

Indian Cotton and its Supply.

THE question of whence England is in future to obtain an adequate supply of cotton is fast becoming one of very serious import. Starvation stares some six millions of our fellow-countrymen in the face, and there appears no probability of any speedy reversion to the old source being possible. In the alarm created by the sudden cessation in the supply of the raw material from the Southern States of America, inquiry was set on foot in every conceivable direction, and the attention of some one or other of the numerous people interested in the subject was directed to nearly every known quarter of the globe. In the search after cotton, or a substitute for it, India was, of course, not forgotten. Indeed it was to that quarter that most attention was in the first instance given, and a record of all the steps taken by those requiring, or professing to require, the staple, of the resolutions passed, and theories started, would fill no ordinary-sized volume. It is not, however, what has been done, but what has been left undone, that will, at this hour, prove of most general interest—not either what has been neglected in various directions, so much as what has escaped attention in one. Until the cessation of the supply of cotton from New Orleans occurred, it was generally supposed that the cotton produced in India was not adapted to the English market, notwithstanding that it was in this very staple that British manufacturers first essayed to compete with, and ultimately surpassed, in their productions, the once widely renowned fabrics of the Indian looms. It was with cotton derived from India that Wyatt, Paul, Arkwright, Hargreaves, and Crompton first produced those yarns with the machinery they severally invented or perfected, which rendered success so complete as to banish from the minds of British manufacturers all fear of the competition of Indian goods. How, then, it may be asked, is it that New Orleans cotton should now hold so much higher a position in the estimation of British mill-owners? The reasons assigned are many, but the most important of all is the superior cleanliness of the American staple, which renders its conversion into yarn much less difficult and with very considerable less waste—a result of no trifling importance. When it is considered that the produce in yarn of a pound of American cotton averages thirteen and a half ounces, while that of a pound of Surat is but twelve ounces, it will be no matter of surprise that the one should be preferred to the other: and when to this is added the fact that the spinners obtain threepence halfpenny for converting a pound of Surat cotton into yarn, while for the yarn from American cotton they receive but threepence farthing, the only wonder is that Indian cotton has been used at all while American was obtainable. This will at once account for the low prices realized for Indian cotton when American was offering, and for the general disregard in which it was held prior to the

present crisis. The only reason, in fact, for making any use of Indian cotton was for mixing it with American kinds of bad or inferior colour; Indian cotton being always of a rich creamy white. It was, moreover, for some time objected that the shortness of staple of the ordinary varieties of Indian cotton rendered them unfit for use in the machinery adapted for spinning the American fibre—that it was, in fact, so short that it blew off the machinery. This objection to some extent still remains, and will continue to do so, unless the demand for Indian cotton becomes not only general but permanent, inducing thereby greater care in its production. But, after all, so long as the staple is strong, clean, even, and of good colour, shortness of fibre alone will never exclude it from the mills, for it is now found quite possible, the necessity having arisen for so doing, to adapt the cotton-spinning machinery at present in use to the working up staples of the shortest description.

The defects in Indian cotton, which have militated so much against its use, are quite capable of correction; and that they are so, is proved by the very superior condition in which recent supplies have reached the home markets. As already shown, the chief defect of all is the foul and adulterated state in which the raw material is baled. This arises from various causes, all of which, however, are traceable to the exceedingly low price it commands, and the numerous hands through which it passes, from its gathering to its final shipment for England, and to all of which some portion adheres. The only remedy for this is to be found in the employment of European agency in direct and immediate communication with the ryot or cultivator, and in the offer of such an advance of price as to place cotton on an equality with cereals in the profits its cultivation shall return to the grower.

As proof of how comparatively unremunerative a crop cotton is to the ryot, at the price paid just prior to the present crisis, it may not be uninteresting to contrast the cost of cultivation of an acre of first-class land of cotton with that of one of the lowest order of cereals, jawarree (maize):

| In the first case:— | | £ | s. | d. |
|--|------------------------------------|---|----|----|
| The rent of an acre of first-class land is | | 0 | 4 | 9 |
| Cost of seed | | 0 | 0 | 9 |
| „ cultivation, tillage, &c. | | 0 | 2 | 6 |
| „ partial weeding once | | 0 | 1 | 6 |
| „ picking (actually paid in kind) | | 0 | 5 | 6 |
| „ cleaning the cotton by churka (also generally paid for in kind) | | 0 | 0 | 9½ |
| | Total cost of cultivation, &c. | 0 | 15 | 9½ |
| YIELD. | | | | |
| 520 lbs. of cotton, which, when passed through the churka, will return | | | | |
| 130 lbs. of clean cotton, the average value of which on the field is | | | | |
| 2d. per lb. | | 1 | 1 | 8 |
| 330 lbs. of seed, which sells as food for cattle, at an average price of 57 lbs. | | | | |
| for a shilling | | 0 | 6 | 8 |
| | Total return to ryot | 1 | 8 | 4 |
| From which deduct cost of land, cultivation, clearing, &c. | | 0 | 15 | 9½ |
| | And a clear profit will be left of | 0 | 12 | 6½ |

