

MONOGRAPH ON THE COTTON FABRICS
OF BENGAL, BY N.N. ^{BANE}~~MAVERJEI~~.

MONOGRAPHS
ON
THE COTTON FABRICS
OF
BENGAL,

BY
N. N. BANERJEE, B.A., M.B.A.C., F.H.A.S.,
Assistant Director of Land Records and Agriculture, Bengal.



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PREFACE.

IN accordance with the instructions contained in the Government of India's circular No. $\frac{19}{25-1}$, dated 22nd June 1896, a monograph on the "Cotton Fabrics" of Bengal was prepared in each district of these provinces. The present consolidated monograph for the Province has been based to a great extent on reports received from each district, but facts have also been ascertained at first hand by me, and much supplementary matter has been added from personal enquiry and observation. The following works have been consulted:—

- (1) "Textile Manufactures and Costumes of the People of India," by Dr. Forbes Watson.
- (2) "The Industrial Arts of India," by Sir George Birdwood.
- (3) "The Tribes and Castes of Bengal," by the Hon'ble H. H. Risley, I.C.S.
- (4) "Dictionary of Economic Products," by Dr. George Watt, C.I.E.
- (5) "Bihar Peasant Life," by Dr. G. A. Grierson, I.C.S.
- (6) "Ancient India," by Mr. R. C. Dutt, I.C.S.
- (7) Report on the existing "Arts and Industries in Bengal," by Mr. E. W. Collin, I.C.S.
- (8) "Art Manufactures of India," by Mr. T. N. Mukharji.
- (9) "Hand-book of Indian Products," by Mr. T. N. Mukharji.

The information given in the monograph relates to industries that are indigenous. Illustrations will be found appended to the report.

N. N. BANERJEE, B.A., M.R.A.C., F.H.A.S.,

*Assistant Director of Land Records
and Agriculture, Bengal.*

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TABLE OF CONTENTS.

	Page.	Para.
I.—Origin, spread and decline of the cotton industry	1—4	1—6
II.—Area under cotton—amount of raw cotton—varieties of cotton	4—6	7—10
III.—Distribution of the cotton industry	6—15	11—58
IV.—Cotton manufacturers—their social and professional status	15—25	59—70
V.—The chief centres of the industry	25—27	71
VI.—Cotton fabrics—their prices	27—35	72—86
VII.—Cotton garments	36—39	87—89
VIII.—Appliances used in the manufacture of cotton goods— processes followed—cost of appliances	39—53	90—119
IX.—Dyeing and printing of cotton fabrics	53—54	111—113
X.—Disposal of goods	54	114
XI.—External and internal trade	54—58	115—145
XII.—Suggestions for improvement	58—61	146—153

APPENDICES.

	Page.
I.—Statement showing the number of persons engaged in cotton industries in each district of these Provinces in 1891	i
II.—Chief centres of the cotton industry	ii—iv
III.—Illustration of a woman working the ginning machine	v
IV.—Illustration showing the process of carding or scutching	vi
V.—Illustration of a spinning axle	vii
VI.—Illustration showing the method of setting the warp	viii
VII.—Illustration of a weaver washing thread	ix
VIII.—Illustration of a weaver working the loom	x
IX.—Vernacular and English names of the principal parts of the weaver's loom	xi
X.—Illustration showing the process of weaving carpets	xii
XI.—Illustration showing the process of weaving Kalin carpets	xiii
XII.—Illustration showing the process of making Newar tape	xiv

COTTON FABRICS OF BENGAL.

I.—ORIGIN, SPREAD AND DECLINE OF THE COTTON INDUSTRY.

(a).—*Mention of cotton in the ancient literature of India.*

Cotton has for centuries been the staple article of clothing in India, and other countries in the East. Mention is made of the fibre in the Institutes of Manu, and the present vernacular term *kapas* is most probably derived from the *karpati* mentioned in the Institutes of Manu, as the fibre from which the Brahmanical thread was prepared. At the time of Manu, as would appear from his writings, not only was spinning and weaving well known, but also starching and other operations now in vogue in cloth manufacture. Even at an earlier period than that of Manu was the art of weaving carried to a high state of excellence. The following extract taken from Mr. Romesh Chandra Dutt's "Ancient India" will show that cotton manufacture was known in India from the very earliest ages. Mr. Romesh Chandra Dutt, i.c.s., says:—"It would appear from many passages in the Rig Veda that many arts were carried to a high state of excellence, weaving was well known of course, and deft female fingers wove the warp and the woof in ancient times in modern days (II, 3, 6; II, 38, 4, &c., &c.). In one curious passage (VI, 9, 2), the *Rishi* laments his ignorance of the mysteries of religious rites by saying, "I know not the warp, and I know not the woof" of religious rites; and in another place (X, 26, 6), the weaving and bleaching of sheep's wool is attributed to the god Pushan, who, as we have already seen, is the god of Shepherds."

(b).—*Reference to cotton by Western writers.*

2. Reference to the fibre by Western writers, says Dr. Watt in his "Dictionary of Economic Products," is perhaps first made by Herodotus. Dr. Watt adds: "In his account of India, he (Herodotus) writes—"The wild trees of that country bear fleece as their fruit, surpassing those of sheep in beauty and excellence; and the Indians use cloth made from these trees." Evidence is not wanting from the writings of other Greek authors, that in all the pageants of Ancient India, highly embroidered cloths formed a noticeable feature of decoration. As well from ancient Indian literature, as from Greek literature, it is evident, as Mr. Romesh Chandra Dutt states, that "the time-honoured *khuti* and *chaddar* (which latter served as a *pagri* also) formed

 Cotton Fabrics of Bengal.

the national dress in Ancient India." In support of his statement he adds: "Arrian (who lived in the first century after the birth of Christ) quotes a passage from Nearchus, and says that the Indians wear an under-garment of cotton which reaches below the knee half way down to the ankles, and also an upper garment, which they throw partly over their shoulders and partly twist in folds round their head." The same author (Arrian), who was also a merchant and traveller, is referred to in Dr. Watt's Dictionary of Economic Products as being the first to make mention of Indian cotton as an article of commerce in his time. Broach, Masulipatam and Dacca are mentioned as centres of the industry.

(c).—*Spread and decline of the Cotton Industry.*

3. Cotton manufacture was thus known in India long before it spread to the West. From India, the industry spread to Persia, Arabia, and Egypt, and then gradually into South Europe, where delicate fabrics began to be manufactured about the twelfth century. From South Europe, it gradually spread to England about the 17th century. In 1769, Arkwright obtained his patent, and in 1779 Crompton invented the mule. Since then, the English manufacture of cloth for India has made such gigantic strides, that it has all but completely supplanted the Indian industry. Some idea may be had of this invasion of English fabrics into these Provinces, when it is stated that the average of the exports of piece-goods of the last ten years from Calcutta to Bengal amounted to a money value of Rs. 8,58,17,755. From every district, it is reported that owing to the widespread use of European piece-goods, which are cheaper and finer, though not always more durable, Indian manufactured goods have gradually disappeared. The state of affairs is thus well described in a report received from Midnapore:—"Indigenous manufactures are far more costly than European or machine-made manufactures. The latter have placed within reach of the mass of the population the means of putting on the appearances of respectability by being decently clad at a small cost. The lowest price of a native-manufactured *dhuti* or *sari* is not less than Rs. 2 to Rs. 3, and that of an *uruni* or plaid is not less than Rs. 1-8 to Rs. 2; whilst a European or machine-manufactured *dhuti* or *sari* costs annas 10 to annas 12, and an *uruni* annas 6 to annas 8. The struggle for existence has become so keen, and frugality so imperatively necessary, that it is natural that machine-manufactured textiles should be preferred to indigenous manufactures. Indigenous industries in this district are patronized by the Rajas and other petty Chiefs, but not to a large extent. This exercises a very small influence in the keeping up

Cotton Fabrics of Bengal.

of the industries, as the mass of the population have discarded indigenous in favour of machine or foreign manufactures. There can therefore be no doubt that indigenous manufactures are continuing to decline. Half a century back, it is stated, things were otherwise. Then indigenous manufactures were in a flourishing condition, for they commanded the local markets, which have since been occupied by machine manufactures. Though the means of inter-district communication and locomotion were undeveloped and very imperfect as compared to the present times, it is stated that export flourished. At present the export has gone down so low as to be insignificant."

4. Indigenous cloths are now limited to a few specialities, such as the cloths of Dacca, Fareshdanga and Santipur, which still have their admirers, and to very coarse cloth which is still worn by the poorer classes on account of their strength and durability; but even these are in most cases manufactured from machine-made thread, either European or Indian, which is available in almost every market in these Provinces. In the year 1882-83, the amount of European twist and yarn exported from Calcutta to Bengal amounted to 1,40,554 maunds. It rose to 1,75,307 maunds in 1885-86 and to 2,07,284 maunds in 1888-89. Since that year, owing to the manufacture of yarn in mills in India, the exports of European yarn from Calcutta to Bengal decreased slightly, and in 1895-96, the exports of English yarn amounted to 1,66,181 maunds. In 1889-90, the exports of Indian machine-made twist and yarn from Calcutta to Bengal amounted to 27,982 maunds. In six years, it rose to 62,867 maunds; and the total exports of both European and Indian machine-made twist and yarn from Calcutta to Bengal amounted in 1895-96 to 2,29,048 maunds. Since 1882, the exports of machine-made twist have nearly doubled. These figures speak for themselves, and clearly show that machine-made thread has quite taken the place of homespun thread, and the indigenous spinning industry has been all but annihilated.

5. The facts stated above may be exemplified by the present condition of the industry in every district of these Provinces, but it will be sufficient here to describe the decline of the industry in Dacca, which owes its importance to the manufacture of its cotton fabrics. Of the cotton industry of this city, it is reported thus:— "At one time, Dacca was the great emporium of trade in cotton fabrics in Bengal. It had commercial intercourse with China on the one hand and with Turkey, Syria, Arabia, Ethiopia, and Persia on the other. A little later on, Dacca sent its muslins and embroidered fabrics to Provence, Italy, Languido, and Spain. When Surat became the principal emporium for the goods of Europe and India, Dacca carried on a considerable traffic with that place. The exportation of cloths to different parts of India

Cotton Fabrics of Bengal.

was very extensive in former times. During the reigns of the Moghul Emperors Jahangir, Shah Jahan and Aurangzeb, the manufacture of the famous gossamer-like muslins was in full operation, and the finest muslins were supplied for the imperial wardrobe at Delhi from Dacca. It is said, that in the time of Jahangir, a piece of muslin known as *ab-rawan* or "running water" could be manufactured 10 cubits by 2, and weighing only 5 *siccas* or 900 grains, the price of which was Rs. 400. A regular export trade also existed with Pegu and countries to the eastward. Since the time of the Burmese war, this trade declined and was transferred to Calcutta. At the close of the last century, the annual investment made by the East India Company and by private traders for Dacca muslins was estimated at 25 lakhs of rupees; but in the beginning of the present century the industry rapidly began to decline under the competition of cheaper piece-goods from Manchester. In 1785, no less than 500,000 pieces of muslins were manufactured in England. By 1813, the value of the private trade had fallen to two lakhs of rupees; and four years later the commercial residency of the Company was abolished, the trade gradually languished, and in 1825 received a severe shock from the introduction of British thread, which has since been used almost to the entire exclusion of country yarn.

In the palmy days of the trade in Dacca muslins, the *Tantis* were as a rule in very good circumstances. Most of them built *pucka* houses, and some even went to the length of working only for five or six months in the year, and enjoying the rest of the time with the sale proceeds of their muslins. Their present condition, however, is deplorable on account of the keen competition of imported piece-goods. The sales are just sufficient to keep most of them from hand to mouth".

Further information regarding the decline of cotton manufactures in Dacca may be obtained from Mr. James Taylor's "*Descriptive and Historical Account of the Cotton Manufacture of Dacca.*"

6. What is true of Dacca, is true of every city in these Provinces, once famous for its cotton manufactures.

II.—AREA UNDER COTTON: AMOUNT OF RAW COTTON: VARIETIES OF COTTON.

(a).—*Area under cotton and outturn of cotton.*

7. The cotton plant is grown on an exceedingly limited scale in these Provinces, but, considering its importance from a commercial stand-point, it is necessary to give some statistics of its cultivation in a report which deals with the products manufactured

Cotton Fabrics of Bengal.

from the plant. Unfortunately, however, in these Provinces, where there is no establishment for registering agricultural statistics of any description, it is not possible to give any accurate estimate of the area under any one crop. A report was published by the Government of Bengal in 1878, from which it would appear that, as far as could be ascertained then, there were 162,000 acres under cotton cultivation in Bengal. The biggest area under cultivation was in the district of Saran, where 31,000 acres were under cultivation during the year. Next in order of importance came the Chittagong Hill Tracts (28,000 acres), Cuttack (20,000 acres), Lohardaga (15,000 acres), Darbhanga (12,000 acres), Midnapore (10,000 acres), and Manbhurn (10,000 acres). The outturn in Saran, however, was found not sufficient even for local requirements, and the largest outturn was in the Chittagong Hill Tracts. The districts which exported cotton during 1876-77 were reported to be the following in order of importance:—

	Mds.
Chittagong Hill Tracts	86,755
Jalpaiguri	15,000
Lohardaga	7,000
Mymensingh	4,826
Tippera	2,045
Burdwan	300
Bankura	300
Darjeeling	84

The cotton grown in all the remaining districts of these Provinces was mainly used for home consumption.

8. The figures given above clearly point to the insignificance of cotton cultivation in these Provinces. Later statistics, which also are but approximations to the truth, show a larger area under cultivation. In the Returns of Agricultural Statistics of these Provinces for 1895-96, the area under cotton is shown as 189,000 acres; but even this area is very insignificant as compared with the total area under cultivation. The fact is, that the cultivation of cotton has long lost its importance in these Provinces. The Chittagong Hill Tracts and a few districts of Bihar, Chota Nagpur and Orissa are the only places where cotton is grown to any appreciable extent. The Chittagong Hill Tracts is in fact the only district which now grows cotton for purposes of export, and this result may be attributed to the extension of *jhum* and plough cultivation in these tracts. The produce of the other districts is consumed locally. In the latest forecasts published by the Agricultural Department of the early and late cotton crops of these Provinces, the outturn of cleaned cotton was estimated at 3,660 tons only.

Cotton Fabrics of Bengal.

(b).—Varieties of cotton.

9. From reports recently received by the Agricultural Department from district officers, it would appear that there are generally speaking two cotton crops in Bengal—viz., the early crop, which is sown during the monsoon rains and harvested during the cold weather, and the late crop which is usually sown at the close of the rainy season and harvested in the hot weather. The chief districts in which early cotton is grown are—Jalpaiguri, the Ohittagong Hill Tracts, Sonthal Parganas, Hazaribagh, Lohardaga, and Palamau, and those in which late cotton alone is grown are—Bankura, Birbhum, Patna, Darbhanga, Saran, Muzaffarpur, and Champaran. The districts in which both the early and late varieties are reported to be cultivated are—Midnapore, Monghyr, Bhagalpur, Cuttack, Balasore, Puri, Angul and Khondmals, Manbhum and Singhbhum.

10. While it is regrettable, that there are no means of accurately gauging the amount of cotton grown in these Provinces, it is a matter of still greater regret that very little is known of the many forms of cotton grown in these Provinces. The cultivated cottons of India are now forming the subject of study of Dr. G. Watt, C.I.B., Reporter of Economic Products to the Government of India, and other scientists, but up to the present the greatest confusion seems to prevail with respect to the different forms and species of cotton grown in these Provinces. In the report of 1878, referred to above, the following vernacular names appear for the different forms of cotton grown:—*Achna, banga, bansa, bashoria, bagha, barna, bhoga, bhoochora, bhorli, bhogila, bhuta, bhachri, bhogila, bhoudeli, borai, borch, boria, bonga, borcti, bonja, bachra, brocti, bari, boria, borea, buri, budhabario, chengti, chundobyra, deehi, gajja, gara, gatch, gola, guli, guhoa, haldia, jagri, jathni, joargurua, jitna, jorgura, kherua, kherha, khoratia, khorjithia, koer, kokti, langataputa, magari, molongo, muri, mormah, noorka, pani, pachi, phulsuta, ramkapas, redhia, romati, rorhya, sundi, thengya, tourbari*. A glance at the list above shows a great similarity in the different local names given to the cottons grown in different districts, and there can be no doubt that all these forms are reducible to only a few varieties. What these varieties are still forms the subject of study of the botanist, but it may be observed that the chief forms to be found in these Provinces are believed to be—*Gossypium herbaceum, Gossypium arboreum, and Gossypium neglectum*.

III—DISTRIBUTION OF THE COTTON INDUSTRY.

