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THE SECRETARY TO THE GOVERNMENT OF INDIA,

IN THE DEPARTMENT OF REVENUE, AGRICULTURE AND COMMERCE.

SIR,

I TAKE the liberty of addressing to you these lines regarding Tusser Silk, in the hope that the information will be considered valuable by the Government of India, as also by the owners of the Forests which contain the seven species of trees on which the Tusser caterpillar feeds.

Before proceeding further, I propose to give a brief Summary of the present position of Silk in general. Since more than a century the article has not seen such low prices as at present, and this state of affairs has probably been the result of supplies in excess of the consumption, or, which comes to the same thing, of considerable recent improvement in spinning waste, which enables manufacturers to make use of Silk chussam (rejections) which, until recently, were comparatively very little used, but which are now very largely employed in the manufacture of Silk piece goods. I leave, however, this question to be solved by others better acquainted with the sale of the article than myself, and intend to confine myself to the particular branch which I have studied. In the present position of the article it is essential for manufacturers and producers to lay down the goods at low rates. They cannot do so unless cocoons are cheap, and I wish to point out here in what manner cheapness can be attained in India.

In ordinary years Europe takes about 120,000 bales of raw silk from Asia, and this quantity is divided as under :—

80,000	Bales	from	China.
30,000	„	„	Japan.
10,000	„	„	India.

These bales weigh 75 Kilos. each, which gives us a total of 9,000,000 Kilogrammes, which, at 50fcs. per Kilo., which is the average price of the last 10 years, gives us the enormous figure of fcs.450,000,000. The question remains to be considered, whether Europe would not take double the above quantity if Asia supplied the article at half the above price. The growers of mulberry trees in Europe cannot afford to continue the cultivation unless they obtain 3fcs. per Kilo. for their cocoons ; and at this price raw silk would cost fcs.45 per Kilo., whereas manufacturers can no longer pay more than fcs.30 per Kilo., which shows a loss of fcs.15 per Kilo. Europe will, therefore, no longer be able to compete in the production of cocoons, and it is to Asia that we must look to supply her place ; and I wish to show that India can give silk at fcs.25 per Kilo. and still leave a profit to producers.

The Tusser cocoon, since time immemorial, has been spun in the most primitive style ; and the raw silk produced from it by Natives is only applicable for the manufacture of Tusser-cloth, the thread being unsuited for European silk piece goods, owing to its being too coarse and irregular and to its want of elasticity. As already stated, it is used in the manufacture of Tusser-cloth, in which there is an annual trade of 10 lacs per year, besides which about 20 lacs worth of cloth manufactured from it is consumed in the country, which gives us a total of 30 lacs per year.

The discovery recently made that the Tusser cocoon can be reeled as easily as the ... and that the thread so produced has all the requirements wanted for the manufacture of fine Silk piece goods, will create a complete revolution in the silk industry. No country will be able to compete with this cocoon, as, owing to its exceptional quality and condition, the silk produced from it can be sold at fcs.25 per Kilo., and still leave a handsome profit to the cultivators and reelers. Nature having endowed the Tusser caterpillar with properties which enable it to dispense with all human assistance it feeds on seven species of trees without requiring any help, and as there are large forests in India containing those trees, the production could be extended considerably, but it is not done at present, owing to the limited demand for Tusser cloth.

From statistical information it appears that immense quantities of these cocoons could be produced if Government encouraged the cultivators and informed them that remunerative prices could be obtained for the cocoons and raw silk. In fact, the article could prove a source of immense wealth to India if developed, and the trade is in want of such artieles. If, besides encouraging the cultivation, Government would establish a model filature at Calcutta, or some other central locality, where the system of reeling and preparing the cocoons for exportation would be taught, a great stimulus would be given to the industry. Italy and France would take large quantities, even if the producers confined themselves to the production only of cocoons; in fact, the article could vie in importance with Jute, Indigo and Tea, as there are large forests where the Tusser silk-worm can grow, and the cultivators have only to collect them and despatch them to the ports of exportation.

I have perused Captain Coussmaker's pamphlet on the subject, as also his correspondence with the Government of Bombay; but, apart from a good intention he evinces of developing the resources of the country, Captain Coussmaker does not appear to have deeply studied the vital question of economy in the cultivation of the cocoons. He has, in fact, committed two great errors in his dissertations. His first mistake is his advice to domesticate the silk-worm, which entails expense. The Tusser silk-worm has the extraordinary merit of being able to dispense with all humam assistance; the caterpillars when hatched only require to be placed on one of the seven species of trees on which they feed for 30 to 32 days, where they accomplish the task which nature has imposed on them without requiring the slightest assistance; as soon as the cocoon, which is completed within 40 days after the hatching, is ready, it has only to be gathered, and then reeled into silk, or sold for exportation, as appears most advantageous at the time. Captain Coussmaker, in wishing to domesticate the worm, not only goes against the order of nature, but would cause considerable expense to the cultivators, who would have to pay for godowns for locating the worms, and for labor for collecting the leaves and rearing the worms. In fact, by his system the cost to producers would be as great as that of the silk-worm from mulberry trees, and the trade could not, therefore, flourish owing to enhanced cost.

The second error into which Captain Coussmaker has fallen, is his desire to subvert the order of nature. He wishes the worm to make the cocoon without the resinous-glue, which he calls *cement*, but as the worm was destined to thrive in the open air, nature had to endow it with cement, in order to enable it to resist effectively the exposure of the sun, rain, &c., &c., as also to protect it against the attacks of insects, birds, &c., &c.; without the cement it could not offer sufficient resistance.

If Government wish to succeed in developing this rich industry, they ought to address themselves to practical men who have already given proofs of capability by reeling better silk than has been produced in France. The East India Company, when they decided to improve the manufacture of raw silk from mulberries in this country, engaged, regardless of expense, the services of French and Italians, who succeeded very well; and I do not see why the Indian Government should not follow the same course. In France and Italy people have already succeeded in producing from the China Tusser cocoons very fine silk, which readily finds buyers. The Indian Tusser cocoons, reeled in the manner which I would propose, would combine all the good qualities of the mulberry cocoons, with the advantage of costing half the price.

I beg to offer my services to Government to take charge of a model filature where the Natives would be taught, *viz*:—

1*st*.—To take steps to ensure the cocoons turning out of a good quality.

2*nd*.—The best system to prepare the cocoons for reeling, or for exportation.

3*rd*.—The best method of reeling it and producing raw silk, according to the most recent improvements.

I have the honor to be,

Sir,

Your most obedient Servant,

F. LOTTERI.

Calcutta, December 1875.

12-5-91
9-6-93

Revenue 1875 Depte

No. 4841

From

Mr. F. Lotteri
Calcutta

Dated Decr. 1875.
Rec'd 20 —

Submitting to the Govt. of India information on the subject of Tussur Silk with suggestions for its manufacture in India &c. No. 2670

Lodged
Sal

21 Dec/75