Take now the jawarree in similar manner :—

| | £ | s. | d. |
|--|---|----|-----|
| Rent of an acre of first-class land | 0 | 4 | 9 |
| Cost of 28 lbs. of seed | 0 | 0 | 10½ |
| „ weeding | 0 | 3 | 0 |
| „ reaping | 0 | 2 | 0 |
| „ garnering | 0 | 4 | 3½ |
| „ threshing | 0 | 1 | 6 |
| „ winnowing | 0 | 2 | 2½ |
| Total cost of cultivation, &c. | 0 | 18 | 7½ |
| YIELD. | | | |
| 27 quarters of grain, at 10½ <i>d.</i> | 1 | 3 | 7½ |
| 275 bundles of stalks for feeding cattle, at 6 <i>s.</i> per 100 | 0 | 16 | 6 |
| Total return | 2 | 0 | 1½ |
| Deduct cost of land, cultivation, &c. | 0 | 18 | 7½ |
| Total profit | 1 | 1 | 6 |

Which shows a balance of profit in favour of the lowest description of cereal of no less than 8*s.* 11½*d.*, equal to an excess of just fifty per cent.

With such results as are here arrived at, it may naturally be asked, why then does the ryot cultivate cotton at all? For this there are two reasons: one, that under the system at present, or till lately pursued, the cotton crop gave the ryot but little trouble, and as it does not exhaust the soil as much as cereal crops, it is sown on land that would otherwise lie fallow. Secondly, the ryot is nearly in every case a necessitous man. He needs an advance of money to enable him to prepare his land for the reception of seed, as well as to procure the seed itself. This money he can alone obtain from the village produce-merchant, who can make a good profit out of the cotton, though the ryot cannot, and he will make no advance in consequence, except on the understanding that a certain area of the borrower's farm is laid down with that staple. It is, therefore, to some extent under compulsion that cotton is grown, though there are some parts of India where, from the nature of the soil, cotton is the most remunerative crop which can be grown upon it. In the generality of cases it is, however, as here stated.

One of the causes of the foul state in which Indian cotton has hitherto found its way to our markets is to be traced to the following system. The mahjun (banker, grain-merchant, and general dealer) takes the cotton from the ryot by weight. If he sells it again it is by weight also, but if, as is usually the case, when obtained for home consumption, he makes it over to the spinner, and from him to the weaver, he receives it back converted into cloth, which he takes, not by the yard, but by the weight, allowing of course a certain deduction from the quantity of cotton given, as waste. The loss then, in any case, whatever it may be, is not borne by the mahjun, but by those through whose hands it passes; it is consequently of little object to him to obtain a clean staple from the ryot. When it is considered, however, that in addition to the impurities which have adhered to the cotton either in the field. in its culling, or in its removal, every

broker, weigher, or packer, through whose hands it passes, filches a pound as his perquisite, and makes up the weight with some foreign substance, there can be no longer cause for any surprise that the staple should be as foul as it is unfortunately found to be. To correct this the European must make his purchases direct from the ryot; he must be present to advance him the requisite cash to enable him to hire ploughs and purchase seed; to superintend the growing of the cotton; and, by paying him a halfpenny or a penny a pound more than the usual market rate, to induce him to adopt the system recommended by his employer in the raising, picking, and cleaning of his cotton. This does not appear difficult of accomplishment; but who will run the risk, unless secure of a market, notwithstanding that these corrections are all that is requisite to remove any objections now existing to the use of Indian cotton? The European would be but serving his own interests in seeing that the cotton he purchased was clean and pure; and, packed and screwed by him, all chances of ultimate deterioration in transit to the port of shipment would be avoided.