11. A statement will be found appended to this report (Appendix I), showing the numbers engaged in cotton industries in

Cotton Fabrics of Bengal.

Bankura. 15. "About 800 families, or 4,000 men, are engaged in weaving purely cotton fabrics in this district."

Midnapore. 16. "The indigenous cotton industries, which were once in a flourishing state, have now decidedly declined and deteriorated, and are gradually progressing towards extinction. Statistics for the present time, as to the numbers engaged in these industries, are not available."

Hooghly. 17. "The weaving castes have gradually been decreased to about one-third of their number" (*i.e.*, as compared with their numbers about 20 years ago).

Howrah. 18. "The cotton industry in this subdivision (*i.e.* Ulubaria) is carried on to a very small extent. It is gradually dying out."

24-Parganas. 19. "At present about 284 families of all castes in the Sadar subdivision, and about 530 families in the Basirhat subdivision, are weavers. The total population of weavers now carrying on the industry may roughly be taken at about 4,000 in all. The figures show that weavers have been largely driven from their hereditary calling to agriculture."

Nadia. 20. "In almost all villages in this district, there are a few families of *Tantis* and *Jolahas*. They turn out coarse cloth for the use of cultivators, but their number is gradually decreasing, and the profession is deteriorating on account of English manufactured cloth, which is cheaper. In several villages, which had a reputation for doing business in weaving, this industry is altogether abolished at Chakdah, Tehatta, Damurhuda, and Dagalbi, though in some of these places still the profession is lingering."

Murshidabad. 21. "The cotton weaving industry of this district is in a decaying condition."

N. B.—The total number of weaver families is returned as 2,336.

Jessore. 22. "It is difficult to give the exact number employed in this industry without systematic statistics being taken, as there are no important centres of these industries, but they are followed by individual families scattered throughout the district as village industries, and a village to village inquiry can furnish approximate figures. The Sadar Sub-Deputy and District Superintendent of Police and the Subdivisional Officers of Narail and Bangaon have not furnished any numbers. The Subdivisional Officer, Magura, reports that, out of a total number of 9,226 *Tantis*, *Jogis* and

Cotton Fabrics of Bengal.

Jolahas, as per last census, only 2,661 persons followed this industry. In Jhenida, out of a total number of 4,151 *Tantis*, *Jogis* and *Jolahas* (males), only 232 families follow this industry. These figures do not seem to me to be at all approximate; but I am of opinion that only a very small minority of the total number of *Jogis*, *Tantis* and *Jolahas*, returned by the last census, still follow this industry as a hereditary profession, and that the industry itself is on the decline."

23. "The weavers are Muhammadan *Jolahas* or Hindu *Tantis* or *Jogis*, and number 19,477 and 13,226 respectively, according to the last census, but only a few actually carry on the profession."

24. "Nearly within the period of a single generation, the number of villages in which the industry has ceased to exist is 234. Within this same period, the number of handlooms have dwindled down from 3,340 to 1,013."

25. "The total number of male *Tantis* in the several thanas is 583. A vast majority of them, however, have taken to cultivation, and only about 5 per cent. in all live on the earning of their loom."

26. "The weavers do not form a large number. The entire number of weavers in this district, according to the last census, was 4,062 out of a total population of 681,352 or .05 per cent."

27. "The number of weavers in the Siliguri subdivision of the Darjeeling district is reported to be 374.

28. "The indigenous cotton industry in this district is steadily declining."

29. "The number of persons engaged in this industry is estimated at about 800 (including both Hindus and Muhammadans). The population of the *Tanti* caste (Hindus), as ascertained in the last census, was 1,953 (including both sexes). Out of this number not more than 200 are believed at present to be actually engaged in this industry. The number of Muhammadan weavers at present actually engaged in this industry is believed to be about 600. The number of persons who depend entirely on the industry for their support is believed to be very small, being not more than 200 including both Hindus and Muhammadans."

30. "A comparison of the census returns of 1872 and 1892 shows a marked decrease in the numbers of persons engaged in weaving, the total number

Cotton Fabrics of Bengal.

of Hindus being returned as 11,611, being a decrease of 1,130, and the total number of *Jolahas* as 1,420, being a decrease of 6,373:—

Hindu.	1872.	1892.	Musalman.	1872.	1892.
1	2	3	4	5	6
Tanti	5,097	3,861	Jolahas ...	7,793	1,420
Jogi	1,738	1,224			
Kapali	5,811	5,815			
Dhunia	95	...			
Karni ... ..	...	711			
Total ...	12,741	11,611		7,793	1,420

Grand Total	...	{	1872	...	...	20,534
			1892	...	...	13,031
			Decrease	...	...	<u>7,503</u>

Combining the two, there is a decrease of 7,503 persons. Many of the Hindus have abandoned their hereditary profession, as they find themselves unable to successfully compete with European piece-goods, which are sold in *hats* all over the district. Those who are too poor or conservative to start in new trades still carry on weaving, and manufacture coarse cloths and napkins, which find a market among raiyats too indigent to buy finer fabrics."

31. "In the census of 1872, the total number of weavers returned as actually engaged in the trade was 18,000. In the census of 1891, the total number of *Jolahas* and *Tantis* was—

Jolahas	...	...	18,372
Tantis	...	...	13,007
Total	...	...	<u>31,379</u>

Of this, half the number may be taken as actually following the profession, which agrees with the present estimate of 15,000."

32. "At Nagna, Katakali and Satal, all within the jurisdiction of the Kishorganj Municipality, there are in all about 50 families who are devoted to this industry. The number at Bazitpur is about 40."

(N.B.—This is all that is reported from the Mymensingh district regarding the numbers engaged in the cotton industries).

Cotton Fabrics of Bengal.

33. "The cotton industry is not carried on on a very extensive scale in this district. In the town proper, there are 7 or 8 weaver families, who are all Musalmans. Formerly, the products of their looms included coarse *dhutis* and *saris* which were greatly in vogue, but, with the gradual introduction of cheaper but less durable fabrics manufactured in Manchester, the country-made cloths fell into disuse and the native industry dwindled. For many years, it remained in a precarious state. The Industrial Exhibition and *mêla* of Faridpur, inaugurated in 1864, gave, as it were, an impetus to it, and served to revive the almost dying industry."

Faridpur.

34. "The number of persons engaged in the weaving of cotton fabrics cannot be accurately ascertained, as it varies according to the amount of agricultural employment obtainable in the vicinity. My enquiries go to show that there has been a lamentable decrease in the numbers of those regularly carrying on the trade of weaving, concurrently with an increase in the numbers practising the trade as an industry subsidiary and subordinate to agriculture. The last census gives *Jogis*, who are Hindus, and do not practice the art continuously, 22,404; *Tantis*, who are the real weavers, 862; in all 23,266. Mr. Beveridge, in his history of Backergunge, states that 14,146 weavers, males only, were recorded in his census, 1871. In the passage, from which I obtain these figures, the learned author remarks, that the trade is not a profitable one, and I infer from his tone that he doubts his figures. The weavers (*Tantis*) themselves have informed me that their numbers are decreasing, and that their trade is less and less profitable."

Backergunge.

35. "The class of people who carry on the indigenous manufacture of cotton fabrics are the *Jogis* or *Naths*, and the weavers (*Tantis*). According to the last Census Report of 1891, the former includes a population of 69,441 (of whom 34,809 are males, and 34,632 are females), out of a total district population of 1,782,935 souls; but the number of souls comprised in the latter class is not stated, and as only those classes having a numerical strength of 1,000 have been included in the lists furnished in the Census Report, it appears that the number of the weaver class must be less than that figure. The *Jogis* form the principal class who carry on the indigenous manufacture of cotton fabrics."

Tippersa.

36. (No information has been obtained from this district regarding the numbers engaged in the cotton industry).

Noakhali.

Chittagong.

37. "In Chittagong, there is practically no industry in manufactured cottons."

Cotton Fabrics of Bengal.

38. "It will appear from the reports received that there is not much of cotton industry in this district except in the town of Bihar and in the city of Patna. In thanas Sultanganj and Alumganj, in the city of Patna, *durris* (country carpets) of different kinds are manufactured by a class of Muhammadans, and it is said that there are about 200 families of such Muhammadan weavers."

39. "It has not been found possible to ascertain correctly what the exact number of weavers employed in the district is at the present time. The census of 1891 showed 1,875 males and 2,042 females belonging to the *Tatwa* caste. In 1881, the figures were 2,478 and 2,573 respectively."

40. "The weaver castes of the district, carrying on the manufacture of cotton fabrics, are (1) *Jolahas*, (2) *Qualinbafs*, and (3) *Tantwas*. Members of other castes, such as *Dhuniyas*, *Kasais* and *Dafalis* also follow the cotton industry.

Jolahas are found all over the district, and their number according to the census of 1891, is 47,073. It is difficult to estimate the actual number of *Jolaha* weavers, but from enquiry, it appears that a smaller portion of the population carries on the manufacture of cotton fabrics, and the larger portion has taken to other pursuits. There can be no doubt, that the number of *Jolaha* weavers is gradually decreasing. The number of *Qualinbafs* actually engaged in the cotton industry is very small. The *Tantwas* are found in small numbers in all the thanas of this district, excepting Mohamia. The number of *Dhuniyas* inhabiting the district is 9,615. Of this, 15 or 20 living in the Sadar subdivision of Arrah, manufacture *motya* cotton. The total number of *Kasais* living in the district is 1,154. Twenty-five only carry on the manufacture of *dari* in the town of Sasseram. There are 1,761 *dafalis* living in the district. Of this number, 4 or 5 in the Arrah town manufacture *newar* (tape) and *dori* (rope).

41. "The *Dhuniyas* (cotton-carders), *Jolahas* (weavers) and *Tantwas*, which is the generic term for all weavers, are the only classes who carry on the weaving industry in this district. The *Dhuniyas* and *Jolahas* are all Musalmans, and the *Tantwas* are Hindus. They are weavers by caste, and their hereditary occupation is weaving, though in all cases it is not the only means of their livelihood and principal source of income to live upon. Some emigrate to Bengal and find employment in factories and firms. The periodic emigration from the district has been more than doubled this year, particularly on account of famine. After making allowance

Cotton Fabrics of Bengal.

therefore, for the emigrators who have already proceeded eastwards, the number of male weavers of each class was found on enquiry to come to about 45,000, viz. 6,500 *Dhuniyas*, 36,000 *Jolahas*, and 2,500 *Tantwas*, against 60,515 shown in the last Census Report."

42. "The number of cotton weavers, as ascertained at the census of 1891, is 2,086 males and 1,735 females, total 3,821. It is very doubtful, whether all these were actually engaged in the trade at the time the census was taken. Only about 660 families now do the work of weaving, and the number of persons who are actually engaged in the trade is about 1,465. It should, be remembered that as the trade is not a profitable one, the persons, in a family of weavers, who are strong and fit for hard labour, do not weave, but cultivate the soil and earn their livelihood by other manual labour. Women do not weave. They simply spin. The number of cotton-spinners, as ascertained at the last census, is 61 males and 396 females, total 457. As has been said already, the spinning of thread in the *charkha* has almost died out, and the weavers mostly use imported thread. The number of the cotton-spinners at the present time is therefore very small. The number of cotton carpet-makers, as ascertained at the last census, is 3 males, 6 females, total 9. There are now about 72 persons who weave cotton carpets. As the number of these weavers is also decreasing every year, the figures put down in the Census Report of 1891 cannot but be considered as incorrect."

43. "The total number of male *Jolahas*, including *Tantwas* and *Tantis*, as ascertained in the census of 1891, was 59,020. About 25 per cent., or in round figures 14,700 men, do still ply on their business as weavers. The rest have betaken themselves to agriculture and other pursuits owing to small profits now obtained from the manufacture of cotton."

44. "It is difficult to obtain figures showing the numbers engaged on the two cotton industries of this district (viz., the manufacture of *Motia* and *Kokti* cloths), but it is quite certain that in the case of the *Motia* cloth, the industry is flourishing in this district, though in that of the *Kokti* cloth, it is in a languid state for want of patronage."

45. "The number of weavers of cotton fabrics in this district according to the last census appears to have been 14,798, out of a total population of 2,036,021. Excluding the females, who take very little part in the weaving, the number of men actually employed in this industry was 6,998. There was no means of ascertaining their present number with any approximation to accuracy, but the general opinion is that their number is gradually decreasing."

Cotton Fabrics of Bengal.

46. "As far as can be gathered from the reports sent in, the numbers of weavers in the different subdivisions are as follows:—

Bhagalpur.				
Sadar	...	..	...	1,641
Supaul	...	...	...	300
Banka	...	...	...	1,139
Madhipura	...	...	...	1,200

The number estimated by the Subdivisional Officer of Supaul is far below the mark. The total number of weavers in the whole district of Bhagalpur was given in the census of 1891 as being 14,141. This would include, no doubt, weavers of other materials than cotton, such as the *tasar* (silk) cloth manufactured chiefly at Nathnagar. The police report on the subject is exhaustive, but no mention is made of the numbers employed in making cotton *durries*. There is no reason to believe that the numbers employed in making cotton fabrics in this district are suffering from a diminution to any appreciable extent, as compared with the census of 1891."

47. "Roughly speaking, the total number of persons included in these three classes (*i.e.*, *Jolahas*, *Tantis*, and *Pokias*) does not exceed 1,200."

48. "The weaving of cotton fabrics is not an important industry in the Malda district. A few local Muhammadan weavers or *Momins* of Kaliachak, Ratna, and Old Malda thanes employ themselves in weaving cotton stuffs, but the industry is fast declining in competition with English piece-goods."

49. "The classes which carry on the industry as a regular occupation are (1) *Jolahas* or *Momins* and (2) *Tantis* in a lesser degree, but *Sonthals*, *Demes*, and other poorer classes occasionally weave for private use. The *Jolahas* considerably outnumber the *Tantis*. Most *Tantis* have taken to agriculture and petty trade or shop-keeping as more profitable occupations."

50. "The census returns for 1892 give the number of weavers as 59,363, out of a total population of 1,937,671 or 3.5 per cent. only."

51. "The cotton-weaving is carried on by a class called *Tanti* (weavers). The number of this class in this district as per Census of 1891 is 56,767 out of 994,625—population for this district."

52. "The weaving classes consist of about 3,900 families, and represent a population of 19,500."

Cotton Fabrics of Bengal.

53. "About 500 *Pans* manufacture different kinds of cloths in the Khondmals. In Angul, the number of *Tantis* is not more than about 2 per cent., or about 2,000 of the entire population. The next class of weavers in Angul is the *Pan* class. Their number as weavers may be put down roughly as 5,000."

54. "About one-third of the classes in this district who carry on cultivation grow more or less of the cotton plant. Many women (whose numbers cannot be correctly estimated) earn their living by twisting cotton wicks into thread. The *Jolahas* are weavers by profession, and it is their caste occupation, but large numbers of them have now taken to other employment. Their numbers as returned in the Census of 1891 are 28,287."

55. "In almost every village, there are one or more families of weavers. The total number of weavers in the district, including Palamau, is put down at the last Census at 43,963, of whom 21,959 are males and 22,004 are females. The weaving in this district is, however, done exclusively by males."

56. "The total number of *Jolahas* in this district according to the last census is 1,246 males and 1,227 females, or it may roughly be stated that there are 1,250 families of *Jolahas* with weaving as their calling. The last census discloses only about 550 families of Hindu *Tantwas*, but it is presumed that not even half of this number follow the profession of the cotton industry; they are all, or nearly all, agriculturists."

57. "No independent enquiry could be made to ascertain the number of weavers in the district. According to the figures of the last census the *Tantis* number 12,911 and the *Jolahas* 3,621. The Subdivisional Officer of Govindpur has, however, reported that the number of weavers in his subdivision is about 1,850. He has not furnished the data for this calculation, and I would rely more on census returns in this respect than on any guesswork."

58. "At the time of the last census, there were 25,174 *Tantis* and 313 *Jogis*, of whom 3,269 carried on their caste profession, and the rest have taken to agriculture or service, and some were day-labourers."

IV.—COTTON MANUFACTURERS.—THEIR SOCIAL AND PROFESSIONAL STATUS.

(a).—*Castes engaged in the manufacture of cotton cloth.*

59. The cotton industry is not confined exclusively to any one class. Both Hindus and Muhammadans carry on the industry.

Cotton Fabrics of Bengal.

Although *Tantis* or *Tantwas* form the principal manufacturers of cotton cloths, *Jolahas*, *Jogis*, and many other castes are to be found engaged in the industry.

