondage and took to other subsistence. It had resulted not only in the diminution of quantity and decrease of quality in silk, but also in some degrees the enhancement of its price. Moreover, the number of weavers in the country had greatly decreased. The servants of the Company were of opinion that an effective remedy ought to be applied so that the evils could be easily removed. The chassars and the ryots should be released from the bondage and oppression of the Pykars and Dallals and should be given the rights of free agents in the disposal of their property at the public market. They held the view that if the chassars and the ryots were given

due encouragement in silk manufacture, and if the coercive methods were wiped out, then this branch of commerce would be restored to its former flourishing state. But that did not happen. On the contrary, it was the only intention of the Company and its 'venerable head' to exploit the revenue of Bengal which came mainly from the industries, particularly from the silk industry of Malda and Murshidabad. The colonial exploitation affected seriously the entire community connected with every stage of the silk industry of Bengal and, thereby, shattered the economy of Bengal. Moreover, the economic drain which started under the Company ultimately ruined the affluence of Bengal. The silk economy was the mainstay of the people in the two districts. But in the colonial age, the British export of raw material threw the people connected with other phases of piece good production out of employment. As a result, people gradually changed over to raw-material production for survival and in the process they not only lost their industrial acumen but also their identity.

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G L O S S A R Y

<u>Agency System</u>	In this system, the agents or the gomastas were instructed by the company to collect Silk directly from the aurangs.
<u>Alacha or Alijah</u>	Silk cloth of wavy like pattern and stripped with gold and silver.
<u>Anna</u>	16th part of rupee, one anna is about $1\frac{1}{2}$ d., 4 paise make one anna, 16 annas make 1 rupee, 4 annas make $\frac{1}{2}$ rupee i.e., a silver coin used in Bengal known as 'siki'.
<u>Aurang</u>	A place where export goods are manufactured or collected for wholesale disposal. A group of villages or small towns in the country constituted one aurang.
<u>Bale</u>	1 bale contains 160 seers, 40 seers make a maund, 4 maunds make a bale. Each bale weighing 100 livres (at 16 ounces to the livre).
<u>Banaks</u>	Filatures.
<u>Band or Bund</u>	The local name of the Silk harvest.
<u>Bandanna</u>	A richly coloured spotted handkerchief (usually worn round the neck).
<u>Bank</u>	Name of the local machine i.e., 'Ghai' by which country method silk is wound.
<u>Bank Silk</u>	Cocoon spun into thread by country method is called bank silk.
<u>Banti</u>	A banti is a big knife, fixed on to a log of wood. It is required for chopping leaf very fine when the worms are small.

<u>Banyan</u>	Banyan comes from Sanskrit word 'Vanik' means merchant. A Hindu trader, generally of Vaisya Caste.
<u>Bara Palu</u>	Bombyx textor. It is an annual variety and the egg-stage continues for 10 months. The colour of the silk is silvery white.
<u>Bariga</u>	Dutch name of the 2nd quality of Bengal raw silk and the English name is 'belly'.
<u>Bazar</u>	Daily market.
<u>Bigha</u>	A measure of land i.e. $\frac{1}{3}$ of an acre.
<u>Bosni</u>	Silk-worm rearers.
<u>Bulbul chasm</u>	Nightangle's eyes.
<u>Bulu Palu</u>	A kind of dhali cocoons of Midnapore district. It is somewhat greenish, i.e., 'blue' and not silvery white as is the colour of Bara Palu.
<u>Butidar</u>	Embroiderer.
<u>Cabessa</u>	Dutch name of the first quality of Bengal raw silk and the English name is 'head'.
<u>Canoe</u>	A kind of small boat.
<u>Chakra-chokri</u>	The rearers of Malda and Murshidabad call the male and female silk moths as 'chakra-chokri'.
<u>Chandraki</u>	Spinning screen or tray, made of bamboo. Also known as talias chances or fingas,
<u>Chand tara</u>	Moon and stars.
<u>Chassars</u> or <u>Chasnigirs</u>	Silk worm rearers and Cocoon growers.