The chief cotton-fields of India are in the Bengal and Bombay Presidencies, and in Central India. In Bengal, the Doab, or that tract of country situated between the Ganges and Jumna rivers, is the district wherein the best cotton is grown. Some is produced in Oude, but as yet simply as a speculation arising out of the present crisis in this country. The same may be said of the cotton raised in the Punjaub, and of the experiments in the Soonderbunds of Lower Bengal, which have been attended with such favourable results. In Bombay, the chief cotton-producing districts lie immediately on the sea, or just inland of the Ghauts, and are Broach, Candesh, the Southern Concan, and Dharwar. In Central India are situated the far-famed cotton-fields of Nagpore and Berar. In Madras, too, cotton is produced, but in comparatively small quantities, Tinnevely, Coimbatore, and Bellary being the most important districts. Dharwar is now well known as the scene of those experiments undertaken, with the object of introducing the cultivation of New Orleans cotton into India, and of improving the indigenous plant, which were carried on so perseveringly and at so great a cost by the late Court of Directors. The sawginned cotton of Dharwar has long held a favourable place in the Liverpool market, and but for the nefarious practices of native dealers and traders at Bombay would have attained to even a higher position than it now occupies. The cotton which reaches England as sawginned Dharwar is generally supposed to have been raised from New Orleans seed, but it is, in fact, only in part so, for it has been found that by paying strict attention to the ordinary indigenous varieties in their cultivation, by careful weeding, attention to the plants, watering, and care bestowed in the picking, to prevent the gathering up of soil with the pods or balls, results more satisfactory are arrived at than even with the produce of imported New Orleans seed. Improvement in the culture of indigenous cotton is attended with results but little contemplated a few short years ago; but as any interference with established usage is invariably attended with

increased outlay in India, it requires a higher price than ordinary, and a safe market, to justify departure from established practice. These have hitherto been wanting; that they may not continue so is the object the writer has in view. As an example of the results attainable from ordinary care being paid to the requirements of the commonest description of Nagpore cotton, the following facts are given, as they cannot fail, not only to be of interest, but to point out the course which may, as a rule, be successfully adopted in the endeavour to improve the several varieties of *Gossypium Indicum*. When the news first reached India that the supply of cotton from America was likely to cease, an English gentleman, who had been despatched to Nagpore by a mercantile firm in one of the Presidency cities for the purchase of produce generally, hearing the numerous suggestions which were hazarded for the improvement of the staple of Indian cotton, purchased on his own account from the native cultivators a field of a few acres' extent, in which the cotton-plants were just breaking through the earth. This field was situated near to the bank of a water-course, and was on three sides surrounded by the cotton-fields of the cultivators from whom he had made his purchase. While his neighbours left their plants to the care of Providence alone, he paid every attention to his. He had them carefully weeded, and when they promised to grow to wood he carefully nipped off the ends of the main branches, causing them thereby to throw off lateral shoots. By these means not only were his plants caused to increase wonderfully in size, but to show every prospect of producing a large and healthy crop. The loosening of the soil at the roots of the plants enabled the stems to expand, and gave them health and vigour, and where they showed an inclination to bud, an adequate supply of water to the roots materially aided nature.

The result of this judicious treatment was soon made apparent. The plants were speedily covered with blossoms, promising a yield of cotton far in excess of his most sanguine expectations. Nor were they disappointed, for the return of cotton was treble that of his neighbours' fields. Moreover, the staple was stronger, longer, and more even than any previously produced in Nagpore, or than that from his neighbours' plants. From the seed of these plants he selected the most promising, and sowing them the second year, and attending the plants grown therefrom with similar care, he had the satisfaction of seeing his efforts crowned with the utmost success—the cotton produced in the second year being in every respect equal to the best New Orleans, and surpassing it in delicacy and brilliancy of colour.

From this it is clearly evident that the indigenous cotton of India is quite capable of being improved, and to such extent as in time to rival in every respect the staple which in the present day is in such repute with British manufacturers.

Although there are several varieties of *Gossypium* produced in India, including that raised from Sea Island, Egyptian, and New Orleans seed, as a rule but two recognized descriptions are exported thence to this country.

These two are the Dharwar cotton, partly raised from exotic seed, and Surats, under which head, with some few exceptions, every description of indigenous cotton may be said to be included. In Bombay, no matter whence the cotton arrives, whether by native boats from the ports on the coast south of Bombay, or through the Western Ghauts from Broach, Candeish, the Southern Mahratta country, and Western Berar, all are dubbed Surats, and sold as such. The cotton from the Gangetic Doab is to a small extent exported to China, but, together with that from Eastern Nagpore, is chiefly consumed in the towns of Bengal and in the Jubbulpore School of Industry.