60. The following castes and hill tribes are mentioned in district reports as taking part in the manufacture of cotton fabrics:—

Acharjas.	Kacras.
Bagdis.	Kasais.
Bauris.	Kayasthas.
Bostoms.	Kunai castes.
Chamars.	Maghs.
Chandals.	Metas.
Chootars.	Momins.
Dafalis.	Pans.
Dhobas.	Patras.
Dhaniyas.	Pods.
Goallas.	Rajputs.
Golas.	Santals.
Jolahas.	Subarnabarniks.
Jogis.	Tamilis.
Kaibarthas.	Tantis.
Kalinbafs.	Telis.
Kamars.	Telingas.

Tipperas.

(b).—*Manufacturers of cotton fabrics.*

61. Of the above, the principal manufacturers of cotton cloths as already stated, are the *Tantis* or *Tantwas* and the *Jogis* among the Hindus, and the *Jolahas*, sometimes known as *Mamins* or *Momins* among the Muhammadans. The persons actually employed in weaving are regarded as being of a more or less inferior social position, but the status of the industry cannot absolutely be said to be low; otherwise some of the higher castes mentioned above would not have followed the occupation of weaving. Compared with other castes, however, the Hindu weavers command little social respect, and are even looked down upon by those of their brethren of the same caste who have taken to other callings such as that of money-lending, shop-keeping, &c.

(c).—*Social position of the chief weaving castes.*

62. The *Tantis*, *Jogis* and *Jolahas* forming the main portion of those engaged in the cotton industry, their social position and their distribution are described fully below. A few brief remarks are also added of some of the other castes who carry on the industry.

Cotton Fabrics of Bengal.

63. *Tanti* (Bengal) or *Tantwa* (Bihar) is the generic term for all weavers, but the *Tantis* in Bengal themselves form a separate caste, being one of the nine pure castes or Nabasakhas of Ballal Sen, whose social position is only next to the Kayasthas. A Brahman can drink water drawn by a person of the *Tanti* caste without being polluted, and it is no social degradation to act as a priest in a *Tanti* house. In Bihar, the *Tantwa* holds a more degraded position, and it is said that a high caste Brahman will not take water from his hands; but the *Tantwas* set up priests of their own, whom they call Brahmans, and who hold the same position among them as the Brahmans do among the *Tantis* of Bengal. The pure *Tantis* use starch prepared from parched or fried rice (*chira* and *khot*); others use the starch of boiled rice.

64. The internal divisions of the caste are shown in the following tabular form which is taken from the Hon'ble H. H. Risley's work on the Tribes and Castes of Bengal:—

Tanti, Tantrabaya, Tantubaya, Tatwa.

Titles:—In Bengal. Barásh, Basák, Bhádyá-bau, Bit, Ohand, Ohhagri (goat), Dalal (broker), Dás, Datta, De, Gui, Hansi, Jáchandar (appraiser), Kar, Lu, Mandal, Mesha, (sheep), Muhkim (supervisor), Nandi, Pal, Pramanik, Sadhu, Sardar, Sarkar, Sil.

In Bihar.—Das, Mahto, Manjhi, Marar, Marik.

<i>Sub-castes.</i>		<i>Sections.</i>
<i>In Bengal—</i>		
Aswini or. Asan Tanti.	{ Bardwáná. Barna-kul. Madhyakul. Mándaroná. Uttarkul.	Agastya Rishi. Aladashi. Alamyán. Attri rishi. Bararasi. Batsya. Bharadwaj. Biswamitrá. Brahmarishi. Garga-rishi. Gautam. Janarashi. Kasyapa. Kulya-rishi. Madhukulya.
Balarami.		Parasara.
Banga.		Sandilya.
Bará-bbágiya or Jhampaniya.		Sabarna.
Baroudra.		Vyasa.
Chhotá-ohagiya or Kayath—Tanti.		
Kature,		
Kora.		
Kshir.		
Madhukari.		
Magi.		
Mariali.		
Nir.		
Pattar.		
Purandari.		
Purbhakul.		
Rághi.		
Uddhabi.		

 Cotton Fabrics of Bengal.

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Chootars.	Momins.
Dafalis.	Pans.
Dhobas.	Patras.
Dhaniyas.	Pods.
Goallas.	Rajputs.
Golas.	Santals.
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Cotton Fabrics of Bengal.

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In Bihar.—Das, Mahto, Manjhi, Marar, Marik.

<i>Sub-castes.</i>		<i>Sections.</i>
<i>In Bengal—</i>		
Aswini or, Asan Tanti.	{ Bardwáná. Barna-kul. Madhyakul. Mándaroná. Uttarkul.	Agastya Rishi. Aladashi. Alamyan. Attri rishi. Bararasi. Batsya. Bharadwaj. Biswamitrá. Brahmarishi. Garga-rishi. Gautam. Janarashi. Kasyapa. Kulya-rishi. Madhukulya.
Balarami.		Parasara.
Banga.		Sandilya.
Bará-bhágiya or Jhampaniya.		Sabarna.
Baroudra.		Vyasa.
Ohhotá-chagiya or Kayath—Tanti.		
Kature.		
Kora.		
Kshir.		
Madhukari.		
Magi.		
Marisli.		
Nir.		
Pattar.		
Purandari.		
Purbhakul.		
Rárho.		
Uddhabi.		

Cotton Fabrics of Bengal.

Jolha bhutailah tisi khet—

“The weaver lost his way in the linseed-field, an allusion to the swimming exploit already recorded.”

His wife bears an equally bad character, as in the proverb—

Bahsali jolhini bāpak danrhi noche,—

“A wilful weaver’s wife will pull her own father’s beard.”

Although occupying so low a place in the social ladder, some *Jolahas* have given up weaving and worked themselves up to respectable positions in life. From Shahabad, it is reported that some of them are teachers, *Maulavis*, *Hakims*, and Government officers who have had a good English or Persian education. The name *Jolaha* is sometimes incorrectly applied also to a Hindu weaver. The writer met several of these so-called Hindu *Jolahas* in Bihar.

(d).—*Distribution of the three chief weaving castes.*

67. The following statements show the number and distribution in these Provinces of the above three important weaving castes in 1872, 1881, and 1891:—

(i) *Number and distribution of Tantis in 1872, 1881, and 1891.*

DISTRICT.	1872.	1881.	1891.
1	2	3	4
Burdwan	46,647	20,913	17,524
Bankura	16,510	29,304	30,298
Birbhum	16,761	16,962	16,079
Midnapore	106,317	97,720	95,649
Hooghly	} 89,079 {	29,647	24,579
Howrah		14,250	13,718
24 Parganas	19,576	8,129	31,126
Calcutta ... ..	.....	.....	16,289
Nadia	9,418	6,806	7,743
Khulna ... ..	.....	2,594	1,925
Jessore	10,760	10,349	8,377
Murshidabad	17,409	19,814	10,854
Dinajpur	12,800	9,093	6,994
Rajshahi	822	7,515	1,000
Rangpur	3,235	4,553	1,931
Sogra	1,801	1,660	1,955
Pabna	4,059	4,110	3,831
Darjeeling	644	428	618

Cotton Fabrics of Bengal.

DISTRICT.	1872.	1881.	1891.
1	2	3	4
Jalpaiguri	4,034	5,453	6,282
Cooch Behar ... ..	.....	1,437	.....
Dacca	8,906	10,587	13,008
Faridpur	3,410	3,304	2,973
Backergunge	1,875	1,327	862
Mymensingh	7,392	8,430	11,161
Tippera	1,792	1,540	669
Chittagong	2,799	4,894	2,106
Noakhali	1,273	1,326	578
Chittagong Hill Tracts	.....	.....	49
Patna	12,958	18,802	23,207
Gaya	6,894	5,744	6,237
Shahabad	8,156	10,384	15,508
Tirhut ... { Masnffarpur	82,498 {	56,656	61,904
... { Darbhanga		90,913	124,726
Saran	4,808	10,826	9,051
Champaran	11,496	21,186	33,425
Monghyr	86,202	87,269	49,969
Bhagalpur	63,037	59,884	13,823
Purneah	35,307	29,273	18,750
Maida	16,360	6,503	10,342
Sonthal Parganas	4,656	10,949	11,034
Cuttack	37,822	38,790	59,363
Puri	14,154	14,215	15,695
Balasore	38,460	40,046	56,767
Angul and Khondmals	.....	.....	1,410
Tributary States	13,708	19,947	.....
Hazaribagh	541	854	2,354
Lehardaga	5,837	11,340	4,241
Singbhum	20,758	21,260	50,348
Manbhum	13,961	12,243	25,805
Tributary States ... ..	.....	5,121	.....

(ii) Number and distribution of Jugis in 1872, 1881, and 1891.

Burdwan	7,451	5,364	4,261
Bankura	439	795	500
Birbhum	2,983	2,272	1,659
Midnapore	4,570	5,889	4,585
Hooahly	8,060 {	2,809	4,831
Howrah		4,294	4,430
24 Parganas	20,903	12,966	15,506
Calcutta ... ..	.....	.....	2,710
Nadia	15,368	12,374	9,826

Cotton Fabrics of Bengal.

DISTRICT		1872.	1881.	1891.
1		2	3	4
Khulna	...	.....	11,085	11,301
Jessore	...	18,931	13,211	11,760
Murshidabad	...	6,855	5,240	4,071
Dinajpur	...	7,741	5,844	15,188
Rajshahi	...	3,331	2,527	2,438
Rangpur	...	6,819	4,707	6,219
Bogra	...	4,589	3,650	5,038
Pabna	...	11,738	1,252	1,224
Darjeeling	...	100	209	658
Jalpaiguri	...	813	2,111	2,946
Cooch Behar	...	.....	4,431	.....
Dacca	...	16,410	17,080	18,372
Faridpur	...	1,698	5,312	5,405
Backergunge	...	28,198	21,516	22,404
Mymensingh	...	39,544	44,501	40,992
Tippers	...	66,812	55,848	69,441
Chittagong	...	32,314	27,351	32,723
Noakhali	...	33,038	37,879	45,001
Chittagong Hill Tracts	...	.....	11	167
Patna	...	5,016	1,449	1,635
Gaya	...	5,431	2,059	2,828
Shahabad	...	2,914	2,167	2,160
Tirhut	{ Muzaffarpur	7,542	616	1,568
	{ Darbhanga		1,115	421
Saran	...	2,143	1,047	1,038
Champaran	...	2,441	494	1,235
Monghyr	...	726	363	603
Bhagalpur	...	1,491	1,623	456
Purnea	...	5,507	2,098	14,674
Malda	...	.....	779	13,398
Sonthal Parganas	...	3,493	1,869	1,588
Cuttack	...	14,514	5,861	6,733
Puri	...	4,723	1,157	1,292
Balasore	...	5,422	1,403	1,578
Angul and Khondmals	...	.....	.....	193
Tributary States	...	5,433	1,506	.....
Hazaribagh	...	2,067	1,553	1,129
Lohardaga	...	3,718	999	876
Singhbhum	...	1,015	285	313
Manbhum	...	2,567	2,069	1,781
Tributary States	...	393	315	.....
<i>(iii) Number and distribution of Jolahas in 1872, 1881, and 1891.</i>				
Burdwan	...	48	47	578
Bankura	...	.....	192	.....

Cotton Fabrics of Bengal.

DISTRICT.	1872.	1881.	1891.
1	2	3	4
Birbhum	205	180	2,853
Midnapore	899	.....	3,983
Hooghly	53	19	13,383
Howrah		.....	1,413
24 Parganas	428	6	11,952
Calcutta	.....	.....	288
Nadia	2,327	393	.....
Khulna	.....	267	19,477
Jessore	9,492	925	37,839
Murshidabad	766	199	4,175
Dinajpur	74	1,159	192
Rajshahi	6,023	163	3,385
Rangpur	280	40	25
Bogra	532	2	22
Pabna	7,793	709	1,420
Darjeeling	.....	.....	188
Jalpaiguri	17	.....	310
Dacca	10,464	.....	9,736
Faridpur	6,036	319	2,039
Backergunga	3,743	4	.....
Mymensingh	1,138	7	3,142
Chittagong	.....	56	.....
Noakhali	.....	.....	160
Tippora	.....	.....	42
Gaya	144	49	11,535
Patna	.....	.....	38,293
Tirhut	51	.....	69,661
Shahabad		381	45,166
Champanan	.....	.....	47,073
Saran	.....	851	80,353
Monghyr	77	.....	107,744
Bhagalpur	22,085	2,184	85,410
Purnea	.....	21,716	86,719
Malda	800	6,275	39,958
Sonthal Parganas	698	189	7,457
Lazaribagh	38,144	2,356	3,222
Lohardaga	25,607	.....	28,237
Singbhum	.....	13	2,591
Manbhum	.....	10	11
Tributary States	4,690	112	2,621
	250	.....	.....

68. Besides the three large classes mentioned above, the following castes who take part in the cotton industry may also be separately noticed.

Cotton Fabrics of Bengal.

Dhunyās.—These are cotton-carders by profession. They are generally Muhammadans, and do not occupy a very low position in the social ladder.

Dafalis.—These are a class of Muhammadan weavers, who, besides weaving, also are known as makers of drums and toy manufacturers.

Kasais.—These belong to the butcher caste, but many of them took to weaving in Bihar when the industry flourished. There are still some *Kasais* in Bihar who carry on carpet-weaving. Many of them have amassed wealth from weaving in past days, and are now enjoying their rest.

69. The other castes mentioned in the list above do not really belong to the weaver castes, though they follow the occupation. It is therefore not necessary to add any remarks with regard to their social status.

(e).—*Industrial position of weavers.*

70. Since the introduction of European machine-made textiles into this country, it may be said that the indigenous industry has practically died out and the professional position of the weavers as a class has become very unsatisfactory. In the palmy days of the industry, all weavers were in more or less good circumstances. Most of them built *pukka* houses and lived in ease and comfort, some not condescending to work more than 5 or 6 months in the year and enjoying themselves on the sale proceeds of their goods during the rest of the year. Many of the weaver caste were especially appointed by Rajas and other respectable persons as their weavers, and they were then never in lack of money. Some, *e.g.*, in the Hill States of Orissa, supplied cloths to the Chiefs of these States and their families, and enjoyed *jagirs* for the same, and in some of the Gurjats they enjoy such *jagirs* even to the present day for weaving services rendered to a Chief. Surgeon-Lieutenant-Colonel Dutt, Civil Surgeon of Hooghly, reports that "large dilapidated *pukka* buildings, temples, and tanks in the Hooghly and Midnapore districts still remain to attest to the once prosperous condition of the weavers." Similar reports have been received from other districts. The great majority of weavers have, however, given up their hereditary occupation and have now taken to cultivation and other remunerative pursuits. Many of these have amassed wealth as money-lenders and shopkeepers and have become rich enough to be reckoned as big landholders and zamindars. Notably among them is Chevalier Durga Charan Roquitte of Chandernagore, who has made his money as a general merchant, and who is now one of the leading residents of his native town; others have educated themselves and hold respectable posts under Government. Those that still work at the loom are in more or less indigent

Cotton Fabrics of Bengal.

circumstances and are not able to depend upon weaving as the sole means of their subsistence. In some districts, there are a few well-to-do weavers, who have several looms and have hired men working under them, but such cases are rare. As a rule, a weaver possesses but one loom and earns no more than the ordinary daily wages of a labourer by his profession. From the many enquiries made personally, and from the information gathered from district reports, the writer concludes that 3 to 4 annas per day or Rs. 7 per month represents the savings of an ordinary weaver. Some may earn as much as 8 annas per day, but such cases are rare.

V.—THE CHIEF CENTRES OF THE INDUSTRY.

71. Notwithstanding the undoubted fact, that the indigenous cotton industry of these Provinces is in a moribund condition, cotton fabrics are still woven all over Bengal, Bihar, Chota Nagpur and Orissa. Cotton-weaving, in fact, is carried on more or less in every district. The primitive method of weaving is still maintained, and it is generally in those places where communication with Calcutta is difficult, as in parts of Orissa and Chota Nagpur and the hilly tracts of Chittagong and Tippera that country thread is used, and in these places cotton-spinning is carried on only as a domestic industry. Isolated cases occur, where the old conservatism still exists, and where country thread is much preferred to foreign thread. Notably is this the case among the Maghs of Chittagong. The yellow robes of their priests are all spun, dyed, and woven in their own monasteries. Wherever important centres exist of the weaving industry, it will be found that the yarn or twist is generally imported, and the fabrics are mostly manufactured from this imported machine-made twist.

A statement will be found appended to this report, showing the chief centres of the industry in each district, so far as information is available from district reports. (See Appendix II.)

