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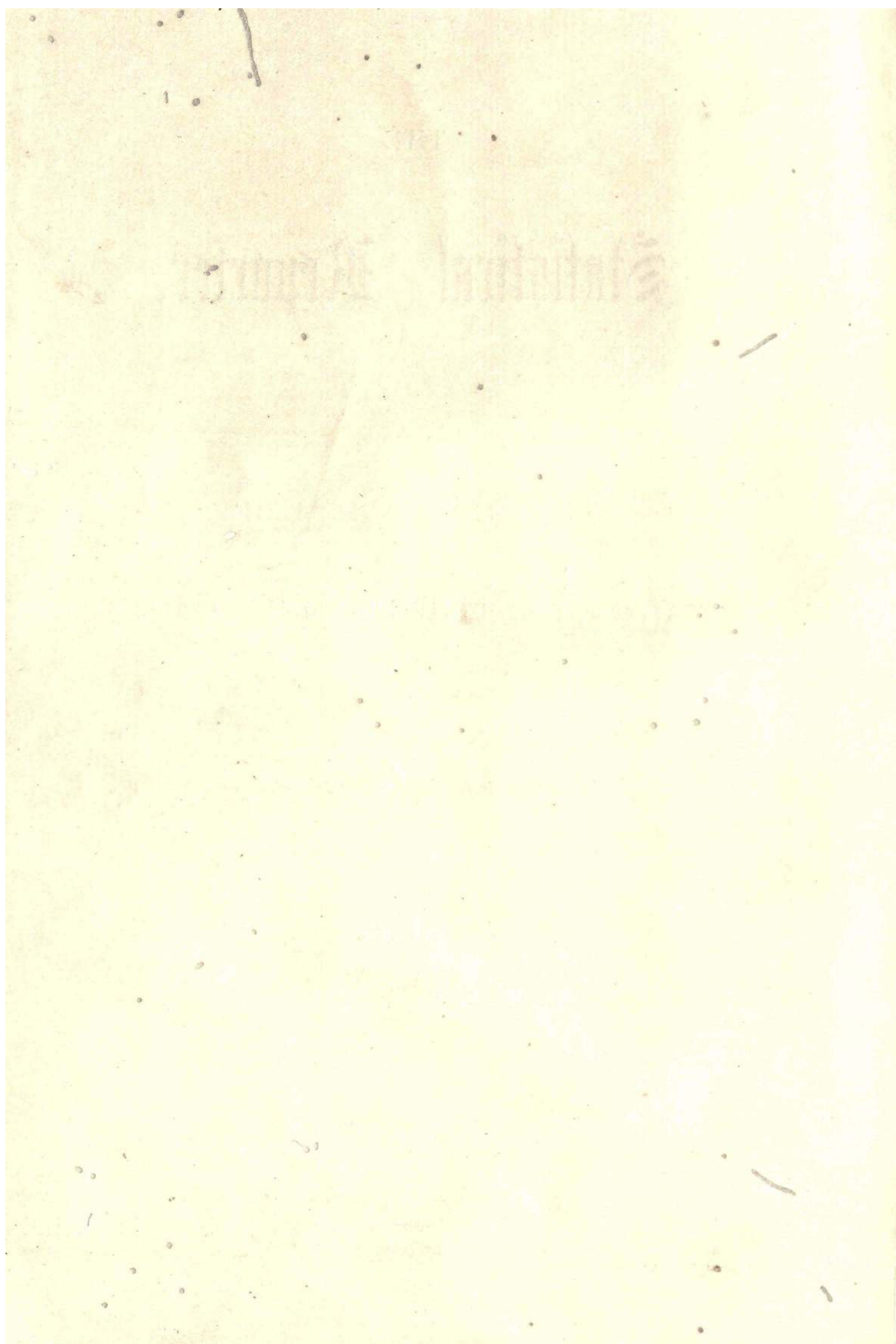
STATISTICAL ENQUIRIES CONCERNING INDIA,

EDITED BY
ROBERT KNIGHT, F.S.S.

VOL. V.

CALCUTTA :—G. C. HAY & Co.

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1874

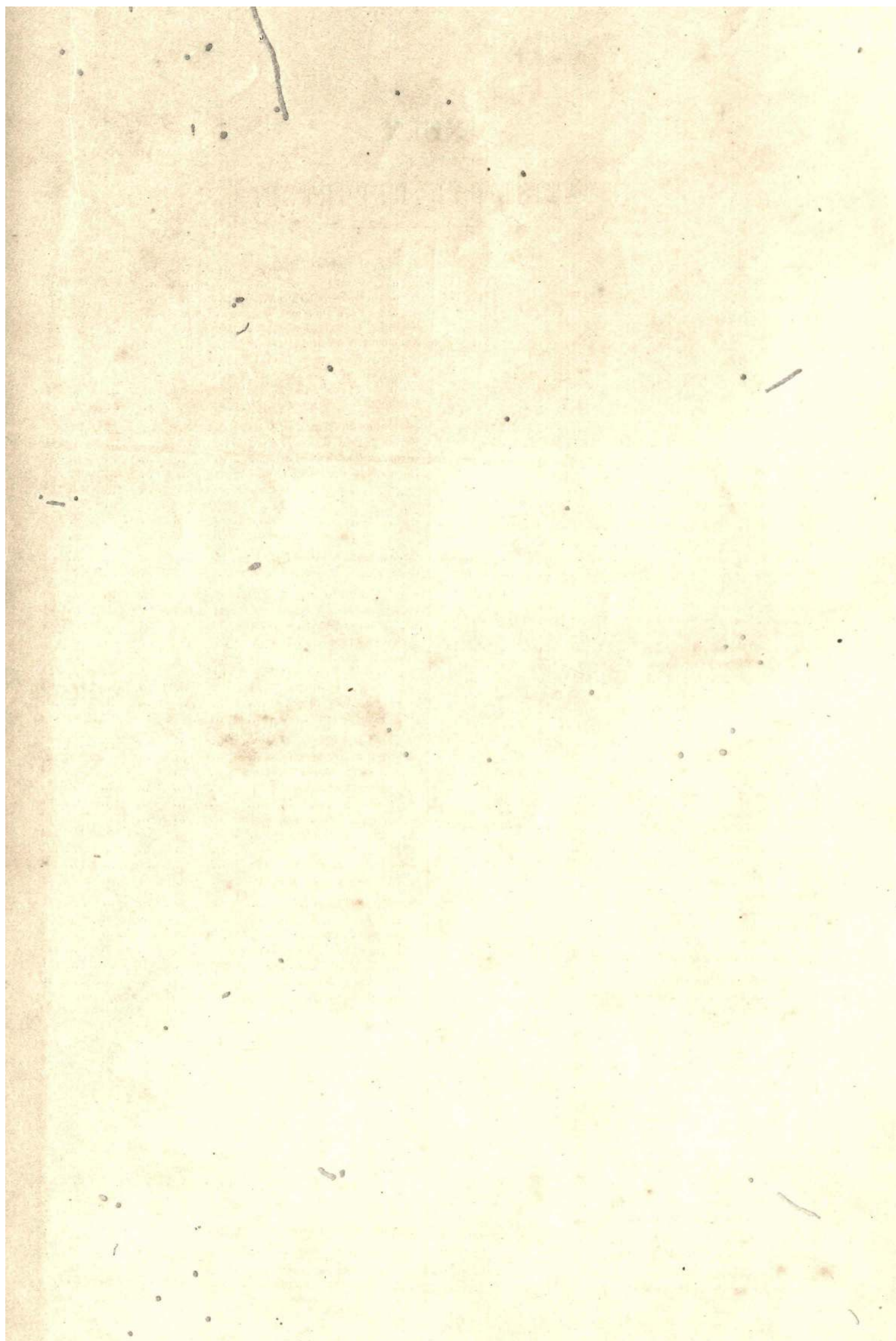


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STATISTICAL REPORTER.

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VOL. V.]

CALCUTTA, THURSDAY, 21ST AUGUST 1873.

[No. 1.

TRADE BETWEEN INDIA AND THE PORT OF ODESSA.

From Government of India, Department of Agriculture, Revenue and Commerce, to Chamber of Commerce.

CALCUTTA, 27TH JANUARY, 1873.

I AM directed to forward, for information and for any remarks the Chamber may wish to make, copy of a letter from Her Majesty's Consul-General at Odessa, dated the 22nd November last, on the subject of trade between India and that port.

From Her Majesty's Consul-General, to Government of India, Foreign Department.

ODESSA, 22ND NOVEMBER, 1872.

I HAVE had the pleasure of receiving your letter of the 21st September in which you have asked me, on the part of His Excellency the Viceroy and Governor-General of India for information relative to the trade which has recently sprung up between India and this port through the Suez Canal, and of the prospects of that trade, and I will now endeavour to reply to your inquiries. Early in March 1871 two ships of the Russian Steam Navigation Company (which is subsidized by the Government) were despatched from this port as an experiment, to the Indian Seas—one, the "Nakhimoff," termed a Steam Transport, nominally of 3,200 tons burthen, was directed to Bombay, the other, the "Ichikatchoff," also a Steam Transport of 3,600 tons nominally, to China. They took from this only coals as there is absolutely no merchandise suited to the markets of India or China to send from this country. These vessels returned in May and July respectively with cargoes, that, from Bombay bringing 4,539 bales of cotton and 520 packages of rice, coffee, gum, and pepper for Odessa after discharging on her way 1,958 bales of cotton for the Mediterranean. The "Ichikatchoff" brought 34,425 chests of China tea, nearly all these goods on arrival here were forwarded on to the north. The freight gained on these return cargoes, especially on that from China, was understood to have been remunerating as such, and the trial, I believe, would have been deemed successful had there been any goods to send on the outward voyage. To carry coals from this to one or two coaling stations on the way could never be an advantageous mode of provisioning whilst the coal is derived in a great measure from England—so that the outward voyage was a dead loss in the enterprise. The articles of exportation from this consist chiefly of Grains, Flour, Oil, Seeds, Wool, Tallow, Hemp, Flax and Hides, none of which would be suitable, as cargoes for the Indian Seas so that the difficulty at the very outset of the enterprise appears to be, for the present, insurmountable. In the course of this year, however, the "Nakhimoff" has made two more voyages to Bombay and the "Ichikatchoff," one to China whilst a third vessel, the "Rossia" was directed from England to China. The "Nakhimoff" on her two return voyages has brought the following merchandise to this port, namely:—On 12th March 1872, 6,204 bales of cotton after leaving on the way 625 bales for the Mediterranean.

On the 16th July 1872.

2,050 bales of Cotton,	} After leaving on the way
100 casks of Cocoanut Oil,	
62 cases of Ginger,	
70 cases of Cloves,	
62 cases of Gum,	
22 cases of Galinga,	
18 cases of Sundries,	1,744 packages for London and 2,605 packages for Suez and the Mediterranean.

The "Ichikatchoff" and "Rossia" brought from China respectively 57,329 and 25,928 chests of tea, and an English vessel the "Danube" arrived in September direct from China with 1,300 tons of tea, and 16 bales of silk, which details, as far as they relate to Russian vessels, have been obtained with difficulty, as the Russian Company is jealous of any inquiry into their affairs. Almost all the above goods received here, were, like the preceding ones, destined for the north from whence proceed the orders for their purchase in the east. It was hoped that by sending the vessels of the Company to England with grain, &c., and thence with cargoes for the Indian Seas, the disadvantage the trade labours under in consequence of their being nothing to ship direct either to India or China from this port, would have been overcome, but I am told that in the trial made this year, the result was not satisfactory owing to freights in England being low. With respect to the consumption of Indian produce in this country, as the direct trade is of such recent date, little can be positively stated. The country had previously been supplied with what it required of such articles from England by sea or through Germany, and I find from returns for the years 1858-60, and for 1864 (the latest I can procure) the value or qualities given of several articles of importation of common production in India, for the entire consumption of this country, which I will put down in the subjoined table, premising however, that probably few of the goods referred to were of Indian origin:—

Table of some Imports into Russia.

ARTICLES.	From England direct.	From Persia, Central Asia, &c.	Quality or value of Imports from all countries.
Cotton in 1864	£2,500,000	From 1858-60, 35,000 tons.	From 1858-60, 42,000 cwt.
Indigo " " " " " "	" 264,000	" " " " " "	In 1864, 12,535 "
Tea " " " " " "	" 217,000	" " " " " "	" " 1,175,300 worth.
Silk " " " " " "	" 2,000	" " " " " "	" 1860, 645 cwt.
Coffee " " " " " "	" 220,000	" " " " " "	" 1864, 4,45,230 "
Raw Sugar in 1864	Quantity very small	" " " " " "	" " 10,73,700 "
Rice in 1864	" " " " " "	" " " " " "	" " 80,000 "
Spices, (Pepper, Ginger, Pimento, &c.)	" " " " " "	" " " " " "	" " 12,000 "

Gum Olibanum (used as incense) two or three kinds of incense are largely consumed in Russia.

Turmeric and Galinga Root—imported in small quantities.

Opium—Consumption in Russia quite insignificant and only for medical purposes.

The greater part of the cotton mentioned in the foregoing table was of American growth. The whole of the cotton manufacturing industry of Russia was valued by Mr. Mitchell at £12 millions sterling for the year 1864, about 250,000 persons of both sexes were employed in the cotton mills before the American war, and some 750,000 more were supposed to be engaged in the villages of the country in spinning, weaving and printing cotton. In the provinces of St. Petersburg, Moscow and Vrandimir there were sixty cotton mills working 1,500,000 spindles, and it is reasonable to suppose that since then the consumption of cotton may have been on the increase in Russia whenever a full supply of the article was procurable in consequence of the success which has attended the establishment of native manufactures and the high appreciation they have obtained in the opinion of foreigners a success which, whilst the present protective measures are continued, can scarcely fail of producing a further development of that branch of industry which is at present only in its infancy. The importations of cotton direct from India to this port have, I believe, been principally or entirely for one firm at Moscow, but an opening for the trade through this place having been found, I doubt not the advantages this route possesses over any other will gradually attract general attention, and that in time the country will be largely supplied with the productions of India through Odessa, though in commerce as in every thing else progress in Russia is very slow, and commercial enterprise at a very low figure; I am told that as a rule the actual importations into this country may be taken as the measure of the demand or consumption since only just what is seemingly required for home use is ever brought from abroad which shows how little the spirit of enterprise or speculation is as yet and the great manufacturers being likewise the importers of the produce they consume, the trade even in an article like cotton passes through few hands.

I cannot learn that the indigo you mention has been landed here. Possibly it has been smuggled or sent via Germany which route seems to offer some advantages over this for illicit trade. The tea produced in India, and of which samples have been brought to this country, is

not liked. Its strength is not appreciated in the absence of a better flavour and the cost is considered too high. The direct trade which has been opened with India by Russian vessels cannot be termed a success; but it is understood to be partly supported by a subsidy or mileage which the Government grants as an encouragement to or means of forcing a trade forward under the Russian flag. In this way it may of course be maintained so long as the sacrifice is made, but if left to itself such a trade must come to nought. Should the Russian Company however withdraw from it, the importations from India would no doubt be taken up by English ships and steamers would be pretty sure of finding cargoes for Western Europe at this port at most seasons, but particularly in autumn. There is however one chance in favour of the continuance of the direct trade to and from India in Russian shipping, and that is the development of coal fields in the country of the Don, and it is hoped that the produce may become an export of considerable consequence to countries in the circuit of the Mediterranean and possibly even to the Indian Seas. I must apologise for this very imperfect sketch. In the impossibility of obtaining on the spot all the information I required, I addressed myself to a gentleman at Moscow for some details which would have rendered this account more complete, but his answer does not come and I will not longer delay my reply to your letter.

P.S.—It strikes me that Odessa would be a very favourable point at which to establish a depot of Indian produce—particularly of cotton, indigo, and Ceylon coffee, but no English house of commerce has existed here since the Crimean War. I should be very happy to give you any further information should you desire it as far as it is procurable.

COTTON CROP OF THE NORTH-WESTERN PROVINCES, 1872-73.

(Chamber of Commerce, Calcutta.)

THE Committee received an elaborate statement from the Board of Revenue, North-Western Provinces, of the probable outturn of the cotton crop for the year 1872-73 in those provinces. This statement was made up from reports of different Commissioners, while the crop was yet on the ground, and were therefore only to be taken as estimates, liable to alterations according to subsequent weather or other contingencies. Even allowing for this, however, the Committee, looking only to the internal evidence afforded by the statement itself, were unable to reconcile the results with the expressed anticipation, and it was evident therefore that the figures had not been made up with sufficient care or perhaps knowledge, and that they were likely to be misleading. This became still more evident when the figures were tested by actual receipts by rail and exports through the Custom House. The deficiency was so great that the Committee felt themselves bound to bring to the notice of the Governments both of the North-Western Provinces and of India in the Department of Agriculture the absolute necessity of greater accuracy in official returns. It will be seen from the correspondence that some of the Committee's statements had already been anticipated by the Government, who had called the attention of the Board to the errors in question. Referring to the remarks of the Government of the North-Western Provinces that the figures represent only the outturn of those particular provinces, excluding all other cotton producing districts, they have asked to be supplied in future with returns for the entire cotton crop, wherever grown, and this the Government have promised to supply. We may therefore expect in future not only fuller but at the same time also more accurate statements and estimates of the crop likely to be brought to market.

From Board of Revenue, N.W. Provinces, to Government of the N.W. Provinces.

ALLAHABAD, 17TH JANUARY 1873.

I AM desired by the Board of Revenue to submit, for the information of the Hon'ble the Lieutenant-Governor, a statement of the area and estimated outturn of the Cotton Crop in the districts of the North-West Provinces for the year 1872-73, as compared with 1871-72. The following abstract shows that the estimated yield this year is 12,20,266 maunds, against an estimated outturn of 8,18,846 maunds last year, and an actual crop that year of 8,22,255 maunds, that is the anticipated yield this year, is maunds 3,98,011, or lbs. 3,18,40,880, in excess of the actuals of last year.

DIVISIONS.	AREA AND OUTTURN IN MAUNDS OF 40 SEERS OR 80 LBS.					
	1871-72.				1872-73.	
	The Area and Estimated Outturn during 1871-72.		The actual Area and Outturn as shown in the report of 19th April 1872, No. 389.		The Area and Estimated Outturn.	
	Acres.	Maunds.	Acres.	Maunds.	Acres.	Maunds.
Meerut	2,26,799	2,97,425	2,24,984	2,81,986	2,76,207	3,49,215
Kumaon	2,548	1,802	2,548	1,605	3,598	2,198
Rohilkund	1,33,418	86,910	1,33,437	81,735	1,51,702	97,129
Agra	3,85,013	3,05,738	3,95,676	3,63,189	4,23,257	5,87,220
Jhansi	52,972	18,642	46,964	16,719	78,532	48,085
Allahabad	2,45,615	1,00,931	2,55,722	69,961	2,77,530	1,28,086
Benares	18,257	7,398	18,027	7,110	21,550	8,323
Total	10,64,622	8,18,846	10,77,358	8,22,255	12,32,376	12,20,266

The area under cultivation has increased by 1-7th as compared with the actuals of last year. The cause of this increase is not given, but is no doubt partly attributable to the rains having set in earlier than usual. In the Meerut, and in parts of the Rohilkund, Allahabad and Jhansi Divisions, the crop is reported to be good, and in the Agra Division it promises to be a remarkably fine one. In the Benares and Kumaon Divisions, where very little cotton is grown, the outturn will, in all probability, be in excess of what it was last year. On the whole the general aspect of the crop is said to be promising, although, the season has not been a favourable one. The rains have been incessant and, to some extent, detrimental to weeding operations, and in the Allypore District, and probably in the Boolundshahr District also, some damage has been done to the crops by locusts. Beside the ordinary statement, two tables accompany this report. The first showing price currents in lbs. in each district, for each month and for the average of the year: the districts being ranged in order of cheapness. The second showing the percentage of area estimated as under cotton to the total cultivated area of each district. The statement of the cultivated area is taken from the last Settlement Reports where available: otherwise from the area given in the produce and outturn tables of 1869-70. Prices range from an average of 6 lbs. and 7 ozs., in Etawah to 3-6 in Jounpore, but the different months in which prices in the several districts were respectively at their highest and lowest differ curiously. * * * It would not be expected that Furruckabad, which is comparatively close to the cotton-growing districts, should come so low in the list, though the area under cotton is shown as less than 4 per cent. of the cultivated area. The entry for Benares, with an uniform price all through the year, is obviously erroneous, and cannot have been checked by the Collector. In Etawah and Agra the price is least at the time of the year when in other districts it is highest, and rises steadily as the new crop ripens and is gathered. Here too must be error, Muttra and Gurhwal have sent no returns. In the order of importance the first 12 districts fall as follows:—

Percentage.				Percentage.			
Muttra	...	...	17-19	Cawnpore	...	...	8-64
Agra	...	...	16-28	Etah	...	...	7-51
Etawah	...	...	12-01	Humeerpore	...	...	7-26
Allypore	...	...	9-52	Bajnaour	...	...	7-09
Banda	...	...	9-37	Meerut	...	...	6-84
Jaloun	...	...	8-83	Moradabad	...	...	6-72

In the 2nd, 3rd, and 4th districts the easy prices correspond with the large local growth. Similarly in the Gorruckpore Division, where scarcely any cotton is grown, we find proportionately high prices.

From Chamber of Commerce, to Government of the North-Western Provinces, Allahabad.

CALCUTTA, 10TH FEBRUARY 1873.

THE Committee of the Chamber of Commerce direct me to acknowledge the receipt of copy of letter No. 57 of 17th ultimo, from the Secretary to the Board of Revenue to your address, regarding the probable outturn of the cotton crop for the year 1872-73. The Committee are greatly obliged for the Board's report and the several statements which accompany it, and request you will do them the favour of expressing their thanks to His Honor the Lieutenant-Governor for these papers. The Committee notice with satisfaction that the outturn for 1872-73 is in

the opinion of the Board likely to largely exceed the estimates and actuals for 1871-72, viz., 1,220,266 maunds against 818,816 and 822,255 respectively, and they trust the estimate will be confirmed hereafter. They direct me however to say that among native merchants the general opinion is that the crop will not reach the Board's estimate; that it will probably be a deficient and not an excessive one: some go the length of placing it on a par with that of 1871-72, but none make an increase.

In confirmation of their view they point to the small receipts up to date in the large marts as compared with the quantity received last year: and they assert that there is no storing in the districts of consumption. The lateness of the season may in some measure account for this, but the dealers assign another reason for the discrepancy between their own estimates and that at which the Board have arrived. They say there are during the season three flushes of pods or flowerings or at least three pickings; that the first flush or picking this year was a very large one and the cotton of good quality, but that the second was very deficient and poor, and the third an entire failure,—the falling off in these two being due to unpropitious weather and the attacks of insects. They suggest that the Government estimates were made at about the time of the first picking or immediately previous, and that no allowance has been made for the failure of the subsequent pickings. These are material and important statements; and the Committee submit them for the special consideration of the Lieutenant-Governor because if they are substantially correct, the Board will probably deem it necessary to review their conclusions and amend their estimate. The Committee would also draw attention to some apparent discrepancies in the Board's statement. For instance the outturn per acre last year in the Bareilly District was 20 seers 6 chittacks, and though the prospects this year are reported to be "not good" the estimated yield for 1872-73 is 25 seers 15 chittacks or an increase of 25 per cent. Again in Banda—one of the largest producing districts—the crop is reported as "decidedly below the average having been injured by excessive and continued rain," yet the outturn is 19 seers 5 chittacks against 6 seers 15 chittacks. In 1871-72 the yield in that district was estimated at 16 seers 14 chittacks, and there must have been serious damage to have caused so poor and marked a result. This year, though a bad one, is estimated to yield a larger crop than last year before this damage took place. I am also to draw attention to other figures in the statement which the Committee are unable to reconcile with the exports of cotton from Calcutta.

The total crop of 1871-72 according to Board's figures, was 822,255 maunds,

or 65,780,400 lbs.,

or 219,268 bales,

which represents upwards of 50 per cent. less than the exports from Calcutta 378,996 bales;

a portion of the excess of exports may have consisted of old cotton, but the Committee scarcely think the entire excess can be so accounted for. Another point which strikes the Committee as involving an error of great magnitude is this:—the Board allow for home consumption at a rate which the Committee do not consider excessive, viz., 2 lbs. per head of a population of 29,605,773. If therefore from the crop of 1871-72 822,255 maunds or lbs. 65,780,400

the consumption of 2 lbs. per head is deducted 59,211,546

there remained for export only lbs. 6,568,854

or bales 21,896

which compared with the declared exports from Calcutta of 378,996 bales exhibits a result which must obviously be not only inaccurate, but totally worthless for statistics. So with the estimated outturn of cotton and the quantity requisite for consumption for the year 1872-73, as per table No. 4; if from the former 37,621,280 lbs.

be deducted for consumption 59,211,546 lbs.

there remains for export only 38,409,734 lbs.

or 128,032 bales,

or about $\frac{1}{3}$ rd the quantity actually brought to Calcutta by rail for the year ended 31st October last, exclusive of what may have arrived through other channels. The Committee beg me further to state that in addition to the exports from Calcutta a large quantity of cotton finds its way from the North-West to Bombay, Scinde and Nepal, and there also is considerable consumption in Bengal. If sufficient allowance be made for all this, the discrepancy between the Board's figures and the actual amount of cotton consumed in and exported from this side of India will be greatly increased, and the Committee incline therefore to the belief that the returns now given do not include all the cotton producing districts from which Calcutta is supplied. They request you will afford them further information if in your power.

From Government of the N.W. Provinces, to Chamber of Commerce.

ALLAHABAD, 4TH MARCH 1873.

I AM directed to acknowledge receipt of your letter dated the 10th February 1873, in which you communicate the views of the Chamber of Commerce on the report of the Board of Revenue, N.W. Provinces, on the estimated outturn of the cotton crop in these provinces for the year 1872-73, and in reply to communicate the thanks of the Lieutenant-Governor to the Chamber for the pains with which the report has been reviewed, and for the independent information brought to bear on the facts of the case. A copy of your letter will be forwarded to the Board of Revenue for consideration. I am to send for the perusal of the Chamber of Commerce a copy of the Government letter reviewing the Board's report which was in type when your letter was received. It will be observed that some of the questions raised in your letter are taken up in this review. It is important to remember that the Board's report is based on a preliminary estimate made as early as October or November 1872, and it states expectations simply as they then existed, at a time when the crop was still liable to be affected by unseasonable rain, storm, or frost. The real outturn can only be stated with approximate accuracy when the crop is nearly gathered. The Board will be asked to expedite their second report on the actual outturn. The fact stated by the Chamber that the first picking was good, and promised much more and better staple than the subsequent results justified is quite consistent with the above remarks. I am however to add that, certainly in some parts of these provinces, His Honor is assured that the crop in its eventual outturn has been decidedly above the average. In reference to the remarks of the Chamber on the quantities brought to and exported from Calcutta, I am to observe that it is quite possible that these statistics may vary from those of production in the N.W. Provinces. The area under cotton in this province constitutes, but a portion of the cotton bearing land of Northern India, the surplus of which goes to Calcutta; and the crop may be good in other parts, e.g. in Rajpootana, when it is bad in the N.W. Provinces. The attention of the Board will be called to the other points in your letter, and especially to the degree in which Bombay may have entered into the market in attracting the cotton of Bundelcund and Central India in that direction.

From Government, North-Western Provinces, to Board of Revenue, N.W. Provinces.

ALLAHABAD, 26TH FEBRUARY 1873.

I AM directed to acknowledge the receipt of your letter No. 57, dated the 17th January 1873, and enclosures, being the Board's report on the estimated outturn of the cotton crop in the North-Western provinces for the year 1872-73. It is not stated to what month the report refers, though it is supposed that the estimate is founded on district reports written in October or November. This information should always be given as without it the bearing of the returns must be uncertain. The main features of the report are the anticipation of an increase at once in area and in produce per acre. The estimated area under cultivation is 1,220,266 acres against an actual cultivation in 1871-72 of 1,077,358 acres, showing an increase of 13.2 per cent. This estimate is probably, upon the whole, well founded, as the early rain caused a larger area than usual to be sown with cotton. The grounds for the anticipation of increased produce per acre are not equally clear. The estimated outturn is 79 lbs. per acre against 61 lbs. in the previous year; but in several districts which contribute to this estimate, the report would have led Government to expect a different conclusion. In fact, in many cases the figures and the remarks look different ways; and while the Collector states that the crop is injured and the produce bad or below average, the statistics supplied are such as to show that the outturn will be greater than in the previous year. The likelihood of this is apparently based on the assumption that the previous year's outturn was even worse and farther below the average; but, if so, this should have been distinctly stated. The variations between some similar and similarly situated districts are so great as to attract attention. Boolundshuhur shows the high outturn of 1 maund 27 seers 2 chittacks per acre, while in the adjoining district of Allypore the outturn is only estimated at 39 seers 9 chittacks. In the Agra Division, the outturn in Etah is estimated at 2 maunds 7 seers 3 chittacks, and in Farruckabad at 1 maund 23 seers 4 chittacks; but in Mynpoory the estimate falls to 32 seers 4 chittacks. Similar differences are to be found in other divisions. These differences may possibly be accounted for, in part, by different modes of cultivation as the sowing of cotton together with other crops; and in some districts, as Boolundshuhur, the crop may have been partially irrigated. The crop occupies 5.13 of the cultivated area in the province. The Muttur District is highest, with 17.19 of its cultivated area under this crop, and the Azimgurh District the lowest, with .03. A comparison with the monthly statements of prices-current published in the Gazette with those entered in the Board's report shows some startling variations. The difference is most marked in the Etawah District. In no one of the twelve months do the two sets of prices correspond, and the district which in the Board's statement stands cheapest, with an average of 6 lbs. 7 ounces for the rupee, according to the monthly statements falls to the thirteenth place, with an average of 4 lbs. 9 ounces. Etah takes the first place, with an average of 5 lbs. 7 ounces; Farruckabad rises from the thirtieth to the twelfth place on the list, with the same average as Mynpoory, and adjoining districts shows generally a close correspondence in the prevailing prices. These figures are more in accord with the general results of the year, and I am to request that the Board with call for and submit explanations by the several Collectors, of the figures on which the Board's statements is founded. The more convenient mode of stating prices is probably the price per Government maund of 40 Government seers. The further report promised by the Board on Munnowa cotton, and on the discrepant prices of districts, will be awaited, and the Lieutenant-Governor hopes that the Board will not overlook the remarks contained in paragraph 7 of my No. 738A, dated 21st May 1872, regarding the employment of a sound estimate of average consumption, coupled with knowledge as to the importing or exporting character of a district, to test the estimate of produce; and His Honor also looks for the early submission of the report on the actual outturn.

From Chamber of Commerce, to Government of the North-Western Provinces, Allahabad.

CALCUTTA, 20TH MARCH 1873.