At the present moment the best descriptions of cotton raised in India are those which, under European superintendence, are being grown at Dharwar, in Tinnevely, Coimbatore in the Madras Presidency, in Nagpore, and in the Soonderbunds of Bengal. The produce of the former place is too well known to require further notice than it has already met with in these pages. The efforts now being directed to the subject in Madras have as yet achieved but little, though their success, as far as it has gone, is of good promise; while in Nagpore and the Soonderbunds success has been so marked as to hold out hopes that when the present crop is gathered and finds its way to this country, the question of India's capability to produce cotton equal in every respect to the ordinary New Orleans staple will be set at rest for ever. The system pursued by the gentleman alluded to in Nagpore is already detailed; that followed in the Soonderbunds is in many respects similar, the difference in locality, soil, and climate being taken into consideration. The soil of the Soonderbunds somewhat resembles that of the Sea Islands on the east coast of Georgia in the Southern States of America, and has been found admirably suited for the production of cotton from Egyptian and even Sea Island seed. For the most part the Soonderbunds lie low, and are subject at certain seasons of the year to inundation. The system pursued there is to dam out the water, that is to say, during the dry season to raise embankments sufficient to stay the overflow of any unusually high tide or sudden rising of the water in the numerous waterways which intersect them. The seed is sown just prior to the cessation of the annual rains, and after the rain-water collected within the embanked area has been let off by means of sluices. The plants are raised in rows and on slightly elevated ridges, to prevent any superfluous moisture, destroying the seed before it germinates, or the young plants. The earth about the roots is never allowed to cake, and when the plants are about to blossom they are freely watered from the adjacent streams. With such care bestowed upon the plants, the yield of cotton has already proved unexpectedly large, while the fibre has been at once of good length, strong, even, and of that exquisite creamy white peculiar to Indian cotton.

It is not to be anticipated that any large quantity of this staple will reach England; but little more than a large sample of the improved indigenous cotton can be expected from any quarter, for the risk to the

cultivator, or to those rather who have ventured their money upon it, is great. From the Soonderbunds of Bengal, where carriage is obtainable by water to Calcutta at all times of the year, the distance trifling, and the cost of transit small, nothing like the outlay that is essential in localities more remote from the coast is called for. The cotton grown in the Soonderbunds may be forwarded to Calcutta loosely packed in gunnies (sack-cloth), and there screwed and packed for exportation, the care in the picking and ginning ensured by European superintendence securing to it cleanliness and freedom from adulteration. In other places it is not so, however, the distance it has to travel rendering such a mode of procedure out of the question. To adopt it would entail a loss of nearly half the cotton during its transit, and the destruction of the remainder by the introduction of impurities to make up the weight of that stolen. It is indispensable, therefore, to ensure the cleanliness of the staple, that it should be picked, ginned, screwed and packed under European supervision, and that the three latter operations should be conducted in the vicinity of the former. To do this necessarily involves very considerable outlay, for screw-houses, presses, ginning and cleaning machinery, and other apparatus. And when it is borne in mind that the ruins of former works of a similar kind yet rear their heads in many of the cotton-fields of India, as mementos of the greater ruin which overwhelmed those engaged in the trade in past years, it will no longer be matter for surprise that those who see these records of failure should decline to embark, without some security against loss, in that which has already proved the commercial death of many. To induce those who, from their knowledge of India and their influence with the people, are the best qualified to embark in an undertaking of otherwise doubtful gain, it will be necessary in the first place that those requiring cotton undertake to purchase a given quantity of stipulated quality year by year for a stated period. It is not necessary that the price offered should be anything approaching that which at present rules. It has already been shown that the cultivator has a profit on his crop at 2*d.* a pound. If the price be raised 50 per cent., it will place his cotton crop on a par with jawarree, and will admit of his giving it very much more attention than heretofore. Supposing the rates of transit to remain what they may now be said to be (but when the various measures for facilitating intercourse with the interior, which are now in progress, are brought to completion, they will be very greatly reduced), the following calculation will clearly point to the price which will be needed to make the supplying of cotton to England at once remunerative and attractive, both to the grower and dealer:—

| | £ | s. | d. |
|---|----------|----------|-----------|
| Cost per lb. of clean cotton | 0 | 0 | 3 |
| Half screwing, baling, insurance, conveyance to port, and commission | 0 | 0 | 1½ |
| Expenses at port of shipping, including freight, shipping charges, and marine insurance | 0 | 0 | 0¼ |
| Landing charges, brokerage, commission, &c. &c. in England | 0 | 0 | 0¼ |
| Total | 0 | 0 | 5½ |

From this it is evident that 6*d.* a pound will pay; and with a guarantee for a specified period at this price for cotton of a fair and marketable quality, clean, of good colour, and even staple, there need be no fear of any scarcity of cotton in the market.