The districts in which the industry is still comparatively important, albeit that imported twist is almost universally used, or where specialties in cotton fabrics are still produced, are Bankura, Hooghly (Farasdanga and Serampur), Nadia (Santipur), Khulna (Satkhira), Pabna, Dacca, Tippera, Patna, Saran, and Darbhanga. Although the muslin trade has been all but ruined, Dacca still has a reputation for its muslin fabrics. Mr. E. W. Collin, I.C.S., in his report on the Arts and Industries of Bengal, which was published in 1890, states that "there are 500 families in Dacca who make ordinary muslin of English thread, and there are yet two or three families who make the famous Dacca muslin, which is woven from country thread". Santipur, in the Nadia district, also still maintains its reputation for its

 Cotton Fabrics of Bengal.

cloths with coloured borders. From Nadia, it is reported that the outturn of cotton cloth at Santipur is about 3½ lakhs of rupees, of which only Rs. 25,000 worth are sold in the town; the rest being exported to other districts. Farasdanga in the French Settlement of Chandernagore has also its own cloth specialty. Uniformity of texture, fineness and durability have won a reputation for Farasdanga cloths. Pabna is another centre of the cotton industry in Bengal. In Mr. Collin's report, mentioned above, it is stated that "at Chotadhul and Dogachi in Pabna are numbers of Hindu weavers who make fine cotton fabrics. The trade has not suffered much from European competition. The cloths are sometimes coloured. The value of the cotton is estimated at 2½ lakhs." The fabrics above referred to are also made in the town of Pabna and in the villages of Salanga, Radhanagor, and Tantiband. The *Johkas* of Pabua and of the villages of Sadallapur, Nischindapur, Aminpur and Shibpur manufacture these articles too, and also produce fine patterns of cloths known especially as *Pabna par cotts*. The threads used in preparing the fabrics are exclusively of European or Bombay manufacture. Serampore is another great centre of the weaving industry in Bengal. No mention is made of it in the report received from Hooghly, but Mr. Collin states in his report referred to above that "in the Serampore subdivision, there are said to be 6,000 families engaged in cotton-weaving with an outturn estimated at over nine lakhs. They are located in Serampore, Harrypal, and Khanyan. Further, he remarks that "the Serampore weavers use an improved handloom, and it is probable that they owe the vitality of their trade to that fact. They, however, weave only a common kind of cloth." Besides weaving common cotton cloth, they weave silk, which finds a very good market in Bombay. In the Satkhira subdivision of Khulna, the cotton industry was once in a flourishing condition under the patronage of zamindars, but it has since declined. The Satkhira *chadars*, *dhutis*, *saris*, and *charkhanas* are, however, still well known in the market. Carpet-weaving is to be still found in Rangpur, and mixed cotton and silk cloths are prepared in Birbhum and Bankura in Bengal and Bhagalpur in Bihar. Moynamoti in Comilla may also be mentioned, where specialties in cotton fabrics are made of hill cotton and woven by the Tipperas. In the Hill Tracts of Chittagong, the hillmen take great trouble in weaving coloured cloths; and among the Maghs in Chittagong, the weaving of bright coloured cloths after the Burman taste forms quite a specialty of the district, and offers marked contrast to the ordinary coarse white cloths woven all over these Provinces. At the village of Bazidpur in Mymensingh are woven what are especially known as Bazidpur *golalatan saris*.

Cotton Fabrics of Bengal.

In the province of Bihar, Patna, Gaya, Saran, and Darbhanga would appear to be the most important centres of industry at the present day. They are specially noted for a kind of rough cotton, known as *motia*, which will be described hereafter, and which is generally worn by the poorer class of people during the cold season. Besides *motia*, a brown coarse cloth, known as *kokti*, is also prepared. *Satrangis* and floor cloths are largely manufactured in Bihar. Dusters, towels, and table-cloths are made at Dinapore, chiefly for the use of Europeans. Muslin is made at Patna. Gulnagar, a village in Cuttaek, enjoys the reputation of being the chief centre of the cotton industry in Orissa. The Gulnagar muslins are much prized by the wealthier natives of the district. Besides meeting the local demands, Gulnagar cloth finds its way into the shops in the town of Cuttaek where it fetches a much higher value than the ordinary country cloth. About Rs. 30,000 worth of this cloth is reported to have been manufactured during one year (1890), the prices varying from 8 annas to Rs. 20 per piece of 3 to 8 yards.

In Chota Nagpur, no fine specimens of fabrics are manufactured, but strong *dosuti* cloth is woven in different parts of the Division.

VI.—COTTON FABRICS: THEIR PRICES.

72. The cotton fabrics manufactured in these Provinces may be conveniently classed under the following heads:—

- | | |
|--|------------|
| (a) Cloth of thin texture, | |
| (b) Cloth of thick texture, | |
| (c) Towels, dusters, bed sheets, &c., | |
| (d) <i>Daris</i> and <i>satrangis</i> , | } Carpets, |
| (e) <i>Kalins</i> and <i>galichas</i> , | |
| (f) <i>Newar</i> .—(Tape), | |
| (g) <i>Dori</i> .—(Rope), | |
| (h) Mixed cotton and silk,— <i>bafta</i> , | |
| (i) <i>Chikan</i> .—(Embroidery), | |

(a).—*Cloth of thin texture.*

73. (1) *Muslin*.—The most important of Bengal cotton fabrics from an artistic point of view is the *muslin*. This name is applied to thin cotton cloth, and although it is said to be derived from the word *Moussul*, which is a town in Turkish Asia, where it is said to have been first manufactured, there appears to be a great deal of evidence to show that the *muslin* made in India is probably of equal antiquity. The best muslins, as is so well known, are those made in Dacca. Mr. Trailakhya Nath Mukerjee, in his "Art Manufactures of India," states that "the value of the Dacca *muslins* consists in their fineness, to attain which an incredible amount of

 Cotton Fabrics of Bengal.

patience, perseverance, and skill were formerly displayed both by the spinners and weavers. One way of testing their fineness was to pass a whole piece of muslin, twenty yards long by one yard wide, through the small aperture of an ordinary sized finger ring. Another test was the compass within which a piece could be squeezed. Tavernier relates of a Persian Ambassador in Bengal having on his return home presented to his monarch a piece of Dacca muslin turban, thirty yards long, placed within a highly ornamented cocoon shell, not larger than an ostrich egg. No one who ever wrote about Dacca muslin forgot to mention this incident as an incontrovertible proof of the delicate texture of the fabric, but an ostrich egg is not a small thing, and there does not appear to be anything so very astonishing in the fact of thirty yards of fine muslin going within the space inside its shell. The best test, however, was the weight of the cloth proportioned to its size and number of the threads. It is said that two hundred years ago a piece of muslin, fifteen yards long by one yard wide, could be manufactured so fine as to weigh only 900 grains. Its price was £40. Dr. Taylor, writing in 1840, stated that in his time, a piece of cloth of the same dimensions and texture could not be made finer than what would weigh 1,600 grains. The price of such a piece of muslin would be about £10. It is generally believed, that the artists of the present time have lost that manipulative skill and the delicate touch of hand by the aid of which such gossamer web was formerly produced. Three years ago, I was informed by one of the manufacturers of Dacca muslin that the generation of women who spun the yarn of which the finest fabrics were made has all passed away, except two very aged beings, who, with their defective eyesight, earned but a precarious livelihood at Manikganj, a town near Dacca. It has also been stated that the long-stapled cotton, which alone could produce the thread of which Dacca muslins were made, has also disappeared. It may be all true: but there is no doubt that if a demand arises the finest fabric ever made at Dacca can still be made there." There is no doubt, that it is very difficult now to procure the finest Dacca muslins, but there are still a few families at Nawabpur who can produce these exquisite fabrics, if specially ordered to do so.

74. *Malmal* is the generic name for all the finest webs, but in Dacca special names are also given according to the special qualities of the tissues. They are enumerated and described below.—

- (i) *Plain Muslin*.—One of the finest qualities of plain Dacca muslin is that known as *sangati*, meaning "for presentation." *Sharbati*, i.e., "sweet as sherbet," is

Cotton Fabrics of Bengal.

the name applied to another muslin of the finest quality. Other slightly inferior qualities are known as "*abrawan*" (i.e., "running water"), and "*shabnam*" (i.e. "evening dew"). *Abrawan* is said to be so fine that, if it were thrown into a stream, it would become invisible in the running water, and so also the *shabnam* was so fine that, if laid on wet grass at night, in the morning, it was not visible till the dew disappeared after sunrise. Dr. James Taylor in his "Sketch of the Topography and Statistics of Dacca," which was published in 1840, records that thirty-six different denominations of cloth were still made in his time; but this number probably included, besides the muslins, the many kinds of embroidered cloths which were then made in Dacca, and some of which are still prepared. In the extract given in paragraph 71 of this Report, the weights are given of the muslins as they used to be prepared two or three centuries ago, and towards even the middle of this century. Three pieces which were prepared for the Prince of Wales were 20 yards long and one yard broad, and weighed 1,680 grains.

Muslins are now made in Bihar also and at Jahanabad near Patna in imitation of Dacca muslin, and are used for handkerchiefs, scarfs, *pagris* and *murettas*. Gulnagar in Outtaek is also noted for its good muslins.

- (ii) *Embroidered muslin*.—A specialty of embroidered muslin in Dacca is known as *kasida*. It includes all kinds of embroidered cloths, such as scarfs, handkerchiefs and turbans. The following notice of this cloth appears in the Report received from Dacca :—
 "Although the demand for fine muslins has almost died away, there is still a tolerably brisk business in this kind of cloth. These cloths are embroidered with raw silk and are exported by Arab merchants to Persia, Egypt and Turkey, where they are chiefly used as turbans. In Dr. Taylor's time, about 20,000 pieces of this cloth were annually worked in Dacca. Even at the present day, the largest quantity of cotton fabrics annually exported from Dacca is of the *kasida* kind. At one time, this cloth was in great demand for use as turbans or *pagris* by the army of the Sultan of Turkey. Since the introduction of *Fes* caps, which have replaced these *pagris*, the export to Turkey has greatly declined. There are 50 or 60 sorts of *kasida* cloth. The prices range from Rs. 8 to Rs. 50 according to quality. The difference between

Cotton Fabrics of Bengal.

kasida and *chikan* is that in the former, the embroidery is in floss silk, while in the latter it is entirely in cotton”.

- (iii) *Figured muslin*.—This goes by the name of *jamdani* in Dacca. Babu Charu Chandra Mitra, Deputy Collector, reports thus on it: “The peculiarity of the ordinary *jamdani* is that it is hand-embroided in the loom. The weaving is begun as in the case of a piece of ordinary cloth, and a pattern of the embroidery, drawn on paper, is pinned beneath. As the weaving goes on, the workman continually raises the paper pattern to ascertain if his woof has approached closely to where any flower or other figure has to be embroidered, and when the exact place is reached, he takes his needle (a bamboo splinter), and as each woof thread passes through the pattern, he sews down the intersected portion of it, and so continues until it is completed. When the embroidered pattern is continuous and regular, as in the usual *sari* border, the weaver, if a skillful workman, usually dispenses with the aid of a paper pattern. Two persons generally work together at a piece of *jamdani*, by which a great saving of time is effected. *Dhutis*, *saris*, *urans* come under this head and are in very general use. There are also various kinds of *jamdani thans* (pieces), not less than 100 sorts. One of the best, *sheborga jamdani* (*she*, three; *borga*, heads), has for its pattern simple spots (not always round, but often irregularly shaped), upon the number of which across the warp threads (*i.e.*, across the width of the cloth) its value depends; the best has about 200, and in exceptional cases even 250. The price ranges from Rs. 50 to Rs. 125.”

An imitation of this *jamdani* muslin is produced in Bihar. It is reported to have been first manufactured about 30 years ago.

The thread used for the finest Dacca muslins are made at Dhamrai, a place about 20 miles north of the city of Dacca. It used to be spun by women, by the fingers only, direct from the finest cotton. Since the introduction of machine-made thread, this industry has all but died out. It is reported, though not with certainty, that there are only two persons at Dhamrai still living who can spin fine thread, which was formerly used in the manufacture of muslins.

- (iv) *Other muslins*.—Special names are given to other muslins made in Dacca, according to their patterns

Cotton Fabrics of Bengal.

The names and prices of the most important of these varieties are given below:—

	Rs.
Tarandan	50 to 60
Badan khas	60 to 100
Khasa	50 to 60
Duria (striped)	5 to 20
Cherkhona (checked)	15 to 25
Farhdar (with plain borders)	2 to 16
Do. (with golden borders)	4 to 90
Jhapan (flowered with silk)	15 to 60
Ajiji (silk stripes)	4 to 16
Jaldar (figured like network)	15 to 90
Torada (Tora, a bunch of flowers)	40 to 60
Pamna hazara (a thousand emeralds)	37 to 50
Chiskan muslin	10 to 50

75. (2) *Other cloths of thin texture.*—The other cloths of thin texture that deserve special notice are—

- (i) *The Farasdanga kapara of Chandernagore.*—These chiefly consist of *dhutis*, *saris*, and *urani*. Most of them are made of English thread. The finest cost about Rs. 16 per pair. The usual length of the *sari* and *dhuti* is about 10 cubits and the breadth $2\frac{1}{2}$ cubits, and the length and breadth of the *urani* are respectively 7 cubits and 3 cubits. Most of the Farasdanga cloths are made by the hand-loom, but machine-made looms after the Serampore loom pattern are also used. The cloths manufactured from the latter are not so fine as those made with the hand. On examining a piece of cloth, the writer found that there were no less than 1,500 threads in the warp, all of the finest texture.
- (ii) *Santipur cloths.*—These are made in Nadia. They are specially admired for their thin texture and for their embroidered and flowered work.
- (iii) Fine cloths are also made in Chandrakona and Kalna in Midnapore, in Baranagore and Simla in Calcutta, in Pabna and other places, but beyond their thin texture there is nothing special to report about them. Fine *saris*, *dhutis*, &c., are also largely made in Dacca. The prices of these vary a great deal, costing from Rs. 10 to Rs. 50 per pair in the Calcutta market.
- (iv) *Mausari kapar.*—This is a thin but roughly made fabric manufactured in different parts of Bengal, and used for mosquito curtains taking the place of the familiar English net. It is rather extensively used both by the middle and lower classes. It is generally made in

Cotton Fabrics of Bengal.

check. The length of the curtain varies from 18 cubits to 36 cubits, and the breadth from $1\frac{1}{2}$ cubits to 2 cubits. The price ranges from about Re. 1-8 to about Rs. 3.

(b).—*Cloth of thick texture.*

76. (1) *Motia or Gasi*.—This is a kind of coarse cloth manufactured in Bihar, which is chiefly used by the poorer classes during the cold weather. It is exported in large quantities to the North-Western Provinces and to Nepal. It is warm and durable, and is used for making *dhutis*, jackets, wrappers, quilts, &c., for men, and *saris* or *lungis* and bodices for women. It is also used as a covering in weddings and as a ceiling cloth made into *shamianas*. *Motias* are generally made in *thans* or pieces varying from 10 yards to 40 yards in length, and about $2\frac{1}{2}$ feet in breadth. The cotton for this kind of cloth is as a rule spun locally, chiefly by women. About $2\frac{1}{2}$ seers of cotton is said to be sufficient for weaving a piece of cloth 20 yards long. The average price for ordinary *motia* is about 2 to 3 annas per yard. Formerly, the cloth used to sell at 4 annas a yard. The profit now amounts to about 2 pice per yard. When the cloth is fine, it is a little dearer. The districts most famous for the manufacture of good *motia* cloth are Patna, Gaya, Darbhanga, Saran, and Shahabad. There seems to be still a great demand for these cloths all over Bihar. Accordingly, pattern and colours are introduced in the *motia* cloth, a stage of manufacture intermediate between that of the true *motia* and the *dari*. *Motia* sells more largely in winter than at other times of the year. Poor men who cannot afford to purchase woollen fabrics for winter use have recourse to this cloth.
- (2) *Khokti*.—This cloth is made from *Khoktibanga* cotton (*Gossypium herbaceum*), which is naturally yellow coloured. The petals of the flowers of this cotton are yellow, and the cotton itself is yellowish. It is reported to be cultivated in Champaran, Muzaffarpur, and Darbhanga, but the last named district appears to be the chief centre of the manufacture of the cloth. The following account of it is given in the report received from Darbhanga:—"It is woven in the subdivision of Madhubani, which derives its name from the species of cotton of which it is made, and which is naturally of brown colour. The value of this cloth varies from

Cotton Fabrics of Bengal.

Rs. 5 to Rs. 100 for a piece of 40 English yards. Its best quality equals, if not surpasses, the best brown Holland, and can well be adopted as a summer dress. The cloth is of uncommon durability, of beautiful colour, of fine texture, smooth and glossy." It is also stated in the same report that the industry in *khokti* cloth is now languishing for want of patronage.