THE Committee of the Chamber of Commerce desire me to acknowledge the receipt of your letter No. 66 of the 4th instant. They are greatly obliged to the Lieutenant-Governor for the reply which His Honor has been pleased to give to their representation regarding the estimated outturn of the cotton crop in the North-Western Provinces for the year 1872-73, as well as for copy of the communication addressed to the Board of Revenue on the same subject. When the Board's report on actual results has been submitted, the Committee will be glad to be favoured with a copy of it; in the present stage of discussion they have estimates only, which are always open to adjustment, and as these were made early in the season they would be probably more or less disturbed by circumstances affecting the crop subsequent to the Board's preliminary inquiry and the conclusions then arrived at. From the accompanying copy of letter to the Government of India, the Department of Agriculture, Revenue and Commerce, it will be noticed that with the view of ascertaining source which supply the cotton received into Calcutta and of accounting for the discrepancy between the quantity brought down by rail and the estimated outturn from the North-Western Provinces, the Committee of the Chamber have requested to be furnished with returns of produce sent to this market from all exporting districts, as partial statistics are obviously insufficient to enable the Chamber to form a fairly correct judgment on the important subject of cotton production in India.

From Government of the North-Western Provinces, to Chamber of Commerce.

ALLAHABAD, 31ST MARCH 1873.

IN reply to your letter dated the 20th March 1873, I am directed to say that the report of the Board of Revenue on the actual outturn of cotton in the North-Western Provinces is not due in this office until the 1st of April as the latest date. But it will now be considered whether that date is not too late and whether it cannot be submitted by the 1st March.

From Chamber of Commerce, to Government of India, Department of Agriculture, Revenue and Commerce.

CALCUTTA, 20TH MARCH 1873.

HIS HONOR the Lieutenant-Governor of the North-Western Provinces has recently communicated with the Chamber of Commerce regarding the estimated outturn of the cotton crop for 1872-73. In reviewing the estimates submitted by the Board of Revenue, N.W. Provinces, the Chamber was much struck by the conclusions arrived at as they were apparently inconsistent with the Board's statistics which went to show that after reserving a fairly estimated amount for local consumption in the Upper Provinces there would be little or nothing left for export to the Calcutta market—say 22,000 bales. Now the receipts into Calcutta by rail alone for the season ending 31st October 1872 were 3,96,700 bales, and in the preceding year 3,68,000 bales; and the question arises—where does this large quantity come from if the cotton producing districts of the North-west yield only a nominal surplus after providing for local consumption? In reply to the Chamber's remarks on this point it is suggested that the supplies from Rajpootana and elsewhere, which are of course not embraced in the Board's report, may be sufficiently large to account for the discrepancy. This may possibly be so; and it will be satisfactory to learn to what extent the Rajpootana States and other cotton bearing lands of Northern India supplement the exports to Calcutta from the districts under the Government of the North-Western provinces. As the Chamber possesses no information on this head, I am desired to request you will oblige them by placing at the Committee's disposal any returns which may satisfactorily trace the cotton supplied to Calcutta, independent of the crop of the North-Western Provinces. Or perhaps the Government has at command the figures showing the actual outturn of all cotton producing districts of India; and from these, with the papers already in their possession, the Chamber will be able to eliminate the proportions sent to each port of shipment, and thus arrive with some degree of accuracy at the production and consumption of the staple in this country.

From Government of India, Department of Agriculture, Revenue and Commerce, to Chamber of Commerce.

CALCUTTA, 28TH MARCH 1873.

IN reply to your letter dated the 20th instant, asking for certain information regarding the estimated outturn of the cotton crop for 1872-73, I am directed to state, that the subject is at present under inquiry by the Government of India, the result of which will be communicated to the Chamber of Commerce in due course.

THE SHIPPING AND COMMERCE OF CEYLON FOR 1871.

WE have to thank the courtesy of the Collector of Customs for a printed copy of the Customs Returns for 1871, which include comparative statements of results for three years. The most prominent feature in the returns is the large increase in the figures for navigation, the result, doubtless of the opening of the Suez Canal. The figures for 1871 are unprecedented, viz. :-

Vessels Outwards, No. 3,541 Tons 810,032. Vessels Inwards, No. 3,539 Tons 828,365. Total Outwards, & Inwards, No. 7,080 Tons 1,638,397.

This was an increase over 1869 of 438 vessels and 227,301 tons inwards and 351 vessels and 197,270 tons outwards; and an increase of 201 vessels and 119,681 tons inwards and 134 vessels and 94,771 tons outwards as compared with 1870. The total increase outwards and inwards in the three years was 790 vessels and 524,571 tons. Here is surely a strong argument for improved harbour accommodation. All but the slightest fractional part of the vessels were British or British Colonial. The value of our trade was :-

Imports.....£4,798,000, Exports.....£3,635,500, Total.....£8,363,500.

Adding for increased valuation of coffee in markets of consumption, for rated imports undervalued, and specie not reported, but deducting for imports exported, the real value of our trade was at least nine millions sterling. The elements of our export trade were :-

Ceylon Produce £3,143,000, Imports exported £410,000, Specie £82,000, Total... .. £3,635,000.

The value of Ceylon produce, even in this market ought to be raised to 3½ millions, and the specie taken away by chetties and coolies must amount to several hundreds of thousands of pounds beyond the figure shown. Let us say four millions for Ceylon produce and specie, and five millions for imports. The apparent "balance of trade" against us would then seem to be one million, but imports exported and profit on them no doubt go far to equalize matters,—allowing for capital coming in, and being absorbed in coffee cultivation which will, by and by, begin to yield produce in proportion. No doubt some specie comes to the Island unreported. The sums reported have varied thus :-

1869 Goods imported...	£3,407,000	1870 Goods	£4,093,500	1871 Goods	£3,913,000
" Specie	£1,228,000	" Specie	£ 541,000	" Specie	£ 885,000
" Total	£4,635,000	" Total	£4,634,500	" Total	£4,798,000

It is curious to notice how a deficiency in goods is made up by specie and vice versa. If specie fell nearly £700,000 in 1870 as compared with 1869 goods rose by almost exactly the same amount; and if goods fell by £180,000 in 1871 specie rose by £345,000. The result is that including specie the imports of 1871 showed an increase of £163,000 over 1869, and the same amount over 1870. Goods alone showed an increase of £505,717 over 1869 and a decrease of £180,765 as compared with 1870. We seem to have arrived at this point: that we import goods and specie to the value of five millions annually sending away nearly the odd million in imports exported and specie, besides 3½ millions of Ceylon produce.

The duties collected on imports in 1871 were £240,000 an increase of £8,232 over 1869, and a decrease of £4,784 compared with 1870. Cotton goods yielded £28,839, and grain £143,429. The quantities of two chief staples imported and entered for consumption were :- Cotton goods, imported 21,513 packages and 1,837,678 pieces valued at £840,917; of which only 14,294 packages and 1,586,611 pieces were entered for home consumption. Rice imported, 4,278,708 bushels valued at £1,390,580, but entered for home consumption (made up by excess of previous year's imports), 4,833,227. We still pay India a tribute of about 1½ million for rice and other grain, to supply the deficiency of local growth. As most of our specie comes to us from British India, the "balance of trade" against us looks astounding :-

Imports from £2,779,820 ... Exports to (only) £686,847

On the other hand, our trade with Britain gives an opposite result, thus :-

Imports from (only) £1,462,050 ... Exports to £2,633,168

The initiated know how the differences are corrected. Much of the specie we get from India is in payment of produce sent to Britain. Amongst our exports coffee holds an unapproachable foremost place. The figures for 1871, were :-

Plantation: Quantity, cots. 775,454, Value £2,093,667.

Native: Quantity cots. 178,397, Value £338,759.

Total: Quantity, cots. 953,851, Value £2,432,426 out of a total of £3,634,853. Coconut oil, our next staple, gave cots. 207,137, Value £257,519.

So that coffee and coconut oil together make up nearly £2,700,000 of the £3,143,409 at which Ceylon produce is valued in our export trade.

EXPORTS FROM TRIESTE TO THE EAST INDIES IN 1870, 1871 AND 1872.					IMPORTS INTO TRIESTE FROM THE EAST INDIES IN 1870, 1871 AND 1872.				
GOODS.					GOODS.				
Price per 100 Funtl.	Quantity.	Value.	Quantity.	Value.	Price per 100 Funtl.	Quantity.	Value.	Quantity.	Value.
Rs.	Cwts.	Rs.	Cwts.	Rs.	Rs.	Cwts.	Rs.	Cwts.	Rs.
1 Amber	500	2,620	23	10,225	1 Articles of Fine Arts	Not known.	5,060	Not known.	6,890
2 Arms, (Ammunition)	81	5,880	24	1,744	2 Cinnamon	101	18,280	Not known.	11,050
3 Articles of Fine Arts	Not known.	8,095	294	1,990	3 Cocoanuts	6	600	90	16,260
4 Beer	1,474½	1,737	33	4,207	4 Cocoa and Palm Oil	25	88,012	Nil.	Nil.
5 Books and Printings	83	1,737	13	698	5 Coffee	35	547,565	2,924	66,302
6 Bronze	32	1,732	13	4,668	6 Cotton	147,330	53,44,071	41,715	13,34,060
7 Carpenter's Manufactures	4	14,148	109	4,468	7 Cutch or Japan Cutch	3,000	54,420	2,71,577	98,51,531
8 Colours, (not named)	260	37,438	908	65,910	8 Ebony	10	1,810	Nil.	Nil.
9 Cotton Twist	517	1,298	20*	1,357	9 Ginger	3,008	40,847	75	1,030
10 Drugs, (different)	18	1,298	20*	1,357	10 Grapelite	2	Nil.	208	378
11 Earthenware, Porcelain	125	1,160	15	1,639	11 Gum Lac	40	24,800	14	40
12 Earthenware, (Majolica)	25	1,842	68	1,539	12 Hemp	30	2,760	105	1,895
13 Flour	2,988	21,530	3,331	24,168	13 Hides, Cow	60	5,111	1,448	78,758
14 Fresh Fruits	8	1,121	1,178	2,135	14 Do. Calf	100	13,414	Nil.	Nil.
15 Glass Beads	67	1,178	3,069,936	8,720	15 Do. Tanned	137	760	1,187	95,400
16 Glassware, common	10,070	4,55,620	6,761	11,810	16 Do. Other	1,033	45,840	14,578	6,61,098
17 Hardware	316	4,392	284	12,865	17 Horns	3	143	390	Nil.
18 Hides	17	1,221	4	326	18 Incense	24	3,085	185	2,14,550
19 Lead	45	627	Nil.	Nil.	19 Indigo	24	450	15	341
20 Machinery	Not known.	1,109	Not known.	2,160	20 Medicinal Roots	3,095	12,62,912	7,065	4,030
21 Manufactures of Cotton	3,782	5,14,446	6,814	7,68,897	21 Medicines	13	30	25	28,80,420
22 Manufactures of Wood	6	454	7	345	22 Mother-of-Pearl	Not known.	2,450	182	41,83,423
23 Manufactures of Yellow Metal	83	454	8	345	23 Nut Gall	42	760	191	1,800
24 Matches	202	1,616	86	6,240	24 Pepper	Nil.	Nil.	12	226
25 Medicinal Preparations	19	4,570	110	2,500	25 Rape-seed	10,534	2,88,824	920	5,085
26 Metallic Manufactures	83	3,749	507	738	26 Rattans	1,500	10,500	Nil.	19,991
27 Musical Instruments	Not known.	2,968	Not known.	23,005	27 Saffron	243	8,300	Nil.	Nil.
28 Needles	9	7,614	4	3,186	28 Saltpetre	Nil.	Nil.	29	46,800
29 Old Copper	75	58,596	1,687	81,815	29 Senna Leaves	1,985	27,900	20	3,000
30 Paper	3,280½	6,300	No. 18	30,237	30 Shellac	20	454	14	3,832
31 Pianoforte	2	Nil.	Nil.	Nil.	31 Silk (raw)	Nil.	Nil.	211	1,572
32 Potatoes	Not known.	16,505	Not known.	26,560	32 Silk Cocoon	150	3,730	96	4,770
33 Precious Stones, Pearls, &c.	30	2,354	99	1,808	33 Sundry Gums	22	19,820	78	210
34 Rope-maker's Manufactures	Not known.	1,715	Not known.	2,157	34 Tamarind	213	11,380	472	Nil.
35 Scientific Instruments	Not known.	2,691	Not known.	4,487	35 Tea	1,103	25,000	413	5,632
36 Shoe-maker's Manufactures	100	2,540	57	78,000	36 Tin	28	5,080	5	116
37 Silk Manufactures	1,500	1,195	18	323	37 Timber	Nil.	Nil.	89	Nil.
38 Soap	66	Nil.	Nil.	Nil.	38 Tin not purified	No. 81,570	1,22,355	Nil.	11,350
39 Spices of Wine	15	908	29	519	39 Turmeric	30	37,080	454	Nil.
40 Spices of Wine	70	3,184	5	475	40 Vitriol	298	8,100	Nil.	Nil.
41 Stearine Candles	3	Nil.	90	245	41 Other Articles	Curiz. Pieces. Slaya.	Nil.	229	507
42 Sundry Articles of Metal	Not known.	61,288	Not known.	1,00,570				Nil.	29,268
43 Tailor's & Milliner's Manufactures	500	8,205	19	8,970				Nil.	29,268
44 Tobacco Manufactures	300	6,912	32	8,733				Nil.	29,268
45 Watches	Not known.	2,930	No. 785	15,700				Nil.	29,268
46 Wax	30	Nil.	255	23,137				Nil.	29,268
47 Wax	30	777	lbs. 69	1,015				Nil.	29,268
48 Wine of Cyprus and Malaga	30	377	Cwt. 27	148				Nil.	29,268
49 Wine of Cyprus, (common)	6	3,659	207	18,773				Nil.	29,268
50 Wine of Cyprus and Malaga, (fine)	100	2,906	31	277				Nil.	29,268
51 Wire	20	990	118	2,056				Nil.	29,268
52 Wire in Bundles Bars	10	858	40	7,306				Nil.	29,268
53 Wire Manufactures	25	18,374	323	22,639				Nil.	29,268
54 Wollen Manufactures	200	19,022	1,588	22,639				Nil.	29,268
55 Other Articles	Cwt. Pieces. Dozens.							Nil.	29,268
Total	24,634½	18,62,003	24,334	16,73,403				Nil.	29,268
	630	300	2,391	1,280				Nil.	29,268
			1,155	1,155				Nil.	29,268

* N.E.—100 Funtl = 123½ lbs.
1 Florin = 2s.
Slaya = bushel.

* N.B.—The above was compiled from Returns prepared by an officer of the Chamber of Commerce at Trieste.

Statement showing Bank of England Returns, Price of Consols, Bank Discount, Shipments of Gold and Silver from Europe to

BANK OF ENGLAND RETURNS.					Consols.	BANK DISCOUNT.	
Date.	Liabilities.		Assets.			Rates and Dates of alteration.	P. Ct.
	Circulation including Post Bills.	Deposits.	Securities.	Coin and Bullion.			
1872.	£	£	£	£			
3rd January.....	26,104,829	32,392,464	36,393,708	25,291,761	92½ @ 92½	January 3rd	3
10th ".....	25,813,533	29,846,559	34,073,449	24,901,910	92½ " 92½	.....	...
17th ".....	25,687,256	29,451,789	33,556,544	24,935,044	92½ " 92½	.....	...
24th ".....	25,389,832	27,807,764	31,775,682	24,777,888	92½ " 92½	.....	...
31st ".....	25,491,214	28,931,338	33,166,455	24,620,626	92½ " 92½	.....	...
7th February.....	25,404,791	27,542,852	32,161,068	24,180,249	91½ " 92½	.....	...
14th ".....	25,023,424	29,919,171	34,473,988	23,878,355	92 3/16 " 92 5/16	.....	...
21st ".....	24,873,327	29,888,058	34,353,256	23,795,417	92½ " 92½	.....	...
28th ".....	24,744,380	31,133,352	35,633,861	23,651,316	92½ " 92½	.....	...
6th March.....	25,034,750	30,573,903	35,917,229	23,381,729	92½ " 92½	.....	...
13th ".....	24,680,892	31,527,767	36,812,083	23,094,274	92½ " 92½	.....	...
20th ".....	24,648,060	31,892,067	37,262,781	23,013,844	92½ " 92½	.....	...
27th ".....	25,651,436	34,884,292	44,448,689	22,835,529	92½ " 93½	.....	...
3rd April.....	26,393,794	31,942,364	39,717,316	22,358,406	93 " 93½	April 3rd	3½
10th ".....	26,416,274	31,570,263	39,641,548	21,500,304	92½ " 92½	" 10th	4
17th ".....	26,229,663	30,099,845	37,856,387	21,636,513	92½ " 92½	.....	...
24th ".....	25,866,795	28,987,282	36,274,967	21,750,297	92½ " 92½	.....	...
1st May.....	26,308,250	29,193,022	37,109,047	21,555,455	— " —	.....	...
8th ".....	26,225,989	29,674,194	38,295,892	20,789,932	92½ " 92½	May 8th	5
15th ".....	26,115,068	28,653,330	37,260,125	20,699,321	92½ " 93	.....	...
22nd ".....	25,835,917	27,508,969	35,789,785	20,751,535	93½ " 93½	.....	...
29th ".....	25,246,784	28,276,734	35,302,699	21,381,811	" 93½	" 29th	4
5th June.....	25,716,954	28,801,207	35,350,123	22,319,913	92½ ex-div.	.....	...
12th ".....	25,195,174	28,340,314	33,863,975	22,827,520	92½ " 92½	June 12th	3½
19th ".....	25,316,375	28,727,925	33,621,013	23,586,803	92½ " 92½	" 19th	3
26th ".....	25,576,497	31,036,212	35,221,458	24,552,319	92½ " 92½	.....	...
3rd July.....	26,824,095	31,070,716	37,090,281	24,065,094	92½ " 92½	.....	...
10th ".....	26,698,708	26,003,662	32,555,104	23,543,981	92½ " 92½	.....	...
17th ".....	26,612,642	27,229,477	34,612,733	22,663,433	92½ " 92½	July 17th	3½
24th ".....	26,581,179	28,502,395	35,393,954	23,137,308	92½ " 92½	.....	...
31st ".....	26,757,401	32,840,632	40,227,304	22,826,068	92½ " 92½	.....	...
7th August.....	27,013,219	31,109,984	38,424,326	23,185,422	92½ " 92½	.....	...
14th ".....	26,717,607	28,348,610	35,441,108	23,120,581	92½ " 92½	.....	...
21st ".....	26,452,964	27,037,326	33,853,843	23,115,316	92½ " 92½	.....	...
28th ".....	26,384,308	26,974,008	33,519,913	23,119,281	92½ " 92½	.....	...
4th September.....	26,903,190	27,230,505	34,734,405	23,149,260	92½ " 92½	.....	...
11th ".....	26,530,760	28,925,518	36,554,433	22,665,578	92½ " 92½	.....	...
18th ".....	26,243,403	28,882,086	36,795,078	22,137,212	92 " 92½	September 18th	4
25th ".....	26,123,568	29,469,271	37,700,692	21,712,769	92½ " 92½	" 25th	4½
2nd October.....	27,589,360	27,846,418	38,091,424	21,156,452	92 " 92½	October 2nd	5
9th ".....	27,127,216	26,328,525	36,191,774	20,383,704	92½ " 92½	" 9th	6
16th ".....	26,903,007	24,975,968	35,033,817	19,990,636	92½ " 92½	.....	...
23rd ".....	26,464,560	25,558,455	35,574,788	19,609,051	91½ " 92½	.....	...
30th ".....	26,409,906	25,590,532	35,154,837	20,013,823	92½ " 92½	.....	...
6th November.....	26,294,805	24,983,362	34,562,440	19,878,810	92½ " 92½	.....	...
13th ".....	25,958,614	27,454,165	36,859,583	19,741,801	91½ " 92	November 13th	7
20th ".....	25,378,836	26,650,984	34,304,350	20,925,503	92½ " 92½	.....	...
27th ".....	24,991,352	27,722,056	33,203,109	22,678,442	92½ " 92½	" 27th	6
4th December.....	25,788,245	26,661,824	32,821,738	22,793,932	91½ " 91½	.....	...
11th ".....	24,803,402	27,444,471	32,180,594	23,243,950	91½ " 91½	December 11th	5
18th ".....	24,660,225	27,685,479	31,686,678	23,844,492	91½ " 91½	.....	...
24th ".....	25,398,114	27,490,353	32,414,869	23,666,857	91½ " 91½	.....	...

the East, Price of Silver in London amount drawn on Indian Treasuries, and Exchange London on Calcutta in the year of 1872.

SHIPMENTS OF SPECIE FROM SOUTHAMPTON AND MEDITERRANEAN PORTS FROM 1ST JANUARY TO 31ST DECEMBER 1872.				PRICE OF SILVER IN LONDON IN 1872.			
Description.	Gold.	Silver.	Total.	Dates.	Bar per oz.	Dollars per oz.	5 Francs per oz.
	£	£	£		d.	d.	d.
Aden	9,202	.....	9,202	4th January	60½	59	58½
Alexandria	999,017	560	999,577	18th "	61 @ 61½	61	59½
Australia { Sydney .....	.....	34,900	34,900	8th February	61½	61	59½
{ Melbourne .....	.....	9,525	9,525	22nd "	60 15/16	61	59½
Batavia	1,240	.....	1,240	7th March	60½	61½	59
Ceylon	58,617	20,000	78,617	21st "	60½	61½	59
China { Foochow .....	.....	.....	.....	4th April	60½	62½	59
{ Hong-Kong	70,232	1,403,943	1,474,175	18th "	60½ @ 60½	62½	59
{ Shanghai	451	297,523	297,974	2nd May	60 3/16	62½	59
Egypt, including Suez & Port Said	330,577	.....	330,577	16th "	60½	62	59
Gibraltar	29,730	14,180	43,910	6th June	60½	62	59
India { Bombay	573,900	2,326,325	2,900,225	20th "	60 1/16	62½	59
{ Calcutta	45,028	738,652	783,680	4th July	60½	62½	59
{ Madras	110,321	13,946	124,267	18th "	60 3/16	62½	59
{ Pondicherry	6,507	2,376	8,883	8th August	60½	62½	59
Japan—Yokohama	28,000	122,850	150,850	22nd "	60½	62½	59
Malta	271,805	11,000	282,805	5th September	60 5/16	62½	59
Mauritius	71,050	163,954	235,004	19th "	60 7/16	62½	59
Reunion	3,676	20,544	24,220	3rd October	60½ @ 60½	62½	59
Saigon	20,260	31,250	51,510	17th "	60	62	59
Seychelles	4,570	7,200	11,770	7th November	59½	61½	59
Straits { Penang .....	.....	174,214	174,214	21st "	59½ @ 59½	60½	59
{ Singapore	18,000	1,125,342	1,143,342	5th December	59½ @ 59½	60	59
19th "					60½	60	59
Total...£	2,652,183	6,518,284	9,170,467				

AMOUNT DRAWN BY THE SECRETARY OF STATE ON THE TREASURIES OF CALCUTTA, MADRAS AND BOMBAY.					EXCHANGE—LONDON ON CALCUTTA.			
Date.	Calcutta.	Madras.	Bombay.	Total.	Government Bills.		Bank Bills at 60 days' sight.	
					Mini- mum.	Selling rate.		
1872.	£	£	£	£	s. d.	s. d. s. d.	s. d.	
3rd January	485,800	.....	14,200	500,000	1 11	1 11½ @ 1 11½	1 11½	
17th "	336,200	13,800	150,000	500,000	"	1 11½ " 1 11½	1 11½	
7th February	345,000	5,000	150,000	500,000	"	1 11½ " 1 11½	1 11½	
21st "	415,000	.....	185,000	600,000	"	1 11½ " 1 11½	1 11½	
6th March	377,500	22,500	200,000	600,000	"	1 11½ " 1 11½	1 11½	
20th "	398,000	2,000	200,000	600,000	"	1 11½ " 1 11½	1 11½	
3rd April	361,500	38,500	200,000	600,000	"	1 11½ " 1 11½	1 11½ @ 1 11½	
17th "	392,400	7,600	200,000	600,000	"	1 11½ " 1 11½	1 11½	
1st May .....	.....	2,500	.....	2,500	"	1 11½ " 1 11½	1 10½ " 1 10½	
15th "	528,800	13,200	58,000	600,000	1 10½	1 10½ " 1 10½	1 10½ " 1 10 9/16	
5th June	395,100	4,900	200,000	600,000	1 10½	1 10½ " 1 10½	1 10½ " 1 10 11/16	
19th "	483,300	26,700	90,000	600,000	"	1 10½ " 1 10½	1 10½	
3rd July	374,700	25,300	200,000	600,000	"	1 10½ " 1 10½	1 10½	
17th "	432,000	4,800	163,200	600,000	"	1 10½ " 1 10½	1 10½	
7th August	436,400	3,600	160,000	600,000	"	1 10½ " 1 10½	1 10 11/16 " 1 10 13/16	
21st "	640,700	8,300	1,000	650,000	"	1 10½ " 1 10½	1 10½ " 1 10 13/16	
4th September	416,800	13,200	220,000	650,000	"	1 10½ " 1 10½	1 10½	
18th "	427,500	2,500	220,000	650,000	"	1 10½ " 1 10½	1 10½ " 1 10 13/16	
2nd October	422,600	7,400	220,000	650,000	"	1 10½ " 1 10½	1 10½ " 1 10 13/16	
16th "	631,900	8,100	10,000	650,000	"	1 10½ " 1 10½	1 10½ " 1 10 13/16	
6th November	565,300	9,700	75,000	650,000	"	1 10½ " 1 10½	1 10½ " 1 10 13/16	
20th "	512,800	35,200	102,000	650,000	"	1 10½ " 1 10½	1 10½ " 1 10½	
4th December	426,600	3,400	220,000	650,000	"	1 10½ " 1 10½	1 10½	
18th "	415,700	14,300	220,000	650,000	"	1 10½ " 1 10½	1 10½	
Total...£	10,221,600	272,500	3,458,400	13,952,500				

Statement exhibiting the Assets and Liabilities of the Bank of Bengal, Bank rates of interest and discount, the value of Govern-

BANK OF BENGAL RETURNS.

Date.	Liabilities.				Assets.			
	Capital Reserve and Sundries.	Deposits.		Post Bills.	Government Securities.	Other Securities.	Sundries.	Coin, Bullion, Government Currency Notes and Treasury Balance.
		Public.	Private.					
1872.								
23rd January	2,42,34,593	5,66,04,891	2,33,53,776	8,03,009	94,24,358	4,58,47,228	19,96,669	4,77,27,511
30th "	2,42,61,089	5,38,96,430	2,40,69,474	8,99,698	94,04,633	4,64,57,231	17,88,472	4,54,76,354
6th February	2,42,99,115	5,21,59,534	2,44,04,840	13,44,991	93,77,060	4,51,61,411	17,30,013	4,59,39,992
10th "	2,43,14,552	5,79,86,863	2,27,52,430	14,66,622	93,77,060	4,53,64,411	17,57,449	5,00,21,544
20th "	2,42,95,462	5,60,45,723	2,25,25,409	9,04,627	93,67,205	4,51,27,310	18,29,552	4,74,47,150
26th "	2,43,35,656	5,85,78,720	2,17,51,160	9,39,553	92,41,393	4,67,63,152	18,25,397	4,77,75,144
5th March	2,44,49,999	5,53,46,638	2,18,56,447	11,10,039	90,35,223	4,42,03,481	18,22,945	4,77,01,474
12th "	2,44,88,021	5,30,59,882	2,14,43,580	10,26,581	89,17,593	4,24,16,479	18,93,547	4,67,90,445
19th "	2,44,54,738	5,08,64,795	1,95,41,420	9,71,349	88,42,233	4,24,92,983	19,92,208	4,85,04,876
26th "	2,44,76,515	5,77,21,715	2,06,77,351	13,18,178	88,12,233	4,24,08,270	21,07,353	5,08,65,901
2nd April	2,45,77,024	5,07,97,754	2,26,31,411	9,28,134	94,19,950	3,81,57,794	21,02,207	4,92,54,369
8th "	2,46,33,950	5,10,30,683	2,40,80,578	5,93,877	1,01,74,965	3,87,81,957	21,38,858	4,22,43,307
16th "	2,46,68,131	5,10,97,404	2,54,06,161	8,85,919	1,18,00,066	3,96,87,373	21,66,729	4,84,03,436
23rd "	2,47,44,001	5,32,45,372	2,15,72,159	9,39,460	1,29,89,438	3,86,73,030	22,51,736	4,65,86,786
30th "	2,47,97,750	5,08,82,414	2,42,39,630	8,52,684	1,40,78,838	3,51,81,457	23,53,927	4,91,58,254
7th May	2,47,83,891	4,95,94,963	3,07,48,543	7,04,588	1,43,72,476	4,10,58,625	22,81,371	4,80,69,509
14th "	2,45,73,607	5,73,72,032	3,50,70,829	6,71,708	1,51,58,675	4,98,52,658	23,34,236	5,03,42,603
21st "	2,46,21,080	4,87,70,456	3,35,48,394	8,37,506	1,65,28,675	3,54,56,145	25,35,922	5,32,56,693
28th "	2,45,88,598	5,09,04,680	2,98,51,029	24,13,735	1,59,20,306	3,50,30,366	26,19,375	5,41,87,994
4th June	2,46,35,579	4,67,57,272	2,93,46,539	24,85,525	1,60,31,747	3,57,86,249	24,43,462	4,89,63,453
11th "	2,46,47,352	4,03,00,522	3,18,07,443	22,76,599	1,62,66,288	2,92,58,811	23,72,355	5,11,34,463
18th "	2,49,84,582	4,10,59,713	2,73,90,877	17,85,397	1,62,25,738	2,96,39,252	23,48,406	4,70,07,171
25th "	2,46,85,202	4,37,99,554	2,73,81,721	18,63,381	1,59,21,232	3,02,23,401	19,78,880	4,96,06,341
23rd July	2,43,58,365	4,33,94,503	3,09,15,487	12,84,655	1,52,75,746	2,85,50,585	23,16,183	5,38,10,492
30th "	2,43,43,043	4,09,20,367	3,15,66,217	17,70,575	1,50,38,513	2,76,61,622	23,68,584	5,35,31,480
6th August	2,42,22,798	3,87,91,166	3,19,36,591	16,03,338	1,61,83,242	2,60,37,706	24,45,744	5,18,87,200
13th "	2,42,02,491	3,65,80,573	3,36,15,269	8,46,035	1,59,02,702	2,67,74,816	23,60,121	5,02,06,727
20th "	2,41,84,372	3,79,32,405	3,09,39,437	7,80,549	1,58,57,434	2,45,08,179	24,47,977	5,10,23,169
27th "	2,41,70,295	3,72,43,304	2,72,97,725	5,98,050	1,58,55,744	2,17,07,137	25,23,963	4,92,22,525
3rd September	2,41,69,531	3,45,07,280	2,93,01,413	5,18,108	1,57,19,237	2,09,66,211	25,27,364	4,92,83,517
10th "	2,41,68,969	3,53,32,646	2,83,13,119	5,31,445	1,55,65,175	2,11,87,621	25,40,288	4,90,53,094
17th "	2,41,73,788	3,38,36,680	2,78,67,386	5,33,894	1,56,04,217	2,08,54,518	25,21,955	4,74,31,057
24th "	2,41,97,996	3,33,43,142	2,87,91,312	5,59,113	1,50,03,986	2,20,21,611	24,60,640	4,74,05,312
30th "	2,42,06,814	3,06,55,300	2,93,22,147	4,22,152	1,50,12,684	2,10,20,920	24,09,148	4,61,63,659
	*	*	*	*	*	*	*	*
22nd October	2,41,97,660	3,07,88,525	2,67,25,384	4,22,150	1,47,54,739	1,88,51,774	23,37,558	4,61,89,646
28th "	2,42,01,017	3,22,06,685	2,84,29,373	2,51,550	1,49,63,254	1,91,01,601	23,15,692	4,87,08,077
5th November	2,42,03,174	2,98,71,889	3,22,04,584	1,98,355	1,53,76,622	1,91,11,712	23,51,826	4,96,37,840
12th "	2,41,90,982	2,71,57,966	3,59,90,847	3,18,015	1,52,96,722	1,90,56,944	23,10,649	5,09,93,494
19th "	2,42,29,664	2,64,35,727	3,44,32,858	3,13,183	1,52,79,616	1,75,53,972	22,69,906	5,03,07,936
26th "	2,42,64,681	3,17,31,528	3,49,41,076	7,44,516	1,51,16,054	1,69,49,720	22,91,631	5,73,24,392
3rd December	2,43,32,143	3,32,17,229	3,38,86,129	7,47,237	1,48,36,069	1,82,39,947	23,28,999	5,67,77,721
10th "	2,43,12,597	2,89,52,471	3,79,84,597	5,77,054	1,50,64,065	1,82,27,282	23,19,376	5,62,15,933
17th "	2,43,23,964	2,72,57,706	3,91,29,143	3,04,154	1,52,50,368	1,83,83,636	34,10,391	5,39,70,570
21st "	2,43,41,569	2,98,72,580	3,54,51,396	2,68,151	1,46,89,016	1,81,19,233	34,18,212	5,37,07,232
31st "	2,46,33,006	2,95,64,594	3,54,06,781	3,20,807	1,46,95,779	1,97,25,531	37,90,969	5,17,12,907

* Bank of Bengal closed during the Doorga Poojah holidays.

ment Securities, the Exchange on London and China, and Statement of Import and Export of Bullion and Specie in the year 1872.