<u>Cheena Palu</u>	Bombyx Sinensis. It is mainly reared at Tamluk Subdivision of Midnapur district and bred 8 times in the year.
<u>Chinangshuka</u>	Foreign silk i.e., mixed stuff.
<u>Chhatak or Chittack</u>	About two ounces.
<u>Chhoto Palu or Deshi Palu</u>	Bombyx Fortunatus. It is suitable to rear in cold season.
<u>Chop</u>	(i) Cut into small pieces; (ii) Company's mark. Both meanings occur in thesis.
<u>Choppis</u>	A kind of finished silk product.
<u>Chuna kete</u>	Muscardine or Calcino. It is an epidemic of the silk worm caused by a parasitic fungus. A pale rose-colour is seen all over the body and after death, the worms looked like a piece of chalk.
<u>Chussum</u>	A kind of waste-silk.
<u>Coccon</u>	The silken case spun by larvae. The size and weight of the cocoon, including Pupa, are 2.54 cm x 1.25 cm and 0.42 g. A common saying among cocoon-rearers is 'Late Pate Challish din', i.e., it takes forty days for yellow cocoons to form from the time of the moth's piercing the seed cocoons to the time of the new cocoons being formed.
<u>Contract System</u>	System of 'dadni merchants'. The Company advanced the merchants money for procuring raw silk, but they could not always fulfil their contracts.
<u>Country wound silk</u>	Silk produced in local ghais is known as country wound silk.
<u>Cubit</u>	1 Hath i.e., 18" (inches)
<u>Dadan</u>	Advance

Dadni

It has come from the Persian word 'Dadan', means advance. A term applied to the Company's merchants in Bengal who received a financial advance for supplying goods on contract.

Dadni merchants

The merchants of the European Companies who received money in advance for supplying goods on contract and used to book their orders for silk by paying advances to the Silk-growers.

Dagh-Dhobi

Special washerman who removed cloth stains.

Dalal

A broker.

Dalas

Made of bamboo and used for silk-worm rearing.

Daroga

superintendent in State karkhana.

Dastak

Permit or Pass i.e., a certificate.

Dasturi

A customary commission payable on cash transactions.

Darmestes Vulpines

A kind of beetle.

Dhali Silk

Silvery white silk made out of Bara palu cocoons.

Dolleria

Silk in which Portugese 'Cabessa', 'bariga', and 'pee', and the English terms 'head', 'belly' and 'foot' were all mixed.

Double cocoon

Two worms jointly form one cocoon.

Eri Silk

A variety of non-mulberry silk, and the eri silk worms are reared on castor leaves and mainly cultivated in Assam and to some extent in Bihar and Orissa.

Farman

The Mughal Imperial order i.e., decree or edict.

Filature wound silk

Silk produced in European filature was known as filature reeled silk.

Floretta

Having ornamentation based on flowers and leaves.

Free merchants

They were not Company's servants, but had the authority of the Court of Directors to carry on trade. They had to pay usual duties.

Ghai

Country machine by which khamru or khangru silk is produced.

Ghurrahs

Machans made of bamboo.

Gomasta

An agent employed by merchants and Company for their trade.

Gonutia

A village on the northern bank of the river Mor in the Birbhum district. It was the site of one of the biggest silk factories in Bengal.

Goragaut Silk

A large quantities of arindi were produced at Goragaut beyond Sherpore Murcha in Bogra district of Bengal. The usual dimension of this silk cloth was $8 \times 1\frac{1}{2}$ yards and cost only 8 annas. The mechants used to procure Goragaut silk for Surat market.

Grasserie (Rasa)

Jaundice.

Great Pound

24 oz. (ounces) i.e., 0.681 kg. Raw silks were always measured in great lb.

Guild

An organisation for the protection of the interest of the artisans. It was in practice in ancient India, but developed in West only in the middle age.