- (5) *Fota cloth*.—This is only made in certain districts in Bengal, notably in Jalpaiguri, Rangpur, and Purnea. It is a thick, strong, and durable cloth, which is solely used as a garment for women. When manufactured in a *than* or piece, it measures about 25 to 30 cubits, but small pieces varying from 2 to 3 cubits broad and 3 to 5 cubits long are used for wrapping round the bodies of females up to a little above their breast. The peculiar mode of wearing makes such a small length possible as a female garment. The process of manufacture of *fota* will be found described in Chapter VIII of this report.

77. (4) *Other cloths of thick texture*.—Besides the special kinds of thick cloths described above, cloth of thick texture is made as a village industry in almost all districts, and is generally known as *mota kapar*. The *kareya* coarse cloth, which is used as a waist cloth in Chota Nagpur, deserves a passing notice. It is very strong and durable. Coarse cloth of hill cotton is woven by the Tipperas in bright stripes. They are called *pachras*. The price varies from Rs. 3 to Rs. 5 per piece. Shades of coloured coarse cloth are woven in Comilla. These cost from 5 to 8 annas per yard.

(c).—*Towels, dusters, bed-sheets, &c.*

78. Some of the coarse cloths described above are converted into towels, dusters and bed-sheets. They form a specialty of Bihar. Dinapore is famous for its towels, table-cloths, and bed-sheets, but these are chiefly manufactured for the use of the Europeans. Very good white bed-sheets of a towel pattern are woven by the Tipperas in Hill Tippera. *Sosin* is a kind of bed-sheet manufactured in Bihar. It measures ordinarily about 7 feet in length and 5 feet in breadth, and the price for such a piece is Rs. 2.

(d).—*Daris and satranjis*.

79. *Daris* and *satranjis* are cotton floor cloths, and are chiefly manufactured in Bihar, being made of thick thread woven close together. They are very durable, and can be washed. *Dari* is

 Cotton Fabrics of Bengal.

the name generally given to smaller carpets and *satranji* to those of larger dimensions. *Daris* and *satranjis* are striped generally with blue and white, but combinations of other colours are also common. When made of a small size, they serve the purpose of bed covers. Small pieces are also used as *achnis* or seats by individuals at meal-time and at the time of prayer. Good *satranjis* could once be obtained in Rangpur, but the industry here has of recent years received a serious check. Large numbers of cotton *daris* and *satranjis* are woven in Suitanganj *mahalla* of the Patna city, and Siwan in the Saran district is well noted for its dyed *daris* and *satranjis*. They are also made at Aurangabad in Gaya, at Arrah, Bhabhua, Sasaram in Shahabad, and in Muzaffarpur. Their prices vary according to their size, weight, and texture. Ordinary carpets are to be purchased by the piece from 8 annas to Rs. 30, according to the size, which varies a great deal. Carpets of good quality are sold generally according to the weight, varying from 12 annas to Rs. 2 per seer. The manufacture of cotton carpets has suffered from the importation of similar fabrics from the North-Western Provinces, and more especially from the competition of jail-made carpets. The sale is mostly confined to the middle and well-to-do classes. The process of manufacture will be found described in Chapter VIII of this report.

(e).—*Kalins and galichas.*

80. *Kalins* or *qualins* are made more like woollen carpets than the woven cotton carpets and deserve a separate notice. They are manufactured in Bihar by a special caste known as *Qualinbafs*. At Sasaram, very good *kalins* are manufactured, but the industry is languishing for want of customers. *Kalins* are generally used by the well-to-do Hindus and Muhammadans.

Galichas are piled cotton carpets.

(f).—*Newar.*

81. *Newar* tape is made in Bihar and is used for cots. There are some 30 or 40 families in Patna itself, who carry on this work. Madhubani in Darbhanga is a seat of the industry. *Newar* tape-makers are also to be found in different parts of the Shahabad district. *Newar* tape is made both of English and country thread, generally of the latter. From what I learnt by personal enquiry, the profits from this industry are even less than that obtained from weaving cloth. A *newar* tape-maker cannot earn more than about 2 to 3 annas a day. The writer found from actual trial that one man was able during the course of a day to turn out a tape about 20 cubits in length. This was sold for 5 annas 6 pies. The thread required for the purpose cost 3 annas, and the profit

Cotton Fabrics of Bengal.

left to the man thus amounted to 10 pice. The price of ordinary *nawar* is about Re. 1-8 per seer.

(g).—*Dori*.

82. *Doris* or *sutis* are manufactured in different parts of Bihar. They are cotton ropes made by twisting the thread. They are used for tents, *shamianas*, &c.

(h).—*Mixed cotton and silk cloth*.

83. A mixture of cotton and silk cloth is known as *bafta*. It is manufactured still in Bankura, Dacca, and Bhagalpur. *Vide* Chapter VIII of this Report.

(i).—*Chikan*.

84. *Chikan* work is embroidery work, and not weaving. It is carried on to a large extent in Calcutta and Barasat and in some of the bigger towns in the mufassal by the Muhammadans. The work is much appreciated by Europeans, and is thus largely exported to Europe, America, and Australia. The Calcutta dealers have opened out agencies in these countries for the sale of their work. A few Hindu women are also very proficient in the art. The pattern is first sketched out on paper and imitated on cloth; sometimes the pattern is stamped upon the cloth.

85. Besides the above, it may be mentioned that in Chittagong the Maghs wear cottons of all kinds of bright patterns after the style of the Burmese. The yellow robes of the priests are all spun, dyed, and worn in their monasteries.

86. *Cotton cloths* may be also considered under the following heads:—

- (1) *Duria* and *charkhana*,
- (2) *Sadha* and *parwalla*,
- (3) *Eksuti*, *dosuti*, *tinsuti*, &c.

- (1) (a) *Duria*.—This, as the name implies, is striped cloth. The yarn used for this warp is made by twisting two ordinary threads together.
- (b) *Charkhana*.—This is a checked cloth which is made in several districts in Bengal. It gets its name from the fact that there are in each of the threads which go to form the stripes four ordinary threads.
- (2) (a) *Sadha*.—These are plain cloths without a border.
- (b) *Parwalla*.—These always have coloured borders.
- (3) Cloths are called *eksuti*, *dosuti*, *tinsuti*, according to the number of threads used to form each strand of the warp and in the shuttle for the woof.

Cotton Fabrics of Bengal.

VII.—COTTON GARMENTS.

87. The great bulk of the clothing worn by the Hindus of these Provinces consists of loom-made articles untouched by needle and scissors. Owing, however, to Muhammadan and European influence, the fashion has also been introduced of wearing garments which require the services and skill of a tailor. Among the orthodox Hindus, there is, however, still a love for simple loom-made cloths, and to many, made-up cloths are still an abomination. While the poorer and the more orthodox Hindus still cling to their old-fashioned loose garments—the one from economy and the other from a love for the old style—the upper classes are day by day assimilating the costumes of the Muhammadan and European races.

(a).—Loom-made garments.

88. The garments now used by the people of these Provinces which are loom-made are—

- (1) *The dhuti*.—This is the loin cloth worn by men. It is also known as *dhoti*, *lungi*, *mardari*, or *dobja*. The texture of the garment varies from the coarsest, when it is made of indigenous thread, to the finest, such as the *jamdani dhuti* of Dacca. The former is used only by the poorest classes. *Dhutis* are made plain or with borders or with stripes and checks, and are accordingly given different names. The plain *dhutis* are known as *sadha dhutis*; those with coloured borders are known as *parwalla dhutis*; those with stripes are called *duria dhutis*; checked *dhutis* are not commonly used in Bengal. In Bihar, the *dhuti* is also commonly called the *lungi*. A small waist cloth worn between the legs and tied round the waist is called the *kareya* and *chokey botoi* in Chota Nagpur. It is also known as the *langoti*, *kopin*, and *bhagwa* in different parts of Bihar. It is only worn by the lower orders. The cost of this cloth is nominal. The length of the ordinary *dhuti* varies from about 4 cubits to 10 cubits, and the breadth from 1 cubit to 2½ cubits. The *dhuti* is wrapped round the lower part of the body and the front portion of the garment is then gracefully caught up between the legs and attached to the waist at the back, so that there is a loose end hanging in front (called the *kocho*) with the tag of the cloth tucked in behind (called the *kancha* or *pichna*.)

 Cotton Fabrics of Bengal.

(2) *Sari*.—As the *dhuti* is the most common garment among the men, the *sari* is the common garment of the women of these Provinces. In parts of Bihar, it is known as the *khilna*, *luga*, *barhatti*, and *khauri*. In Singbhum, the cloths corresponding to the *sari* are known as the *langu lija* and *sai lija*. A small strip of cloth worn round the waist by aboriginal women, and corresponding to the *languti* worn by males, is known in the same district as the *denga botoi*. Like *dhutis*, *saris* are coarse or fine, plain, bordered, striped, or checked, and are differently coloured. They are given different names, according to the fashion in which they are made, *e.g.*, there are plain white *saris* or more correctly white *thans* or pieces of cloth without a white border, which are worn only by widows. There are *saris* with coloured borders only at the edges. These are known as *parwalla saris*, and have different names according to the colour and pattern of the border. There are *saris* with borders at the edges as described above, and with coloured stripes passing across the centre of the cloth lengthwise, known in Bengal as *pachapare saris*. These are generally worn by the younger females. There are *saris* with stripe and checked patterns known as *duria* or *charkhana saris*. These are also worn by young people. *Saris* also go by different names, according to the colour of the grounding, *e.g.* the *nilambari sari* which has a blue grounding. The ordinary length of a *sari* is 10 cubits or 15 feet; the breadth of such a *sari* would be 42 to 44 inches, and the price of such an ordinary plain *sari* worn by the poorer classes would be about 12 to 14 annas. The price of the *sari* varies even more than that of the *dhuti*. For an ordinary Dacca *sari* as much as Rs. 15 to Rs. 20 has to be paid in the Calcutta market.

The *sari* has been described by many as a very graceful garment. It is wrapped round the legs and lower portion of the body, and then gracefully draped over the upper portion of the body and head, so that it forms a complete covering for the body. The loose hem of this garment is called *anchal* in Bengal, and in Bihar the *anchra* or *anchar*. In some parts of these Provinces, the *sari* instead of being one is in two pieces, the one worn to cover the upper part of the body and the other to cover the lower part.

Cotton Fabrics of Bengal.

- (3) *Chaddar*.—This is a sheet worn round the body as a wrapper. It is also known as the *chadar*, or *urani*, or *dohar* in different parts of Lower Bengal and Bihar. In Lohardaga, the *pichowri* is used as a *chadar*. The *dohar* is a double sheet hemmed all round, worn commonly by the people of Bihar. When of one breadth of cloth, it is known as *ekpatta*; and when of two breadths, it is known as *dopatta*. The *derpatta* is the medium between the two. It is of two breadths, but the breadths are not equal, as in the *dopatta*, one breadth being double the other in the *derpatta*. *Chaddars* also are of varying texture. There is the coarse but warm and durable cloth made from indigenous thread; there are varying degrees of medium texture; and there is also the thinnest gossamer work of Dacca. Prices vary much too. An ordinary coarse *chaddar* made of *motia* cloth costs about Re. 1 to Rs. 2 in Bihar; in the Bengal markets an ordinary rough *chadar* would cost 12 annas to a rupee. The muslin *chadars* of Dacca as already noticed command fancy prices.
- (4) *Gamcha*.—This is the bathing cloth or napkin, which is worn by men round the loins in a single fold at the time of bathing, and is used afterwards as a towel for wiping the body. The Muhammadans of Bihar call it a *lungi*. It is generally a coarse and rough fabric worn with or without a border. When made in stripes or coloured checks, it is considered as a fashionable article by the lower classes, and is then known as *duria gamcha* or *charkana*. The ordinary measurements of the *gamcha* are 5 to 6 feet in length and 2 to 2½ feet in breadth, and the cost of a piece of cloth of these measurements is about 3 to 4 annas. *Duria* and *charkhana gamchas* would cost a little more than the ordinary plain *gamchas*.
- (5) *Pagri*.—This is a piece of cloth worn over the head. It is also called a *muretta*. Any of the above garments worn by men may be used as a *pagri* or *turban*.

(b).—Tailor-made garments.

89. The principal garments made up by cutting and sewing are—

- (1) *The quilt*.—This is a stuffed wrapper made up of two sheets of cloth, and stuffed with cotton wool. It is

Cotton Fabrics of Bengal.

commonly called the *rezai* or *dolai*. In Murshidabad, it is called *balaposhha*.

- (2) *The jacket.*—This is really a loose coat. In the vernacular, it is styled a *mirjai*.
- (3) *The coat.*—The full dress coat is the *jama* and the undress coat the *angarkha*.
- (4) *The drawers.*—These are called *pyjamas*. When made to fit tight, they are known as *churidars*.
- (5) *The cap.*—This is the familiar *topi* of these Provinces.
- (6) *The petticoat.*—This garment is known generally as the *saya* or *banhga*.
- (7) *The bodice.*—This is generally known as the *kurta* when it reaches the waist. When it is short and worn only up to the breast it is known as *kanchuli* in Bengal and as *choli* in Bihar.

[N.B.—*Fota*.—*Fota* cloth has already been described in a previous paragraph. *Fota*, however, is really the name given to the garment which is used as a *sari* by some women in the districts of Jalpaiguri, Rangpur and Purneah. It is caught up under the breast, and not worn over the head like the *sari*. The cost of a *fota* is about 8 to 10 annas.]

VIII.—APPLIANCES USED IN THE MANUFACTURE OF COTTON GOODS; PROCESSES FOLLOWED; COST OF APPLIANCES.

(a).—*Appliances used and processes followed in the manufacture of cotton goods.*

90. The appliances used in the manufacture of cotton fabrics and the processes followed in making cloths are those handed down from time immemorial, and do not appear to have been improved upon.

91. *Preparation of raw cotton for spinning.*—The first step in the process of manufacture of cloth is the preparation of raw cotton for spinning. The pods of cotton do not ripen all at the same time, and they therefore cannot be picked all together. Women who are generally employed to do this work go over the cotton fields several times, picking the pods with one hand and collecting them in the basket held in the other hand. The pods after being plucked are exposed to the sun and the husks removed.

92. *Ginning.*—After this, women are employed to clean the cotton. They pick out the dirty and immature cotton which is principally composed of bad and worm-eaten seed. The cotton is then cleaned by separating the seed from the fibre. This is done as much as possible first with the hands, and then with a small hand machine called the *kapa khai* in Bengal and Orissa and the

Cotton Fabrics of Bengal.

charki in Bihar. It takes the place of a gin. The object of hand-cleaning is to loosen the fibre from the seed, so that it may be all the more readily ginned. The *khai* itself is a wooden implement consisting of two rollers, each about an inch thick, to which is imparted a revolving motion by means of a crank at one end. Underneath the rollers is a cross-bar. The machine is turned by a handle attached to the crank. The rollers, which are supported in uprights, are wedged tightly together, so that when the handle is turned, they work towards each other, the lower roller turning in a direction opposite to that of the upper one. When the machine is fed between these two revolving cylinders, the cotton is drawn forcibly through, while the seed, which is too hard and large to pass between the rollers, remains behind, and falls to the ground. A diagram of this machine will be found in the Appendix (*see* Appendix III).

Dr. Watt states in his Dictionary of Economic Products that on an average, the *charki* produces from 6 to 8 lbs. of clean cotton per day for each man or woman engaged in the work. The proportion of clean to uncleaned cotton is 30 : 100.

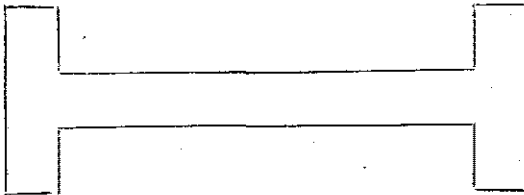
In Cuttack, the writer found that 10 seers of cotton could be ginned per day. Taking the proportion given above, this would represent 3 seers or 6 lbs. of clean cotton produced by the *charki* in one day.

93 *Carding or scutching*.—Preparatory to being carded, the cleaned cotton is sometimes put out in the sun to dry. The next process is that of carding or scutching. The *scutch* known in different parts of these Provinces as the *dhunetti*, *dhani* or *toola bhina*, is a wooden instrument about a yard in length, consisting of a bow of hard wood, to one end of which is attached a broad, wooden board of the shape of a quadrant, also made of wood. A bow string passes over a bridge of wood attached to the other end of the bow and is tied to the end of the board. A loop of string under which the left hand is passed to hold the instrument steady, and a wooden mallet of the shape of a dumbbell, complete the machine. Holding the bow with the left hand under the loop, so that the string may just touch the cotton, the carder with his mallet twangs the string, so that it vibrates and strikes the cotton at each twang. The fibre is thus separated, and its texture being loosened, it flies off in a soft flossy condition, while at the same time all the dust and dirt fall out. This dust and dirt forms about one-twentieth part of the weight of the carded cotton. Scutching is carried on exclusively by men of different castes. Some of the cotton when thus scutched is used in padding coats and quilts and mattresses, but the greater portion is spun into thread. An illustration of a *dhunia* carding cotton is given in the Appendix (*vide* Appendix IV).