BANK OF BENGAL RATES.					INDIAN GOVERNMENT SECURITIES.					EXCHANGE.					
										Calcutta on London.				Calcutta on China.	
Date.	Discount.		Interest.		Date.	4 per cents.	4½ per cents.	5½ per cents.	Bank and 1st class credit Bills at 6 months' sight.	Document Bills at 6 months' sight.		At 30 days' sight.			
	Private Bills.	Government Acceptances.	Fixed Loan on Govt. Paper.	Deposit of Goods.						Per 100 Dollars.	Per 100 Taels.				
1872.					1872.				s. d.	s. d.	s. d.	s. d.	Rs.	Rs.	Rs.
1st Jan.	9½	8½	8	9½	4th Jan.	99	101½@102	110½@110½	2 0 @ 2 0½	2 0½			217		300
18th "	...	...	...	...	18th "	98½	101½	109½	2 0 8/16, 2 0 5/16	2 0 7/16			215½		297
1st Feb.	...	...	...	...	1st Feb.	97½	100½	108½	2 0 5/16, 2 0 7/16	2 0 ½ @ 2 0 9/16			216		297
15th "	...	...	...	...	15th "	98½@ 98½	100½	108½@108½	2 0 5/16, 2 0 7/16	2 0 9/16			217		297
29th "	...	...	...	...	29th "	99½	101½@101½	109½, 109½	1 11½, 2 0	2 0 1/16, 2 0 ½			217½@218		297
14th Mar.	...	...	...	...	14th Mar.	99½	101½, 101½	109½, 109½	2 0 1/16, 2 0 ½	2 0 ½, 2 0 5/16			219		298
27th "	...	...	...	...	27th "	99	101½	110	2 0, 2 0 ½	2 0 ½			219		300
11th April.	...	...	...	...	11th April.	99½	102½	110½	1 11½, 2 0	2 0 ½, 2 11 3			219		300
25th "	...	...	...	...	25th "	100½	103½	112½	1 11½, 1 11 5/16	1 11 7/16			224		300
9th May.	...	...	...	...	9th May.	102	104½	113	1 11, 1 11 3/16	1 11 5/16			227		306
23rd "	7½	6½	6	7½	23rd "	101½	104½	113	1 11 1/16, 1 11 3/16	1 11 5/16			227½		306
30th "	6½	5½	5	6½	3rd June.	101½	104½	112½	1 11 3/16, 1 11½	1 11 7/16, 1 11½			229		308
17th June.	...	...	...	...	17th "	101½	104½	111½	1 11½, 1 11½	1 11½			229		310
1st July.	...	...	...	...	1st July.	101½	104½	112½	1 11 1/16, 1 11½	1 11½			227		306
15th "	6	5	4½	6	15th "	101½	104½	111½	1 11½, 1 11 3/16	1 11 5/16, 1 11½			226	227	307
18th "	5½	4½	4	5½	29th "	101½	104½	112½	1 11½, 1 11½	1 11½			227		313
12th Aug.	...	...	...	...	12th Aug.	101½	104½	112½	1 11 3/16, 1 11 5/16	1 11½, 1 11 7/16			226½		309
26th "	...	...	...	...	26th "	101½	104½	112½	1 11 3/16, 1 11 5/16	1 11 7/16			226	228	306
9th Sept.	...	...	...	...	9th Sept.	101½	104½	112½	1 11½, 1 11½	1 11 9/16, 1 11½			227		309
26th "	...	...	...	...	26th "	101½	103½	111½	1 11½, 1 11½	1 11 9/16			228		308
3rd Oct.	6½	5½	5	6½	24th Oct.	101½	103½	111½	1 11 9/16, 1 11 11/16	1 11½, 1 11 13/16			227		310
7th Nov.	...	...	...	...	7th Nov.	101½	103½	110½	1 11½, 1 11 11/16	1 11½			223		309
21st "	...	...	...	...	21st "	100½	102½	108½	1 11 11/16, 1 11 13/16	1 11 15/16			222		306
5th Dec.	...	...	...	...	5th Dec.	101½	103½	110½	1 11½, 1 11½	1 11½			225		307
19th "	...	...	...	...	19th "	101½	103½	110½	1 11½, 1 11 7/16	1 11½			222½		308

Statement of the Import and Export of Bullion and Specie, (exclusive of Government operations), valued in rupees, from 1st January to 31st December 1872.

For the Month of	Great Britain.	France.	China.	Penang and Singapore.	Australian Colonies.	Rangoon and Moulmein.	Mauritius and Bourbon.	Akyab, Arracan and Pegu.	Egypt and Suez.	Madras.	Bombay.	Ceylon.	All other Places.	Monthly Total.
1872.														
January.....	20,79,800	11,07,560	...	100	2,27,469	13,900	...	...	...	2,240	...	80,520	10,450	35,22,039
February ...	50,68,700	38,400	49,79,576	1,52,200	2,54,642	11,600	1,00,000	...	...	50,000	2,582	4,57,370	1,00,000	1,12,15,070
March	1,01,70,740	...	8,24,904	40,280	3,29,250	19,800	1,00,000	...	...	1,00,485	...	2,41,300	61,280	1,18,87,989
April	3,08,700	...	2,92,597	19,400	3,02,000	13,000	2,00,000	2,600	...	4,000	2,040	3,44,850	54,500	15,43,687
May	7,14,050	2,000	3,69,292	61,104	3,93,158	39,150	3,00,000	...	...	6,645	1,447	45,320	1,342	19,34,008
June	22,700	...	1,06,535	10,580	3,95,440	23,100	1,00,000	3,16,950	...	15,14,456	1,300	44,540	6,900	25,42,501
July	5,000	4,800	81,405	...	3,61,450	20,000	...	20,498	...	1,528	466	2,87,840	...	7,82,987
August	29,600	...	2,49,726	...	43,500	15,500	2,00,000	1,400	...	3,000	9,239	1,50,000	580	7,02,525
September...	6,000	...	2,13,105	2,763	3,20,447	29,100	...	25,713	...	15,20,000	877	...	24,574	21,42,579
October	26,295	...	49,613	...	1,04,000	26,000	...	...	...	12,879	...	...	11,050	2,29,837
November...	16,610	...	2,29,634	61,387	3,04,000	17,200	...	12,362	...	7,376	344	50,000	40,600	7,39,513
December ...	62,880	48,200	8,20,056	1,46,724	3,80,414	33,900	...	...	...	11,494	...	...	12,400	15,16,068
Total...	1,85,11,675	12,00,960	32,16,443	4,94,488	34,15,770	2,62,250	10,00,000	3,79,523	...	32,34,103	18,295	17,02,240	3,23,656	3,87,58,808

EXPORTS.

To Great Britain 1,225 ; France 5,300 ; China 510 ; Penang and Singapore 1,58,900 ; Rangoon and Moulmein 75,06,012 ; Akyab, Arracan and Pegu 25,53,000 ; Madras 6,51,727 ; Bombay 10,000 ; Ceylon 5,00,000 ; and to all other places 8,87,735. } Total...1,22,74,409

HISTORY OF PRICES.—

Statement showing the comparative prices of Agricultural Produce and of

	NUMBER OF SEERS SOLD PER RUPEE															
	Nagpur.		Bhandara.		Chanda.		Wardha.		Jabalpur.		Sagar.		Damoh.		Seoni.	
	Nagpur.	Ramtek.	Bhandara.	Sakoli.	Chanda.	Wardha.	Arvi.	Hingnagar.	Jabalpur.	Sihora.	Sagar.	Kural.	Damoh.	Hatta.	Seoni.	Katangi.
1865.																
Paddy	22	24	32	31	15	23	...	...	21	19	16	28	23	...	26	38
Common Rice (husked)	11	18	14	16	9	15	8	11	11	11	10	14	11	10	10	15
Best Rice (husked)	8	13	11	14	8	12	6	9	9	8	7	9	9	9	8	11
Kodo (Paspalum Scrobiculatum)	...	...	26	40	...	...	...	...	26	80	...	32	35	34	40	30
Wheat	13	17	15	13	13	20	11	14	20	19	16	18	18	18	19	16
Barley	8	...	...	...	...	...	...	...	13	40	14	...	...	...	...	...
Bajra (Panicum Frumentaceum)	11	...	...	...	...	...	...	...	14	60	...	...	16	...	...	...
Jowar (Sorghum Vulgare)	15	24	16	15	18	31	24	19	27	37	23	26	26	30	29	...
Gram	13	14	16	15	15	21	12	15	17	21	...	...	23	22	20	16
LENTILS.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Toor (Cajanus Indicus)	8	13	...	...	11	...	11	8	16	13	16	...	...	...	10	11
Lakh (Lathyrus Sativus)	12	15	...	...	21	...	...	...	...	...	...	...	...	...	...	...
Mussoor (Ervum Lens)	8	22	18	17	...	...	10	16	20	17	22	24	...	...	...	...
Mung (Phaseolus Mungo)	12	18	18	17	15	19	13	16	16	13	15	19	...	...	...	...
Urud (Phaseolus Radiatus)	...	...	17	16	...	...	13	11	17	14	15	19	...	...	...	...
Kutki	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cleaned Cotton	1.5	1.75	1	1	2	.75	2	1	2	2	2.5	3	2.75	2.75	2.25	2
Indigo, manufactured, medium quality.	1.75	...	.25	.25	...	...	...	3.25	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	.5	.3	...	...	...	...	...	...	...	...	...	...	...	...
Sugar-cane	...	...	...	...	30	125	70	62	55	44	...	19	...	...	54	...
Sugar, raw	2.3	...	2.3	2.4	...	...	2.25	2.25	...	...	3	3.5	3.5	4	...	...
Sugar, refined	2	2.75	2	1.9	2	1.5	2	2	3	3.1	2.5	2.75	3	3.25	2.5	2.4
Sugar (Goor)	4	6	4.1	6.25	4.5	6.75	3.25	5.25	7.75	5.6	6.5	7.25	...	...	5.5	4.75
Salt	6	7.5	5.5	5.9	5.5	5	5.75	7.25	5	5.2	5.4	11.5	5	5.25	4.25	4.6
Ghee	1.5	1.5	1.6	1.4	1.75	2.5	1.25	1	2	1.9	1.75	2	2	2	1.6	1.9
Milk	10	20	17	16	16	16	17	16	19	19	...	21	18	25	16	15
Tobacco	2	1.9	1.3	1.25	3.25	3.25	2	2.25	4	8	2.9	3	2.75	4.5	3.25	3.6
Spirits (25° below proof)—Qt. btls.	2	2	...	...	...	...	4	4	...	3	2	4	...	...	5.5	...
Raw materials from which spirits are made—Mohwa	39	48	60	65	51	103	100	24	24	100	...	42	32	380	41	36
Firewood	99	225	240	720	288	960	80	182	160	327	212	320	320	280	520	1,160
Wages of unskilled labourer—As. p. d.	3	2	2	2	2.3	1.3	6.3	4	2	2	...	...	2	2	2	1.3
Linseed, (Linum Usitatis, Simum)	8	9	16	14	10	14	...	...	...	...	15	15	16	18	20	14
Tili (Sesamum Indicum)	5	9	...	...	14	12	...	...	...	...	10	12	14	17	...	...
Oil, Linseed	...	...	...	...	...	...	...	...	4.3	...	...	4.25	...	...	...	...
Oil, Tili	...	...	...	...	...	...	...	...	4	...	...	3.75	...	...	...	...
Baingan (Brinjals), Solanum Melongena	47	48	...	...	25	53	78	75	45	39	32	43	36	35	18	15
Rathalu (Dioscorea Globosa)	21	30	...	...	...	...	...	...	27	...	...	...	...	29	...	...
Sweet Potatoe (Convolvulus Batatas)	...	...	...	...	23	27	43	36	21	...	...	...	...	...	...	...
Ghoyan, Sam (Potatoe Yam), Colocasia Antiquorum	...	...	...	...	...	...	...	...	23	22	17	...	...	...	14	...
Potatoes	...	...	...	...	...	...	...	...	8	...	6	16	...	...	...	...
Bhendi (Abelmoschus Esculentus)	...	...	...	...	21	39	...	...	29	...	...	...	30	30	...	...
Onions	...	...	...	...	22	74	...	...	...	...	14	...	...	...	...	...
Indian Corn (Zea Mays)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1866.																
Paddy	21	21	30	30	17	24	...	...	20	18	13	30	19	...	23	35
Common Rice (husked)	9	7	13	15	10	15	8	12	9	10	9	11	10	10	10	15
Best Rice (husked)	7	5	10	11	8	12	7	8	7	8	7	9	9	9	8	9
Kodo (Paspalum Scrobiculatum)	...	...	26	40	...	...	...	...	20	80	...	32	28	34	36	23
Wheat	9	10	11	11	9	20	9	14	11	13	11	14	10	12	12	11
Barley	7	...	...	...	...	...	...	...	10	16	7	...	...	...	...	...
Bajra (Panicum Frumentaceum)	11	...	...	...	...	...	...	...	11	14	12	...	16	...	...	...
Jowar (Sorghum Vulgare)	12	13	14	13	14	31	21	19	17	14	15	17	20	26	19	...
Gram	9	9	11	12	9	20	9	11	12	14	12	15	13	14	12	9
LENTILS.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Toor (Cajanus Indicus)	9	9	...	...	8	...	10	11	11	8	12	16	...	...	8	9
Lakh (Lathyrus Sativus)	9	9	...	...	16	...	...	...	...	...	...	...	...	...	...	...
Mussoor (Ervum Lens)	9	10	14	15	...	...	9	12	11	22	12	16	...	...	...	...
Mung (Phaseolus Mungo)	10	8	15	14	11	18	10	16	11	9	12	15	...	...	...	...
Urud (Phaseolus Radiatus)	...	...	14	12	...	...	12	12	12	11	12	15	...	...	...	...
Kutki	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cleaned Cotton	1.3	1.5	.9	1	1.5	1	1.25	1.75	1.3	1.7	1.6	2	2	2.25	1.25	1.5
Indigo, manufactured, medium quality.	1.9	...	.25	.2	...	...	...	3	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	.4	.25	...	...	...	...	...	...	...	...	...	...	...	...
Sugar-cane	...	...	...	...	28	94	70	61	53	36	...	20	...	...	54	...
Sugar, raw	2.25	...	2.25	2.1	...	...	2	2.25	...	...	2.75	2.75	2.75	3.5	...	...
Sugar, refined	1.9	2.5	2	1.75	2	1.75	1.75	2	2.8	2.75	2.25	2.5	2.25	2.75	2.25	2
Sugar (Goor)	3	5.3	3.25	3.6	3	6.75	2.75	3.25	5.75	5.75	5.5	6.25	...	...	4.1	4.3
Salt	6.2	7.3	6.3	5.7	5.5	5	6.5	6.5	5	5	5.8	11.5	5	5.25	4.1	4.5
Ghee	1.2	1.5	1.25	1.25	1.25	1	1	1	1.75	1.75	1.75	2.25	1.75	2	1.25	1.25
Milk	9	15	15	17	12	16	16	18	16	17	...	21	16	18	16	15
Tobacco	1.2	1.5	1.3	1.25	3.25	2.5	2	2.25	3.75	4.2	2.5	3.25	2.5	4.75	3.25	3.75
Spirits (25° below proof)—Qt. btls.	2	2	...	...	...	...	4	2.3	...	3	...	4	...	...	5.5	...
Raw materials from which spirits are made—Mohwa	24	35	60	65	15	93	45	45	23	29	...	51	35	32	28	21
Firewood	79	165	240	720	288	960	80	162	160	313	150	300	320	280	480	1,160
Wages of unskilled labourer—As. p. d.	3	2	2	2	2.3	1.3	6	3	2	2	...	...	2	2	2	1.3
Linseed, (Linum Usitatis, Simum)	6	8	8	10	10	14	...	...	...	...	12	15	15	18	14	11
Tili (Sesamum Indicum)	6	8	...	...	10	12	...	...	...	...	11	14	15	16	...	...
Oil, Linseed	...	...	...	...	...	...	...	...	3.5	...	...	4.75	...	...	...	...
Oil, Tili	...	...	...	...	...	...	...	...	4	...	...	4.5	...	...	...	...
Baingan (Brinjals), Solanum Melongena	42	30	...	...	33	50	100	72	38	34	...	31	29	34	17	10
Rathalu (Dioscorea Globosa)	21	25	...	...	...	...	...	...	12	...	...	...	...	30	...	...
Sweet Potatoe (Convolvulus Batatas)	...	...	...	...	23	24	45	41	22	...	...	...	...	...	...	...
Ghoyan, Sam (Potatoe Yam), Colocasia Antiquorum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	17	...	...	...	...	...	11	...
Bhendi (Abelmoschus Esculentus)	...	...	...	...	21	30	...	...	17	...	...	15	...	...	...	...
Onions	...	...	...	...	22	67	...	...	...	...	...	...	31	28	...	...
Indian Corn (Zea Mays)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Average weight of each

CENTRAL PROVINCES, 1861-70.

Provisions in each District of the Central Provinces during the year 1865-66.

(1 SEER=24 ENGLISH POUNDS.)

Mandla.		Betul.		Hosangabad.		Narsinghpur.		Nimar.		Chhindwara.		Raipur.		Bilaspur.		Sambalpur.		Upper Godavari.	Provincial Average.
Mandla.	Ramgarh.	Radnur.	Mulail.	Hosangabad.	Harda.	Narsinghpur.	Gadarwara.	Khandwa.	Burhanpur.	Chhindwara.	Saugar.	Raipur.	Dhamtari.	Bilaspur.	Mungeli.	Sambalpur.	Bargarh.		
1865.																			
34	34	...	15	19	15	18	20	29	22	22	20	48	49	162	28	86	62	25	33
18	17	8	...	8	7	9	10	13	7	8	8	17	19	77	17	23	31	2	15
16	...	7	...	7	6	8	9	11	6	6	7	12	13	57	12	19	26	7	11
33	44	27	13	...	...	31	31	14	30	20	18	48	49	176	34	...	...	...	40
20	20	13	12	15	14	19	19	12	12	17	15	22	22	22	40	14	12	11	17
...	...	...	...	...	...	9	18	...	...	...	...	...	...	18	18	5	...	...	16
...	...	7	11	20	...	28	26	20	17	...	...	...	...	...	...	10	...	...	20
...	40	17	16	15	19	28	33	18	19	21	22	...	...	...	...	...	...	21	23
...	25	15	12	21	18	24	26	14	12	19	15	32	26	24	35	16	25	16	19
23	24	9	7	13	...	16	21	12	10	11	18	11	18	24	17	19	...	9	14
23	...	15	...	...	...	...	...	...	...	...	...	...	...	76	75	...	...	...	34
23	16	11	8	15	...	20	21	...	...	16	11	27	25	19	27	...	...	...	18
20	...	8	7	13	...	15	15	...	...	14	12	22	22	14	18	8	12	15	15
20	19	11	8	13	...	14	15	...	...	15	13	20	22	13	19	22	21	16	16
36	57	...	12	...	...	...	24	...	...	18	16	...	...	...	...	...	...	...	27
2	...	2	1.75	2.2	3.1	2.5	3	1.5	1.25	1.9	1.9	2	2	1.75	3	3	3	1.6	205
...	...	...	...	...	...	4	1	...	...	5	5	...	...	...	...	...	...	...	99
...	...	...	...	...	...	50	87	41	41	93	81	67	67	128	192	116	130	...	4
...	...	32	32	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	72
3	2	...	...	3.1	3.2	3.5	3	...	...	2.3	2.3	2	2	...	...	...	...	...	273
2.5	1.8	2	1.5	2.3	2.25	2.75	2	2.1	2.6	2	2	1	1	1.75	1.5	...	2	1.3	2.14
6.6	...	5	4	...	...	5.4	5	5.8	4.1	4.9	4.1	6.5	6.5	9.75	14.25	14	18	4.8	6.54
4.5	4	4.6	6	5	4.75	5.4	5	8.3	9.4	4.9	4.9	6	6.5	6.5	7.25	7.3	10.5	8	6.1
2	2.8	1.5	1.5	1.3	1.25	1.75	1.75	1.8	1	1.6	1.3	2	2.25	2	2.5	2.2	1.7	2	1.77
17	64	20	12	20	16	14	14	8	11	15	14	16	16	20	19	18	20	16	18
3.5	...	2	1.5	6	6	2.8	2	1.9	3.4	2	1.75	2.5	1.5	3.25	1.5	2.5	2.5	4	2.94
4	4	...	2.3	2	2	2	2	2.1	4	20	16	2.3	2.3	8	8	10.5	16	4	3.37
39	44	36	50	31	52	60	50	24	13	40	34	80	80	96	55	123	56	13	52
300	320	640	500	500	500	252	160	80	238	390	342	95	95	108	108	133	320	500	321
2	1.1	...	2.1	2.1	2.1	1.1	2	3	3	2	2	2	2	1	1	1.1	1.1	3	2.22
...	...	17	...	...	...	25	7	...	...	13	13	25	26	41	40	...	...	...	18
22	22	13	...	...	...	16	12	8	8	2.7	2.75	...	...	...	...	...	...	...	14
...	...	3	3	...	...	3.1	3	...	...	...	...	...	...	...	...	...	...	3	3.31
...	...	3	3	...	...	27	32	17	17	43	32	18	18	...	...	...	70	...	37
31	...	24	32	...	...	28	15	...	...	...	...	...	...	...	...	...	...	...	23
...	...	16	14	...	...	...	...	...	...	...	...	...	...	...	27	...	...	...	31
...	...	29	32	...	...	...	...	...	...	40	33	...	...	27	...	...	...	...	...
20	...	30	25	...	...	7	...	...	...	...	...	...	...	22	38	50	80	...	31
...	...	5	8	...	...	30	11	8	9	10	8	...	...	16	...	...	...	...	9
...	...	...	...	...	...	...	17	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	31	...	...	...	31	28	...	...	...	...	...	...	...	14	16	...	29
...	...	29	22	...	...	...	...	21	24	...	...	...	...	...	...	...	...	...	24
1866.																			
28	25	...	12	18	15	17	18	24	24	17	16	42	46	174	43	85	37	24	31
13	13	8	7	8	8	8	9	7	9	9	7	15	15	76	24	16	21	8	13
11	...	8	6	7	7	7	9	6	7	6	6	10	11	14	14	11	12	7	9
32	39	29	14	13	12	29	30	14	22	12	11	33	48	176	54	...	...	...	33
13	16	10	10	13	13	12	14	9	11	12	10	20	30	16	14	47	7	20	13
...	...	...	...	...	...	8	12	...	...	...	...	...	...	18	18	5	...	...	11
...	...	...	10	13	18	27	21	18	...	...	...	...	...	...	...	10	...	...	15
...	...	16	15	10	20	27	21	21	18	14	17	...	...	...	...	...	...	...	17
15	22	12	11	13	15	13	17	11	11	12	11	13	12	13	38	8	30	13	14
18	20	7	9	10	...	11	12	8	9	10	7	13	16	11	20	...	...	9	11
15	...	13	...	...	...	...	...	...	...	...	...	...	...	72	77	...	...	...	30
16	16	10	9	11	...	11	14	...	...	11	9	13	16	11	25	...	...	...	13
12	...	8	9	9	...	10	11	...	...	10	8	14	18	10	21	7	15	13	12
16	19	10	9	9	...	11	11	...	...	11	9	14	18	11	20	22	15	13	13
31	37	...	13	...	...	24	...	...	...	11	10	...	...	...	...	...	...	...	21
1.4	...	1.5	1.5	1.5	1.75	1.5	2	1.3	1.6	1.4	1.4	1.5	1.5	1.5	3.25	3	4	1.3	1.68
...	...	...	...	...	...	5	1	...	...	4	4	...	...	...	...	...	...	...	96
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33
...	...	...	...	...	...	50	79	55	56	85	65	67	67	128	192	115	125	36	69
2.6	2	...	...	3.25	3	2.8	2.5	...	2.5	2	2.5	1.75	1.75	...	...	...	...	3	2.5
2	1.75	1.75	2	2	2.1	2.4	2	2	2.5	1.8	1.7	1	1	2	1.5	1.6	2	1.2	1.99
5.5	...	4	5	...	...	4.5	5	3.3	3.8	4.6	3.6	5.5	5.5	7.5	13.5	8	10	...	5.24
4.5	3.5	5	5.4	5	4.5	5	5	7.4	9	5.6	5	4.75	4	3.75	6.75	5	5	8.9	5.65
1.8	2.8	1.5	1.5	1.5	1.2	1.75	1.75	1.1	1.1	1.4	1	1.25	1.75	1.75	2.75	2	1.5	1.5	1.55
16	64	20	12	20	20	16	12	8	9	16	12	16	16	20	19	18	16	16	17
3.4	4.6	2	1.75	6	6.5	2.6	2	1.75	3.9	1.7	2	2.5	2	3	2	2.5	2	4	2.84
4	4	...	2.3	2	2	2	2	2	5.1	20	16	1.3	1.3	4	4	10.5	16	4	5.04
37	45	30	55	29	43	15	37	16	21	14	19	16	16	96	52	130	40	13	39
300	320	400	50	500	500	247	160	80	182	369	380	136	136	108	108	136	320	500	299
2	2	...	3	2.1	2.1	2.1	2	3	3	2.1	2.1	2	2	1	1	1.1	1.1	3	2.27
...	...	13	...	...	...	21	18	...	...	15	13	11	14	41	42	...	...	...	16
15	15	12	...	...	...	17	13	7	6	...	...	9	12	...	...	...	...	...	12
...	...	...	...	...	...	3.5	4	...	...	3.1	2.7	...	...	...	...	...	...	...	3.59
...	...	2.5	2.7	...	...	3.5	...	...	...	...	...	...	...	...	...	...	...	2.4	3.27
43	...	20	30	...	...	31	32	17	17	40	33	26	22	...	...	...	70	...	36
...	...	28	13	...	...	24	15	...	...	...	...	...	...	...	...	...	...	...	21
...	...	25	30	...	...	...	...	...	...	41	32	...	...	27	27	...	...	...	31
20	...	25	25	...	...	7	12	10	10	10	9	...	...	16	...	...	...	...	31
...	...	5	8	...	...	27	18	...	...	...	...	...	...	...	...	...	...	...	25
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29
...	...	30	...	...	...	...	...	28	24	...	...	...	...	...	...	...	...	...	22

cane equals 12 seer.