<u>Gujrati Silk</u>	The Gujrat merchants paid highest amount as advance to the Silk-producers and received from them the best kind of raw silk, particularly the raw silk of Rangpur. They preferred Radhanagore silk and tanna silk from Cossimbazar.
<u>Halls</u>	'Royal karkhanas' set up by the Mughals.
<u>Hat (Haut)</u>	Weekly market held in villages.
<u>'In balance'</u>	The weavers failed to supply the contracted clothes at the end of the year were known as 'in balance' to the Company.
<u>Investment</u>	Company's purchases in India were known as 'Investment'.
<u>Jasandar</u>	Appraiser or sorter of cloth.
<u>Joar</u>	Silk worm rearing centre.
<u>Kahan</u>	1280 (1 kahan = 16 pans, 1 pan = 80, So 16X80 = 1280).
<u>Kalintarakshi</u>	Pigeon's eyes.
<u>Kalsira</u>	Flacherie. When the silk worms are attacked by Kalsira, the body becomes all black and, therefore, the disease is known as kalsira.
<u>Karigar</u>	Journeyman.
<u>Karkhana</u>	Mughal workshop or factory where weavers used to come to work at the looms.
<u>Karai</u>	Basin.
<u>Katani</u>	Female spinner or reeler.
<u>Khamru spinning</u>	Country method reeling.
<u>Khassas</u>	Calico variety.
<u>Kothi (kuthi)</u>	Factory or warehouse where fabrics were purchased and stocked.

<u>Kuji</u>	Fly pest. A kind of silk worm fly which caused a great deal of damage to the silk worms in its matured stage.
<u>Lali (Rangi or Kurkutte)</u>	Court. It is a symptom of disease of the silk worm and caused from Pebrine.
<u>Latin Silk</u>	Filature-reeled silk.
<u>League</u>	Equivalent to nearly three miles.
<u>Livre</u>	Slightly heavier than the English lb.
<u>Mahajan</u>	Money-lender (merchant, banker, creditor).
<u>Maund</u>	40 seers i.e., 75 lb. or 34.05 kg.
<u>Mazchar</u>	Ripples of Silver.
<u>Mookeem</u>	Supervisor or Inspector who inspected the works of the state karkhana.
<u>Monopsony</u>	A condition of the market in which there is only one buyer for the product of a number of sellers.
<u>Moraundars</u>	Skein-makers.
<u>Morus Alba</u>	White-fruited mulberry plants.
<u>Morus Nigra</u>	Black-fruited mulberry plants.
<u>Moulting</u>	Casting skin.
<u>Muga</u>	The muga silk yarn is made in Assam. The muga worms are reared on Oak trees only in Assam.
<u>Mulmul</u>	Thin plain muslin.
<u>Mutchulcah</u>	Undertaking.
<u>Nacauds</u>	Silk-winders.

<u>Naicha</u>	The first growth leaves of mulberry plants.
<u>Nikari</u>	Apprentice
<u>Nistari (Madrasi Palu)</u>	Bombyx Craesi. It is suitable for rearing in warm and rainy season. This variety is largely cultivated at Malda and Murshidabad and its fibre is soft and fine.
<u>Novi</u>	Filature.
<u>Novi Pattern</u>	The design introduced by Italian aritsans in the filature.
<u>Organzine</u>	Silk twisted like a rope with different strands, so as to increase its strength.
<u>Ounce</u>	$\frac{1}{12}$ of a pound, in troy weight. $\frac{1}{16}$ of a pound avoirdupois (about half-chhatak in Bengali weight).
<u>Paisa</u>	4 paise make 1 Anna. 64 paise make 1 Rupee.
<u>Pakdars</u>	They are generally young boys or girls who turned the handle of the reel and supplied the thread with fibres from the cocoons to the spinners. They were promoted to spinners after a few years.
<u>Palu</u>	Silk worm.
<u>Pan</u>	1 pan = 80.
<u>Patta</u>	Short-skein, the first two sorts of Bengal raw silk-'head and belly' i.e., 'Cabessa' and 'bariga'.
<u>Pattani</u>	Silk of superfine quality (unspun silk drawn from the cocoons).