 Cotton Fabrics of Bengal.

94. *Spinning*.—The spinning apparatus in these Provinces is similar to the wheel used in other parts of India. In a lecture delivered in 1852, Professor Royle gave it as his opinion, that the Indian spinning wheel, though rude in appearance, is well adapted to the purpose. This remark may also be applied to the wheels used in these Provinces which do the work satisfactorily, and cost the spinner a nominal sum of 5 to 8 annas. The chief parts of the machine (known as the *charka* in Bengal and Bihar, the *arata* in Orissa) are the wheel and the spindle. These parts are so arranged, that a swift revolving action is given to the axle of the spindle by means of a driving band which passes round the driving wheel. Cotton in the form of a wick or spool is presented to the point of the spindle, and then spun into a thread which is allowed to roll round the spindle. When the projecting point of the spindle is full, the spun thread is removed and rolled round another instrument known commonly as the *latai*, which is nothing but a small conical shaped frame of bamboo. When this pyramidal reel is full, the thread is taken off, wound together in skeins, and is now ready to be used by the weaver. The different parts of the spinning wheel are described in detail by Dr. Grierson in his "Bihar Peasant Life". The writer of this report has examined the machine minutely, and he cannot do better than subjoin Dr. Grierson's full account of the machine. Dr. Grierson states that the parts of the machine are as follows:—

"(1) *The foundation*.—This is in the shape of a double T. thus:—

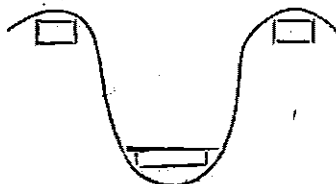


On one of the cross-pieces the driving wheel stands, and on the other the spinning apparatus.

"(2) *The driving wheel*.—The wheel itself is composed of two parts—(a) the central boss or nave, and (b) the four spokes on each side of the nave. There are four spokes lying across each end of the nave from one circumference to the other; there are therefore eight radii on each side and they are so arranged that the radii on each side are not opposite each other but alternate. The spokes are held in these places by a string which

Cotton Fabrics of Bengal.

goes round the extremities of each radius of each side alternately thus :—



- It forms therefore a kind of edge or rim of a board wheel something like a paddle wheel, and over it passes the driving band which turns the spinning apparatus. The central axle of the driving wheel is caused to revolve by a crank end. To this is attached a handle.
- “(3) *The driving band.*—The driving band goes twice round the driving wheel and the spinning-axle. It is rubbed with rosin and oil and is then blackened with charcoal.
- “(4) *The spinning apparatus.*—There are three perpendicular uprights. The two outside ones support the bearings of the spinning-axle, and the centre one has in its length, facing the driving wheel and going right through its thickness, a long slot cut. One of the strings of the driving band passes through this slot, and the other passes outside it, so that the double turn round the spinning-axle can never get jammed up together, and so entangled. On the two outside uprights, on the side furthest from the driving wheel, project two stiff pieces of leather. These form the bearings of the spinning-axle which asses through them.
- “(5) *The spinning-axle.*—This is an iron skewer about 8 inches long and an eighth of an inch thick at the thickest part. It projects a distance of three inches beyond its bearing on the same side as the handle of the driving wheel. This bearing has on each side two little pieces of wood fitting on to the spinning-axle which act as washers. Outside the outer washer on the spinning axle is a flat disc, and two-and-a-half inches of the axle projects beyond it.”

An illustration of the above machine is given in the Appendix (*vide* Appendix V).

In some parts of Bengal, there is even a simpler instrument used in spinning than the ordinary spinning

 Cotton Fabrics of Bengal.

wheel. It is locally known as *teko* or *taksor*. This does not turn out much work and is used generally for spinning out thread used for making the sacred threads of the Brahmans. It is also used by fishermen in manufacturing thread for their nets. Babu Prasanna Coomar Das Gupta, Deputy Collector of Manbhum, remarks with regard to this instrument that "twenty years ago every Brahman lady knew how to handle it, and would not depend upon others for the small requirements of the family; but now only a few old women have kept up the dying industry." These remarks are more or less true of all districts in Bengal. The *teko* consists of a semi-circular bottom, which is an earthen mould with the convex half of a cup or shell on it, on which an iron rod revolves only by the action of the worker's right hand. The left hand is left free to attach cotton to the top of the iron rod. As the iron rod revolves, thread is produced, which is stretched to arm's length with the left hand. This thread is wound round the centre of the rod. A circular knot of burnt earth or wood, through which the iron rod passes, supports the thread as it is spun.

95. *Weaving*.—Whether the thread is spun from the weaver's own cotton, or whether machine-made yarn is purchased from the market, the next step in the process of manufacture is to weave thread into cloth. This stage of the industry may be said to be truly indigenous. Weaving by hand-looms is still largely practised all over these Provinces. The looms in use in different parts of these Provinces are very much alike. The variations occur chiefly in the material of which they are made. Some are of wood and others of bamboo. Slightly improved looms are used in Serampore. Reference to them will be made hereafter. Looms are generally inherited. The different parts of it are sold by different people according to their hereditary calling.

96. The following account of the adjustment of the loom is taken from the report received from Rajshahi:—

"The first step is the setting up of the looms in the machine shed, when the weaver can afford a separate shed, or in the verandah of his residence. A hole is dug in the floor and two wooden cylindrical beams are placed one on either side of it. The weaver sits with his feet in the hole and the near beam above his thigh and the off beam about as distant from his feet as his own body is from the near beam. He then bends forward, stooping over the near beam and reaching the off one with his hands, shifting his own position as required. When he finds he can do

 Cotton Fabrics of Bengal.

so without overstretching himself, he fixes the two beams in position by having bamboo posts planted in the floor. The two near posts are kept higher from the level of the floor than the two off ones. They rise between four to six inches above the floor level, according to the diameter of the beam. The near beam rests on these near posts, an U-shaped excavation being made at the ends of the posts for receiving the cylindrical end of the beams. The beams do not quite end in this excavation: a portion protrudes beyond either posts.

"The off beams rest on the floor and against the off bamboo posts. There is thus a gentle slope from the near to the off beam.

"The next thing to do is to adjust the overhead gear. Four bamboo posts with U-shaped excavations at their upper ends are planted close, but not too close, to the former posts.

"These posts are much higher than the former posts, being about $2\frac{1}{2}$ to 3 feet above the floor-level. Two bamboo rollers with smooth cylindrical surfaces are placed over these four posts, one on either side of the weaver. A horizontal bamboo bar is then placed across these lateral rollers. It is generally half of a piece of slit bamboo, as this slides along the roller bamboo much more easily than an entire piece. It is to this bar that the most important portion of the loom is attached. The fine pressing comb through which the threads of the warp are inserted is hung from this bar by means of two ropes, one at each end of the bar. Three or four other ropes with triangular wooden or bamboo pulleys from the central portion of the bar at their ends also hang down.

"Two strings pass through the two holes, one at each corner angle of the pulley, while the pulley itself is hung by a rope passing through the central or apex hole. Two warp-adjusting combs hang down, one from each angle of the pulley, while one warp-adjusting comb hangs by all the ropes passing from, say, the left corner angles of all the pulleys. The other comb hangs by all the ropes passing through the right corner angles of the pulleys. To each of these combs is attached a string. The two strings of the two combs pass into the hole of the floor where the weaver's feet are. The inverted half of a cocoanut shell is pierced in the centre, and each string is passed through it, and is formed into a knot on the inside. The weaver puts his right foot on one of these half-cocoanut shells and his left on the other, the string passing between the toes of each foot.

"A thin piece of bamboo is inserted through the apex holes of the pulleys. It is round this, as a fulcrum, that the pulleys work up and down, according as the left or right foot is worked. In laying the warp, two threads are passed through the space between each two ribs of the pressing comb. Of these two threads, one passes through the space between the ribs of the one warp

Cotton Fabrics of Bengal.

comb, while the other passes through similar parts of the other warp comb.

“Thus one series of threads passes through one warp comb and another series through the other warp comb. These two layers of thread are further kept apart by the insertion of two or more bamboos or wooden sticks beyond the warp combs and between the second warp comb and the off beam.

“The warp is laid tightly round the near cylindrical beam. To enable the tightening up of the warp effectually, the woodwork of the beam has slits in it, and sticks of bamboo and wood are inserted in them as required. These sticks increase the circumference of the beams, and thus cause the tightening. To prevent the beams rolling over when tightened, a wooden beam is inserted through a hole of the beams of the right side of the weaver from the near beam and on the left from the off beam. There are four holes to each beam.

“The pressing comb consists simply of hundreds of vertical bamboo sticks, thin and fine, about two or three inches long, placed side by side between two pairs of long but fine and thin sticks, one pair at the top and the other at the bottom. The longitudinal framework is bound to the vertical sticks by means of several layers of exceedingly fine thread. The pressing comb is of several widths. The width of the fabric required to be woven determines the width of the pressing comb to be used. The pressing comb is a moveable piece. It is inserted between two rods of wood through slits existing in either. It is the wooden frames round which the ropes hanging down from the overhead beam are fastened. The pressing comb is merely drawn towards the near beam along the plane of the warp. It may therefore be said to work horizontally, although in practice it works up an inclined plane. The warp-adjusting combs work vertically up and down.

“The weaver passes with his right hand the shuttle through the space between the two warp layers, while he draws in the pressing comb with his left hand. The warp is therefore the transverse thread that passes out of the shuttle. It is the pressure of the pressing comb that keeps each transverse thread in position.

“The shuttle is a metal or bone instrument, being merely a revolving needle inserted in the middle and forming the chord of an O-shaped or elliptical circumference. The needle is detachable. The thread for the warp is wound round it, and is removed as it gets exhausted. The needle is taken out for this purpose.

“To keep the pressing comb and warp comb vertical, a comparatively heavy piece of bamboo is attached to them below the warp.

“Having got his horizontal and vertical gear in order, the weaver proceeds to lay the warp longitudinally from beam to beam

Cotton Fabrics of Bengal.

and through the pressing and warp combs and sticks. The preparation and arrangement of the warp is the most tedious and careful portion of the weaver's work. Without the help of the weaver's wife and a child the work cannot be done."

97. *Warp-laying*.—The following is the process of manufacture as observed by the writer after the preparation of the skeins of thread as described above :

The skeins are unwound round a pyramidal frame work, which spins on a spindle.

Wooden pegs or sticks, six, eight, or more in number according to the size of the cloth to be woven, and about a cubit in length each, are then fixed on the ground in a double row at intervals of about two feet, varying according to the dimensions of the cloth. The sticks being thus arranged, the thread is then skillfully passed by the warp-layer through and round these pegs, so that they cross each other between the pegs. The weaver walks up and down with the spindle several times, until enough thread has been dropped between the sticks to make the required width of the cloth. In Appendix VI will be found a picture of a woman setting the warp.

98. *Sizing*.—The next thing to be done is to size the warp, in order to give it adhesiveness and a glaze. A paste is made with rice gruel, and the thread is soaked in this to stiffen, or sometimes rice-water is only sprinkled over the thread. *Marua* is sometimes added to the rice-water to help the stiffening. From some places, it is stated that *marua* seed alone is used, but this cannot be regarded as a good preparation for sizing. Sometimes, instead of rice, *khai* or *chira* (i.e., fried and parched rice) are used in the preparation of this gruel. The Muhammadans as a rule use the rice gruel and the Hindus the *khai* gruel ; but it is stated that in some districts, only the lower castes use the rice gruel, e.g., from Midnapore it is reported that the higher castes of weavers cannot use the starch of rice for cotton manufactures without forfeiting their caste. Whatever starch they use should be of *khai* or *chira*. Similarly, the lower castes of weavers are restricted to the use of rice starch only. No other starch can be used by them without forfeiting their caste. Mr. Rowland Nagendra Lal Chandra, Deputy Collector of Midnapore, seems to think that these caste restrictions signify that the higher castes restrict themselves to the products of the higher forms of the industry, which require the starch of *khai* or *chira*, and the lower castes are restricted to the manufacture of coarser fabrics which are made of thread besmeared with rice paste. This view does not appear to be quite supported by the practice in other districts; e.g. in Dacca, where the finest muslin is woven, it is reported that the thread is dressed with rice starch as well as with *khai* starch. It may be mentioned

 Cotton Fabrics of Bengal.

here, however, that in the town of Dacca, where most of the fine cloths are woven by the *bhitis* or town weavers, it is considered necessary that the thread should be spread out in the sun and reeled on the spindle three or four times before it is used for weaving. The additional process costs more, but leads to the production of a better quality of cloth. Appendix VII gives an illustration of a weaver washing thread.

99. *Working of the loom.*—After sizing, the next process is that of the actual weaving, which, as observed by the writer, is as follows:—

“A hole is made in the ground, and the workman sits in front of this hole with the woof extending away horizontally from him, and supported at the end opposite him by a piece of wood resting on two posts. At the end at which the weaver sits, is a wooden roller, round which the woven cloth is wound as it is made. This roller is supported by two pegs, which have different names accordingly as they are on the right or left hand. The woof is tightened by a rope which runs round a peg at the extreme end of the loom and returns again within reach of the weaver, where it is fastened to a second peg. As the cloth is wrapped round the roller, this string is let go, and thus the further end of the woof slackened in its turn.

In addition to these, there are peddles which hang from the roof, and are worked by treadles which the weaver moves with his foot. These peddles alternately raise or depress the threads which are attached to them by loops, while a shuttle is passed and repassed with great dexterity over, and under the threads. This is the ordinary mode of weaving cloth. When particular designs are made, there are some little differences in the details of the work and in the loom itself. Men do the greatest part of the work. The weaver's wife, however, assists in wrapping the thread round little bamboo spools placed inside the shuttle.

100. The principal parts of the loom are as follows:—

- (1) The shuttle.
- (2) The needle inside the shuttle on which the thread is wound, and the tube which revolves on the needle. This is held in its place in the hollow of the shuttle by a pin.
- (3) The wooden frame suspended from the roof, which, after the shuttle passes, is pulled forward by the weaver who drives the thread home.
- (4) The comb of reeds or bamboo in the bar, which keeps the threads of the warp apart, known as the pressing comb.
- (5) The heddles, which alternately raise or depress the threads of the warp.
- (6) The sets of reeds or sticks, which are placed in front of the heddles to keep the two sets of the threads of the warp apart.

Cotton Fabrics of Bengal.

(7) The elastic bow, which keeps the woven cloth stretched in front of the weaver.

(8) The wooden roller behind which the weaver sits, and on which the cloth is wound up as fast as it is made.

(9) The right and left hand posts which support the roller. The former passes through the roller, and prevents it turning round.

(10) The piece of wood which supports the woof at the end opposite the weaver, and which in its turn is held up by pillars.

(11) The string which holds the woof tight. It is fastened to the end of the woof and passes round a peg at the extreme end of the loom, and back again up to the weaver, where it is fastened within his reach to another peg.

(12) The treadle which the weaver moves with his foot with a knob held between the weaver's toes.

(13) The upper levers to which the heddles are attached.

(14) The upper beam to which the levers are fastened.

101. From Chittagong, it is reported that the shuttle is the only implement of the weaver's plant "which shows any trace of a handicraftsman's pride. The shuttles are all of horn, and some are to be found curiously, though roughly, inlaid and ornamented, with which the owners cannot be induced to part." It is further stated, that the shuttles of the Cox's Bazar subdivision differ from those of Chittagong proper. While those of Cox's Bazar are "12 or 15 inches long, slender and tapering, and not unlike the shuttle of the English handloom weaver, those of the north are short instruments."

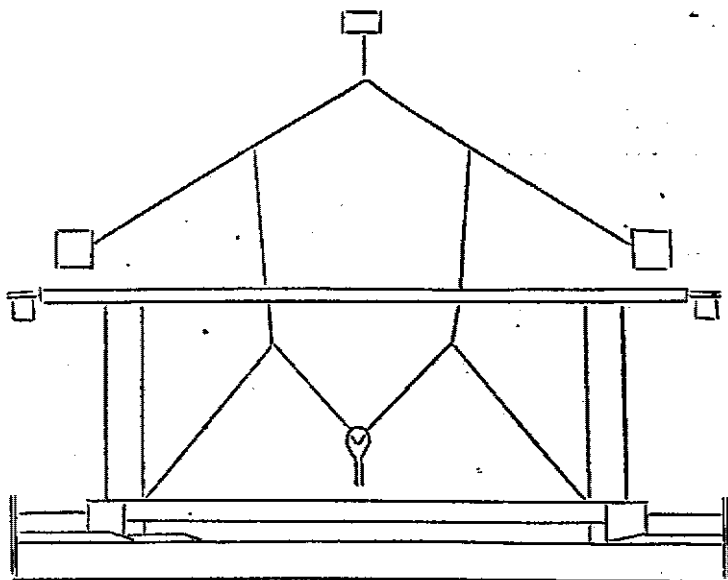
102. The shuttle in the improved handlooms (or machine-looms, *kolertant*, as they are locally styled) of Serampore are made of hard tamarind wood. They are about a foot long and of the shape of a canoe, having the two ends fastened with metal. The writer was informed by the weavers of Serampore that they could be properly made only by a few Tantis.