Statement showing the comparative prices of Agricultural Produce and of

NUMBER OF SEERS SOLD PER RUPEE

	Nagpur.		Bhandara.		Chanda.		Wardha.		Jabalpur.		Sagar.		Damoh.		Seoni.		
	Nagpur.	Rantek.	Bhandara.	Sakoli.	Chanda.	Wairagari.	Arvi.	Hingarghat.	Balaghat.	Jabalpur.	Sihorah.	Sagar.	Karsi.	Damoh.	Hatra.	Seoni.	Katang.
1867.																	
Paddy	23	20	33	39	20	24	9	11	46	20	31	17	27	27	...	25	40
Common Rice (husked)	9	13	39	19	13	15	7	8	22	10	17	12	13	15	12	10	19
Best Rice (husked)	7	10	13	15	12	13	...	...	19	8	14	7	11	12	11	8	12
Kodo (Paspalum Scrobiculatum)	...	...	23	38	...	...	...	...	54	25	19	...	34	35	38	35	35
Wheat	9	17	15	16	12	13	12	15	19	21	25	17	16	19	20	22	20
Barley	7	...	...	...	...	...	...	...	...	15	12	16	...	...	...	...	...
Bajra (Panicum Frumentaceum)	9	...	...	...	...	...	...	...	...	14	12	16	...	16	...	...	...
Jowar (Sorghum Vulgare)	14	20	22	22	18	30	24	22	...	26	13	22	25	23	33	20	...
Gram	9	12	14	11	13	14	11	11	18	21	24	19	23	27	29	15	13
...	8	10	...	...	11	...	10	13	15	15	15	19	...	...	...	8	12
LENTILS.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Toor (Cajanus Indicus)	11	15	...	...	19	...	...	...	...	21	20	19	20	...	...	...	...
Lakh (Lathyrus Sativus)	8	15	16	12	...	...	8	12	...	15	12	15	17	...	...	...	...
Mussoor (Ervum Lens)	8	12	17	13	12	12	10	15	...	15	12	15	17	...	...	...	...
Mung (Phaseolus Mungo)	...	...	19	16	...	...	11	12	...	15	14	15	16	...	...	...	...
Urud (Phaseolus Radiatus)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kutki	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cleaned Cotton	1.2	1.9	1.4	1.4	2	75	2.25	2	...	1.9	1.5	2.3	2.5	2.5	2.5	1.75	1.5
Indigo, manufactured, medium quality.	1.9	...	2.5	2	...	...	...	3	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	4	2.5	...	...	...	...	...	...	...	...	...	...	...	...	...
Sugar-cane...	56	64	...	...	24	94	70	62	...	53	40	...	20	...	...	50	...
Sugar, raw...	2.7	...	2.25	2	...	...	2.5	2.5	...	...	...	2.75	2.75	2.75	3.5	...	2.25
Sugar, refined	2	2	2	1.7	2.25	1.25	2	1.8	...	3	2.75	2.25	2.25	2.5	2.75	2.25	2.25
Sugar (Goor)	3.75	4.75	3	3.5	4	3.25	2.75	2.5	3.5	5.4	6.4	5.25	5.25	...	...	4	4.25
Salt	8	7.5	7	6	5.5	5	6.75	5	5.7	5	5.25	5.6	12.25	5.5	5.5	4	5.5
Ghee	1.25	1.5	1	1.25	1.25	1.25	1	1	1.2	1.6	1.6	1.5	1.75	1.75	1.75	1.25	1.25
Milk	8	15	15	15	11	16	14	16	9	15	19	...	22	17	19	15	14
Tobacco	1.25	1.5	1.75	1.75	2	1.5	2	2	3.4	3.6	4.4	2.4	5.25	2.5	5	3	3.7
Spirit (25° below proof)—Qt. btl.	2	2	...	...	...	...	4	2.3	...	...	3	...	2	...	...	7	...
Raw materials from which spirits are made—Mohwa	23	30	40	40	30	26	42	25	64	22	19	...	43	35	32	20	34
Firewood	91	180	240	720	208	640	100	166	112	143	328	176	224	320	280	480	720
Wages of unskilled labourer—As. p. d.	3	2.5	2	2	2.5	1.5	6	3	2	2	2	2	...	2	2	2	1.5
Linseed (Linum Usitatis, Simum)	9	10	8	7	9	10	...	...	...	...	...	14	15	19	18	20	14
Tili (Sesamum Indicum)	9	9	...	...	7	10	...	...	...	...	...	10	13	12	16	...	...
Oil, Linseed	...	...	...	...	...	...	...	...	...	3.6	...	...	4	...	...	...	...
Oil, Tili	...	...	...	...	...	...	...	...	...	3.6	...	...	3.75	...	...	...	...
Baingan (Brinjals), Solanum Melongena	45	30	...	...	34	45	100	79	...	23	31	...	38	29	30	10	15
Rathalu (Dioscorea Globosa)	23	30	...	...	...	...	...	...	...	17	...	...	...	...	22	...	...
Sweet Potatoe (Convolvulus Batatas)	...	...	...	...	23	25	42	33	...	23	...	...	...	...	...	...	...
Ghoyan, Earn (Potatoe Yam)	...	...	...	...	...	...	...	...	...	15	19	...	...	...	...	8	...
Potatoes	...	...	...	...	...	...	...	...	...	4	...	10	16	...	...	...	...
Bhendi (Abelmoschus Esculentus)	...	...	...	...	2.7	35	...	...	...	24	...	...	...	31	36	...	...
Onions	...	...	...	...	21	78	...	...	...	...	...	...	...	...	...	...	...
Indian Corn (Zea Mays)	...	...	...	...	...	...	...	...	...	...	...	20	...	...	...	...	...
1868.																	
Paddy	25	44	36	45	21	13	...	...	50	20	23	14	30	26	...	29	44
Common Rice (husked)	13	11	18	22	12	8	11	12	21	11	13	12	11	12	11	10	20
Best Rice (husked)	11	10	12	15	10	7	9	10	17	9	11	8	9	11	10	8	12
Kodo (Paspalum Scrobiculatum)	...	...	15	30	...	...	...	...	67	26	21	...	35	32	34	35	48
Wheat	13	14	18	17	12	9	15	15	17	15	17	14	15	14	15	23	19
Barley	8	...	...	...	...	...	...	...	...	14	12	12	...	...	...	...	...
Bajra (Panicum Frumentaceum)	12	...	...	...	...	...	...	...	...	14	12	10	...	...	...	...	...
Jowar (Sorghum Vulgare)	13	17	24	22	16	13	23	19	...	18	13	14	16	15	24	23	...
Gram	12	13	15	14	13	9	15	13	13	18	18	16	17	18	18	16	14
...	11	12	...	...	12	...	16	13	15	16	15	16	...	...	...	11	9
LENTILS.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Toor (Cajanus Indicus)	11	12	...	...	...	...	9	13	...	18	14	13	18	...	...	...	...
Lakh (Lathyrus Sativus)	11	10	...	...	12	...	...	...	...	...	...	...	...	...	...	...	...
Mussoor (Ervum Lens)	14	11	17	13	...	...	...	...	...	...	...	...	...	...	...	...	...
Mung (Phaseolus Mungo)	16	12	20	17	13	10	18	15	...	17	15	14	16	...	...	...	...
Urud (Phaseolus Radiatus)	...	...	20	17	...	...	15	12	...	17	16	14	15	...	...	...	...
Kutki	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cleaned Cotton	1.8	1.9	1	1.1	2	1	2.25	1.75	...	2	1.4	1.6	2.25	2.25	2	2	1.75
Indigo, manufactured, medium quality.	1.9	...	2.5	2	...	...	...	3.5	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	4	2.5	...	...	...	...	...	...	...	...	...	...	...	...	...
Sugar-cane...	55	64	...	...	20	125	70	57	...	40	34	...	20	...	...	50	...
Sugar, raw...	3.8	...	2.25	2.75	...	...	2.25	2.5	...	...	...	3	2.75	3.25	3.5	...	...
Sugar, refined	3.2	2.5	2	1.75	2.25	1.25	2	2.25	2.2	3	3.1	2.25	2.6	2.75	3	2.5	2.5
Sugar (Goor)	6.25	6.5	4	4.3	4.75	3.25	4	3.5	5	7.9	7.75	6	6	...	...	5.25	5.75
Salt	8	7.5	7.5	6.25	5.75	4.5	7	6.25	6.3	4.75	5	5.6	11.5	5.25	5.25	5	6.5
Ghee	1.4	1.5	1	1	1.5	1.25	1.25	1.25	2	1.5	1.9	1.75	1.75	2	2.25	1.5	1.8
Milk	8	15	16	16	11	16	13	12	8	13	15	...	20	16	19	16	13
Tobacco	2.7	1.9	1.75	1.5	2	2.75	2	2	3.2	3.9	2.8	2.3	5	2.5	5	4	3.4
Spirit (25° below proof)—Qt. btl.	1.3	2	...	...	...	...	4	2.3	...	...	8	...	2	...	...	4	...
Raw materials from which spirits are made—Mohwa	35	45	24	35	41	20	40	32	113	13	13	...	50	35	32	14	35
Firewood	86	225	150	720	207	800	100	177	105	109	217	175	200	320	280	520	720
Wages of unskilled labourer—As. p. d.	3	3	2	2	2.5	2	6	3	2	2	2	2	...	2	2	2	1.5
Linseed (Linum Usitatis, Simum)	11	9	9	9	10	8	...	...	...	...	...	10	14	15	17	20	14
Tili (Sesamum Indicum)	8	8	...	...	9	8	...	...	...	...	...	8	10	11	16	...	...
Oil, Linseed	...	...	...	...	...	...	...	...	...	3.75	...	...	3.75	...	...	...	...
Oil, Tili	...	...	...	...	...	...	...	...	...	3.7	...	...	3.5	...	...	...	...
Baingan (Brinjals), Solanum Melongena	37	33	...	...	32	21	85	60	...	49	14	32	41	31	32	15	9
Rathalu (Dioscorea Globosa)	19	30	...	...	...	...	...	...	...	33	...	...	...	...	21	...	...
Sweet Potatoe (Convolvulus Batatas)	...	...	...	...	23	27	40	38	...	23	...	...	...	...	...	...	...
Ghoyan, Earn (Potatoe Yam)	...	...	...	...	...	...	...	...	...	15	20	...	...	...	...	8	...
Potatoes	...	...	...	...	...	...	...	...	...	8	...	15	15	...	...	...	...
Bhendi (Abelmoschus Esculentus)	...	...	...	...	22	44	...	...	...	24	...	...	...	27	32	...	...
Onions	...	...	...	...	21	83	...	...	...	...	...	39	...	...	...	...	...
Indian Corn (Zea Mays)	...	...	...	...	...	...	...										

* Average weight of each

Provisions in each District of the Central Provinces during the year 1867-68.

(1 SEER=2½ ENGLISH POUNDS.)

Mandla.		Betul.		Hosangabad.		Narsinghpur.		Nimar.		Chhindwara.		Raipur.		Bilaspur.		Sambalpur.		Upper Godavari.	Provincial Average.
Mandla.	Rangarh.	Badnur.	Mulail.	Hosangabad.	Harda.	Narsinghpur.	Gadarwara.	Khandwa.	Burhanpur.	Chhindwara.	Sasnar.	Raipur.	Dhamtari.	Bilaspur.	Mungell.	Sambalpur.	Bargarh.		
1867.																			
35	34	...	15	17	...	19	18	22	24	15	17	58	67	163	67	61	71	27	36
15	20	8	8	8	...	9	9	8	14	11	8	24	28	71	37	27	35	10	17
12	...	7	7	7	6	8	9	7	12	9	7	15	17	20	25	16	21	6	11
44	39	26	13	13	...	27	31	13	20	14	12	58	68	163	85	...	...	...	38
90	24	12	11	14	13	17	16	10	14	17	13	36	24	25	50	14	12	9	18
...	...	...	...	...	...	8	11	...	...	...	...	...	...	18	18	...	...	...	13
...	...	...	10	12	12	23	20	16	17	...	...	...	...	...	...	6	...	...	14
...	22	16	15	16	16	24	21	17	27	22	21	...	...	...	...	...	...	22	21
22	30	12	11	15	15	20	20	11	14	16	11	17	16	21	23	14	25	11	17
20	...	7	9	10	...	16	15	9	11	9	15	14	14	11	18	...	...	7	12
22	...	14	...	...	...	...	...	...	...	...	...	...	...	73	83	...	...	...	34
26	26	9	10	10	...	18	15	...	...	12	10	20	20	17	20	...	...	...	16
16	...	8	10	9	...	15	14	...	...	9	10	22	22	13	17	10	15	11	13
22	21	9	10	9	...	16	14	...	...	11	11	25	22	14	21	23	18	10	16
37	28	...	12	...	...	...	21	...	...	13	11	...	...	...	...	...	...	...	20
2-3	...	2	1-5	2	2-5	2	3	2-1	1-75	2-7	2-25	1-75	...	1-5	2-5	3	3	1-9	2
...	...	...	...	...	...	5	1	...	...	25	25	...	...	...	...	...	...	...	92
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33
...	...	32	32	...	...	50	81	55	56	106	50	67	67	64	192	115	125	45	67
2-9	2-2	...	...	3-2	2-8	2-6	3	...	...	2-25	2-3	2-25	1-75	...	...	...	...	...	2-58
2-4	1-8	2	1-8	2-1	2-25	2-4	2	2-1	2-5	2	1-9	1	1	1-75	2	1-6	2	1-4	2-04
5-25	...	4	4-7	...	...	5-6	4	3-1	4-9	4-7	3-75	4	4	9	14-25	9	10	3-8	5-02
4-4	4-25	5	6	5-3	4-3	5	5	7-6	9-75	5-8	5-7	6-25	4-5	5-25	6	6	5	7-2	5-93
1-8	2-6	1-5	1-5	1-25	1-25	1-6	1-6	1-2	1	1-4	1-3	1-5	1-25	1-5	1-25	1-5	2	1-5	1-43
16	37	20	12	18	17	16	11	8	10	14	13	16	16	20	13	...	16	16	16
8	4-5	3	2	7-5	6	2-4	2	1-7	2-4	2	2-2	2	1	2-25	1-5	2-5	2-2	4	2-81
4	4	...	2-5	2	2	2	2	2	5-4	21	19	1-4	1-4	4	4	10-3	16	4	5-19
38	59	30	50	22	33	90	30	17	13	13	12	16	16	96	168	127	64	13	41
300	320	240	50	500	500	221	160	80	200	400	360	95	98	108	108	136	320	400	270
2	2	...	3	3	2-1	2	2	3	3	2-1	2-1	2	2	1	1-1	1-1	1-1	3	2-3
...	...	13	...	...	...	18	14	...	...	14	13	15	14	41	44	...	...	...	16
15	19	12	...	...	...	16	10	6	10	...	...	11	12	...	...	...	...	...	12
...	...	...	...	...	...	3-3	3	...	...	2-75	2-7	...	...	...	...	...	...	...	3-23
...	...	3	2-7	...	...	3-3	...	...	...	...	...	...	...	...	...	...	...	2-2	3-09
42	...	20	32	...	...	31	32	17	17	33	30	18	18	...	...	...	80	...	35
...	...	25	14	...	...	20	16	...	...	...	...	...	...	...	...	...	...	...	21
...	...	27	80	...	...	...	...	...	...	30	24	...	...	27	27	...	...	...	28
20	...	28	30	...	...	...	...	...	...	...	...	...	...	22	38	49	...	...	25
...	...	4	8	...	...	7	11	11	11	13	10	...	...	16	...	...	...	...	10
...	...	...	...	...	...	27	18	...	...	...	...	...	...	...	...	...	...	...	27
...	...	32	...	...	...	...	...	23	23	...	...	...	...	...	...	14	20	...	30
...	...	16	22	...	...	...	...	20	19	...	...	...	...	...	...	...	...	...	19
1868.																			
40	40	...	12	19	20	18	18	21	21	25	22	75	101	60	43	83	63	30	35
16	21	7	8	9	9	9	10	11	10	15	14	26	40	40	27	29	31	11	16
13	...	6	7	7	8	3	10	10	8	10	12	15	18	22	18	19	26	6	11
55	60	20	10	13	15	...	22	13	21	15	12	75	88	60	53	...	...	...	35
20	24	15	12	18	17	20	17	12	12	19	17	36	40	29	36	23	12	...	13
...	...	...	...	...	...	12	12	...	...	...	...	...	...	18	18	5	...	...	12
...	...	...	11	13	15	18	23	21	15	...	...	...	...	...	...	10	...	...	14
40	...	17	16	14	22	21	19	21	18	21	26	...	...	...	...	...	...	21	19
27	28	18	12	17	19	16	20	14	16	17	16	22	17	24	22	19	25	15	17
25	...	7	6	11	...	14	16	12	8	12	13	18	14	17	21	...	...	12	14
28	...	...	...	...	...	...	...	...	...	...	...	...	...	20	33	...	...	...	19
42	24	12	9	14	...	16	17	...	...	14	13	27	25	22	26	...	...	...	17
23	...	11	8	11	...	13	14	...	...	14	18	28	21	20	16	13	12	...	16
31	26	10	8	11	...	13	14	...	...	17	16	33	32	21	25	23	21	...	18
43	46	...	10	...	...	26	...	...	...	13	11	...	...	...	...	...	...	...	25
2-1	...	1-5	1-5	2	2-3	1-7	2	2-2	1-75	2-1	1-9	1-75	1-5	1-75	3	2-5	3	2-2	1-91
...	...	...	...	...	...	75	1	...	...	25	25	...	...	...	...	...	...	...	99
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33
...	...	32	32	...	...	50	75	56	56	71	62	67	67	64	128	115	130	43	63
3	2-2	...	...	3-75	4-2	3-4	3-4	...	...	2-4	2-3	2-5	2	...	...	...	...	...	2-91
2-6	2-1	2	2	2-5	2-75	2-9	2-4	2-5	2-1	2	1	1	1	2	1-75	2	2	1-4	2-22
7-4	...	4	5	...	...	6	6	4-2	3-75	5-25	4-5	6-75	6	9	14	12-7	18	4	6-35
4-6	4-2	4	7	5-25	4-75	4-4	5	8	9-2	5-4	7	6-5	5-5	5-5	4-75	5	10-5	8	6-18
1-9	2-2	1-5	2	1-25	1-25	1-7	1-7	1-1	1-25	1-5	1-25	1-75	1-5	1-75	1-75	1-3	1-75	3	1-6
18	32	16	11	16	18	16	11	8	10	14	12	16	16	16	12	19	20	16	15
3	4-8	1-5	2	6	6-75	3	3	2-75	5-4	2-1	2	2-75	2	2	2-25	2-5	2-5	3	3
4	4	...	2-5	2	2	2	2	2	4	4	4	1-4	1-4	2-4	2-4	4	4	4	2-87
37	73	20	50	43	50	90	26	...	11	22	19	16	16	21	111	127	56	15	41
300	320	240	50	400	400	200	160	80	200	360	320	90	100	108	108	136	320	400	261
2	1-4	...	3	3	2-1	2	2	3	3	2-1	2-1	2	2	1-4	1-4	1-4	1-4	3	2-35
...	...	13	...	...	...	17	12	...	...	15	14	24	18	19	42	...	...	...	15
20	20	12	...	...	...	16	10	8	8	...	...	19	15	...	...	...	...	...	12
...	...	...	...	...	...	4	3	...	...	3-8	3-3	...	...	...	...	...	...	...	3-6
...	...	3	2-6	...	...	3-9	...	...	...	...	...	...	...	...	...	...	...	...	3-33
51	...	16	32	...	...	31	32	16	16	30	25	16	16	...	...	...	80	...	33
...	...	20	15	...	...	20	16	...	...	...	...	...	...	...	...	...	...	...	22
...	...	26	30	...	...	...	...	...	...	28	25	...	...	27	27	...	...	...	29
20	...	27	30	...	...	...	...	...	...	...	...	...	...	22	38	48	...	...	25
...	...	4	8	...	...	8	11	11	11	13	10	...	...	16	...	...	...	...	11
...	...	...	...	...	...	28	21	...	...	...	...	...	...	...	...	...	...	...	26
...	...	32	...	...	...	...	...	25	25	...	...	...	...	...	...	15	16	...	32
...	...	19	24	...	...	...	...	22	19	...	...	...	...	...	...	...	...	...	21

same equals 1½ seer.

Statement showing the comparative prices of Agricultural Produce and of

NUMBER OF SEERS SOLD PER RUPEE

NUMBER OF SEERS SOLD PER RUPEE																	
	Nagpur.		Bhandara.		Chanda.		Wardha.			Jabalpur.		Sagar.		Damoh.		Seoni.	
	Nagpur.	Rantek.	Bhandara.	Sakoli.	Chanda.	Wairagah.	Arvi.	Hingnagar.	Balaghat.	Jabalpur.	Sihorah.	Sagar.	Kurai.	Damoh.	Hatta.	Seoni.	Katangi.
1869.																	
Paddy	26	30	22	31	17	24	7	9	23	17	19	12	13	20	...	24	22
Common Rice (husked)	13	9	11	16	8	16	7	9	12	9	10	8	7	10	9	9	9
Best Rice (husked)	9	6	7	12	7	14	6	7	9	7	7	6	6	7	7	8	7
Kodo (Paspalum Scrobiculatum)	...	...	18	35	...	...	...	37	22	19	24	23	23	20	35	9	9
Wheat	12	9	10	11	9	10	10	11	10	11	11	12	14	12	12	12	11
Barley	8	...	...	...	...	...	...	...	...	10	13	12	...	...	...	...	...
Bajra (Panicum Frumentaceum)	12	...	...	...	...	...	...	...	...	11	13	13	...	13	...	...	...
Jowar (Sorghum Vulgare)	16	15	12	13	14	14	15	14	...	15	11	15	15	15	24	14	12
Gram	11	9	10	12	11	8	11	11	10	12	12	14	14	14	13	12	10
Toor (Cajanus Indicus)	11	8	...	...	9	...	11	10	9	10	9	12	...	...	...	9	12
Lakh (Lathyrus Sativus)	10	12	...	...	16	...	8	10	...	10	9	13	14	...	...	...	...
Musoor (Ervum Lens)	9	15	9	9	...	...	...	...	...	9	8	11	11	...	...	...	...
Mung (Phaseolus Mungo)	10	11	11	12	12	10	11	12	...	9	8	11	11	...	...	...	...
Urud (Phaseolus Radiatus)	...	...	12	12	...	...	10	10	...	10	9	11	11	...	...	...	...
Kutki	...	...	...	...	...	...	...	...	...	...	...	20	14	...	...	...	...
Cleaned Cotton	1.25	1.3	1	1.3	1.5	.75	1.5	1.5	...	2	1.25	1.5	1.75	1.75	2.25	1.5	1.4
Indigo, manufactured, medium quality.	1.9	...	.25	.25	...	...	...	3	...	...	...	...	...	...	...	...	...
Indigo, Fresh plant	...	...	.4	.3	...	...	...	...	...	...	...	...	...	...	...	...	...
Sugar-cane...	...	...	...	...	18	80	64	60	...	40	39	...	19	...	...	53	...
Sugar, raw...	2.75	...	2.5	2.4	...	...	2.25	2.5	...	...	...	2.75	3	3	3.5	...	...
Sugar, refined	1.9	2.5	2	2	2.25	1.25	2.25	2.25	2	3.1	3.1	2	2.5	2.75	2.75	2.25	2.4
Sugar (Goor)	3.8	5.7	4	4.3	4.75	3.5	4.25	3.5	4.6	6.8	7.3	5.75	5.5	...	...	5.75	5.5
Salt	8.25	7.5	7.5	7	6	4.25	7.25	6.5	6.4	4	4.6	4	7	3.75	4	4.25	6.6
Ghee	1.25	1.3	1	1.2	1.5	1.25	1	1.1	1.8	1.9	1.5	1.75	1.75	2	1.5	1.4	...
Milk	8	12	18	19	11	11	12	12	6	12	14	...	16	16	17	14	12
Tobacco	1.3	1.3	1.5	1.5	1.75	1.5	1.75	1.75	3	4.1	29	2.5	4	2.5	5.5	3.5	2.7
Spirit (25° below proof)—Qt. btl.	3.5	1.3	...	...	...	...	4	2.5	...	...	3	...	2	...	...	3	...
Raw materials from which spirits are made—Mohwa	28	45	30	40	26	53	40	32	46	20	0.8	...	21	32	30	7	17
Firewood	97	190	150	480	240	653	100	146	109	120	310	151	233	320	280	440	720
Wages of unskilled labourer—As. p. d.	3	3	2	2	2.5	1.5	4	3	2	2	2	2	...	2	2	2	1
Linseed (Linum Usitatis, Simum)	10	9	12	9	12	9	...	...	...	...	...	13	11	14	17	19	11
Tili (Sesamum Indicum)	8	9	...	...	12	9	...	...	...	...	...	10	...	12	15	...	...
Oil, Linseed	...	...	...	...	...	...	...	...	...	4	...	...	3.75	...	...	...	...
Oil, Tili	...	...	...	...	...	...	...	...	...	4.2	...	...	3.5	...	...	...	...
Baingon (Brinjals), Solanum Melongena	46	26	...	...	32	20	68	85	...	49	18	25	38	34	35	14	9
Rathalu (Dioscorea Globosa)	19	32	...	...	...	...	...	...	...	17	...	...	...	...	20	...	...
Sweet Potatoe (Convolvulus Batatas)	...	...	...	...	23	26	23	23	...	23	...	15	...	...	...	...	...
Ghoyan, Sarn (Potatoe Yam)	...	...	...	...	...	...	...	...	...	15	16	...	...	...	...	9	...
Potatoes	...	...	...	...	...	...	...	...	...	8	...	16	15	...	...	...	...
Bhendi (Abelmoschus Esculentus)	...	...	...	...	21	...	...	...	...	24	...	...	...	31	...	...	...
Onions	...	...	...	...	21	50	...	...	...	...	...	15	...	...	...	...	...
Indian Corn (Zea Mays)	...	...	...	...	...	...	...	...	...	...	...	15	...	...	...	...	...
1870.																	
Paddy	35	53	31	49	28	19	...	52	20	29	16	26	28	28	...	29	38
Common Rice (husked)	17	11	16	24	13	13	8	12	26	11	15	12	12	14	13	11	9
Best Rice (husked)	12	9	12	19	11	11	7	8	21	8	14	7	10	12	12	6	7
Kodo (Paspalum Scrobiculatum)	...	...	23	35	...	...	...	64	24	42	36	31	37	33	40	11	...
Wheat	15	13	15	15	11	8	11	18	14	15	16	15	19	14	14	13	11
Barley	9	...	...	...	...	...	...	...	...	11	11	14	...	...	...	...	...
Bajra (Panicum Frumentaceum)	16	...	...	...	...	...	...	...	...	15	11	14	...	18	...	...	...
Jowar (Sorghum Vulgare)	21	17	15	17	18	15	23	19	...	17	13	21	33	20	22	24	12
Gram	15	11	12	12	8	6	9	10	10	14	17	15	20	15	16	11	10
Toor (Cajanus Indicus)	11	9	...	...	10	...	10	12	13	12	12	14	...	...	...	8	11
Lakh (Lathyrus Sativus)	11	11	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...
Musoor (Ervum Lens)	14	11	13	10	...	...	6	11	...	14	16	20	18	...	...	...	...
Mung (Phaseolus Mungo)	16	13	16	13	12	13	11	14	...	15	12	15	25	...	...	...	...
Urud (Phaseolus Radiatus)	...	...	17	12	...	...	1.0	11	...	14	14	16	18	...	...	...	...
Kutki	...	...	...	...	...	...	...	...	...	...	...	19	...	...	...	...	...
Cleaned Cotton	1.5	1.3	1	1.1	1.25	.75	1.75	1.75	...	1.6	1.3	1.6	2	1.75	2	1.25	1.4
Indigo, manufactured, medium quality.	2	...	.25	.25	...	...	...	3.25	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	.4	.3	...	...	...	...	...	...	...	...	...	...	...	...	...
Sugar-cane...	...	...	...	...	18	80	34	57	...	53	36	...	20	...	...	53	...
Sugar, raw...	2.8	...	2.3	...	...	...	2.5	2.5	...	...	...	3.75	...	3	3.5	...	...
Sugar, refined	2	2.3	2.1	1.9	2.25	1.25	2.25	2	2.2	2.9	3	2	2.5	2.75	3	2.6	2.4
Sugar (Goor)	5.25	5.75	4.6	4	5.25	3	3.75	4	5.3	8.8	7.3	5.5	5.25	...	...	5	5.5
Salt	8	7.5	7.6	7.4	6.75	4.5	7.25	6.75	6.9	4.25	5.25	4.6	8	4.5	4.75	4.25	6.4
Ghee	1.5	1.2	1	1.2	1.25	1.25	1	1	1.4	1.5	1.7	1.5	1.75	1.75	2	1.25	1.3
Milk	9	15	7	19	9	9	11	12	7	11	16	...	15	16	19	16	14
Tobacco	2	1.9	2.25	1.5	2.75	1.25	1.75	2	3	4	2.9	2.25	3.5	2.5	5.25	4	2.6
Spirit (25° below proof)—Qt. btl.	1	1.3	...	...	...	...	4	2.5	...	...	4	...	2	...	...	5	...
Raw materials from which spirits are made—Mohwa	29	45	40	40	38	47	40	40	89	26	38	...	42	25	25	27	24
Firewood	108	210	150	480	223	640	100	150	109	115	320	150	199	320	280	400	720
Wages of unskilled labourer—As. p. d.	3	3	2	2	3	1.5	4	3	2	2	2	2	...	2	2	2	1
Linseed (Linum Usitatis, Simum)	12	12	15	10	12	8	...	...	...	...	...	14	21	19	16	19	12
Tili (Sesamum Indicum)	9	13	...	...	10	9	...	...	...	...	...	13	18	17	15	...	...
Oil, Linseed	...	...	...	...	...	...	...	...	...	3.5	...	...	6.25	...	...	...	...
Oil, Tili	...	...	...	...	...	...	...	...	...	4.25	...	...	5.75	...	...	...	...
Baingon (Brinjals), Solanum Melongena	43	50	...	...	23	16	44	76	...	41	31	26	37	32	27	14	10
Rathalu (Dioscorea Globosa)	21	15	...	...	...	...	...	...	...	33	...	...	...	...	20	...	...
Sweet Potatoe (Convolvulus Batatas)	...	...	...	...	25	27	19	26	...	23	...	15	...	...	...	...	...
Ghoyan, Sarn (Potatoe Yam)	...	...	...	...	...	...	...	...	...	16	20	...	...	...	...	7	...
Potatoes	...	...	...	...	...	...	...	...	...	7	...	16	16	...	...	...	...
Bhendi (Abelmoschus Esculentus)	...	...	...	...	21	...	...	...	...	25	...	...	...	30	...	...	...
Onions	...	...	...	...	21	57	...	...	...	...	...	13	...	...	...	...	...
Indian Corn (Zea Mays)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Average weight of each

Provisions in each District of the Central Provinces during the year 1869-70.

(1 SEER=2½ ENGLISH POUNDS.)