<u>Pebrin</u>	Highly contagious and hereditary silk-worm disease.
<u>Pee</u>	Dutch name of the 3rd quality of Bengal raw silk and the English name is 'foot'.
<u>Peon</u>	Chaukidar i.e., watchman.
<u>Pie</u>	3 pie make 1 Paisa 12 pie make 1 Anna 192 pie make 1 Rupee.
<u>Pound</u>	In terms of English measures, Pound was either the 'small pound' or the 'great pound'. A small pound weighed 16 oz. Whereas, the great pound weighed 24 oz. 50 great pounds made a maund, and 200 great pounds made a bale of four maunds.
<u>Punda Caste</u>	Hereditary silk-worms rearing caste of Malda and Bogra.
<u>Punia Silk</u>	A kind of Bengal raw silk.
<u>Punjah Silk</u>	The word Punjah represented the Tamil or Telgu word. It was brought to Bengal by the factors, trained in Madras. A skein of silk or cotton, consisting of 120 or 60 threads, prepared from the warp.
<u>Pun. ya ceremony</u>	Celebrated at the end of the Bengali year and on that day the ensuing year's rent was settled.
<u>Purwannah (Parwanah)</u>	Letter of authority and order.
<u>Putney</u>	The chassars or rearers of the silk worm wind off the cocoon in the earthen basin (with the aid of cowdung as fuel instead of wood) upon the common Bengal nuttans or reels made of bamboo, the thread so reeled being called Putney.

<u>Putta</u>	It is derived from Sanskrit word 'Patta' means silk. Yellow cocoons and silks are still called 'Pat' in some parts of Bengal and Assam.
<u>Pykar</u>	An underbroker, mainly employed in the raw silk trade of Bengal i.e., silk dealer, middle men or a village broker who dealt with the weaver on a commission basis.
<u>Rafugar</u>	Muslim caste whose men repaired torn threads of cloth and whose women embroidered.
<u>Ryots</u>	Peasant, Cultivators.
<u>Rang-rez</u>	Specialist in colouring silk thread.
<u>Raw Silk</u>	Raw Silk is not purely raw. It is in between purely raw and finished product. It is semi-manufactured stuff.
<u>Rupee</u>	1 rupee = 2 s. 6 d., 64 paise made one Rupee.
<u>Salfa</u>	Gatine. It is a form of indigestion and the silk worm are attacked by this disease due to excessive heat or cold.
<u>Sardar</u>	Head of the silk winders.
<u>Saudagars</u>	Merchants.
<u>Seed</u>	Eggs of the silk worms are technically called.
<u>Seer</u>	The weight of the Bengal seer was 72 siccas. A sicca is equivalent to a tola. Forty such seers made a maund. A seer would be approximately 29 ounces.
<u>Shot silk</u>	Silk fabrics made of combined colours were known as shot silk.
<u>Sicca</u>	(i) A silver coin used in Bengal (coins of the current year's mintage). (ii) An Indian jeweller's weight of about 180 grains troy.

<u>Small Pound</u>	16 oz. (ounces) i.e., 0.454 kg.
<u>Span</u>	1 span = 9" (inches).
<u>Tabekdars</u>	Silk Collectors
<u>Taffeta</u>	A thin glossy silk stuff.
<u>Taftas</u>	Persian word originated from 'taftan' means 'to twist, to spin.' Taftas were plain silk made of two different types of thread i.e., mixed fabrics of wool and silk. It is a light thin silk stuff with lustre and gloss. Mr. Richard Temple called it as a 'Smooth watered Silk stuff.'
<u>Tani Silk</u>	A particular kind of raw silk suitable for making warps.
<u>Tanti (Tantubaya)</u>	The main caste of weavers.
<u>Tasar</u>	A variety of non-mulberry silk and the worms are reared on <u>asan</u> and <u>sal</u> trees in south Bihar and the adjoining district of Bengal.
<u>Til</u>	Sesame. A kind of (til) plant and its seeds.
<u>Throwing</u>	Makes the raw silk suitable for weaving or knitting.
<u>Thrown</u>	To turn or twist i.e., to unite several threads by winding together.
<u>Throwster</u>	One who winds, twists, spins and throws silk, to prepare it for weaving.
<u>Tola</u>	1 tola is $2\frac{2}{3}$ ounce.
<u>Wrought silk</u>	Ornamented silk.
<u>Yarn</u>	Thread i.e., twisted silk fibres used in weaving and knitting.
<u>Zamindar</u>	Land-lord (one holding land and pays revenue for that).

Zardose

Those who embroidered with gold.

Note: This glossary interprets the terms used in this thesis. Other meanings are omitted.

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