103. The vernacular names by which the different parts of the loom are known in different parts of these provinces will be found in the Appendix, where an illustration is also given of a weaver at work, (*vide* Appendices VIII and IX).

104. The paragraphs above give a description of the old time-honoured hand-loom and the mode of weaving. (Mr. Collin, in his Report on the Arts and Industries of Bengal, makes mention of the introduction of an indigenous machine-loom in Serampore, where it is used by certain weavers for the manufacture both of cotton and silk.) The writer has thoroughly examined these looms, and the difference he finds between these looms and the country looms, is, as stated by Mr. Collin, that the shuttle is pushed backwards and forwards across the warp by a

 Cotton Fabrics of Bengal.

string and lever, instead of being passed between the threads of the warp by the hand as shown in the following diagram—



This is a distinct improvement on the ordinary hand-loom, in so far as it leads to a great deal of economy in labour. The improved loom really works twice as fast as the ordinary country loom. (Whereas, with the latter, a man can work about $1\frac{1}{2}$ yards per day, with the improved loom he can finish $2\frac{1}{2}$ to 3 yards per day.) There is a further improvement in Serampore in the method of setting up the warp, which has been fully described by Mr. Collin, thus :—“ Instead of using only one bobbin and passing the thread backwards and forwards until the number of threads required for the width of cloth have been arranged, a bobbin frame is used containing a number of reels of thread, so that a full width or half a width of warp can be reeled off at once.”

This improved loom has been in use in Serampore for over half a century. The weavers informed the writer that their looms were handed over to them by a previous generation. They think the pattern of the loom was originally obtained from Farasdanga. The weavers were at work, seated on tables instead of on the ground. The writer made many enquiries to know why this improved loom was not more extensively used, and as far as he could gather, the objection to it was that as fine cloth could not be woven by it as when the shuttle was worked with

Cotton Fabrics of Bengal.

the hand. The weight of the pressing combs was too much for fine thread. Coarse thread, which would not readily snap, has therefore to be used for this machine.

105. *Weaving of fota cloth.*—A description has been given of this cloth elsewhere in this report. It will be interesting here to note the different stages in its manufacture, as given in the report received from Babu Promotho Nath Dutt, Deputy Collector, Jalpaiguri. He states that "the process of the manufacture of the fota consists of seven stages :—

FIRST STAGE.

Preparing the thread (Natan or Tekheya kara).

"Thread is brought from the *kaingya* (Bihari shop-keepers). It is the ordinary thread imported from England. Three bundles of thread are each mounted on a framework which can rotate and allow the thread to be drawn out. The three threads are then joined together by the fingers of the left hand, and the thread formed by the combination of these threads is rolled up round another framework called *natai*, which is rotated with the right hand. This work is generally done by women, who get 8 annas for it.

SECOND STAGE.

Cleaning the thread with rice (Natu bhetu).

"The thread is then soaked in rice and water, in which it is boiled and besmeared over with the rice. It is then again placed on a framework called the *charki*, and by being passed through the fingers of the left hand is cleaned and rolled round another framework, called the *natai*, which is rotated with the right hand.

THIRD STAGE.

Drying the thread, &c. (Tanahata).

"A number of stakes, about 3 cubits high, are placed in a line. There are two strong stakes at the two ends, and eight others intervene. The total distance covered is 28 cubits. The thread is then left in this state for some time to be allowed to dry and for stretching.

FOURTH STAGE.

Arranging the thread in groups (Ach kheyani).

"The threads are then passed through an instrument called *ach*, which has five teeth, very much like a haircomb. This is done by an instrument called *ach khaya kata*, which can be passed between the teeth of the *ach*, and gets hold of the thread and brings it over to the other side. By this means, the threads are arranged.

Cotton Fabrics of Bengal.

"Through each intervening space between the two teeth of an *ash*, sometimes one and sometimes two threads are passed. The *ash* is then moved off to the other end of the threads, so they get arranged.

FIFTH STAGE.

Putting the thread round a log of wood (Naras polla).

"As the *ash* is moved on to the other end of the threads, the threads are rolled round a *log of wood* (called *naras*) from this end. In the course of this process, four of the intervening stakes referred to in stage three are moved and four kept.

SIXTH STAGE.

Placing threads across with two sticks (Bag banda).

"The next stage is the placing of threads across; the longitudinal threads which are to form the cloth with two sticks, one above and one below the threads.

SEVENTH STAGE.

Weaving (Tant bona).

"The whole is then stretched. One end is rolled round the *warp*, and the cloth, as soon as the weaving is finished, is rolled round another piece of wood called the *kapa*. Next are the *bag* threads and the sticks, which are balanced on a framework called the *nachai*. Below are two ropes, one attached to each of the *bags*, so that when one is depressed, the other is raised. The *kapa* and the *nachai* are all balanced on a framework over the cloth to be woven. An iron instrument called *maku*, to which some thread is attached, is passed from one side to another through the threads, and supplies the cross-threads and completes the weaving."

106. *Weaving of carpets.*—The process of weaving *daris* or floor cloths differs from that of weaving ordinary coarse cloth. The process of weaving *daris* is illustrated in Appendix X of this Report. The principal points of difference are given succinctly in the report received from Champaran, and are reproduced below. They are as follows :—

"(1) At least two men are required for the weaving of carpets. When the breadth of the carpet is great, more than two have to be engaged.

"(2) When weaving, the men sit on the warp, unlike that of the cloth-weaver, who sits before the loom, with his feet lowered down a pit under it. Under the warp, a plank is kept to prevent it touching the ground.

Cotton Fabrics of Bengal.

"(3) A stick about a cubit long, wound with the thread, is used in the place of the shuttle.

"(4) There is no wooden frame to drive the thread home. This is done by an instrument called *panjo*, made of wood fitted with seven flattened pieces of iron, resembling the palm of the hand with the fingers.

"(5) The heddles which alternately raise or depress the threads of the warp are suspended from a bamboo overhead, and are worked with the hand, and not with the foot, as in a loom.

"(6) There is no roller to wind up the carpet as fast as it is woven, as in the case of cloth; the weavers move on from one end to the other. The work proceeds very slowly, generally at the rate of one cubit per day."

A few other points to be noticed in the manufacture are—Thick yarn is used both for the warp and the woof; two sets of heddles are employed, and sometimes more; no comb of reeds is used to keep the threads of the warp apart, this being effected by simply keeping the threads stretched with sufficient space between them.

107. *Manufacture of kalina*.—The process of manufacture of this kind of floor cloth is similar to that of *dari*-weaving. The following description is given in the report from Shahabad, which agrees with what the writer saw for himself while touring in Bihar:—"The foundation for the carpets is a warp of the requisite number of strong cotton threads according to the breadth of the carpet; the threads of the warp are stretched in straight lines in a perpendicular direction. There are two sets of heddles for alternately raising or depressing the threads. The peculiar process of weaving consists in dexterously twisting cotton thread in each of the warp threads. The two ends of the twist sticking out in front are cut to the intended height by a knife. When a whole line of the warp is completed, the projecting ends of the twist are clipped to a uniform level, and a single cotton thread is run across the breadth of the carpet between the threads of the warp, just as in ordinary weaving, and the threads of the warp are crossed as usual; then another thread of the warp is fixed with twists of thread in the same manner, and again a single thread is run between the threads of the warp across the carpet, and so on to the end. The lines of work are further compacted by sticking them with a blunt fork. Then the surface is clipped all over again, and the carpet is complete."

Appendix XI shows a *kalinabaf* weaver at work.

108. *Manufacture of newar*.—In the manufacture of this tape, the threads of the warp are struck up and down by means of the hand, and instead of the ordinary comb used in weaving, a blunt wooden knife is used for bringing the threads of the woof together

 Cotton Fabrics of Bengal.

(vide Appendix XII which gives a picture of a *Jolaha* making *newar*).

109. *Manufacture of doris and sutis*.—The following description of *dori*-making has been furnished from Shahabad :—"The machine for rope-twisting is very simple. It consists of only a bent wooden handle and a perforated board. The strands are fastened at one end to the handle, and the other ends are twisted by the hand."

(b).—*Cost of appliances used in the manufacture of cotton goods.*

110. The following prices of the appliances used in the manufacture of cotton fabrics have been arrived at after consideration of prices quoted in district reports and after personal enquiry :—

- (1) *The gin (khai or charki)*.—Two to 4 annas.
- (2) *The scotch (toolabhina or dhunetti)*.—Rs. 1-8 to Rs. 3.
- (3) *The spinning wheel (charka)*.—Four annas to 2 rupees.
- (4) *The loom (tant)*.—Rs. 1 to Rs. 20.
- (5) *The shuttle (maku or darki)*.—Two annas to 1 rupee.
- (6) *The brush (burush)*.—Twelve annas to 2 rupees.

The prices given above appear to vary a great deal, but it must be remembered that different materials are used in the construction of the weaver's plant. The prices differ accordingly as the appliances are made of bamboo or wood, of cheap or expensive wood, or other expensive material, whether they are plain or ornamental, &c. The prices also differ in different districts.

IX.—DYEING AND PRINTING OF COTTON FABRICS.

111. For full information under this head, the reader is referred to a monograph on Dyes and Dyeing in Bengal, which was published by the Agricultural Department last year. Suffice it here to say that, although dyeing and printing at one time formed a prominent indigenous industry of these Provinces, the introduction of cheap European goods and of European aniline dyes has proved fatal to the art. With but rare exceptions, every piece of cloth, whether manufactured in England or woven by the Indian hand-loom, is dyed with chemical powders, instead of as formerly with indigenous vegetable dyes.

112. The favourite colours with the people of these Provinces are—*surkh* (deep red), *golabi* (rose colour) *piyaji* (onion colour), *surmai* (dark blue or blue-black), *asmani* (sky-blue), *basanti* (deep yellow), *badami* (almond colour), *baiguni* (purple), *narangi* (orange), *champai* (deep orange), *gulnār* (pomegranate red), and *kakreja* (maroon).

 Cotton Fabrics of Bengal.

113. The prints are of many patterns. The Hindus of Lower Bengal use coloured cloths to a limited extent only. In Bihar, coloured cloths are more common, especially among women. Muhammadans as a rule show a greater partiality to coloured cloths than Hindus. The aboriginal races have also a liking for coloured borders. The Maghs of Chittagong have the Burmese taste for bright colours. Stamped cloths are mostly patronized by Muhammadan women.

X.—DISPOSAL OF GOODS.

114. Cloth manufactured in these Provinces is used by the weavers themselves or sold off generally in country markets or fairs. The outturn from native-made thread is very small and seldom exceeds the demands of the locality. In fact, the weavers as a rule do not make more cloth than they can conveniently dispose of locally. Some weavers, *e.g.*, those of the Chittagong Hill Tracts, do not sell their goods, but keep them for their own use. As soon as these coarse manufactures are out of the loom, they are generally taken by the manufacturer himself to the nearest market, where they are purchased by the lower classes. *Dakals* or brokers are to be found in many *hats*, who help in effecting sales. They generally charge a pice for every rupee of articles sold. Shop-keepers and dealers often send their agents to make purchases at these *hats*. Sometimes a weaver who is a little better off than his brethren of the same village, purchases the hand-loom productions of his village and sells them at a profit at the nearest *hat*. Fine cloths are sold to dealers, through whom they find their way to bigger dealers or to well-to-do purchasers. In many instances, advances are made by *mahajans* to weavers for the manufacture of fine fabrics, and the weavers in their turn are responsible to the *mahajan* for the supply of a stipulated outturn at a price agreed to previously. Instead of giving interest for the money advanced, the weaver sells his products at a reduced price to the *mahajan*. In some places, especially in towns, the weavers hawk about their own goods from house to house, or from shop to shop. Some even carry their goods out of their own districts for disposal. Others export their fabrics.

XI.—EXTERNAL AND INTERNAL TRADE.

115. The information received under this head from the different districts of these Provinces is very incomplete. So far as it is available, it is given below, district by district :—

“There is no export trade of the cotton cloths of this district, their use being confined to the lower classes of the people of the district.”

Birbhum.

Cotton Fabrics of Bengal.

Midnapore. 116. "There is very little of export."
 117. "No trade in cloth on a very extensive scale is carried on in this district. Chandernagore fabrics command a very large sale in the Calcutta markets."
 Hooghly.

[N. B.—Farashdanga cloths of Chandernagore also command a very good sale at the Bankristopur cloth market in Howrah.]

118. "There is little or no external trade in cotton fabrics, which are generally made for local consumption. As to inter-district trade, some of the fabrics are taken to Howrah for sale in the local market there. The inter-district trade in these fabrics is generally decreasing in proportion to the extensive use of the products of European manufacture."
 Howrah (Uluberia).

24-Pargannas. 119. "There is no internal trade, and the inter-district trade is very inconsiderable."
 120. "The chief market is Calcutta and next to it is the Howrah *Adt*, but the cloths manufactured are also exported to the northern and western districts, viz., Murshidabad, Rajshahi, Rangpur, Nattore, Hooghly, Burdwan, Birbhūm, Bhagalpur and Tirhut. At Santipur, the outturn of cloth is about Rs. 3½ lakhs, of which only Rs. 25,000 worth is sold in the town. The rest is exported to other districts."
 Nadia.

Murshidabad. 121. "The total annual outturn of cotton fabrics woven in this district is estimated at about Rs. 2,24,000."

[N. B.—It is not reported what proportion of this outturn finds its way out of Murshidabad.]

122. "Cotton fabrics are not exported to any appreciable extent, but are sold locally by the weaver in local markets."
 Jessore.

123. "The outturn is small and seldom exceeds the demands of the locality. There is scarcely any indication of external or internal trade."
 Khulna.

124. "There is an inter-district trade in the Lalpur-made napkins and *saris*, but it has not been possible to ascertain its volume."
 Rajshahi.

Dinajpur. 125. "There is no external trade."

Darjeeling (Siliguri sub-division. 126. "The products are all disposed of locally and not exported to any other place."

Rangpur. 127. "There is, practically speaking, no export."

Bogra. 128. "There is very little trade in the cotton goods manufactured in this district."

Cotton Fabrics of Bengal.

Pabna. 129. "Little is exported."
 130. "Of the cotton fabrics manufactured in this district, only a nominal quantity is sold in the district itself. Almost all the goods are sent to Calcutta, whence they are distributed all over India. No figures are available as to the extent of home consumption, as also of the seaborne trade. The following figures will show the estimated value of cotton fabrics exported to Calcutta during the last three years 1894, 1895 and 1896 (from January to December):—

	1894. Rs.	1895. Rs.	1896. Rs.
Plain and striped muslins ...	10,000	9,000	7,000
Kasida ...	2,66,000	2,50,000	2,50,000
Jamdani ...	1,75,000	1,50,000	1,25,000
Total ...	<u>4,35,000</u>	<u>4,09,000</u>	<u>3,82,000</u>

The figures for 1858, 1864 and 1873 are shown below:—

	Rs.
1858	10 to 11 lakhs.
1864	7 to 8 "
1873	5 to 6 "

It will be seen that the trade is gradually declining."

Chittagong Hill Tracts. 131. "No trade exists in cotton fabrics."

132. "Those who manufacture cotton cloths do not as a rule, export their goods direct by rail to other districts. The products are purchased by merchants from other districts for sale in different parts of Bihar and other districts. *Daris* are sent out for sale to other districts, but there does not appear to be a large trade in it."

Patna.

133. "Cloths are exported to various districts of Bihar and Bengal."

Saran.

134. "Although before the importation of cheap and superior fabrics from Europe, the demand for country-made fabrics was greater, yet Champaran was never famous for the manufacture or export of cotton fabrics in the years past."

Champaran.

Darbhanga.

135. "*Motia* cloth is largely exported to the North-Western Provinces and Nepal."

Monghyr.

136. "No reliable statistics of exports are available."

Cotton Fabrics of Bengal.

137. "There is little or no actual trade done in home-manufactured commodities. Even between subdivisions or villages, it would seem, there is little or no exchange."

Bhagalpur.

138. "At the present time, the only external trade is with the Sonthal colonies in Malda and Dinajpur, and there are no prospects of its improving. There is no internal trade worth speaking of."