Mandala.		Betul.		Hoshangabad.		Narsinghpur.		Nimar.		Chhindwara.		Raipur.		Bilaspur.		Sambalpur.		Upper Godavari.	Provincial Average.
Mandla.	Rangarh.	Badnur.	Mulail.	Hoshangabad.	Harda.	Narsinghpur.	Gadarpur.	Khandwa.	Burhanpur.	Chhindwara.	Sagar.	Raipur.	Dhamtari.	Bilaspur.	Mungeli.	Sambalpur.	Bargarh.		
1869.																			
23	25	...	12	16	17	16	19	20	20	18	15	38	56	22	25	89	42	24	25
9	12	...	7	7	8	8	16	9	11	7	6	12	19	13	16	20	21	9	11
8	...	6	6	...	...	5	20	7	9	5	5	9	13	9	10	14	14	6	8
26	29	12	11	12	15	20	18	11	17	18	14	28	44	22	32	...	...	...	22
11	10	11	11	16	15	14	16	12	14	11	11	15	20	11	12	10	18	10	12
...	...	...	...	...	...	11	12	...	...	...	...	...	...	...	...	5	...	...	10
...	...	...	11	12	14	14	20	18	24	...	...	...	...	...	...	10	...	...	14
17	...	14	15	20	18	16	17	15	21	14	14	...	...	...	...	...	...	...	15
12	12	10	11	17	17	15	18	13	15	12	11	14	16	12	13	11	25	12	13
15	...	6	7	13	...	12	13	10	14	8	9	11	10	10	11	...	...	11	10
14	...	...	...	...	...	...	...	...	...	...	...	...	...	20	21	...	...	...	16
13	10	7	10	14	...	13	14	...	...	10	9	12	15	9	10	...	...	...	11
14	...	7	10	8	...	9	13	...	...	9	9	12	12	8	8	11	15	12	11
16	11	8	10	9	...	11	13	...	...	10	9	14	15	9	11	14	24	12	12
24	23	12	10	...	...	...	23	...	...	15	12	...	...	...	...	...	...	...	17
2	...	1.5	1.5	2	2	1.6	2	1.6	2.2	1.6	1.6	1.75	2.25	1.5	2	1.3	3.5	1.5	1.69
...	...	...	...	...	...	5	1	...	...	2.5	2.5	...	...	...	...	...	...	...	35
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33
...	...	35	32	...	...	50	73	53	54	90	60	67	67	43	64	115	128	37	58
3.1	2.4	...	...	3.75	4.2	3.1	3.25	...	...	2.6	2.5	2.25	1.5	...	...	...	...	...	2.81
2.7	2.2	2	2	2.2	2.3	2.8	3	2.4	2.5	2.5	2.1	1	1	2	1.5	2	2	1.3	2.19
5.75	...	5	5	...	...	6.5	6	3.75	4.75	6.3	7.4	5.75	6.25	7.5	12.5	9	12	3.1	5.75
4	4.3	4	7	4	5.5	4.2	4.4	8.7	9	6.3	7.4	5.75	6.5	4.5	4.5	4.6	4	8	5.68
1.8	2	1.5	1.5	1.3	1.3	1.75	1.75	1.25	1.2	1.6	1.4	1.75	2	2	1.5	1.75	1.1	1.4	1.5
16	32	16	12	16	16	16	11	8	12	16	14	16	16	16	12	18	16	16	14
3	4.8	1.5	2	5.5	5.5	3.25	3	1.75	5.75	1.9	1.8	2.25	1.75	1.75	2.5	2.3	2	3	2.73
3	3	...	2.8	2	2	2	2	2	2.3	4.3	4.3	1.3	1.3	2.3	2.3	4	4	4	2.7
37	22	40	50	64	41	72	35	17	31	40	40	28	26	21	117	133	72	15	40
300	320	240	50	312	223	160	80	200	360	320	320	90	100	108	108	136	320	400	247
2	2	...	8	3	2.8	2	4	4	2.3	2.3	2.3	2	2	1.3	1.3	1.3	1.3	3	2.34
...	...	...	...	...	...	21	18	...	...	14	14	15	19	30	...	...	...	...	15
18	21	10	...	...	...	22	13	12	9	...	...	15	14	...	...	...	...	...	13
...	...	...	...	...	...	4.2	4	...	...	3.6	3.6	...	...	...	...	...	...	...	3.86
...	...	3	2.5	...	...	4.75	...	...	...	...	...	...	...	...	...	...	...	3.1	3.51
50	...	16	19	...	...	30	32	16	16	41	37	16	16	...	...	...	80	...	33
...	...	15	15	...	...	30	16	...	...	...	...	...	...	...	...	...	...	...	21
...	...	20	20	...	...	...	...	...	...	43	31	...	...	27	27	...	...	...	25
20	...	20	19	...	...	...	...	...	...	...	...	...	...	22	38	48	80	...	29
...	...	4	8	...	...	7	11	13	13	9	7	...	...	16	...	...	...	...	11
...	...	...	...	...	...	34	21	...	...	...	...	...	...	...	...	...	...	...	26
...	...	...	32	...	...	...	...	22	22	...	...	...	...	...	...	14	16	...	24
...	...	...	15	...	...	...	...	22	16	...	...	...	...	...	...	...	...	...	17
1870.																			
35	45	...	15	20	19	19	25	26	24	26	23	53	60	55	51	105	80	24	36
15	23	8	10	9	9	10	12	10	11	11	11	28	29	24	31	38	40	8	16
13	...	6	8	8	8	9	11	9	9	6	8	15	14	21	20	23	35	6	12
46	78	...	12	15	14	23	12	11	17	18	14	27	30	104	64	...	...	...	33
16	18	12	11	12	14	14	16	10	15	13	12	23	25	24	34	14	20	10	15
...	...	...	...	...	...	9	...	...	...	...	...	...	...	18	18	5	...	...	12
...	...	...	11	14	17	17	24	25	23	...	...	...	...	...	...	10	...	...	17
25	...	15	18	19	22	21	25	28	27	19	27	...	...	...	...	11	...	...	20
15	20	8	8	11	12	14	14	10	14	11	10	13	24	19	16	15	30	10	13
19	...	...	9	11	...	16	14	9	14	8	10	8	8	10	12	...	...	8	11
15	...	...	...	...	...	...	...	...	...	...	...	...	...	52	53	...	...	...	25
19	17	8	10	11	...	15	16	...	...	10	9	14	15	15	12	...	...	...	13
14	...	7	7	12	...	16	15	...	...	10	10	12	12	13	10	9	15	10	13
17	19	7	10	12	...	16	15	...	...	12	9	14	14	11	15	15	30	9	14
35	34	12	11	...	...	...	33	...	...	15	13	...	...	...	...	...	...	...	22
1.5	...	1.5	1.5	1.5	1.6	1.6	2	1.75	2.2	1.5	1.5	1	1	1.5	2	1.5	4	1.5	1.59
...	...	...	...	...	...	5	1	...	...	2.5	2.5	...	...	...	...	...	...	...	97
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	35
...	...	34	32	...	...	50	71	52	52	98	50	67	67	32	43	115	128	42	56
2.75	2.4	...	...	3.25	3.75	3.4	3.5	...	...	2.5	2.3	2.5	2	...	...	...	...	...	2.86
2.4	2	2	2	2.2	2.5	2.9	3	2.25	3	2.2	2	1.25	1	2	1.5	2	2	1.6	2.2
6	...	6	4	...	...	5.6	6	3.6	5	4.9	4.5	5	5.5	5.5	11.5	8	12	4	5.66
5	4.4	4.5	7	4	5	4.1	5	8.5	9	7	7.5	6.25	6	5	5	5.9	5	7.9	6.02
1.6	2	1.5	1.5	1.1	1.1	1.5	1.5	1	1.3	1.4	1.25	1.25	1	1.75	1.5	1.5	1.2	1.5	1.39
16	32	16	12	16	16	16	10	8	8	16	12	16	16	16	16	17	16	16	14
3	...	1.8	1.5	3.25	4	3.5	3	1.6	6	1.9	1.8	2.25	2.25	1.75	3	2.3	2.2	2.9	2.67
4	4	...	2.8	2	2	2	2	2	2.3	3	3	1.3	1.3	2.3	2.3	4	4	4	2.75
37	33	30	40	34	42	60	35	23	26	37	38	16	36	100	117	128	64	15	44
300	320	240	50	165	212	205	160	80	249	360	320	125	150	108	108	134	320	400	241
2	2	...	3	3	2.3	16	19	4	4	2.3	2.3	2	2	1.3	1.3	1.3	1.3	3	2.36
...	...	...	...	...	...	16	16	9	9	...	...	14	13	...	...	...	...	...	17
21	38	10	...	...	...	16	16	...	...	...	...	14	13	...	...	...	...	...	15
...	...	...	...	...	...	4.5	4	...	...	4	3.6	...	...	...	...	...	...	...	4.51
...	...	3	2.5	...	...	4.4	...	...	...	...	...	...	...	...	...	...	...	2.6	3.75
60	...	16	25	...	...	31	32	16	11	19	28	16	16	...	...	...	70	...	91
...	...	12	16	...	...	30	16	...	...	...	...	...	...	...	...	...	...	...	90
...	...	20	20	...	...	...	...	...	...	19	30	...	...	32	32	...	...	...	24
20	...	20	20	...	...	...	...	...	...	...	...	...	...	32	38	48	80	...	30
...	...	4	8	...	...	8	12	11	11	10	8	...	...	16	...	...	...	...	11
...	...	...	...	...	...	34	22	...	...	...	...	...	...	...	...	...	...	...	26
...	...	...	32	...	...	...	...	25	25	...	...	...	...	...	...	14	16	...	28
...	...	...	16	...	...	...	...	24	18	...	...	...	...	...	...	...	...	...	19

cane equals 1½ seer.

Provincial Average Statement of prices of Agricultural Produce and of Provisions in the Central Provinces from 1861 to 1870.

		NUMBER OF SEERS SOLD PER RUPEE (1 SEER=2½ ENGLISH POUNDS).									
		1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.
Paddy		59	58	52	42	33	31	36	35	25	36
Common Rice (husked)		26	27	24	18	15	13	17	16	11	16
Best Rice (husked)		20	21	18	14	11	9	11	11	8	12
Kodo (Paspalum Scrobiculatum)		64	68	60	47	40	33	38	35	22	33
Wheat		35	33	24	20	17	13	18	18	12	15
Barley		30	18	17	18	16	11	13	12	10	12
Bajra (Panicum Frumentaceum)		30	25	23	22	20	15	14	14	14	17
Jowar (Sorghum Vulgare)		39	33	27	22	23	18	21	19	15	20
Gram		38	33	24	22	19	14	17	17	13	13
LENTILS.	Toor (Cajanus Indicus)	25	23	16	14	14	11	12	14	10	11
	Lakh (Lathyrus Sativus)	46	44	37	37	34	30	34	19	16	25
	Mussoor (Ervum Lens)	32	29	23	20	18	13	16	17	11	13
	Mung (Phaseolus Mungo)	27	22	18	15	15	12	13	16	11	13
	Urud (Phaseolus Radiatus)	30	27	20	18	16	13	16	18	12	14
Kutki		43	45	40	33	27	21	20	25	17	22
Cleaned Cotton		2.69	2.21	1.56	1.35	2.05	1.68	2	1.91	1.69	1.59
Indigo, manufactured, medium quality		.99	.96	1.04	.97	.99	.96	.92	.99	.93	.97
Indigo, fresh plant		.4	.4	.4	.5	.4	.33	.33	.33	.35	.35
Sugar-cane	No.*	71	73	71	71	72	69	67	63	58	56
Sugar, raw		2.72	2.67	2.71	2.77	2.73	2.5	2.58	2.91	2.81	2.86
Sugar, refined		2.2	2.18	2.04	2.11	2.14	1.99	2.04	2.22	2.19	2.2
Sugar (Goor)		8.56	8.04	8.47	7.16	6.54	5.24	5.02	6.35	5.75	5.66
Salt		7.4	7.08	6.48	6.33	6.1	5.65	5.93	6.18	5.68	6.02
Ghee		2.48	2.16	2.03	1.78	1.77	1.55	1.43	1.6	1.5	1.39
Milk		17	19	19	18	18	17	16	15	14	14
Tobacco		3.79	3.58	3.54	3.17	2.94	2.84	2.81	3	2.73	2.67
Spirits (25° below proof)	Qt. bils.	6.56	6.29	6.03	5.63	5.37	5.04	5.19	2.87	2.7	2.76
Raw materials from which spirits are made— Mohwa		68	65	60	51	52	39	41	41	40	44
Firewood		364	368	373	353	321	299	270	261	247	241
Wages of unskilled labourer		1.92	1.9	2.1	2.1	2.22	2.27	2.3	2.35	2.34	2.36
Linseed (Linum Usitatis, Simum)		25	26	20	19	18	16	16	15	15	17
Tili (Sesamum Indicum)		19	16	15	13	14	12	12	12	13	15
Oil, Linseed		4.81	4.53	4.09	3.42	3.3	3.59	3.23	3.6	3.86	4.31
Oil, Tili		4.58	3.83	3.77	3.2	3.31	3.27	3.09	3.33	3.51	3.75
Baingan (Solanum Melongena)		38	39	37	37	37	36	35	33	33	31
Rathalu (Dioscorea Globosa)		25	24	23	25	23	21	21	22	21	20
Ghoyan, Sarn (Potatoe Yam), Colocasia Anti- quorum		31	30	30	33	31	31	25	25	29	30
Potatoes		10	10	10	10	9	10	10	11	11	11
Bhendi (Abelmoschus Esculentus)		30	29	28	25	28	25	27	28	26	26
Onions		34	35	31	27	29	29	30	32	24	28
Indian Corn (Zea Mays)		30	27	25	23	24	22	19	21	17	19
Sweet Potatoe (Convolvulus Batatas)		31	31	31	31	31	31	28	29	25	24

* Average weight of each cane equals 1½ seer.

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VOL. V.]

CALCUTTA, TUESDAY, 30TH SEPTEMBER 1873.

No. 2.

EXPECTATION OF LIFE IN INDIA AMONG CIVIL AND MILITARY SERVANTS AND AMONG THE PUBLIC IN ENGLAND.

[*"The Life or Mortality Table is the key-stone or point upon which the whole science of Life Assurance hinges."*—C. Walford.]

SOME discussion has arisen recently, not only in this country but also in England, regarding the safety of charging English rates of premium on Indian risks. The fact of English rates being charged of course naturally leads to the inference, that one with another Europeans live as long in this country as in Europe.

Fortunately there are materials at hand—materials derived from experience extending over many years, and from a source that cannot be impugned which enables us to bring the question at issue to the only practicable test, viz.: Statistics. It is a well-known fact that there has existed for a long period various Pension Funds in the three Presidencies of India connected with the civil, medical and military services of Government, these funds have at different times had the advantage of the services of well-known Actuaries, and among them the late Messrs. G. Davis, F. Neison, and S. Brown.

In 1871 Mr. S. Brown, then President of the Institute of Actuaries—an Association *en passant* which comprises the elite of the Actuarial profession in Great Britain—read a paper embodying the results of his investigations on the mortality prevailing among Europeans, civil and military, in India, during active service and *after retirement* in which he gives two tables, showing out of 10,000 living how many may be expected to die in each succeeding year until all are extinct. The paper was published in the *Assurance Magazine* for 1871. The tables will be found at pp. 208 and 209. From the preliminaries required in joining either service, the lives observed upon may be regarded as picked lives. To enable our readers to judge for themselves as to Indian risks being of equal value with residents in England, we have given in column 5 of the annexed table the expectation of Life in England by Dr. W. Farr of the Registrar General's Office, London, taken from the *Insurance Cyclopædia* p. 571. Of course the expectation given in columns 4 and 8 is limited exclusively to Indian *civil* and *military* lives during active service and *after retirement*, the table is not therefore applicable without some adjustments to kinds of risk which do not belong to these services, or which are not in all respects similar. It should also be borne in mind that at or about the age of 50, as a rule members of both services retire, and spend their remaining days in Europe, and thus are removed from the dangers and risks of an Indian climate, which experience shows becomes more fatal with advance in age. This view is confirmed by the last report of the Uncovenanted Pension Fund. The latter law (deduced by Mr. Woodrow from the experience of the Fund to 30th June 1872) shows that the rate of mortality among the members has greatly increased since June 1857, p. 68. Mr. Woodrow's Law of Mortality for the Uncovenanted Servants differs widely from that formerly employed by Mr. Finlaison. Indeed Mr. Woodrow finds the mortality double that on which Mr. Finlaison based his former tables. The new Law shows that the admission of Europeans to higher offices of the Uncovenanted Service has been attended with a great increase of mortality, p. 78.

There is reason to conclude that the rate of mortality prevailing among European and Eurasian residents in this country other than those connected with the civil and military services, would exhibit similar results to those indicated in the above extracts from the Uncovenanted Service Fund.

It is a great pity that the experience of the late Albert and the Companies associated with it as well as that of existing offices regarding the mortality which has prevailed among assured Indian lives cannot be collected and utilised for the benefit of the public. The data thus obtained would furnish a more correct and satisfactory index of the mortality ruling among assured lives, embracing all classes of the European and Eurasian community than is furnished by the civil and military table, whether separately or combinedly used.

Perhaps a word regarding the following table may not be out of place. Columns 2 and 6 headed D represent the number out of 10,000 living at age 15 attaining each successive year of age, to ascertain the number of deaths which may be expected to happen in any year or years, deduct the number opposite the older age from that opposite the younger, *e.g.*, number of deaths that may be expected to happen among civil lives between the ages 15 and 20 is 818 = 10,000—9,182.

Columns 3 and 7 headed N, the numbers in this column consist of the successive sums of the number living (column D) and the expectation of life at any age is found by dividing the number given in column N opposite any age by that in column D opposite the same age *e.g.* column N = 315,116 ÷ 9,182 (column D age 20) = 34.32 very nearly.

Expectation of Life in India (Civil and Military) and in England.

INDIAN CIVIL (S. BROWN).				FARR'S ENGLISH LIFE TABLE.	INDIAN MILITARY (S. BROWN).			
Age.	Number Living D.	N.	Expectation.	Expectation.	Number Living D.	N.	Expectation.	Age.
15	10,000	372,632	36.26	.....	10,000	312,061	32.00	15
16	9,830	362,632	35.89	.....	9,783	302,061	29.90	16
17	9,664	352,802	35.51	.....	9,568	292,278	29.57	17
18	9,500	343,138	35.12	.....	9,354	282,710	29.22	18
19	9,340	333,638	34.72	.....	9,141	273,356	28.90	19
20	9,182	324,298	34.32	.....	8,929	264,215	28.59	20
1	2	3	4	5	6	7	8	9

Expectation of Life in India (Civil and Military) and in England—(continued).

INDIAN CIVIL (S. BROWN).				FARR'S ENGLISH LIFE TABLE.	INDIAN MILITARY (S. BROWN.)			
Age.	Number Living D.	N.	Expectation.	Expectation.	Number Living D.	N.	Expectation.	Age.
21	9,028	306,088	33-90	.....	8,719	246,567	28-28	21
22	8,875	297,213	33-49	.....	8,511	238,056	27-97	22
23	8,726	288,487	33-06	.....	8,304	229,752	27-67	23
24	8,580	279,907	32-62	40-62	8,099	221,653	27-37	24
25	8,436	271,471	32-18	39-93	7,896	213,757	27-07	25
26	8,294	263,177	31-73	39-23	7,694	206,063	26-78	26
27	8,155	255,022	31-27	38-54	7,494	198,569	26-50	27
28	8,019	247,003	30-80	37-84	7,297	191,272	26-21	28
29	7,885	239,118	30-34	37-15	7,101	184,171	25-93	29
30	7,754	231,364	29-84	36-45	6,907	177,264	25-66	30
31	7,624	223,740	29-35	35-74	6,716	170,548	25-40	31
32	7,495	216,245	28-85	35-04	6,530	164,018	25-12	32
33	7,364	208,881	28-36	34-33	6,348	157,670	24-83	33
34	7,234	201,647	27-88	33-62	6,172	151,498	24-55	34
35	7,102	194,545	27-39	32-90	5,999	145,499	24-25	35
36	6,971	187,574	26-91	32-18	5,832	139,667	23-95	36
37	6,839	180,735	26-43	31-46	5,669	133,998	23-64	37
38	6,707	174,023	25-95	30-74	5,511	128,487	23-32	38
39	6,575	167,453	25-47	30-02	5,356	123,131	22-99	39
40	6,442	161,011	25-00	29-29	5,206	117,925	22-65	40
41	6,309	154,702	24-52	28-56	5,060	112,865	22-31	41
42	6,179	148,523	24-03	27-84	4,917	107,948	21-95	42
43	6,051	142,472	23-54	27-11	4,779	103,169	21-59	43
44	5,926	136,546	23-04	26-38	4,645	98,524	21-21	44
45	5,802	130,744	22-53	25-65	4,514	94,010	20-83	45
46	5,681	125,063	22-01	24-92	4,387	89,623	20-43	46
47	5,562	119,501	21-48	24-20	4,263	85,360	20-02	47
48	5,445	114,056	20-95	23-47	4,143	81,217	19-60	48
49	5,331	108,725	20-40	22-75	4,026	77,191	19-17	49
50	5,218	103,507	19-84	22-03	3,913	73,278	18-73	50
51	5,108	98,399	19-26	21-32	3,803	69,475	18-27	51
52	4,996	93,403	18-69	20-61	3,694	65,781	17-81	52
53	4,882	88,521	18-13	19-90	3,588	62,193	17-33	53
54	4,766	83,755	17-57	19-19	3,484	58,709	16-85	54
55	4,649	79,106	17-02	18-49	3,382	55,327	16-36	55
56	4,531	74,575	16-46	17-79	3,282	52,045	15-86	56
57	4,412	70,163	15-90	17-10	3,184	48,861	15-35	57
58	4,291	65,872	15-35	16-41	3,088	45,773	14-82	58
59	4,169	61,703	14-80	15-73	2,994	42,779	14-29	59
60	4,047	57,656	14-25	15-06	2,902	39,877	13-74	60
61	3,923	53,733	13-70	14-41	2,812	37,065	13-18	61
62	3,797	49,936	13-15	13-78	2,719	34,346	12-63	62
63	3,669	46,267	12-61	13-17	2,623	31,723	12-09	63
64	3,539	42,728	12-07	12-58	2,523	29,200	11-57	64
65	3,407	39,321	11-54	12-00	2,421	26,779	11-06	65
66	3,274	36,047	11-01	11-44	2,316	24,463	10-56	66
67	3,139	32,908	10-48	10-90	2,208	22,255	10-08	67
68	3,003	29,905	9-96	10-37	2,099	20,156	9-60	68
69	2,866	27,030	9-43	9-86	1,988	18,168	9-14	69
70	2,729	24,310	8-91	9-37	1,875	16,293	8-69	70
71	2,592	21,718	8-38	8-89	1,761	14,532	8-25	71
72	2,447	19,271	7-88	8-43	1,647	12,885	7-82	72
73	2,296	16,975	7-39	7-98	1,532	11,353	7-41	73
74	2,138	14,837	6-94	7-56	1,416	9,937	7-02	74
75	1,976	12,861	6-51	7-15	1,302	8,635	6-63	75
76	1,809	11,052	6-11	6-76	1,189	7,446	6-26	76
77	1,640	9,412	5-74	6-39	1,078	6,368	5-90	77
78	1,469	7,943	5-41	6-03	970	5,398	5-57	78
79	1,300	6,643	5-11	5-69	865	4,533	5-24	79
80	1,134	5,509	4-86	5-37	765	3,768	4-93	80
81	973	4,536	4-66	5-07	670	3,098	4-62	81
82	830	3,706	4-47	4-78	581	2,517	4-33	82
83	706	3,000	4-25	4-51	500	2,017	4-03	83
84	597	2,403	4-03	4-25	425	1,592	3-75	84
85	503	1,900	3-78	4-01	337	1,235	3-46	85
86	421	1,479	3-51	3-78	297	938	3-16	86
87	351	1,128	3-21	3-56	243	695	2-86	87
88	291	837	2-88	3-36	197	498	2-53	88
89	240	597	2-48	3-17	157	341	2-17	89
90	196	401	2-05	2-99	123	218	1-77	90
91	160	241	1-50	2-82	94	124	1-32	91
92	118	123	1-04	2-66	65	59	0-90	92
93	75	48	0-64	2-52	38	21	0-55	93
94	37	11	0-30	2-39	17	4	0-24	94
95	11	.....	.....	2-25	4	.....	.....	95
96	.....	.....	.....	2-13	.....	.....	.....	96
97	.....	.....	.....	2-00	.....	.....	.....	97
98	.....	.....	.....	1-89	.....	.....	.....	98
99	.....	.....	.....	1-78	.....	.....	.....	99
100	.....	.....	.....	1-68	.....	.....	.....	100
101	.....	.....	.....	1-55	.....	.....	.....	101
1	2	3	4	5	6	7	8	9

VITAL STATISTICS.—BENGAL.

SELECTED AREAS.

THE first quarterly report of the vital statistics being gathered in Bengal from areas specially selected for the sake of greater accuracy than is attainable over a larger surface, has been received by the Government.

The selected areas appear to be 101 in number, comprising a population of nearly 2 millions (1,922,608). The Sanitary Commissioner has omitted to record the number of areas from which he has received complete statistics, distinguishing the sexes, but the population of these areas is 1,663,195.

	Male	...	...	...	...	861,176		
	Female	...	...	...	...	812,019		
							1,663,195	
Town areas—						Population.	Deaths.	Ratio, 3 mos.
Males	...	...	...	...	...	360,860	2,384	6.60
Females	...	...	...	...	...	317,789	1,924	6.03
Rural areas—								
Males	...	...	...	...	...	490,316	2,345	4.8
Females	...	...	...	...	...	494,230	1,934	4.0
Combined areas—								
Males	...	...	...	...	...	851,176	4,299	5.0
Females	...	...	...	...	...	812,019	3,858	4.7

These figures have an aspect of veri-similitude about them at all events, and no longer shock us as absurd. In point of fact, they are, we suppose, an approximation to the truth. If we multiply the quarter's ratio by 4, we have an annual death-rate of—

Town areas—							Per 1,000.
Male	...	...	...	...	...	...	26.40
Female	...	...	...	...	...	...	24.12
Rural areas—							
Male	...	...	...	...	...	...	19.20
Female	...	...	...	...	...	...	16.00
Combined areas—							
Male	...	...	...	...	...	...	20.0
Female	...	...	...	...	...	...	18.8

That the actual mortality rates are, much higher than these ratios, may well be the case; but it is satisfactory to have made so long a step in advance towards the truth. Five town areas and six rural ones are particularized, for the unsatisfactory character of their returns, viz.—

Town areas.	Death-rate per quarter.	Rural areas.	Death-rate per quarter.
Furzedpore	1.7	Nuddea	1.3
Sylhet	1.9	Gya	1.4
Durrung	2.3	Sebsangor	2.4
Nowgong	2.5	Durrung	3.1
Shahabad	3.3	Dacca	3.1
		Burdwan	3.9

The most improbable of the ratios is that for the rural tract in Burdwan, where, in spite of the epidemic that is known to have been raging, the returns show a death-rate of but 3.9 during the quarter, or 15.6 per 1,000 of the year. The Sanitary Commissioner has "come to the conclusion that the quarter's figures may be fairly held to represent a fifth of the year's mortality, and that they indicate a death-rate of at least 25 per 1,000 per year." Sir George Campbell fears, however, that the figures suggest a higher ratio a good deal. For not merely is the first quarter of the year its healthiest one, but Dr. Jackson himself states his belief that the returns show a very imperfect registration of female deaths in the rural areas, and in paragraphs 41 to 50 that the registration of infant mortality is yet more defective. That the registration of female deaths is very imperfect, there can be no doubt, as a glance at the following figures will show. The figures are taken from the table attached to paragraph 38 of the report, being three of the rural areas there enumerated:—

	Men.	Women.
Bhaugulpore—		
Population	144	100
Death-rate	200	100
Pubna—		
Population	95	100
Death-rate	180	100
Gya—		
Population	99	100
Death-rate	135	100

It is of course impossible that these figures should be true. If the census be correct, the male mortality is largely in excess, or the female mortality only a fraction, of the real number of deaths. There can be little doubt that the female mortality has been imperfectly registered; for while the three areas instanced are exceptional for the extent of their divergence from normal ratios, almost every area shows the same marked peculiarity of lower female mortality. Dr. Jackson avows his belief that the proportions should be reversed, and that it is "highly probable that in Bengal, where women are less protected, take a greater share of hard work, and where while mere children and long before their physical development is complete, they are exposed to the cares and dangers of maternity, they die much earlier than in Europe." We doubt this extremely, and may not build anything upon such a belief. We should rather look for a lower mortality amongst females in India as well as in England, the number of female births being apparently as much as lower here as it is there.

Some of the urban areas—notably those of Moorshedabad, Rungpore, and Furzedpore—seem to require revision, the areas having been so defined, or their limits so drawn, as to make them include a very abnormal population; e.g.—

	Men.	Women.
Moorshedabad—		
Town area selected	112	100
Entire town area	121	100
Rungpore—		
Town area selected	141	100
Town as a whole	199	100
Furzedpore—		
Town area selected	320	100
Whole town	122	100

Sir George Campbell has ordered that in these and similar areas, where the proportion between the sexes is abnormal, the registration of births may be discontinued, and the attention of officers devoted exclusively to the registration of deaths.

Cause of Death.

The total mortality according to the report was 5.02 per 1,000 for the three months, or 20.08 per year, and the causes are stated thus:—

Fever	...	...	...	...	3.01
Cholera	...	...	...	...	.52
Small-pox	...	...	...	...	.19
Bowel complaints	...	...	...	...	.47
Injuries	...	...	...	...	.06
Other causes	...	...	...	...	.77—5.02

The deaths from fever presents a strange contrast to the hospital returns, which show far more deaths from bowel complaints, principally dysentery and diarrhoea. Before burial can take place at home, a certificate of the cause of death is required to be given by the medical man who attended the deceased. The true cause of death, therefore, is easily ascertained there, the registrar having simply to write it down in his book. But the attempt to obtain this information and to record it in India, is attended with great difficulties. Whatever the disease causing death may be the people attribute it nine times out of ten to fever, unless it is glaringly bowel disorder, and then it goes down indifferently as cholera or bowel complaint.

Birth Statistics.

The birth-rate in some of the chief European nations is as follows:—

France	2.62 per 100 of the people per year.
England	3.50 " "
Austria	3.94 " "

These figures are given simply for ready comparison with the following returns:—

	Town areas.	Rural.		Town areas.	Rural.
Bancoorah.....	80	2-24	Patna.....	2-88	3-88
Beerbhoom.....	3-19	3-96	Shahabad.....	1-68	3-79
Moorshedabad.....	1-20	3-41	Chumparun.....	64	76
Maldah.....	3-91	5-92	Sonthal Pergannahs.....	4-08	74
Darjeeling.....	2-13	78	Cuttack.....	2-24	3-80
Jalpigoree.....	06	2-02	Hazaribagh.....	1-04	1-44
Goalparah.....	1-91	1-86	Kamroop.....	7-37	2-26
Cachar.....	1-07	4-24	Nowgong.....	1-92	2-86

These ratios show that the registry in some of the areas has been very good. As a whole, however, the registry has been a failure, though not so conspicuously so as we might perhaps have feared it would be at the commencement.

The returns show the following proportion of infant mortality to the gross death-rate:—

	Children under one year.	Under six years.
Town areas.....	14-4	22-8
Rural.....	13-1	25-5

These figures show the percentage of infant deaths upon the gross mortality. To test the reliability of this mortality, the Sanitary Commissioner compares it with the infant mortality rate of England. "I do not mean," he says, "to imply that the two should necessarily agree, but I am of opinion that the mortality of infants of young children in Bengal must be at least as high, and is probably much higher, than that which obtains at Home, and that any falling short of the English ratio must be held to indicate deficient registration to at least the extent of the difference." The Commissioner appears to have taken the ratios of the Northampton life tables for the comparison, which give a rate for infant mortality heavily in excess of that of other authorities. The mean duration of life for children under one year of age varies by the Home authorities as follows:—

	Years and months.
Northampton tables.....	25-2 expectation of life.
Carlisle	38-9 ditto.
Dr. Farr's	41-2 ditto.

It is plainly, therefore, not safe to argue from the English ratio, which itself has not yet been settled, to the Indian one. All we know is that infant mortality everywhere represents a heavy percentage upon the gross death-rate. That the infant mortality in the selected areas is understated, there can be no doubt; but to what extent it is understated, we certainly cannot tell from the English mortality tables. The determination of the death-rate of native children in India is a very interesting question, as the rapid increase of the population points to a comparatively low rate of mortality amongst them. Sylhet and Chumparun return no infant mortality whatever, and Burdwan almost none; while in Purneah no children die, but infants only. Such figures can only be the result of careless registration.

The Sanitary Commissioner remarks that "in England fewer females die during the early and late periods of life, but more during the middle or child-bearing epoch." The ratio of male to female mortality is found to differ considerably in England at different ages. In the first five years of life, the ratio is—

7-216 per cent. male deaths to
6-216 " " female.

From 5 to 10 years of age, the male excess is very small. From 10 to 35 years, the female ratio exceeds the male, but after that, from 45 upwards in particular, women die at a decidedly lower rate than men. Female life upon the whole is longer than male life, thus counterbalancing the preponderance of male births everywhere.

Bengal may at last venture to speak about its mortality returns as no longer absurd, is certain. The selected areas are upon the whole a success, and promise to give us at no distant time a really reliable death-rate. Sir George Campbell reminds us however that there is no royal road to accuracy in the matter. In whatever district the civil authority makes it evident that he takes an interest in the subject, there the statistics will approach correctness. If this interest be not taken, and the registration be allowed to become perfunctory, we shall again relapse into the ridiculous rates formerly returned. He looks primarily therefore to the district officers for the correctness of these returns, though Civil Surgeons, who have a clerk allowed them for the purpose, must co-operate in securing accuracy. Civil surgeons must regard themselves as occupying the same position in regard to the returns of vital statistics which Superintendents of Police hold in regard to police returns.