In the course of a short time, however, 5½*d.* and even 5*d.* per lb. may be sufficient, if that price can be relied on, to induce large shipments to England; *but there must be no doubt about its being realized*, or England will still be left without the staple she needs. The cause of the possibility arising for this reduction being made in the price above given is to be found in the improved means of transit which are day by day being opened out. The cotton from the districts in the Bombay presidency is already finding its way to that port by the various railways intersecting the western portion of the peninsula. The Bombay and Baroda line taps Candeish and Broach. The Great Peninsula of India line will shortly convey the produce of Western Berar to Bombay; while the railway running southward through Sholapore offers a means of transport for all the cotton grown in the southern Mahratta country and the western districts of Hyderabad. The new port of Sedashaghur will admit of the entire produce of Dharwar and the Raichore Doab being shipped direct to England.

The works on the river Godavery, as they approach completion, offer a means of transport at once cheap and easy for the conveyance of the cotton of Nagpore and Eastern Berar to the port of Coringa on the Coromandel coast; and the East Indian Railway and the steamers on the Ganges already afford expeditious means for transporting the cotton of the Jumna and Gangetic Doab and Oude to Calcutta. With these means of transit available, it needs but screw-houses and cleaning machinery, aided by European energy and enterprise, to carry out to the full those improvements in the quality and condition of Indian cotton which have already been proved practicable by skilful and scientific men.

Many doubts have been expressed of late as to the capability of India to fill up the hiatus caused by the cessation of the supply of cotton from America. These doubts have arisen, because those who take upon themselves to enlighten their fellow-sufferers from the absence of a supply of cotton adequate to their requirements, are either ignorant of the demand that exists for the raw material in India itself, or have failed to inquire where enlightenment was obtainable. Some men have boldly asserted that the area at present devoted to the production of cotton cannot be extended without fatally curtailing that on which substances used as food are raised. There are two ways in which these arguments may be met. One by showing that if by offering increased rates for cotton they can draw from the country all that is produced therein, and so shut up the native manufactures, they, of necessity, both enrich the people and force upon them their own productions. Thus, by offering a higher price for the raw material, not only will they secure an increased supply thereof for themselves, but will actually open a market for their own goods larger than all Europe at the present time offers.

The other method by which these sceptics may be silenced is by referring to the customs returns of India of some forty years ago, ere land transit duties were altogether abolished. If this be done, it will be ascertained that the revenue derived from cotton which passed the frontier into Lower Bengal from the Upper Provinces of India, including that which found its way from Nagpore, *viâ* Jubbulpore, to Mirzapore and the Doab, was no less than 500,000*l.*, annually realized by a duty of one shilling upon every maund of eighty pounds, which shows an annual export from those provinces of 800,000,000 lbs. of cotton, which, taking the bale at 300 lbs., gives 2,666,000 bales. This, then, was the annual export from one province and a portion of another forty years ago. It is not, however, to be understood that the whole of this cotton found its way to sea: very far from it was the case. Patna alone consumed a very considerable portion of it, as did likewise Morshedabad and Dacca; it was but the surplus after the demands of these places were satisfied that found its way to England and to China. If, then, from this one source upwards of two million and a half of bales were obtained, after the demands of the producing districts were of course fully satisfied, it will not be much to estimate the culture of Western Nagpore, the Berar Valley, Candeish, Broach, the Southern Mahratta country, and other cotton-growing districts of less note, at double that amount. Taking this to be the estimate of these districts, and it is by no means an extravagant one, it will give 8,000,000 bales as the total quantity annually produced forty years ago in excess of that absorbed by the populations of the cotton-producing districts themselves.

Last year India sent us a million bales and something over. What the import may be this year it is as yet difficult to say, but it will hardly fall short of one and a half million bales. Had those requiring cotton written to India in April or May last to the effect that they would among them take four million bales of cotton at 6*d.* a pound, there is not a question but that by May or June, 1863, they would have been in possession of the required quantity. There is one fact connected with the commissioning of cotton from India which should not be lost sight of, and that is that the sowings commence, according to the locality, in June and extend into August; but as all the ploughings have to be completed by the end of June or beginning of July, orders for cotton, if sent, should be in India at latest by the end of May. The pods are gathered in December, January, and in some localities as late as February, so that the produce of one year cannot be looked for in England much, if at all, before May in the following.

What effect the increased price of the raw material may have on the interests of the native manufacturer is also an important question. Closer competition with the mill-owners of Manchester will probably damage him in his own markets; but this is a matter which need not be discussed at present.