Sonthal Parganas.

Purnoa.

140. "The cloths made in this district are taken in very small quantities only by *beparis* to the Cuttack district and Tributary States."

Puri.

141. "There is not, nor has ever been in this district, any inter-district or external trade in the indigenous cotton cloths, the extent of manufacture being only sufficient to meet the demands of the populace."

Hazaribagh.

Lohardaga.

142. "There is very little external trade."

Palamau.

143. "There is no external trade in cotton from the district."

Manbhum.

this district."

144. "There is or was nothing like inter-district or external trade in cotton fabrics in

145. The extracts given above show that there is very little external or internal trade in cotton fabrics in these Provinces. Complete figures are not available as to the extent of the trade, but it would appear that the chief exporting districts are Hooghly, Nadia, Dacca, Saran, and Darbhanga. The Chandernagore (Farashdanga) fabrics of the Hooghly district find a sale in the Ramkrishnapur Hat in Howrah, and also in the Calcutta market. The same may be said of the Santipur cloths of the Nadia district. Cloths made here and at Kushtia are also reported to be exported to Murshidabad, Rajshahi, Rangpur, Nattore, Hooghly, Burdwan, Birbhum, Bhagalpur and Tirhut. Babu Kedar Nath Biswas, Deputy Collector of Nadia, reports that about Rs. 3,25,000 worth of cloth is exported from Santipur to other districts. Dacca goods are sent for the most part to Calcutta, whence they are distributed to other parts of India. It is reported that in 1896 goods having an estimated value of Rs. 3,82,000 were exported from Dacca to Calcutta. When compared with the trade of previous years, the exports show a considerable falling off. In 1858, the exports to Calcutta had an estimated value of 10 to 11 lakhs of rupees; in 1864, the value fell to 7 to 8 lakhs; and in 1873 to 5 to 6 lakhs. From Saran, coarse cloth is exported to various districts of Bengal and Bihar; and trade in *motia* cloth is carried

Cotton Fabrics of Bengal.

on in Darbhanga with the North-Western Provinces and the Punjab. A little inter-district trade is reported from Ulubaria in the Hooghly district and from Rajshahi, but its value is not known.

XII.—SUGGESTIONS FOR IMPROVEMENT.

146. It has been reported from several districts, that attempts to resuscitate the cotton industry are not likely to bear fruit, and many are of opinion, that it is wise to leave well alone, and not to force the revival of cotton cultivation, when this crop has been supplanted by other more profitable crops. The writer of this report does not share in this gloomy aspect of the industry.

147. To begin with, much may perhaps be done in the introduction of new varieties of cotton by acclimatization. Many attempts have been made during the last half century to raise American and other foreign varieties, which have resulted in failure, but there have been also a few successes, and these certainly call for sustained energy in experimenting with foreign varieties. The different forms of cotton now grown in these Provinces appear to be too short stapled for the production of good qualities of textile fabrics, and they require to be replaced by cottons with a longer staple. When there is so much superior American cotton in the market, inferior short-stapled cotton must eventually give way to it. Every effort, therefore, should be made to improve the Indian cottons. Mr. Atul Krishna Roy, M.R.A.C., Deputy Collector of Rajshahi and late Professor of Botany at the Ravenshaw College, Cuttack, suggests that it might be possible to bring out a superior variety of cotton by crossing the species *Gossypium herbaceum* with the hardy and long-lived *Gossypium arboreum*. This suggestion may not be of very much value, as the cottons of India have by no means been sufficiently studied yet to know which forms can be profitably crossed, but it may safely be asserted that careful hybridization is one of the means to improve the cottons of India. The establishment of good varieties of cotton by acclimatization and hybridization suggests itself, therefore, as a more or less sure, though slow, means of improvement of the cotton industry.

148. More immediate means of improvement may be now discussed. The fact should not be lost sight of, that in the face of strong competition with European machinery, which has reduced the industry to a moribund condition, specialties in textile fabrics still maintain their ground in these Provinces. The fine cotton fabrics of Dacca, Santipur, and Farashdanga are still largely in demand among the upper and middle classes of native society,

 Cotton Fabrics of Bengal.

and much would be done were the method of manufacturing these fabrics extended throughout these Provinces. Indeed, it almost appears, that under certain circumstances, there is no need to introduce machinery for the manufacture of goods of fine quality. The Dacca muslins were and are still made by hand, and yet they can be made to excel in fineness the best qualities of English machine-made muslins. Dr. Forbes Watson, a great authority on the textile manufactures of India, sees no urgent necessity for the introduction of machines for the manufacture of the finest goods. His remarks on this subject are well worthy of consideration of those who would keep alive the manufacture of specialties in cotton fabrics in these Provinces. He writes thus:—"However viewed, therefore, our manufacturers have something still to do. With all our machinery and wondrous appliances, we have hitherto been unable to produce a fabric which, for fineness or utility, can equal the 'woven air' of Dacca, the product of arrangements which appear rude and primitive, but which in reality are admirably adapted for their purpose. It is therefore much to be deplored, that an industry is declining year by year. I have no special suggestion to make, but I venture to think that if a few well-to-do of the weaving castes would form themselves into a ring, and endeavour their best to bring the different systems into a focus, with the object of reducing the cost of manufacture, an impetus would be given to the trade in cotton fabrics. At present, there is no regular system or method of doing business. Each weaver is an independent man working according to his own idea, with neither the inclination for nor means of improving the industry. Trade union or combined effort can alone save the industry from total extinction."

149. The weavers, like other labouring and industrial classes, would not themselves evince any great desire to improve their lot. Help must be given from outside. The writer thoroughly agrees with the view expressed by some officers in these Provinces, that weavers of backward districts should be induced to visit places like Dacca, Santipur, and Farashdanga and be given a training at these places, so that improvement may be effected not only in the quality of the fabrics, but in their design and workmanship. Of course, the self-interests of the weavers of the more advanced districts would prove a serious obstacle for any such training, but with a little tact and patience, such a difficulty may be overcome. Babu Satis Chandra Sen, Deputy Collector of Bogra, suggests, with regard to his own district, that the district should send at its own cost at least four intelligent youths of the weaver class once a year for training at these famous places. It appears to the writer, that it might not be impossible to

Cotton Fabrics of Bengal.

establish a small weaving institute at one of these famous places, *e.g.*, at Dacca, where a training may be given to weavers sent by all the District Boards of these Provinces. Training should be given here not only by the good weavers of these Provinces, but also by those imported from other Provinces.

150. It has been suggested also by several officers, that another means of improving the decaying industry is to hold annual exhibitions at the head-quarters of the district and to award substantial prizes for the best manufactured goods. Babu Nikhil Nath Roy, Deputy Collector of Faridpur, states that such exhibitions held for the last two or three years in Faridpur have given a considerable impetus to the manufacture of cloth. Exhibitions are no doubt intended to create a healthy spirit of emulation; and as such, weaving exhibitions may well be encouraged, especially as they would not lead to very much expense, but the writer is not hopeful of very much from such training. The people of these Provinces are not yet sufficiently advanced to benefit by an exhibition in the same way as those of European countries, where a single industrial exhibition often gives a decided turn to the trade and commerce of the country.

151. In the opinion of the writer, the most practical means of preventing the extinction of the indigenous industry is to introduce cheap hand machinery, which will be at the same time labour-saving. To begin with, the *charki*, which is used for ginning, is at present very imperfect. It is fed by the hand, and the result is that the machine cannot be worked to its full power. The roller also gets clogged. Attempts have been made at great expense to replace the Indian gin by elaborate saw-gins, but the latter have not been found to work satisfactorily. It does not seem possible, that expensive machines should replace the ordinary *charki*, which is worked at practically no cost whatever by the women of the household, but it does seem possible to have some small inexpensive machines, which will work on the same principle as the *charki*, and give an increased outturn without injuring the quality of the cotton.

152. Some contrivance is also needed which will enable the weavers to produce better cloths at a smaller cost and in a shorter time than is the case with the hand-looms now in general use. There can be no doubt that much time and labour is lost in the present hand-looms owing to the employment of manual labour. Some simple mechanical contrivance may usefully take the place of hand-looms. In the absence of machinery, some improvements may be effected in the hand-loom itself and in the mode of arranging it. The improved looms of Serampore, of which a description has been given in pages 48 and 49 of this Report, and

Cotton Fabrics of Bengal.

which are to be found in few other places, may usefully be largely introduced in different parts of these Provinces for the manufacture of the coarser kinds of fabrics. The improved method of setting up the work in Serampore may also be well introduced elsewhere. Mr. Collin, in his Report on the Arts and Industries of Bengal, suggests "that a model or drawing of the loom, as well as of the improved method of reeling the warp, might be made and circulated to all places where there are weavers." He further adds that "advances might be given to weavers to enable them to procure the improved loom." These suggestions are well worthy of the attention of those who are interested in the cotton industry of these Provinces.

153. Native industries could also be saved from extinction, if wealthy capitalists were to start large weaving concerns, which would give employment to large bodies of weavers. Such concerns, if managed by thoroughly businesslike men, should prove successful in every way.

CALCUTTA,

The 7th January 1898.

N. N. BANERJEE,

*Asst. Director of Land Records
and Agriculture, Bengal.*

APPENDIX II.

Chief centres of the cotton industry.

(Extracted from reports received from District Officers.)

District.	Centres of the Industry.
1	2
Burdwan ...	Nelpur, Katwa, Kalna.
Birbhum ...	Villages of Supur, Raipur, and Hambazar in thana <i>Boipur</i> , and Alunda and Tantipara in thana <i>Suri</i> .
Bankura ...	Bankura towa, Gopinathpur, Barjoro, Rajagram, Birsingpur, Kenjakura.
Midnapore ...	Golgram, Pathra, Patna Bazar (Town Midnapore), Mohanpur, Mia Bazar (Town Midnapore), Balarampur, Jalibanda, Nandakisorepur, Amdoi, in the Sadar subdivision. Ghatal, Radhanagar, Irpala, Narajole, Chandrakona, Kalna, Kunapur, Ramjibanpur, Hajipur, Kamarpukur, Kulat, Khirpai, Jaipur, Koiapat-Badanganja, Malidanga, Khanakul, Kharsar, Balidewanganja, Rajnagar, Gourhati, Mugra in the Ghatal subdivision, Panchkura, Berkhoda in Tamluk, Charabarh, Khondrai in Contai.
Hooghly ...	Villages of Khanakul, Kristonagar, Ramjibanpur, Myapur in the Jahanabad subdivision, Haripal, Dwarhatta, Atpur in the Serampore subdivision, and Dhaniakhali and Tantibazar in the Sadar subdivision (also French Chandernagore).
Howrah ...	Some of the villages in thanas Ampta and Baguan in Ulubaria subdivision.
Nadia ...	Santipur, Kushtia, Kumerkhali, Harinarayanpur, and Meherpur and Krishnagar.
Khulna ...	Baksha, Bansdaha in Sackhira, and Phultala in the Sadar subdivision.
24 Parganas ...	Baranagar, Jaynagar, Pankra, Purua, Khorgachi, Santra, and Bhabla.
Jessore ...	To a small extent—all the subdivisions of this district.
Murshidabad	Sadar subdivision— <i>Jellinghi Police Station</i> .—Chakchentan, Barsabari, Sadikhandiar, Dhanirampur, Chuchamora, Faridpur, Nilambarpara, Debipur, Srikrishnapur, Baganpara, Chaknarainpur, Gowripur, Raipur, Basudebpur, Nowadapara, Chak Ramprasad, Kupla, Sahebnagar. <i>Azinganj outpost</i> .—Romna Etwarnagar, Fatepur, Lokhinathpur, Josh Khikari, Malalipur. <i>Hariharpara</i> .—Swaruppur, Dangapara, Sandalpur, Tartipur, Nutan Saruppur, Loehanmali, Choa, Joykrishnapur. Kandi subdivision— <i>Khargram</i> .—Nagar, Gopinathpur, Balia, Mahisar, Dhanigram. <i>Kagram</i> .—Sonarundi, Shirpara, Shemulia, Bonwaribad, Ezara, Kagram, Talibpur. <i>Burwan</i> .—Sapaldaha, Kamamoli, Paluti, Jugsarah, Sattara, Kooli. Jangipur subdivision— <i>Suti</i> .—Sultanpur, Gopalganj, Auran-gabad, Nurpur, Fateullapur, Ishpara, Sankarpur, Sadikpur, Bahadurpur, Aseran.

APPENDIX II—continued.

District.	Centres of the Industry.
1	2
Murshidabad— <i>conold.</i>	<i>Samserganj</i> .—Mamrezipur, Arjunpur, Chancharpur, Upar Chanchar, Mahadebnagar, Serpur, Bhabanimati, Maheshathali, Kristopur, Joykristopur, Loharpur, Raghunandanpur, Samserganj, Moheshpur, Sibala, Hoglebari, Dhulian, Arupnagar, Polashbona.
Rajahahi ...	<i>Dewansarai</i> .—Natibarpara, Aermari, Kristopur, Ramnagar, Upar Raninagar, Ramergram, Shahabad, Mohai.
	Villages.
	<i>Thana Tancor</i> ... 32
	<i>Do. Panchupur</i> ... 25
	<i>Do. Nator</i> ... 25
	<i>Do. Baraigram</i> ... 68
	<i>Do. Lalpur</i> ... 26
Jalpaiguri ...	Centres of the industry are not mentioned in the district report.
Darjeeling ...	Phansidewa.
Dinajpur ...	Patiram, Gangarampur.
Rangpur ...	The Kurigram and Nilphamari subdivisions.
Bogra ...	Chief centres of industry are not returned.
Pabna ...	Towns of Pabna and Serajganj and the following villages:—Dogachi, Salangah, Radhanagar, Malanchi, Tantiband, Shibarampur, Barapara, Garadaha, Dubla, Sadullapur, Taraberia, Suganagar, Nischindapur, Dulai, Aminpur, Masanda, Shibpur, Ekdanta, Chakaiberia, Gopalpur, Goneshpur, Solaipur, Jalaipur, Rajapur, Bera, Chatmahar.
Dacca ...	Nawabpur, Tantibazar, Kaltabazar in the town of Dacca, and the following villages:—Dhamrai, Sabhar, Bahati, Bhatara, Abdullapur, Mireswarai, Demra, Kachpur, Matail, Doga, Manikganj.
ymensingh...	Towns of Kishorganj and Bazitpur.
uridpur ...	The chief centres of the industry have not been returned.
ckergunge...	<i>Thana Kotwali</i> —Madhabpasa. <i>Thana Gournadi</i> —Uzirpur. <i>Thana Jhalokati</i> —Gabhkan.
	Also Barisal, Jhalokati, Patuakhali, Bhola.
Tippers ...	Centres of the industry are not mentioned.
Noakhali ...	Information is not forthcoming regarding the chief centres of the industry.
Chittagong ...	Hathhazari, Putiya, and Cox's Bazar.
Patna ...	Thanas Sultanganj and Alamganj in the city of Patna, and Dinapur.
Gaya ...	No mention is made of the chief centres of the industry in the district report.
Shahabad ...	Arrah, Buxar, Sassaram and Bhabua.
Chapra ...	Chapra Town, Mirganj, Siwan.

APPENDIX II—concluded.

District.	Centres of the Industry.
	2
Champanan ...	Champanan, Madhuban, and Gobindganj thanas in the Saran subdivision.
Muzaffarpur ...	<i>N.B.</i> —The chief centres of sale are Muzaffarpur, Berhampur, Damodarapur, and Islampur in the Sadar subdivision and Sitamarhi and Sursand in the Sitamarhi subdivision.
Darbhanga } Monghyr }	Centres of the industry are not mentioned in district report.
Bhagalpur ...	Sadar, Banka and Madhepara subdivisions.
Purnea ...	Centres not mentioned.
Malda ...	Kaliachak, Ratna, Old Malda, and Kaligram.
Sonthal Parganas.	Rajmahal, Pakur, Dumka, Deoghur, and Godda subdivision,
Cuttack ...	The chief centres of the industry are not returned in the district report. In Gulnagar and Cuttack town, however, there are many weavers.
Balasore ...	No information has been given in the district report regarding the chief centres of the industry.
Angul ...	Tigiria and Baramba.
Puri ...	<i>N.B.</i> —The chief centres of sale are—Ghoradia, Banimalipur, Nagpur, Nuapalam, Ratanpur, Lingpur, Sarkantar, Bhalibari, Narangar, Chhangir, Tangi, Bangi-Tangi, Banpur Bazar, Atharbhag, and Tulsipur, Charchika, and Kalapatthar Banki.
Hazari bagh } Lohardaga }	Centres of the industry are not returned.
Palamau }	
Manbhum. }	
Singhbhum ...	Dalbhum.