EAST INDIA STOCK.

The following order, issued by the Government of India, is published for general information:—

No. 7.—Simla, the 11th August 1873.—Notification.

36 VICTORIA, CHAPTER 17.

An Act to provide for the Redemption or Commutation of the Dividend on the Capital Stock of the East India Company, and for the transfer of the Security Fund of the India Company to the Secretary of State in Council of India, and for the Dissolution of the East India Company,—(15th May 1873.)

WHEREAS it is expedient that provision should be made for the redemption or commutation of the Dividend on the Capital Stock of the East India Company, and for the transfer of the Security Fund of the India Company to the Secretary of State in Council of India, and for the Dissolution of the East India Company:

Be it therefore enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in the present Parliament assembled, and by the authority of the same as follows:—

1. This Act may be cited as "The East India Stock Dividend Redemption Act, 1873."

2. In this Act—

"East India Stock" means the Capital Stock of the East India Company:

The expression "Proprietors of East India Stock" means and includes all persons, bodies, politic or corporate, and executors or administrators of all persons in whose names any portion or share of East India Stock may be standing in the books kept for or on behalf of the East India Company by the Governor and Company of the Bank of England.

3. The Dividend now payable by law to the East India Company on East India Stock shall be redeemed or commuted as hereinafter mentioned.

4. The Dividend now payable by law to the East India Company on East India Stock shall continue payable until the Thirtieth day of April One thousand eight hundred and seventy-four, and no longer.

Provided always that a proportionate part of the said Dividend, and no more, shall become due for the period from the Sixth day of January One thousand eight hundred and seventy-four, to the Thirtieth day of April in the same year; and the payment of such proportionate part shall be made as near as may be in the manner in which the half-yearly payments of the said Dividend are now made, and all powers of attorney in force at the time of the passing of this Act, or which may hereafter be granted, for the receipt of Dividends to accrue on East India Stock shall, unless legally revoked, enable the Attorney or Attorneys therein named to receive the proportionate part of the Dividend which will become due on the Thirtieth day of April One thousand eight hundred and seventy-four.

5. The Secretary of State in Council of India may offer for the acceptance of the proprietors of East India Stock, by way of commutation for their respective portions or shares of the Dividend thereon, any stocks, funds, or securities which the Secretary of State in Council may have power to dispose of, or may be authorised by any Act of Parliament to create and issue; and any such offer may be made upon such terms and subject to such conditions as the Secretary of State in Council shall think fit.

6. The Secretary of State in Council may prescribe the manner in which the assents of the proprietors of East India Stock to accept any of such Stocks, Funds, or Securities as may be offered in respect of the proposed commutation are to be signified, and the period within which such assents are to be given, and may order that the transfer books of East India Stock be closed from such date as may, in the opinion of the Secretary of State in Council, be necessary or convenient.

7. Upon the requisition of the Secretary of State in Council, the East India Company shall furnish the Secretary of State in Council with all necessary information as to the proprietors of East India Stock, and shall permit any person or persons appointed by the Secretary of State in Council to have free access to the books kept for or on behalf of the said Company by the Governor and Company of the Bank of England, and to take copies thereof or extracts therefrom.

8. The Secretary of State in Council may offer the proposed commutation either directly to the proprietors of East India Stock or to the East India Company, for the purpose of being communicated to the proprietors.

9. In case the offer of the proposed commutation shall be made to the East India Company, the said Company shall comply with such instructions as may from time to time be given by the Secretary of State in Council, and shall furnish such Certificates under the Seal of the said Company as the Secretary of State in Council may require.

10. Her Majesty's Paymaster-General and the Accountant-General of the Court of Chancery in Ireland may, within such period as may be prescribed by the Secretary of State in Council, signify to the Secretary of State in Council, or to the East India Company, as the case may be, on behalf of any person or persons interested in East India Stock, standing in the books kept for or on behalf of the said Company as aforesaid, to the account of the Paymaster-General for the time being on behalf of the Court of Chancery, or in the name of the said Accountant-General respectively, such assent as the said Paymaster-General and Accountant-General respectively, may be directed to give by the Courts of Chancery in England and Ireland respectively, to accept and receive in lieu of such East India Stock, such Stocks, Funds, or Securities as may be offered for the acceptance of the proprietors of East India Stock by the Secretary of State in Council, and orders may be made in a summary way by the Courts of Chancery in England and Ireland upon the application by summons in Chambers of persons interested, for directing the said Paymaster-General and Accountant-General respectively as to signifying or not signifying such assent, and otherwise in relation thereto.

After the expiration of the period prescribed by the Secretary of State in Council as aforesaid, the Courts of Chancery in England and Ireland respectively may by General Order direct the said Paymaster-General and Accountant-General respectively, within such further period as may be prescribed by the Secretary of State in Council, to signify, on behalf of the persons interested in East India Stock standing in the books kept for or on behalf of the said Company as aforesaid to the Account of the Paymaster-General for the time being on behalf of the Court of Chancery, or in the name of the said Accountant-General respectively, in respect of which no special orders shall have been made under the provision hereinbefore contained, their assent to accept and receive in lieu of such East India Stock such of the Stocks, Funds, or Securities offered for the acceptance of the proprietors of East India Stock by the Secretary of State in Council as the said Courts of Chancery respectively shall think fit; and the Dividends to accrue on such Stocks, Funds, or Securities as may be accepted in lieu of East India Stock, under this provision, shall continue to be paid and dealt with in like manner as the Dividends on such East India Stock would have been paid and dealt with in case this Act had not been passed until the Court of Chancery shall make further Order therein; and the said Paymaster-General and Accountant-General respectively shall be fully indemnified against all actions, suits, or proceedings for or in respect of any act, matter, or thing done by them respectively in pursuance of this Act.

11. All executors, administrators, guardians, and trustees, and all committees of the estates of idiots and lunatics, who, as such, shall have the control over any portion or share of East India Stock, standing either in their own names or in the name or names of any testator or intestate, infant, idiot, or lunatic, or other person or persons, may signify such assent as aforesaid, at any time within such period as may be prescribed by the Secretary of State in Council; and all executors, administrators, guardians, trustees, and committees signifying such assent shall be severally and respectively indemnified in respect thereof: Provided always, that an assent for the purposes aforesaid, signed by one of such executors, administrators, guardians, trustees, or committees for and on behalf of himself and the others or other of them, shall be sufficient, and shall be binding and conclusive upon the others and other of them, and shall be acted upon by the Secretary of State in Council, as if the same had been signed by the whole of such executors, administrators, guardians, trustees, and committees, unless some one or more of them shall give notice to the Secretary of State in Council, or to the East India Company, as the case may be, previously to the expiration of the period to be prescribed by the Secretary of State in Council for signifying such assent, of his, her, or their dissent therefrom.

12. Provided always, that in all cases in which any trustee, executor, or administrator shall hold, or be entitled to any portion or share of East India Stock upon trust for or for the benefit of any person or persons having a limited interest therein, or who may be under legal disability in respect thereof, no such trustee, executor, or administrator shall be at liberty to give notice of his assent to receive in lieu thereof any of the Stocks, Funds, or Securities which may be offered by the Secretary of State in Council for the acceptance of the proprietors of East India Stock by way of commutation as aforesaid, without the consent in writing of all persons beneficially interested in such Stock if competent and willing to consent, but if such persons shall not agree, or if any of such persons shall be under legal disability, or if the trust be such that persons yet unborn may become interested under the same, then, and in any of such cases, every such trustee, executor, or administrator shall commute the Stock so held by him in such manner only as a Judge of the Court of Chancery in England or Ireland, or of the Court of Session in Scotland, shall direct: Provided also, that all applications for such purpose as last aforesaid, and every other application hereby authorised to be made to the Courts of Chancery in England and Ireland respectively, and to the Court of Session in Scotland, may be heard and disposed of in such manner, on the attendance of such parties, and on such evidence as the Judge shall think fit, who shall have power to direct by whom or in what way the costs and expenses of such applications respectively shall be borne and defrayed.

13. All proprietors of East India Stock who shall not signify their assents to commute their respective shares of the Dividend on the said Stock in accordance with the terms of commutation to be proposed by the Secretary of State in Council, shall, on the Thirtieth day of April One thousand eight hundred and seventy-four, receive from the Secretary of State in Council the sum of Two hundred pounds sterling for every One hundred pounds of the said Stock, and so in proportion for any greater or less amount: Provided always, that the payment to such account as may be directed to be opened by the Secretary of State in Council at the Bank of England for the use of the proprietors of East India Stock entitled thereto of any money payable under this provision in respect of the said Stock, shall be a full discharge of the amount so paid, and the proprietors of the said Stock, or their agents duly authorized, shall be at liberty to demand and receive payment from the said Bank, upon application for that purpose on or at any time after the said Thirtieth day of April One thousand eight hundred and seventy-four, of the sum so paid for the use of such proprietors respectively.

14. The payment to such Account as aforesaid at the Bank of England for the use of the proprietors of East India Stock entitled thereto of the total amount payable in respect of the said Stock shall be deemed to be a payment to the East India Company, within the meaning of the twelfth Section of the Act third and fourth, William the fourth, chapter eighty-five, and a sufficient compliance with the provisions of the said section in that behalf.

15. The Commissioners for the Reduction of the National Debt shall, immediately after the passing of this Act, transfer all Stocks standing in their names on account of the security Fund of the India Company to such Accounts as may be necessary to be raised in the Books of the Governor and Company of the Bank of England in respect of such Stocks, and all such Accounts respectively shall be intitled "The Stock Account of the Secretary of State in Council of India in respect of the Security Fund of the India Company," and such Commissioners shall also immediately after the passing of this Act pay all moneys, if any, in their possession at that time on account of the Security Fund of the India Company, into the Bank of England to the credit of an Account to be opened by the Governor and Company of the Bank of England, to be intitled "The Account of the Secretary of State in Council of India in respect of the Security Fund of the India Company."

16. The Secretary of State in Council, by Letter of Attorney executed by two Members of the Council and countersigned by the Secretary of State or one of his Under-Secretaries, or his Assistant Under-Secretary, may authorize all or any of the Cashiers of the Bank of England to sell and transfer all or any part of the Stock or Stocks standing, or that may thereafter stand, in the Books of the said Bank to the Accounts intitled "The Stock Account of the Secretary of State in Council of India in respect of the Security Fund of the India Company," and to purchase and accept Stock on the said Accounts, and to receive the Dividends due and to become due on the several Stocks standing, or that may thereafter stand, on the said Accounts, and by any writing signed by two Members of the Council and countersigned as aforesaid, may direct the application of the moneys to be received in respect of such sales and Dividends; but no Stock shall be purchased or sold or transferred by any of the said Cashiers, under the authority of such General Letter of Attorney, except upon an order directed to the Chief Cashier and Chief Accountant of the Bank of England from time to time, and duly signed and countersigned as aforesaid.

17. The account to be intitled "The Account of the Secretary of State in Council of India in respect of the Security Fund of the India Company," to be opened at the Bank of England pursuant to this Act, shall be drawn upon by such person or persons, and in such manner as may from time to time be directed by the Secretary of State in Council, and the said Account shall be deemed a Public Account.

18. No part of the Stocks to be transferred to the Accounts to be intitled "The Stock Account of the Secretary of State in Council of India in respect of the Security Fund of the India Company," or of the Dividends to accrue due on such Stocks, or of the moneys to be paid to the Account, to be intitled "The Account of the Secretary of State in Council of India in respect of the Security Fund of the India Company," or of the cash to arise from the temporary investment of the moneys standing to such last-mentioned Account, shall be applied to any purposes other than the redemption or commutation of the Dividend, on East India Stock, or the accumulation of a fund for the redemption of such Dividend, unless and until the total amount payable for the use of proprietors of East India Stock who shall not signify their assents to commute their respective shares of the Dividend on the said Stock shall have been actually paid to such account as shall be raised at the Bank of England in pursuance of the directions in that behalf hereinbefore contained.

19. In every case in which any person or persons shall, at the time of the passing of this Act, be bound by the condition of any bond or obligation, or by the terms of any instrument in writing, or by any agreement or contract, to transfer any amount of East India Stock, the condition of such bond or obligation, or the terms of such instrument in writing, or such agreement or contract shall, unless such option and notice be declared and given as hereinafter provided, be deemed in law and equity to be satisfied by making a transfer of such an amount of any Stocks, Funds, or Securities which may be offered by the Secretary of State in Council for the acceptance of the proprietors of East India Stock, by way of commutation as aforesaid, as would upon an assent by a person entitled thereto be receivable in respect of such an amount of East India Stock as under such condition, terms, agreement, or contract should be transferred; and where any person or persons shall, at the time of the passing of this Act, be bound by the condition of any bond or obligation, or by the terms of any instrument in writing, or by any agreement or contract, to pay half-yearly sums equal to the Dividends on any specified amount of East India Stock, every such bond, obligation, instrument, agreement, or contract shall be satisfied by the payment of half-yearly sums equal to the Dividends of or upon such amount of any Stocks, Funds, or Securities which may be offered by the Secretary of State in Council for the acceptance of the proprietors of East India Stock, by way of commutation as aforesaid, as would upon an assent by a person entitled thereto be receivable in respect of such specified amount of East India Stock.

20. In every case in which any East India Stock shall have been transferred by way of loan, upon any condition in any bond or instrument, or under or upon any agreement or contract for the payment of such loan, by the replacing the amount of Stock so transferred, the person or persons who shall have made any such loan, his or their executors, administrators, or assigns, may declare an option, and give notice thereof in writing, and thereby require—but at the times, and on the terms, at and on which he or they might have required a re-transfer of the Stock so lent—the payment of Two hundred pounds sterling for every One hundred pounds of East India Stock so transferred by way of loan as aforesaid, and so in proportion for any greater or less amount; and every bond, obligation, instrument, agreement, or contract given, entered into, or made upon any such loan or contract, shall be deemed in every such case, in law and in equity, to entitle the person or persons who shall have made any such loan, his or their executors, administrators, or assigns, to such repayment in money, and in the meantime to receive interest according to the original contract, and to demand and recover the same respectively in any Court in which any action, suit, process, or proceeding may be brought, instituted, or carried on upon any such bond, obligation, instrument, agreement, or contract, anything in any such bond or obligation, instrument, or agreement or contract to the contrary notwithstanding.

21. Every power of attorney in force at the time of the passing of this Act or which may hereafter be granted for the sale or transfer of any East India Stock, shall, unless legally revoked, remain in full force, for the purpose of enabling the attorney or attorneys therein named to give a legal discharge for the money which will become payable for the redemption of the Dividend on such Stock, in case an assent to accept other Stocks, Funds, or Securities in lieu thereof may not have been signified under the provisions of this Act, or to assent to accept in lieu of the Dividend on such East India Stock any Stocks, Funds, or Securities which may be offered by the Secretary of State in Council for the acceptance of the proprietors of East India Stock, by way of commutation as aforesaid, and to sell or transfer the same accordingly.

Every power of attorney in force at the time of the passing of this Act or which may hereafter be granted for the receipt of any Dividends to accrue on any East India Stock, shall, unless legally revoked, remain in full force, for the purpose of enabling the attorney or attorneys therein named to receive the Dividends to accrue on any Stocks, Funds, or Securities that may be accepted in lieu of the Dividend on such East India Stock, under the provisions of this Act.

22. All trusts, whether created by will or otherwise, existing either in whole or in part, and all directions contained in any will remaining unexecuted at the time of the passing of this Act, as to any East India Stock, the Dividend now payable on which may under this Act be commuted into other Stocks, Funds, or Securities, or as to the payment or distribution of any Dividends thereon, or as to the transfer of any such East India Stock in any events specified in any such trusts or will, shall extend and be deemed and construed in all cases and in all Courts of Law and Equity in the United Kingdom or elsewhere in any dominions or territories belonging to Her Majesty to extend and to apply to all Stocks, Funds, or Securities accepted in lieu of any East India Stock, subject to or affected by any such trusts or will, for all purposes and in all cases in which such trusts or to which any such directions can be made applicable: Provided always, that in cases in which any proportions or parts of any such East India Stock are required to be transferred under any such trusts, or under the provisions of or directions contained in any will, or any proportion or part of any Dividend arising from and out of any such Stock is required to be paid or distributed, the transfer of any Stocks, Funds, or Securities received by way of commutation of the Dividend on such East India Stock, and equivalent at the rate at which such commutation was effected, and the payment and distribution of the Dividends payable upon such Stocks, Funds, or Securities, shall be and be deemed and taken in all Courts and for all purposes to be a due execution of such trusts, or of the directions contained in any such will, and shall fully discharge the trustee or trustees or executor or executors making the same, who are hereby declared to be and are hereby fully indemnified in respect of such execution of any such trusts and executorship as aforesaid.

23. In every case in which any question may have arisen or may arise upon the execution of any trusts, or upon any distributions which may have been or may be made, or may remain to be made by any trustees, executors or administrators of or in relation to or arising out of any East India Stock which may have been vested in any trustees, or which may have been distributable by any executors or administrators, or as to the application of any residue thereof, or as to the distribution or application of any Stocks, Funds, or Securities that may be accepted in lieu of the Dividend on any East India Stock, under the provisions of this Act, whether as to the powers or authorities of any such trustees, executors, or administrators, or as to the relative interests of any persons entitled under any such trusts or under wills to receive any annuities charged upon or arising or payable out of the proceeds of any such East India Stock, and of any persons interested in any residue of any such Stock, whether under any specific provision relating to any such trust, or contained in any wills, or arising out of the execution of any wills by any executors, or the distribution of any estates by any administrators and in all other cases whatsoever in which any question may arise in consequence of commutation under this Act, such trustees, executors, or administrators, and any persons entitled to or interested in any East India Stock, the Dividend on which is commuted under this Act, or any Stocks, Funds, or Securities accepted in lieu of the dividend on such East India Stock commuted under this Act, whether in reversion or otherwise, may make application to the Court of Chancery in England, or the Court of Chancery in Ireland, or to the Court of Session in Scotland, in a summary way, by motion or petition, or summons at Chambers; and the Courts of Chancery in England or Ireland respectively, or the Court of Session in Scotland, may make general orders in relation to any such question, or special orders in a summary way upon any such application or as to any other matter or thing relating to any such Stock, Stocks, Funds, or Securities, or to any Dividend thereon, and all trustees, executors, administrators, and other persons acting under any orders made by any of such Courts respectively, or whose acts shall be confirmed by any of such Courts respectively, if done before any application made to any of the said Courts respectively, shall be and are hereby fully indemnified against all actions, suits, or proceedings for or in respect of any act, matter or thing done by them respectively in pursuance of or under, any such order, or which shall be confirmed by any such order: and in case any action, suit, or other proceeding be commenced or instituted against any such trustee, executor, administrator, or other person for or in respect of any such act, matter, or thing, the Court in which such action, suit, or proceeding shall be commenced, or shall be pending, shall upon summary application stay such action, suit, or proceeding, and make such order relative to the costs thereof as such Court may think expedient.

24. All principal sums of money payable to any proprietors of East India Stock, the Dividend whereon is redeemed in pursuance of this Act, which shall not be claimed for ten years after the Thirtieth day of April One thousand eight hundred and seventy-four, or for such period after the Thirtieth day of April One thousand eight hundred and seventy-four, as with the period immediately preceding the said Thirtieth day of April, during which the Dividends on such Stock shall not have been claimed, shall make up ten years, shall be transferred to the Account of the Secretary of State in Council at the Bank of England.

25. Immediately after every such transfer as last aforesaid the name or names in which the Stock stood on the Thirtieth day of April One thousand eight hundred and seventy-four, the residence and description of the parties, the amount transferred, and the date of transfer, shall be entered on a list to be kept for the purpose by the Secretary of State in Council, which list shall be open for inspection at such place and at such times as the Secretary of State in Council shall appoint.

26. On the Thirtieth day of May One thousand eight hundred and seventy-four the East India Company shall pay to the Account of the Secretary of State in Council at the Bank of England all Dividends that have become payable on any portions or shares of East India Stock on or since the Sixth day of July One thousand eight hundred and thirty-four, which shall not have been claimed for ten years before the said Thirtieth day of May One thousand eight hundred and seventy-four, together with all dividends accrued due within the said period of ten years in respect of the same portions or shares of stock and then remaining unclaimed.

27. All other dividends on any portions or shares of East India Stock remaining unclaimed on the said Thirtieth day of May One thousand eight hundred and seventy-four, shall be paid by the East India Company to an Account to be opened at the Bank of England and to be intitled "East India Stock Dividend Account:" and such Dividends, when claimed within the period of ten years from the date of the same having accrued due, shall be paid by the Bank of England out of such Account. Any Dividend on that Account, if and when unclaimed for the period of ten years from the date of such Dividend having accrued due and all Dividends subsequently accrued due in respect of the same portion or share of Stock and unclaimed, shall be transferred to the Account of the Secretary of State in Council at the Bank of England.

28. All principal sums of money and Dividends transferred or paid to the Account of the Secretary of State in Council, in pursuance of the directions hereinbefore contained, shall be held by the Secretary of State in Council and applied as part of the revenues of India, subject to the claims of the parties entitled thereto.

29. The Secretary of State in Council shall pay any principal sums of money and Dividend so transferred or paid to the Account of the Secretary of State in Council to any person showing his right thereto to the satisfaction of the Secretary of State in Council.

But in case the Secretary of State in Council is not satisfied of the right of any person claiming to be entitled to any such principal moneys or Dividends, the claimant may apply by petition in respect thereof in a summary way to the Court of Chancery.

The petition shall be served upon the Solicitor to the India Office, and the Court shall make such order thereon (for payment of the principal moneys and Dividends to which the petition relates, or otherwise), and in respect of the costs of the application, as to the Court seems just.

30. Principal sums exceeding the sum of Twenty pounds shall not be paid, nor shall Dividends exceeding Twenty pounds in the whole be paid to a claimant under the preceding section of this Act, until three months after application made for the same, nor until public notice has been given thereof as hereinafter provided.

31. The Secretary of State in Council shall require the applicant to give such public notice as the Secretary of State in Council shall think fit by advertisements in one or more newspapers circulating in London and elsewhere.

Every such notice shall state the name or names, residence, and description of the person or persons in whose name or names the Stock stood on the Thirtieth day of April One thousand eight hundred and seventy-four, the amount of the Stock, the name of the claimant, and the time at which payment of the principal money due in respect thereof and of the Dividends, if any, will be made, if no other claimant sooner appears and makes out his claim.

Where any such payment is ordered by the Court of Chancery the notice shall also state the purport of the order.

32. At any time before payment to a claimant any person may apply to the Court of Chancery by Motion or Petition to rescind or vary any order made for such payment.

33. Where any principal moneys or Dividends having been paid as aforesaid to a claimant by the Secretary of State in Council are afterwards claimed by another person, the Secretary of State in Council shall not be responsible for the same to such other claimant, but such other claimant may have recourse against the person to whom payment was made.

34. Provided that if in any case a new claimant establishes his title to any principal moneys or Dividends paid to a former claimant and is unable to obtain payment thereof from the former claimant, the Court of Chancery shall, on application by petition by the new claimant, verified as the Court requires, order the Secretary of State in Council to pay to the new claimant such sum of money, or make such other order on the application, as Court thinks just.

35. Upon or as soon as conveniently may be after the Thirtieth day of April One thousand eight hundred and seventy-four, all such books and documents as concern the ownership of Shares in East India Stock, and the payments to the proprietors of East India Stock of their respective shares of the Dividend thereon, shall be delivered into the care and custody of the Secretary of State in Council, as the Secretary of State in Council may direct.

36. On the First day of June One thousand eight hundred and seventy-four, and on payment by the East India Company of all unclaimed Dividends on East India Stock to such accounts are hereinbefore mentioned in pursuance of the directions hereinbefore contained, the powers of the East India Company shall cease, and the said Company shall be dissolved.

37. This Act shall be and is hereby declared to be a full and complete indemnity and discharge to the East India Company, and the Directors thereof, and the Commissioners for the Reduction of the National Debt, and the Governor and Company of the Bank of England, their officers and servants, and every of them, for all things done or permitted to be done pursuant thereto, and the same shall not be questioned or impeached in any Court of Law or Equity whatever to their prejudice or detriment.

HISTORY OF PRICES.—

Statement showing the comparative prices of Agricultural Produce and of

DESCRIPTION OF PRODUCE.	Pratapgarh.	Rai Bareilly.	Sultanpur.	Faizabad.	Berabanki.	Lucknow.	Unao.	Hardoi.	Setapur.	Kheri.	Bharach.	Gonda.	Average.
1861.													
Paddy ...	24½	34	39	37½	34½	26½	25½	28½	34	32½	41	53½	34½
Common rice, (husked) ...	20	19½	21½	16	15	16½	19½	14½	23	15½	19½	27	18½
Best rice, (husked) ...	12	14½	14	11½	7	12½	10	11	9	9	16	16½	11½
Wheat ...	21½	22½	28½	25	23½	20½	17	24½	23	21½	26½	34½	24½
Barley ...	41	28½	35½	34	30½	30½	22	28	34½	27	45½	58½	34½
Bajra ...	24	25½	28½	26½	21½	25½	21½	26½	27	38½	29½	29½	26½
Juar ...	36½	27½	32	32	31½	25	19½	27	38½	30	45½	59	33½
Gram ...	19½	24½	32	24½	27½	18½	18	26½	25	21	28½	45½	25½
Arhar, Cajanus indicus ...	23½	32	35½	24½	34½	28½	36	24½	24½	26½	39½	47	31½
Urd or mash, Phaseolus radiatus ...	21½	27½	28½	20½	28½	23½	13	24	25	17½	29½	30½	24
Moth, Phaseolus acontifolius ...	33	25½	32	26½	22½	23	19	25½	26	24	30½	35½	26½
Mung, Phaseolus mungo ...	21½	16½	26½	15½	22½	20½	14½	45½	16	17	23½	19½	21½
Masur, Erum bus ...	24	14	33½	27	26	27½	14	26½	26½	34½	38½	48½	28½
Aksa or muttaru, Luthyrus sativus ...	...	29½	40	...	38½	26½	...	49	...	25	36	63½	38½
Common peas, Pisum sativan ...	25	...	35½	36½	30½	27	25	28½	...	24	...	52½	31½
Potatoes, Solanum tuberos ...	18	16½	35½	17½	25½	28½	18½	28½	17	40	27½	45½	26½
Ghulan, Colocasia antiquorum ...	30	37½	40	32	41	26½	45	38½	18	40	35½	64	37½
Sarson, Sinapis dichotoma (glanea) ...	22	46½	16	14½	16½	15½	18	14½	16	18	16½	20½	19½
Lahi, Sinapis ingra ...	...	...	20	15½	17½	19½	21	16½	...	17	20½	16½	18½
Cleaned cotton ...	2½	...	1½	2½	2½	1½	1	2½	1	2	2	1½	1½
Indigo, manufactured, (medium quality) ...	...	...	4	4	...	...	...	...	...	...	...	...	4
Indigo, fresh plant ...	2B	...	...	...	...	...	...	...	...	No. 200	4B	...	3-5/6B.
Sugar-cane ...	4B.	5B.	3	...	...	3B.	...	...	...	or 4 B.	...	...	...
Sugar, (raw) ...	6½	12	5	6½	3½	3½	3	3½	4	3½	3	5	4½
Sugar, (refined) ...	6	3½	4	3½	3½	3½	2	2½	3	3	2½	4½	3½
Salt ...	6½	6½	9	6½	6	4½	6	5½	8	6½	5	6½	6½
Ghee ...	1½	1½	1½	1½	1½	1½	1	1½	2	1½	1½	3	1½
Milk ...	16	...	14	14½	14½	14½	14	16	16	17½	19	22½	16½
Tobacco ...	9	9½	4	7½	3½	3½	3	5½	4	4½	4	8½	6½
Spirit (25° below proof) ...	4B.	3½	3	...	2½	2½	3	...	3	4½	2	3½	3
Raw materials from which spirits are made, viz.:-													
Mowha ...	80	82	70	40	16	27½	...	39½	...	...	20	69½	49½
Gur ...	...	...	...	...	...	...	10½	...	...	...	12	...	11½
Shira ...	...	...	22	...	...	...	22	...	...	80	...	...	41½
Firewood ...	173	186½	160	122	112	86½	125	375½	160	208½	248½	230	182½
Wages of unskilled labourer, annas ...	1½	2	2	2	2	2	1½	1½	2	1½	2	1½	0 1 10
1863.													
Paddy ...	34½	38	36	40½	34½	29½	34	34½	61½	43½	58½	57	41½
Common rice, (husked) ...	23	...	18½	17½	14½	18	16½	17½	28	20	21½	25½	20
Best rice, (husked) ...	15½	...	11½	13	7½	13	13	9½	10	9	16	16½	12½
Wheat ...	28	26½	27	27	34½	25½	25	29½	39	29½	36	37	29½
Barley ...	36½	36	35½	37½	37½	33½	34	43½	66	39½	58½	59	43½
Bajra ...	35½	27½	28½	24	31½	29½	28½	38½	51	40½	...	26½	32½
Juar ...	36	34	33½	38½	28½	31	26½	37½	50½	38	56½	68	39½
Gram ...	30½	...	31½	33½	40½	28½	27	36	45	30½	48½	43½	35½
Arhar, Cajanus indicus ...	25½	...	28½	25½	34½	31½	44	33½	45	29	43	38½	38½
Urd or mash, Phaseolus radiatus ...	23½	...	24	23½	27½	21½	26	25½	33½	26	31½	27½	26½
Moth, Phaseolus acontifolius ...	36	27	33	33	31½	21½	25	28½	43	30½	39	32½	30½
Mung, Phaseolus mungo ...	20½	13½	18½	19½	23½	16½	18½	24	25	24½	16½	20½	20
Masur, Erum bus ...	24½	15	28½	20½	16	30½	18½	25½	50½	25	61	52½	31
Aksa or muttaru, Luthyrus sativus ...	...	...	40	...	43½	36	...	46½	...	40	63½	66½	47½
Common peas, Pisum sativan ...	26	...	15	41½	42½	36	35	41½	...	30	...	58½	36½
Potatoes, Solanum tuberos ...	28	11½	20	21½	51½	18½	18½	25½	57	24	33½	44½	29½
Ghulan, Colocasia antiquorum ...	40	...	48	29½	44	20½	46	50½	86	80	31½	60	48½
Sarson, Sinapis dichotoma (glanea) ...	21	...	16	13½	13	17	15	12½	15½	17½	15½	19½	15½
Lahi, Sinapis ingra ...	...	...	20	14½	15	19½	18	14	...	18½	18½	18	17½
Cleaned cotton ...	1½	...	2½	1½	2½	1½	2	1½	...	1½	1½	1	1½
Indigo, manufactured, (medium quality) ...	...	...	4	4	...	...	...	...	...	...	...	...	4
Indigo, fresh plant ...	2B	...	...	...	...	...	...	...	...	...	...	...	2B.
Sugar-cane ...	4	5B.	3	...	...	3	...	...	...	No. 200	4B.	...	3-5/6B.
Sugar, (raw) ...	4½	14	5	6½	5	4	3	3½	5	3½	3	4½	5½
Sugar, (refined) ...	5½	3½	4	3½	4	3½	3	3	4	3	2½	3½	3½
Salt ...	6½	...	9	6	5	4½	6	5½	7	6½	5½	6	6
Ghee ...	1½	2	1½	1½	1½	1½	1	1½	2	1½	1½	2½	1½
Milk ...	16	...	14	14½	12½	14½	14	18½	16	17½	18	22½	16
Tobacco ...	9	9½	4	9	3½	3	3	4½	4	4½	4½	9½	5½
Spirit (25° below proof) ...	3	3½	3	...	2½	2	3	...	3	4½	2	3	2½
Raw materials from which spirits are made, viz.:-													
Mowha ...	100	48½	54	45	14½	27½	...	34½	34½	...	21½	73	45½
Gur ...	...	...	...	...	...	...	11	...	...	...	12	...	11½
Shira ...	...	...	21	...	...	...	22	...	...	72	...	...	38½
Firewood ...	140	186½	160	123½	123½	190½	131½	365½	160	171½	252½	215	184½
Wages of unskilled labourer, annas ...	1½	2	2	2	2	2	1½	1½	2	1½	2	1½	0 1 10

PROVINCE OF OUDH, 1861-70.

Provisions in each District of the Province of Oudh during the years 1861-62-63-64.

Pratapgarh.	Rai Bareilly.	Sultanpur.	Faizabad.	Barabanki.	Lucknow.	Unao.	Hardoi.	Sitapur.	Kheri.	Bharatpur.	Gonda.	Average.
1862.												
24½	37½	37½	40½	34	32½	36½	34½	49	48	53½	42	39½
19	.....	21½	20	14½	18½	17½	15½	18	21½	22	31	19
10	.....	14	12½	7	12½	15	10	10	8½	16½	16½	11½
21½	30½	28½	28½	31½	28½	31½	26½	39½	29½	42½	38½	31½
31½	39	35½	40½	19½	31½	45	33½	53	53½	59½	61	41½
27½	28	28½	19½	20½	38½	39	35½	43	40½	.....	29	31½
39	42½	32	35½	36	34½	34½	34½	44	40½	38½	59	36
22½	.....	32	31½	35½	33½	30	36	48½	43	44½	51	37
24½	.....	35½	29½	43	37½	43	30½	47	48	44	49½	39½
29½	.....	30	26½	31	30	28	29½	44½	36	36½	32	31½
27	37	32	30	18½	30	29½	34½	38½	48½	43½	37½	33½
22	23½	28½	19½	24	23	23½	24½	29	33	26½	22	24½
16½	18½	35½	26½	30	36½	21	30½	37½	35	56½	52	33
.....	.....	40	.....	38½	38½	.....	53½	.....	46	58½	75	50
20	.....	35½	42	36½	34½	39	33	.....	45	.....	52½	37½
21	23½	33½	16½	30½	28½	25	31	57	36	.....	45½	31½
40	.....	48	29	28	29½	45	57½	86	60	48½	63½	46½
23	.....	16	12	20½	16	16	15½	21	21	16½	20	17½
.....	.....	20	14	15½	19½	20	18½	.....	18	18	17½	17½
2½	.....	1	2½	2	1	1	2½	1	1½	1½	1½	1½
.....												
2B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2B.
4	5B.	3	.....	.....	8B.	.....	.....	.....	No. 200 or	4	.....	3-5/6B.
.....	.....	.....	.....	.....	.....	.....	.....	.....	4B.	.....	.....	.....
7	10½	5	7½	4	4	3	3½	5	3½	2½	4½	5
6	3	4	4	3½	2½	2½	2½	4	3	2½	4½	3½
6½	.....	9	6½	6	5½	6	5½	8	6½	4½	6½	6½
1½	2	1½	1½	1½	1½	1	1½	2	1½	1½	2½	1½
16	.....	14	14½	14½	14½	14	19	16	17½	18½	22½	16½
9½	9½	4	8½	3½	3	3	5½	4	4½	4½	8½	5½
4B.	3½	3	.....	2½	2½	3B.	.....	3B.	2½	2½	2½	2½
.....	.....	30	14½	27½	.....	32½	.....	.....	.....	21	85	46½
80	56	70	.....	.....	8½	.....	.....	.....	.....	12	.....	10½
.....	.....	21	.....	.....	20	.....	.....	.....	90	.....	.....	44½
180	186½	160	128	107½	207½	121	370½	160	213½	254	280	198½
1½	2	2	2	2	2	1½	1½	2	1½	2	1½	0-1-10
1864.												
37½	22½	35½	37½	16	19½	23½	29	33	25	50	45½	31½
20	12½	18	14	14	12	17½	15½	16	17½	17½	20½	16½
18	11½	11½	13	5	9	9½	7½	10	18½	15½	12½	19½
26½	18½	26½	22	19	18	19	22½	18½	18½	20½	29½	21½
33½	24½	30	33½	23½	24½	24½	33½	41	30½	59	48	53½
20½	20	22½	14½	17½	17	18½	20½	31	16½	.....	25½	20½
26½	20½	20½	26½	21½	17½	19	21½	32½	20½	56	32	27
27½	23½	32½	28½	24½	20½	21	28½	30	26½	40½	31½	27½
22	28½	21	21½	29	24	29	28	32	22½	35½	29½	26½
18½	39½	17½	16½	14	14	15	20½	22	14½	22	22½	19½
31½	20½	25½	20½	24½	16½	18½	20½	25	15½	31½	29	23
18	12½	10½	15½	12	13	14	19½	15½	15½	16	17½	14½
29½	16½	22½	25	20½	20½	15½	21½	29½	24½	39½	48	25½
.....	23½	40	.....	17½	29½	.....	41	.....	36	57	46	36½
36	.....	15½	34½	31	30½	27	33½	.....	22	.....	40	30
20	12½	20½	17	36	17½	18	23	35	40	29½	40½	25½
50	22½	48	29	33½	20	45	30½	46	90	39	62	42½
24	15	16	14½	15½	16½	18	17½	17½	16½	15½	17½	16½
.....	.....	20	15	14½	18½	21	19½	23	18	21	16½	18½
1½	.....	1½	1	2	1½	1	2	1	1½	1½	1½	1½
.....												
2B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4	5B.	4	.....	.....	3	.....	.....	.....	No. 200 or	4	.....	4B.
.....	.....	.....	.....	.....	.....	.....	.....	.....	4B.	.....	.....	.....
4½	13	5	7	5	4	3	4½	5	4	3	5	5
5½	3½	4	3½	4½	3½	3	3½	4	3½	2½	4½	3½
6½	6½	9	6	4½	4½	6	5½	7	6½	5½	6½	6½
2	2	1½	1½	2	1½	1	1½	2	1½	1½	2½	1½
16	.....	14	14½	12½	14½	14	18½	16	17½	17½	17	15½
9½	8½	4	8½	3½	3	3	4½	4	4½	4½	9	5½
3	3½	3	.....	2½	2½	3	.....	3	4½	2	3½	3
80	46½	48	37	11½	27½	.....	38	.....	.....	21½	49	40
.....	.....	.....	.....	.....	.....	11	.....	.....	.....	12½	.....	11½
161	186½	160	132½	107½	186½	133	370½	160	70	251½	215	186½
1½	2	2	2	2	1½	1½	2	2	1½	2	1½	0-1-10

Statement showing the comparative prices of Agricultural Produce and of

DESCRIPTION OF PRODUCE.	Partabgarh.	Rai Bareilly.	Sultaupur.	Faizabad.	Barabanki.	Lucknow.	Unso.	Hardui.	Setapur.	Kheri.	Bharich.	Gonda.	Average.
1865.													
Paddy	26	20½	24	24½	23	20½	22	24½	28	29½	46½	44	27½
Common rice, (husked) ...	17	12½	7	16	10½	11½	13	16	13	13	14½	20½	13½
Best rice, (husked) ...	15	9	4	9½	5½	7½	7	7½	9½	7	11	10½	8½
Wheat	19½	13½	16	16½	19½	14½	14	19½	20½	18½	14½	25½	17½
Barley	25	17	19	21½	24½	19½	19	30	27½	27½	20	29½	23½
Bajra	18	18	20½	16	20½	19	20	22	28½	18½	...	24½	20½
Juar	31½	20	20½	20½	23½	19	19	18½	25	24½	26½	24½	22½
Gram	23	13	16½	18½	18	15	16	25½	20½	18	20	20½	18½
Arhar, Cajamas Indicus ...	21	15	12½	17½	27	16	14	24	23	18	21½	20	19
Urd or mash, Phaseolus radiatus ...	12½	13	12	13	14	14	12	16½	16	16	12½	20	14½
Moth, Phaseolus acontifolius ...	17½	17	18½	20	17	16	17½	21½	21½	18	17	23½	18½
Mung, Phaseolus mungo ...	13½	9	12½	11	13	10½	11½	16½	12	19½	12½	15½	13
Masur, Eroum bas ...	20½	13½	8	20½	19½	15½	18½	29	20	23½	21½	29½	18½
Akka or muttar, Lathyrus sativus ...	...	14½	40	...	23½	24	...	39	23	30	25½	45	29½
Common peas, Pisum sativum ...	36	...	15½	22½	20½	29½	23	32½	...	22	...	28½	24½
Potatoes, Solanum tuberos ...	12	15	20½	17½	30	18½	22½	23½	14	60	30	41½	25½
Ghuian, Collocasia antiquorum ...	38	15	48	27½	29½	24½	45	31½	16	50	34½	60	34½
Sarson, Sinapis dichotoma (glanea) ...	20	17	16	14½	16½	18	19	18½	19½	16½	14½	16½	17
Lahi, Sinapis ingra ...	...	...	20	14½	16	19½	21	23½	20	18	16½	16	18½
Cleaved cotton ...	1	...	2½	1½	2	1½	2	2	1	1½	1½	2	1½
Indigo, manufactured, (medium quality) ...	...	...	½	½	...	...	...	...	...	...	...	...	½
Indigo, fresh plant ...	2	...	...	...	...	...	...	...	...	...	...	...	2
Sugar-cane ...	4	5B.	3	...	...	3	...	...	...	No. 200 or 4B.	3B.	...	3B.
Sugar, (raw) ...	5½	10½	5	7½	4	4½	3	4½	5	4	3½	5½	5
Sugar, (refined) ...	4½	3½	4	4	3½	3½	3	4	4	3½	2½	4½	3½
Salt ...	3	6	9	6½	5	5½	6	5½	6	6½	6½	6	6½
Ghee ...	2	1½	1½	2	1½	1½	1	1½	2	1½	1½	2½	1½
Milk ...	16	...	14	14½	13	14½	14	17½	16	17½	19	17	15½
Tobacco ...	9½	7½	4	10½	3	2½	3	5½	4	4½	4½	14½	6
Spirit (25° below proof) ...	3	3½	2½	...	2½	2½	3	...	3	4½	2	3½	2½
Raw materials from which spirits are made, viz:—													
Mowha ...	80	37½	40	40	14½	27½	...	42½	...	...	21½	42½	38½
Gur ...	...	...	...	...	...	...	11	...	...	...	11½	...	11½
Shira ...	...	...	...	19	...	...	19	...	...	63	...	...	34
Fire-wood ...	185	186½	160	145½	107½	166½	144½	375½	160	178½	247½	215	189½
Wages of unskilled labourer, annas ...	2	2	2	2	2	1½	1½	2	2	1½	2	1½	0-1-10½
1867.													
Paddy	27½	30½	31	33½	22½	23½	23½	22½	31½	34	53½	31½	30½
Common rice, (husked) ...	11	18	16	14½	11½	14½	14	10½	18	17	15½	24	15½
Best rice, (husked) ...	8	14½	9½	10½	5	8½	8	8½	8	6½	12	13½	9½
Wheat	21	21	19	23½	15½	18½	15	14½	23	23½	26½	32½	21
Barley	32½	27½	29	34½	29½	26½	18	22	27	34½	48½	46½	36½
Bajra	27½	21½	23	19	20½	28½	14	29	27	29	...	31½	25
Juar	32	27½	30½	33½	23	25½	18½	20½	32	37½	42½	40½	30½
Gram	25½	27½	22	31	22	23½	24	18½	26½	20½	28½	34½	25½
Arhar, Cajamas Indicus ...	18	36	34	27½	15½	25	21	24½	26½	20½	38½	37½	27
Urd or mash, Phaseolus radiatus ...	18½	23½	27	25½	15	19½	15½	21½	18½	16½	20½	25½	20½
Moth, Phaseolus acontifolius ...	28	28½	29	33½	16	21½	21½	21	26½	19	26½	32	20½
Mung, Phaseolus mungo ...	16	16½	17	17	14	17½	13	20½	17½	16½	27½	17½	17½
Masur, Eroum bas ...	19	24	10	28	15	22	14	19½	30½	28½	39½	28½	23
Akka or muttar, Lathyrus sativus ...	...	31½	34½	...	18½	30½	...	30½	27	33	37½	60	33½
Common peas, Pisum sativum ...	24	...	35½	35½	18	31½	22	25½	20½	22½	...	38½	27½
Potatoes, Solanum tuberos ...	20	11½	20½	20½	29½	23½	31	27½	30	60	25½	34½	27½
Ghuian, Collocasia antiquorum ...	40	...	35	31	34½	30½	46	45	33½	80	35½	52	42
Sarson, Sinapis dichotoma (glanea) ...	22	16	16	15½	13½	15½	18	17	20	16½	14	18½	16½
Lahi, Sinapis ingra ...	...	...	20	16½	15½	16½	19	21½	23	17½	19½	17½	18½
Cleaved cotton ...	1½	...	1½	2	1½	2	1	1½	2	1½	1½	2½	1½
Indigo, manufactured, (medium quality) ...	...	...	½	½	...	...	...	...	...	...	...	...	½
Indigo, fresh plant ...	2	...	...	...	...	...	...	...	...	...	...	...	2
Sugar-cane ...	4	5B.	4	...	...	3	...	...	...	No. 200 or 4B.	3	...	3-5-6B.
Sugar, (raw) ...	5	10½	3½	6½	8½	3½	3	4½	5	3½	3½	4½	4½
Sugar, (refined) ...	7	3	3	3½	2½	2½	2½	3½	3	3	2½	3½	3½
Salt ...	4½	6½	7½	6½	6½	5½	6½	5½	6	6½	5½	6	6
Ghee ...	2	1½	1½	1½	1½	1½	1	1½	2	1½	1½	1½	1½
Milk ...	16	...	14	14	14	14½	14	15½	16	18½	17	15½	15½
Tobacco ...	9½	7½	4	9½	3½	3	3	5	4	3½	4½	7	5
Spirit (25° below proof) ...	3	3	2	...	2½	2½	3	...	3B.	3½	2	3½	2½
Raw materials from which spirits are made, viz:—													
Mowha ...	85	15	20	32	10½	27½	...	31½	...	...	20½	62½	30½
Gur ...	...	...	...	...	...	...	8	...	...	...	10½	...	9½
Shira ...	...	...	15	...	...	...	17	...	...	34	...	...	22
Fire-wood ...	180	186½	160	122	95½	105	144½	295	160	163½	234	200	170½
Wages of unskilled labourer, annas ...	2	2	2	2	2	2	1½	2	2	1½	2	1½	0-1-10½

Provisions in each District of the Province of Oudh during the years 1865-66-67-68.

Pratapgarh.	Rai Bareilly.	Saltanapur.	Faizabad.	Barabanki.	Lucknow.	Unao.	Hardoi.	Sitapur.	Kheri.	Bharatich.	Gonda.	Average.
1866.												
22	23	28	20½	22	18½	23½	26½	28	32½	65½	22½	26
11½	13½	9½	14½	19½	10½	14½	12½	14	17	12½	15½	13
8½	11	4½	7	5	7½	8	8½	8	6½	10½	9½	7½
14½	14½	19	13½	12½	13½	15½	16½	16	16½	14	15½	15
19½	18½	24½	18½	20½	18½	22½	23½	23½	30½	19½	21½	21½
16½	21½	23	14	18	16	21½	24	26	21½	.....	18½	20
17½	29	30½	18½	17½	15½	21½	23½	28½	26½	24½	18½	22½
14	15½	22	14½	18½	15½	24	20½	17½	18	16½	16½	17½
11½	19	19½	13	15	16½	16	23	18	19½	17½	20½	17½
11½	16½	17½	13	12	13½	20	17½	16½	19½	18½	14½	14½
16½	23½	25	14	17½	15½	19	21½	21½	19½	17½	15	18½
9½	13	17	10½	9½	13½	15½	17	14	22½	12½	12	13½
16	14	10	14½	17	16	13	18½	19	26	17	17½	16½
.....	18½	34½	.....	19	22	.....	35½	21	30	17½	93	26½
25	.....	15	19	18½	23	20	28½	.....	22	.....	28½	22
21	3½	20½	13½	17	19½	30½	25½	9½	50	29	48	24½
40	15	32	26	18	26	46	31½	45	60	36	58	36
22½	17	16	15½	15½	19	18	17½	20½	17½	14½	18	17½
.....	.....	20	16½	15½	21	20	24	23	17½	18	17½	19½
3½	.....	2	2	1½	2	2	2	2	1½	1½	2	2
.....	.....	4	4	.....	.....	.....	.....	.....	.....	.....	.....	4
2B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2B.
4	5B.	3½B.	.....	.....	3	.....	.....	.....	No. 200	3	.....	3½B.
7½	9½	3½	5½	4	3½	3	4½	4	3½	3	4½	4½
5½	2½	3	3½	3½	2½	2½	3½	3	3	2½	3½	3
4½	6½	7½	6½	5	5½	5	5½	6	6½	6	6	6
2	1½	1½	1½	1½	1½	1	1½	2	1½	1½	1½	1½
16	.....	14	14½	15½	14½	14	17½	16	18½	18	17	15½
9	7½	4	10½	3½	2½	3	3½	4	4½	4½	7½	5½
3	3½	2½	.....	2½	2½	3	.....	3	3½	2	3½	2½
80	38½	32	30	10½	27½	.....	38	38	.....	21	62½	37½
.....	.....	16	.....	.....	.....	8	.....	.....	.....	11	.....	5½
180	186½	160	119	98	133½	148	365½	160	110	247	210	184½
2	2	2	2	2	2	1½	2	2	188½	2	1½	0-1-10½
1868.												
28	23	30	25½	28½	27½	28	27½	38½	41½	53	44	32½
17	13½	14½	12½	16	14½	9½	17	19	19½	14½	18½	15½
9	11½	12½	11½	5½	11½	7	8	9½	6½	11½	15½	10
22½	15½	20	17½	22	20	12½	21	29	32½	25½	28	22
29½	20½	27	23	26½	32½	27	30½	50	45½	41½	51½	33½
27	14	18	18½	20½	24½	14	27	48½	37	25½	41½	26½
32	16½	20½	33½	27½	29½	14½	28½	49½	39½	43	43	31½
30½	22½	27	23½	34½	26½	14½	24½	36½	24½	33½	39	28
32	13½	26½	23½	39	26½	17	29½	40	26	43½	41½	29½
24	18½	22½	19½	28½	24½	17½	23	36	18½	27½	31½	24½
17½	15½	27	30½	35½	21½	26	25½	44	25½	38½	36½	28½
17½	13½	13½	14	14	17	11	20½	24	24½	14½	18	16½
19½	24½	26	34½	25½	25½	11½	22½	44½	32½	45	48½	29½
.....	25½	35	.....	38	30	.....	34½	.....	34	43	41	35
80	.....	35½	25½	35½	33½	26	28	.....	22	.....	56½	32½
16	.....	20½	21½	35	25	29	26½	21	40	37½	44	28½
21	.....	40	32½	34½	30	37	36½	27	80	38	56	32½
18	17	17	14½	13½	16½	13	15½	17	17	13½	19½	15½
.....	.....	18	14½	15½	18½	16	20½	.....	18	19	17½	17½
2½	.....	2½	1½	1½	1½	1	14	2	2	1½	2	1½
.....	.....	4	4	.....	.....	.....	.....	.....	.....	.....	.....	4
2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
4	5B.	3	.....	.....	3	.....	.....	.....	No. 200	3	.....	3½B.
8	10½	4½	6½	3½	3½	3	4½	4	3½	3	4½	4½
5½	3	4	3½	3½	2½	3	3½	3	3	2½	3½	3½
4	6	8½	6½	6½	5½	6½	5½	8½	6½	6½	6½	6½
12½	1½	1½	1½	1½	1½	1	1½	2	1½	1½	1½	1½
16	.....	14	18½	18½	14½	14	15½	16	17½	17½	15½	15½
9	7½	3½	9½	3½	2	3	4	4	4½	4½	7½	5½
3	3	2½	.....	2½	2½	3	.....	3	3½	2	3½	2½
100	37½	60	40	12½	27½	.....	19	.....	54	21	47	41½
.....	.....	17	.....	.....	.....	8	.....	.....	.....	11	.....	9½
180	186½	160	117½	97	105	145	188½	160	38½	247½	195	162½
2	2	2	2	2	2	1½	2	2	2	2	1½	0-1-11½

Statement showing the comparative prices of Agricultural Produce and of Provisions in each District of the Province of Oudh during the years 1869-70.

DESCRIPTION OF PRODUCE.	Pratapgarh.	Rai Bareilly.	Sultanpur.	Faizabad.	Barabanki.	Lucknow.	Unao.	Hardoi.	Sitapur.	Kheri.	Bharatich.	Gonda.	Average.
1869.													
Paddy.....	26	18½	24	23	16½	17	27	21½	22½	30½	58½	26½	25½
Common rice, (husked)	10½	11	11½	13½	10	10	12	10½	11½	17½	11½	13	11½
Best rice, (husked)	8	9	8	9½	5	8½	7½	6½	9	5½	10	9½	8
Wheat.....	13½	11½	12½	13½	13	11½	13	13½	12½	17½	13½	14	13½
Barley.....	13½	14½	16	17½	17	15½	18	21½	21½	27½	33	19	19½
Bajra.....	16½	14½	15	13½	10½	12	17	15½	22½	25½	22½	27½	17
Juar.....	16½	18½	16	20	17	14	17	16	22	33½	22½	27½	20
Gram.....	16½	13	15½	13½	12	13	14	16	17	18½	15	19½	15
Arhar, Cajanus indicus	18	17	17½	16	17½	15	18	18	21	18	18½	21½	18
Urd or mash, Phaseolus radiatus.....	15	11	14	13½	14	13	11½	14½	17½	17½	11½	17½	15½
Mothi, Phaseolus acontifolius	15	16	16	16	15	13½	12	17½	19½	17½	11½	17½	15½
Mung, Phaseolus mungo	11½	9½	10½	9	11½	10½	14	13	13	13½	10½	19½	12
Masur, Eroum bus	13	14½	16	16½	16	15	11	11½	19	26	19	14½	16
Aska or muttaru, Luthyrus sativus.....	...	15	15	13½	13½	19½	...	25½	19	36	21½	19½	19½
Common peas, Pisum sativan.....	25	...	35½	15	13½	20½	15	24½	24	25	...	15	21½
Potatoes, Solanum tuberos.....	18	...	20½	21½	28½	22	29	30½	20½	30	37½	44	27½
Ghuian, Colocasia antiquorum.....	21	...	16	25	29½	20	29	32½	28	90	38	50	34½
Sarson, Sinapis dichotoma (glauca).....	14	14½	15½	13	16	15	14	16½	17½	16	12½	14½	14½
Lahi, Sinapis ingra.....	...	...	16½	14½	15½	16½	16	19½	23	17½	14½	13½	16½
Cleaned cotton	1½	...	2½	1½	1½	2	1	1½	2	1½	1½	1½	1½
Indigo, manufactured (medium quality)	...	...	4	4	...	...	...	...	...	...	...	...	4
Indigo, fresh plant	2	...	...	No. 160 or 2B	...	...	...	...	...	No. 200	3	...	2B.
Sugar-cane	4	5B.	4	...	...	3	...	...	...	or 4B.	...	...	3-5 6B.
Sugar, (raw).....	6	8½	4½	6	4½	4	3	4	4	3½	3	4½	4½
Sugar, (refined).....	4½	3	3½	3	3½	2½	3	3	3	3	2½	3½	3
Salt.....	5	5½	7½	6½	6½	5½	6½	5½	6½	6½	6½	5½	6
Ghee	2	1½	1½	1½	1½	1½	1	1½	2	1½	1½	2	1½
Milk	16	...	14	16	13½	14½	14	15½	16	16½	18½	15½	15½
Tobacco	9	7½	3½	8½	3½	2½	3	5½	4	4½	4½	6½	5
Spirit (25° below proof)	3	2½	2½	...	2½	2½	3	...	3	3½	2	3½	2½
Raw materials from which spirits are made, viz:—													
Mowha	50	28	24	30	14½	26½	41	25½	...	30	21	43½	33½
Gur	...	...	...	...	...	...	9	...	...	...	10	...	9½
Shira	...	...	16	...	...	...	18	...	...	22	...	...	18½
Fire-wood	180	186½	160	136½	97	109	166	177½	160	178½	247½	172½	164½
Wages of unskilled labourer, annas	2	2	2	2	2	2	1½	2	2	1½	2	1½	0-1-10½
1870.													
Paddy.....	25	26½	31	27	19½	20	20	23½	26	26½	56½	32½	27½
Common rice, (husked)	18	14½	11½	13½	12	12½	13½	10½	13	13½	14	17½	13½
Best rice, (husked)	10	12	8½	11½	5	7½	8½	7½	8½	5½	13½	11½	9
Wheat.....	14	15½	13½	19	14½	15	16½	19	19	21½	19½	19½	17
Barley.....	40	21½	24	22½	16½	20½	26	26½	36	31½	26½	24½	26½
Bajra.....	18½	19½	14½	14½	15	18½	19	21	20½	36	...	24½	20
Juar.....	19½	23½	16½	24½	21½	19½	19½	22½	22½	25	27½	28½	22½
Gram.....	15	21½	14	18	18	14½	17½	24½	17½	17½	17½	26½	19½
Arhar, Cajanus indicus	19½	17½	16	19½	20	20½	22½	26	23	19½	19½	20½	20½
Urd or mash, Phaseolus radiatus.....	14½	16½	13½	15½	14	14½	13½	15	17	16½	12	18½	14½
Mothi, Phaseolus acontifolius	20	17½	16	17	17	16½	13	16	19½	18½	13½	16	16½
Mung, Phaseolus mungo	16	12½	14½	13½	11½	13½	14	20	18½	15½	11½	15	14½
Masur, Eroum bus	16½	18½	14	20	17	16½	11	23½	19	13	19½	24½	17½
Aska or muttaru, Luthyrus sativus.....	...	21½	15	22½	19½	23	...	35½	20	36	15½	32½	24
Common peas, Pisum sativan.....	24	...	35½	22½	31	24½	20	32½	19	25	...	32½	26½
Potatoes, Solanum tuberos.....	18	...	20½	24	28½	15½	29	30½	21	37	41½	39½	27
Ghuian, Colocasia antiquorum.....	21	...	16	27	28½	22	29	35½	28	60	42	50	32½
Sarson, Sinapis dichotoma (glauca) ...	8	10½	15½	10½	12½	11½	11	18	14½	16½	11½	14½	12½
Lahi, Sinapis ingra.....	...	...	16½	12½	13½	14	12	24½	18	18	15½	19½	15½
Cleaned cotton	1½	...	2	1½	1½	2	1½	1½	2	1½	1½	1½	1½
Indigo, manufactured (medium quality)	...	...	4	4	...	...	...	...	...	...	...	...	4
Indigo, fresh plant	2B.	...	...	No. 160 or 2B	...	...	...	...	...	No. 200	3	...	2B.
Sugar-cane	4	5B.	3	...	...	3	...	...	...	or 4B.	...	...	3½B.
Sugar, (raw).....	5½	11	4½	7	4½	4	3	4½	4	3½	3	4½	4½
Sugar, (refined).....	5	3	3½	3½	3½	2½	2½	3½	3½	2½	2½	3½	3½
Salt.....	4½	5½	7½	6½	6½	5½	6	5	6½	6½	6½	5½	6
Ghee	2	1½	1½	1½	1½	1½	1	1½	2	1½	1½	2	1½
Milk	16	...	14	15½	13½	14½	14	15½	16	16½	15½	15½	15
Tobacco	9	7-1/7	3½	8½	3½	2½	3	5½	4	5½	4	13	5½
Spirit (25° below proof)	3	3	2½	...	2½	2½	3	...	3	3½	2	3½	2
Raw materials from which spirits are made, viz:—													
Mowha	65	46½	48	37	15½	27½	37	16½	...	18	21	58½	35½
Gur	...	...	...	...	...	...	8½	...	...	...	10	...	9½
Shira	...	...	...	...	...	...	18	...	...	13	...	...	15½
Fire-wood	154	186½	160	135½	96	107	167½	185	160	178½	247½	140½	159½
Wages of unskilled labourer, annas ...	2	2	2	2	2	2	1½	2	2	1½	2	1½	0-1-10½

Statement showing the comparative prices of Agricultural Produce and of Provisions in the Province of Oudh during the last 10 years—(concluded).

DESCRIPTION OF PRODUCE.	AVERAGES.										Provincial average for 10 years.
	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	
Paddy	34½	39½	41½	31½	27½	26	30½	32½	25½	27½	31½
Common rice, (husked)	18½	19	20	16½	13½	13	15½	15½	11½	18½	15½
Best rice, (husked)... ..	11½	11½	12½	10½	8½	7½	9½	10	8	9	8½
Wheat	24½	31½	29½	21½	17½	15	21	22	13½	17	21½
Barley	34½	41½	43½	33½	23½	21½	30½	33½	19½	26½	30½
Bajra	26½	31½	32½	20½	20½	20	25	26½	17	20	24
Juar	33½	36	39½	27	22½	22½	30½	31½	20	22½	28½
Gram	25½	37	35½	27½	18½	17½	25½	28	15	19½	25
Arhar, Cajamas Indicus	31½	39½	33½	26½	19	17½	27	29½	18	20½	26½
Urd or mash, Phaseolus radiatus	24	31½	26½	19½	14½	14½	20½	24½	13½	14½	20½
Mothil, Phaseolus acontifolius	26	33½	30½	23	18½	18½	25½	28½	15½	16½	23½
Mung, Phaseolus mungo	21½	24½	20	14½	13	13½	17½	16½	12	14½	16½
Masur, Erum bus	28½	33	31	25½	18½	16½	23	29½	16	17½	23½
Akka or muttara, Luthyrus sativus	38½	50	47½	36½	29½	26½	33½	35	10½	24	34
Common peas, Pisum sativan	31½	37½	36½	30	24½	22	27½	32½	21½	26½	28½
Potatoes, Solanum tuberos	26½	31½	29½	25½	25½	24½	27½	28½	27½	27	27½
Ghuin, Collocasia antiquorum	37½	46½	48½	42½	34½	36	42	39½	34½	32½	39½
Sarson, Sinapis dichotoma (glauca)	19½	17½	15½	16½	17	17½	16½	16½	14½	12½	16½
Lahi, Sinapis ingra... ..	18½	17½	17½	18½	18½	19½	18½	17½	16½	15½	17½
Cleaned cotton	1½	1½	1½	1½	1½	2	1½	1½	1½	1½	1 27/40
Indigo, manufactured, (medium quality)	4	4	4	4	4	4	4	4	4	4	4
Indigo, fresh plant... ..	2B.	2B.	2B.	2B.	2B.	2B.	2B.	2B.	2B.	2B.	2B.
Sugar-cane	3 5/6B	3 5/6	3 5/6	4	3½	3½	3 5/6	3½	3 5/6	3½	2½B.
Sugar, (raw)	4½	5	5½	5	5	4½	4½	4½	4½	4½	4½
Sugar, (refined)	3½	3½	3½	3½	3½	3	3½	3½	3	3½	3½
Salt	6½	6½	6	6½	5½	6	6	6½	6	5½	6
Ghee	1½	1½	1½	1½	1½	1½	1½	1½	1½	1½	1 3/5
Milk	16½	16½	16	15½	15½	15½	15½	15	15½	15	15½
Tobacco	5½	5½	5½	5½	6	5½	5	5½	5	5½	6½
Spirit (25° below proof)	3	2½	2½	3	2½	2½	2½	2½	2½	2	2½
Raw materials from which spirits are made, viz. :—											
Mowha	49½	46½	45½	40	38½	37½	30½	41½	33½	35½	39½
Gur	11½	10½	11½	11½	11½	9½	9½	9	9½	9½	10½
Shira	41½	44½	38½	36	34	47½	22	24	18½	15½	32½
Fire-wood	182½	193½	184½	186½	189½	184½	170½	162½	164½	159½	177½
Wages of unskilled labourer, annas	0-1-10	0-1-10	0-1-10	0-1-10	0-1-10½	0-1-10½	0-1-10½	0-1-11	0-1-10½	0-1-10½	0-1-10½

ARTICLES.	DEHLI.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	23 91	29 74	24 31	18 37	19 88	17 08	21 69	15 97	13 29	27
Common rice, husked	13 87	15 86	16 82	10 78	10 43	10 26	11 78	10 26	9 44	13
Best rice, husked	6 29	5 59	6 53	6 06	5 54	5 83	5 77	5 54	4 84	5 01
Wheat	15 86	29 04	25 60	20 47	17 08	18 48	24 55	25 83	10 55	15 97
Barley (<i>Hordeum coeleste</i>)	24 14	44 43	34 58	28 40	25 42	27 64	29 27	22 86	15 10	24 31
Bajra (<i>Penicillaria spicata</i>)	22 21	30 85	25 54	22 45	22 16	23 21	25 19	16 67	12 71	21 28
Jowar (<i>Sorghum vulgare</i>)	20 58	33 47	29 16	24 61	25 60	25 42	27 40	18 25	14 92	41 11
Gram (<i>Cicer arietinum</i>)	15 45	31 55	31 25	25 83	23 61	23 61	13 18	18 13	9 97	15 74
Lentils mash (<i>Phaseolus radiatus</i>)	17 96	27 46	23 03	13 47	13 23	15 51	18 77	13 29	17 90	14 11
Cotton, cleaned	4 31	2 91	1 39	1 98	2 91	2 79	3 14	2 13	1 80	2 21
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	130 63	130 63	130 63	130 63	149 29	149 29	149 29	149 29	186 62	186 62
Sugar, raw	6 29	7 34	7 40	7 81	9 79	9 09	5 89	5 42	5 19	7 17
Sugar, refined	2 62	2 74	2 56	2 79	2 79	2 68	2 33	2 39	2 33	2 33
Salt	6 76	6 82	6	6 06	6 53	6 76	6 99	6 82	5 94	6 59
Shee	1 98	1 80	1 98	1 80	1 51	1 45	1 39	1 28	1 28	1 34
Milk	17 08	17 37	18 72	18 66	16 79	16 97	16 38	15 99	10 55	12 42
Tobacco (<i>Nicotiana tabacum</i>)	2 21	2 68	2 79	2 79	2 79	2 21	2 15	1 74	2 79	2 56
Firewood	115 70	105 73	104 26	106 27	93 31	82 69	75 34	79 48	83 97	90 10
Oil (<i>Seamum orientale</i>)	11 19	9 56	13	7 93	7 40	11 95	11 48	9 56	9 44	9 62
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	13 58	12 65	17 53	15 22	14 98	11 31	16 56	12 77	10 73	11 54
Turnips (<i>Brassica rapa</i>)	88 71	102 64	107 94	78 38	95 40	116 82	62 57	53 53	52 54	86 87
Radishes (<i>Raphanus sativus</i>)	149 29	149 29	149 29	186 62	186 62	149 29	149 29	149 29	149 29	149 29
Carrots (<i>Daucus carota</i>)	82 22	149 35	85 43	79 07	80 58	51 96	76 62	79 83	57 21	65 78
Olives	...	...	...	...	...	...	...	...	...	...
Peekur Bark (<i>Acacia Arabica</i>)	81 17	81 17	81 17	81 17	81 17	81 17	81 17	81 17	81 17	81 17
Peel (<i>Arum colocasia</i>)	74 64	74 64	65 31	65 31	74 64	74 64	74 64	74 64	74 64	74 64
Potatoes	...	...	...	...	...	...	...	...	...	...
Am, Rath alu (<i>Dioscorea globosa</i>)	74 64	74 64	65 31	65 31	74 64	74 64	74 64	74 64	74 64	74 64
Saize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	8 39	8 22	10 73	11 95	10 55	11 19	10 49	7 98	7 46	7 46
Armeric	...	...	...	...	...	...	...	...	...	...
Almonds, 25 per cent. below proof, per gallon	3 6 0	3 12 0	3 12 0	3 12 0	3 12 0	4 8 0	4 8 0	5 4 0	5 4 0	5 4 0
Wages of unskilled labourers { Coolies	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0
per diem. { Kahars	0 5 0	0 5 0	0 5 0	0 5 0</						

Linseed not procurable.

ARTICLES.	SONEPAT.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	18 66	19 59	20 52	21 46	25 36	20 52	19 59	21 46	20 52	20 52
Common rice, husked	15 51	14 92	14 92	14 92	10 26	10 26	9 33	10 26	11 19	10 26
Best rice, husked	11 89	11 89	15 04	7 46	7 46	7 46	7 46	8 86	9 33	9 33
Wheat	31 72	31 72	28 92	28 92	19 59	23 32	17 72	19 59	24 26	13 99
Barley (<i>Hordeum coeleste</i>)	44 78	44 78	38 43	38 80	32 65	33 59	21 46	28 92	26 12	26 12
Bajra (<i>Penicillaria spicata</i>)	37 90	37 90	26 47	26 47	18 66	27 99	23 32	23 79	27 06	15 86
Jowar (<i>Sorghum vulgare</i>)	38 08	38 08	36 56	23 32	27 99	27 99	22 39	27 06	15 39	15 39
Gram (<i>Cicer arietinum</i>)	32 65	32 65	24 29	28 92	30 79	21 92	20 52	25 19	14 92	14 92
Lentils mash (<i>Phaseolus radiatus</i>)	27	27	22 74	21 46	15 86	15 86	18 66	20 52	14 92	14 92
Cotton, cleaned	3 14	3 14	1 74	2 79	2 39	2 56	2 09	2 21	2 33	2 56
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	306 05	306 05	382 57	410 56	447 89	279 98	205 28	279 98	279 98	279 98
Sugar, raw	8 10	8 10	8 04	8 39	12 13	7 46	6 53	7 46	7 46	7 46
Sugar, refined	3 55	3 55	2 74	2 79	3 26	3 26	1 86	2 56	2 44	2 56
Salt	7 17	7 17	7 46	7 46	7 46	7 46	7 46	7 46	7 46	7 46
Ghee	2 21	2 21	2 04	2 33	1 86	1 86	1 86	1 86	1 63	1 63
Milk	14 92	14 92	13 06	14 92	14 92	18 66	14 92	14 92	16 79	18 65
Tobacco (<i>Nicotiana tabacum</i>)	5 89	6 76	6 76	7 46	7 46	7 46	7 46	7 46	7 46	4 76
Firewood	158 62	158 62	192 91	186 62	223 94	111 97	111 97	93 31	102 64	111 97
Til (<i>Sesamum orientale</i>)	10 32	10 32	13 41	13 99	14 92	13 99	11 19	11 19	9 79	9 79
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	14 46	13 29	20 06	16 21	11 31	12 36	17 49	13 99	11 66	10 73
Turnips, (<i>Brassica rapa</i>)	77 91	77 91	37 32	37 32	37 32	37 32	74 64	93 31	93 31	111 97
Radishes (<i>Raphanus sativus</i>)	121 30	130 63	137 32	149 29	167 95	130 63	121 30	149 29	139 96	149 29
Carrots (<i>Daucus carota</i>)	80 83	80 83	55 98	55 98	55 98	60 65	55 98	93 31	74 64	74 64
Molasses	...	...	...	...	...	...	...	...	...	...
Keekur Bark (<i>Acacia Arabica</i>)	80 24	80 24	80 24	80 24	80 24	80 24	80 24	80 24	80 24	80 24
Arbi (<i>Arum colocasia</i>)	74 64	74 64	65 31	65 31	74 64	74 64	74 64	74 64	74 64	74 64
Yam, Rath ali (<i>Dioscorea globosa</i>)	74 64	74 64	65 31	65 31	74 64	74 64	74 64	74 64	74 64	74 64
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turnip	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	3 6 0	3 12 0	3 12 0	3 12 0	3 12 0	4 8 0	4 8 0	5 4 0	5 4 0	5 4 0
Wages of unskilled labourers	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6
per diem	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0
Bheesties	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

ARTICLES.	REWARI.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	20 52	20 99	23 56	16 56	17 02	19 59	20 06	17 26	17 72	18 42
Common rice, husked	10 26	10 49	11 78	8 28	8 51	9 79	10 03	8 57	8 86	9 21
Best rice, husked	8 39	8 63	9 91	6 41	6 58	7 93	8 16	6 70	6 99	7 34
Wheat	12 01	23 44	29 39	17 72	17 96	19 59	16 44	10 26	16 79	16 79
Barley (<i>Hordeum coeleste</i>)	20 06	24 96	41 05	28 59	32 65	31 95	23 79	17 26	25 19	30 85
Bajra (<i>Penicillaria spicata</i>)	14 92	20 87	28 92	20 76	28 69	26 12	20 06	15 39	19 59	27 29
Jowar (<i>Sorghum vulgare</i>)	14 46	20 76	34 05	20 62	31 72	30 32	21 92	12 24	22 39	30 09
Gram (<i>Cicer arietinum</i>)	12 36	13 53	35 56	24 72	26 36	22 16	18 66	10 73	16 09	17 49
Lentils, mash (<i>Phaseolus radiatus</i>)	12 59	14 92	27 29	14 34	16 21	21 46	14 92	9 33	21 46	16 79
Cotton, cleaned	3 32	3 84	1 22	1 92	2 15	2 62	2 09	1 63	1 86	1 86
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	...	...	...	...	...	...	...	...	...	...
Sugar, raw	8 16	8 16	10 26	9 79	13 58	8 63	7 34	7 63	8 39	9 09
Sugar, refined	3 09	3 03	2 97	3 09	3 14	2 56	2 62	2 56	2 79	2 68
Salt	21 92	22 86	16 09	20 41	20 64	23 09	20 76	17 49	18 42	18 42
Ghee	2 33	2 39	2 15	1 69	1 39	1 63	1 45	1 28	1 63	1 10
Milk	23 79	26 56	27 99	18 42	15 62	17 49	14 92	12 13	13 06	14 92
Tobacco (<i>Nicotiana tabacum</i>)	5 71	5 83	6 53	6 99	6 64	6 53	6 53	6 82	6 99	6 64
Firewood	186 62	186 62	186 62	186 62	186 62	186 62	149 29	149 29	149 29	149 29
Til (<i>Sesamum orientale</i>)	10 84	12 01	11 43	11 31	12 71	12 13	10 61	11 66	12 13	10 03
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	12 71	15 39	14 69	15 04	18 83	18 19	14 39	14 92	15 39	12 59
Turnips (<i>Brassica rapa</i>)	167 95	167 95	149 29	190 63	149 29	167 95	186 62	149 29	186 62	111 97
Radishes (<i>Raphanus sativus</i>)	111 97	186 62	186 62	149 29	149 29	186 62	74 64	74 64	186 62	186 62
Carrots (<i>Daucus carota</i>)	180 63	168 95	186 62	149 29	149 29	186 62	149 29	111 97	149 29	149 29
Molasses	...	...	...	...	...	...	...	...	...	...
Keekur Bark (<i>Acacia Arabica</i>)	93 31	93 31	93 31	93 31	74 64	74 64	74 64	74 64	74 64	74 64
Arbi (<i>Arum colocasia</i>)	18 66	23 32	27 99	23 32	18 66	23 32	23 32	18 66	18 66	23 32
Potatoes	46 65	51 32	41 98	51 32	46 65	41 98	46 65	55 98	51 32	37 32
Yam, Rath alu (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turmeric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	3 12 0	3 12 0	5 4 0	5 4 0	5 4 0	5 4 0	5 4 0	5 4 0	5 4 0	5 4 0
Wages of unskilled labourers { Coolies	0 1 6	0 1 6	0 1 6	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0
per diem { Kahars	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0
{ Bheesties	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0

Sugar-cane not sold at Rewari.

ARTICLES.	FEROZPUR.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	27 99	32 65	28 45	37 32	32 65	41 98	23 32	27 99	18 66	25 19
Common rice, husked	13 99	12 13	13 06	13 99	11 19	13 99	10 26	13 06	11 19	12 13
Best rice, husked	8 39	9 33	9 33	8 39	8 39	9 33	7 46	8 39	7 46	8 39
Wheat	21 46	20 52	27 99	26 12	24 26	23 32	22 39	17 72	10 26	16 79
Barley (<i>Hordeum coeleste</i>)	32 65	27 99	51 32	41 98	37 32	32 65	32 65	26 12	21 46	27 99
Bajra (<i>Penicillaria spicata</i>)	27 06	23 32	41 98	37 32	32 65	30 79	30 79	19 59	18 66	19 59
Jowar (<i>Sorghum vulgare</i>)	24 26	27 99	46 65	41 98	37 32	32 65	32 65	23 32	19 59	29 85
Gram (<i>Cicer arietinum</i>)	20 52	21 46	41 98	37 32	32 65	30 79	29 85	21 46	16 79	19 59
Lentils, mash (<i>Phaseolus radiatus</i>)	21 46	12 13	32 65	27 99	25 19	24 26	24 26	15 86	12 13	15 86
Cotton, cleaned	2 79	2 79	3 73	3 26	2 79	2 79	2 79	2 33	2 09	2 09
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	111 97	111 97	111 97	111 97	111 97	111 97	111 97	111 97	111 97	111 97
Sugar, raw	8 86	8 68	10 26	11 19	12 13	11 19	9 33	9 33	9 56	9 33
Sugar, refined	2 79	3 03	2 79	2 74	2 68	2 79	3 03	2 79	2 79	2 56
Salt	20 52	20 76	22 39	21 46	20 52	19 59	22 39	22 39	21 46	18 66
Ghee	2 33	2 33	1 98	1 86	1 86	1 86	1 86	1 63	1 57	1 69
Milk	20 52	20 52	18 66	16 79	16 79	16 79	16 79	14 92	14 92	15 86
Tobacco (<i>Nicotiana tabacum</i>)	7 46	7 46	7 46	7 46	7 46	7 46	7 46	7 46	6 53	6 53
Firewood	223 94	223 94	223 94	186 62	186 62	186 62	186 62	186 62	167 95	149 29
Til (<i>Sesamum orientale</i>)	12 13	13 99	12 13	11 19	10 26	10 26	10 26	10 26	11 19	11 19
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	13 99	16 79	16 79	14 92	13 99	13 06	13 06	15 86	13 06	13 99
Turnips (<i>Brassica rapa</i>)	29 85	29 85	37 32	37 32	37 32	37 32	37 32	37 32	37 32	37 32
Radishes (<i>Raphanus sativus</i>)	149 29	186 62	186 62	186 62	186 62	186 62	186 62	186 62	186 62	186 62
Carrots (<i>Daucus carota</i>)	186 62	111 97	149 29	111 97	111 97	111 97	111 97	111 97	111 97	111 97
Molasses	...	...	...	...	...	...	...	...	...	...
Keekur Bark (<i>Acacia Arabica</i>)	93 31	93 31	93 31	83 97	93 31	88 64	97 97	83 97	93 31	93 31
Arbi (<i>Arum colocasia</i>)	14 92	14 92	14 92	14 92	14 92	14 92	14 92	14 92	14 92	15 86
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Rath alu (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turmeric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	3 0 0	3 0 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0
Wages of unskilled labourers { Coolies	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6
per diem { Kahars	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0
{ Bheesties	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0

Yam not sold at Ferozpur.

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

ARTICLES.	KARNAL.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	19 82	26 94	34 52	35 45	17 78	17 43	22 97	15 51	14 57	18 95
Common rice, husked	8 57	10 73	16 73	17 72	9 09	9 33	8 68	9 15	7 98	8 68
Best rice, husked	7 75	8 51	13 99	15 86	7 28	7 28	8 51	6 76	5 89	6 70
Wheat	14 11	29 10	14 92	29 85	18 25	19 47	23 26	14 28	10 55	14 92
Barley (<i>Hordeum coeleste</i>)	20 52	54 58	20 52	37 32	29 39	30 90	26 24	20 70	15 33	24 84
Bajra (<i>Penicillaria spicata</i>)	16 44	32 89	27 06	27 99	19 77	19 77	19 42	16 38	13	20 06
Jowar (<i>Sorghum vulgare</i>)	15 22	54 34	27 99	32 65	25 31	25 31	21 05	15 57	13 06	23 61
Gram (<i>Cicer arietinum</i>)	14 52	29 85	16 79	27 06	27 40	27 99	22 51	17 78	9 68	15 09
Lentils, mash (<i>Phaseolus radiatus</i>)	15 04	24 49	20 99	22 39	18 95	19 47	17 96	13 47	10 57	18 02
Cotton, cleaned	4 66	2 97	4 66	4 66	1 98	2 56	3 32	2 04	1 74	2 21
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	...	...	...	...	...	...	...	...	...	...
Sugar, raw	9 33	11 66	13 99	11 19	14 11	15 86	9 62	7 28	8 16	10 26
Sugar, refined	2 79	2 74	2 33	2 33	3 09	2 74	2 44	2 44	2 56	2 62
Salt	7 75	8 28	8 63	8 86	7 40	7 58	5 93	5 94	6 76	7 63
Ghee	2 15	2 09	2 33	2 56	1 69	1 57	1 51	1 39	1 39	1 34
Milk	14 92	14 92	20 52	22 39	18 66	16 79	16 97	13 99	14 92	14 92
Tobacco (<i>Nicotiana tabacum</i>)	4 66	4 66	4 66	5 59	6 06	3 90	5 36	5 36	4 19	5 59
Firewood	186 62	186 62	186 62	186 62	177 28	177 28	144 63	154 89	156 62	149 29
Til (<i>Sesamum orientale</i>)	10 73	11 02	19 59	16 79	11 19	11 48	12 24	8 63	6 93	9 70
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	13 18	13	18 66	14 92	15 86	19 65	16 85	15 04	9 56	12 77
Turnips (<i>Brassica rapa</i>)	55 98	60 65	51 32	55 98	60 65	55 98	65 31	55 98	60 65	55 98
Radishes (<i>Raphanus sativus</i>)	46 65	41 98	46 65	51 32	46 65	65 31	55 98	55 98	55 98	46 65
Carrots (<i>Daucus carota</i>)	74 64	74 64	74 64	74 64	74 64	74 64	74 64	74 64	74 64	121 97
Molasses	...	...	...	...	...	...	...	...	...	...
Keekur Bark (<i>Acacia Arabica</i>)	46 65	41 98	41 98	37 32	32 65	32 65	37 32	32 65	37 32	32 65
Arbi (<i>Arum colocasia</i>)	46 65	48 52	51 32	37 32	37 32	55 98	54 11	55 98	37 32	37 32
Potatoes	18 66	18 66	23 32	18 66	18 66	21 46	18 66	26 12	18 66	27 99
Yam, Rath alu (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	14 92	32 65	27 99	27 99	19 82	18 66	19 88	14 87	18 72	11 54
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turmeric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	4 8 0	4 8 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0
Wages of unskilled labourers { Coolies	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6
per diem { Kahars	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6
{ Bhesties	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6

Indigo, fresh plant, and yams not produced in Karnal.

Sugar-cane not sold by weight.

ARTICLES.	PANIPAT.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	20 76	38 25	37 32	29 85	28 92	24 26	26 12	20 52	18 66	23 32
Common rice, husked	9 56	20 76	18 66	15 86	14 46	13 99	14 46	13 06	12 13	14 92
Best rice, husked	8 39	9 33	8 39	11 19	9 79	9 33	9 79	9 33	8 39	10 49
Wheat	14 75	30 79	31 72	22 51	18 77	19 59	21 69	22 39	20 52	25 66
Barley (<i>Hordeum coeleste</i>)	20 99	44 78	43 85	34 99	28 92	31 25	30 79	36 39	31 72	39 19
Bajra (<i>Penicillaria spicata</i>)	19 12	20 85	27 99	22 86	20 06	21 46	20 99	23 32	21 46	27 52
Jowar (<i>Sorghum vulgare</i>)	18 19	32 65	27 99	27 52	18 66	27 99	26 59	27 06	25 19	31 49
Gram (<i>Cicer arietinum</i>)	15 16	20 87	19 94	28 60	26 12	27 99	22 86	23 32	21 46	26 82
Lentils, mash (<i>Phaseolus radiatus</i>)	17 72	25 19	26 56	13 99	15 86	17 26	17 26	18 66	16 79	20 99
Cotton, cleaned	4 66	4 37	2 79	1 39	3 26	3 03	3 49	3 26	2 33	2 91
Indigo, manufactured (<i>Indigofera tinctoria</i>)	52	52	52	52	52	52	52	52	52	52
Indigo, fresh plant	111 97	93 31	93 31	111 97	111 97	74 64	93 31	102 64	83 97	102 64
Sugar-cane	...	...	...	...	...	...	...	...	...	...
Sugar, raw	10 73	13 29	13 18	10 26	15 81	15 39	10 73	11 19	11 19	13 99
Sugar, refined	3 03	3 03	2 91	3 03	3 26	3 03	2 56	2 85	2 39	2 97
Salt	7 46	7 58	7 46	6 99	7 69	7 46	7 58	7 46	6 53	8 16
Ghee	1 98	1 02	1 86	2 09	1 86	1 63	1 63	1 86	1 86	2 33
Milk	18 66	16 79	15 86	18 66	18 66	18 66	16 79	16 79	16 79	18 66
Tobacco (<i>Nicotiana tabacum</i>)	6 53	5 59	7 46	7 46	7 46	6 53	5 59	6 53	6 06	6 90
Firewood	149 29	149 29	149 29	149 29	149 29	149 29	149 29	149 29	149 29	139 96
Til (<i>Sesamum orientale</i>)	10 73	10 26	9 79	12 13	12 13	10 26	10 49	9 79	9 79	11 66
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	12 13	13 06	11 19	13 99	14 92	15 86	15 86	11 19	12 13	15 16
Turnips (<i>Brassica rapa</i>)	74 64	74 64	93 31	93 31	65 31	93 31	97 97	88 64	88 64	83 97
Radishes (<i>Raphanus sativus</i>)	149 29	149 29	167 95	130 63	149 29	149 29	139 96	158 62	158 62	149 29
Carrots (<i>Daucus carota</i>)	111 97	149 29	111 97	149 29	111 97	149 29	93 31	149 29	130 63	149 29
Molasses	...	...	...	...	...	...	...	...	...	...
Keekur Bark (<i>Acacia Arabica</i>)	51 32	46 65	46 65	41 98	37 32	37 32	41 98	37 32	41 98	37 32
Arbi (<i>Arum colocasia</i>)	37 32	46 65	27 99	41 98	46 65	27 99	37 32	46 65	46 65	37 32
Potatoes	18 66	18 66	18 66	14 92	14 92	18 66	14 92	16 79	18 66	14 92
Yam, Rath alu (<i>Dioscorea globosa</i>)	18 66	23 32	18 66	23 32	23 32	18 66	18 66	18 66	23 32	18 66
Maize, Makhi (<i>Zea mays</i>)	18 19	32 65	29 85	26 59	18 66	27 99	25 66	26 12	24 26	30 32
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turmeric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0
Wages of unskilled labourers { Coolies	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0
per diem { Kahars	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0
{ Bhesties	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0

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VOL. V.]

CALCUTTA, FRIDAY, 31ST OCTOBER 1873.

No. 3.

SALT REVENUE:—BENGAL, 1790 TO 1872.

THE revenue from salt which fell off considerably during the year 1871-72, recovered itself during the last year. The figures for the last three years are:—

	Total quantity of salt paying duty during the year.	Total salt revenue, including miscellaneous receipts.
	Mds.	Rs.
1870-71.....	7,957,221	2,61,44,441
1871-72.....	7,766,133	2,54,66,055
1872-73.....	7,981,286	2,61,19,562

The Lieutenant-Governor has lately examined the salt consumption statistics of Bengal for the last eighty years and the following statement shows the quantity of salt which paid duty each year 1790 to 1871-72. It will be seen that the quantity in some years was abnormally low, but if cycles of three years are taken, the consumption increased steadily, in the first forty years of the century, increased largely in the next few years, when the duty was reduced to Rs. 2-8 per maund, and has very slightly increased since the duty was raised to the rate of Rs. 3-4 per maund.

Liverpool salt instead of home-made salt has been largely consumed since 1863 and by far the greatest part of the consumption is now foreign salt.

Duty paid Salt, the Duty, and the Revenue from 1790 to 1871-72 in Bengal.

Year.	Excise salt.		Government salt.		Imported Salt.		Total.		Rate of Duty 100 mds.
	Quantity.	Duty.	Quantity.	Proceeds.	Quantity.	Duty.	Quantity.	Revenue.	
		Rs.		Rs.		Rs.	Mds.	Rs.	
1790.....			3,109,000	75,68,958			3,109,000	75,68,958	} No fixed duty during these years.
1800.....			3,245,455	83,61,772			3,245,455	83,61,772	
1805.....			4,208,881	1,36,06,087			4,208,881	1,36,06,087	
1810.....			4,539,906	1,50,36,088			4,539,906	1,50,36,088	
1820.....			4,874,479	1,58,23,394	13,740	44,655	4,888,219	1,58,68,049	325
1829-30.....			5,046,410	1,73,77,783	10,311	32,995	5,056,721	1,74,10,778	325
1834-35.....			4,481,217	1,81,74,310	10,518	33,657	4,491,735	1,82,07,967	325
1839-40.....			4,828,772	1,89,59,788	440,669	13,34,452	5,269,441	2,02,94,240	325
1844-45.....			5,014,737	1,59,26,634	970,596	27,14,889	5,985,333	2,16,41,523	325
1849-50.....	23,630	59,075	4,471,456	1,34,05,869	2,103,219	47,87,545	6,598,305	1,82,52,489	250
1854-55.....	15,600	39,009	4,823,681	1,44,33,450	1,797,049	41,01,303	6,641,330	1,85,73,762	250
1856-57.....	37,000	92,500	3,771,239	1,04,72,759	3,845,372	90,83,362	7,653,611	1,96,48,621	250
1859-61.....	13,560	33,900	4,248,068	1,18,35,663	3,798,924	88,23,061	8,060,552	2,06,92,624	250
1860-61.....	29,000	88,000	5,572,237	1,95,91,037	3,059,759	89,11,999	8,660,996	2,85,91,036	300
1861-62.....	24,450	79,462	1,630,848	55,89,136	4,592,705	1,45,98,049	6,248,003	2,02,66,647	325
1862-63.....	41,650	1,35,362	1,913,978	69,89,163	6,260,789	1,99,18,754	8,216,417	2,70,43,279	325
1863-64.....	42,533	1,38,232	1,172,919	45,55,055	6,049,667	1,92,57,767	7,265,119	2,39,31,054	325
1864-65.....	28,109	91,916	886,028	35,84,564	7,540,336	2,39,89,885	8,454,473	2,76,66,365	325
1865-66.....	7,731	25,125	1,312,084	51,70,910	5,993,626	1,90,12,787	7,313,441	2,42,08,822	325
1867-68.....	53,740	1,58,327	1,660,862	61,78,331	6,190,964	2,01,20,633	7,905,566	2,64,52,891	325
1868-69.....	107,621	3,55,836	250,051	9,08,405	6,829,385	2,21,95,501	7,187,957	2,34,59,742	325
1869-70.....	140,537	4,56,745	202,796	7,37,269	7,445,179	2,41,96,832	7,788,512	2,53,90,816	325
1870-71.....	257,197	8,35,890	35,277	1,34,967	7,664,747	2,49,10,428	7,957,221	2,58,81,285	325
1871-72.....	321,377	10,44,475	12,140	45,853	7,432,717	2,41,56,330	7,766,234	2,52,46,658	325

The "rate of duty" column is so far open to correction that the rate of salt duty in Orissa was for many years very much less than the rate for the rest of Bengal. It is only during the last ten years that the Orissa salt duty has been brought up to the full Bengal rate.

Consumption.

The average annual consumption in the last three years has been 7,901,546 maunds. Seventy-nine lakhs of maunds on a population of 664 millions gives a consumption of 4-74 seers per head, or about 94 lbs. We know that a certain amount of Ganjam salt is consumed in the tributary estates of Orissa; that a good deal of illicit salt is consumed in Behar; that some small supply of illicit salt is made along the coast by the lower classes for their home consumption; and that a small amount of foreign salt is consumed on our northern and eastern frontier. We do not yet know with any precision how much Bengal salt finds its way up the Gogra into a corner of the North-Western Provinces, but the quantity that goes beyond the limits of these provinces by railway is very small; while Agra and Delhi salts come into parts of Palamow, and occasionally find their way by train to Patna. We may fairly reckon, then, that the average consumption of salt by the people of Bengal is not very widely different from the rate above stated, viz., 94 lbs. per head.

Price.

The range of the retail price of salt in different parts of Bengal during the last thirty years appears, from such records as are available, to have been as follows:—

Year.	Rate of duty per 100 maunds.	Number of seers of 80 tolahs of salt selling retail for one rupee during the month of April at—				
		Calcutta.	Dacca.	Rungpore.	Patna.	Cuttack.*
1840.....	325	8	8½	.....	.....	24
1845.....	325	8	9½	.....	8	24
1850.....	250	10	10	.....	8	21
1854.....	250	9½	9½	8½	8½	19
1860.....	300	8½	8	6	8	16
1865.....	325	8½	8½	7½	6½	8½
1869.....	325	8½	8	6	8	8½
1870.....	325	9	8	6	8	9
1871.....	325	8½	8	7½	8	9
1872.....	325	8½	8½	6½	8	9
1873.....	325	9	9	7½	8	9

The month of April has been taken throughout as the test month. Of late years, and in ordinary Bengal districts, the retail price of salt ranges

* In Orissa the full Bengal salt duty was not levied until the year 1863; the rate was Rs. 1½ a maund up till 1859; it was raised to Rs. 1½ in 1859, and to Rs. 1½ in 1861.

from 7 to 9 seers of 80 tols (or about 14 to 18 lbs.) per rupee. The prices quoted for the older years may not be absolutely correct, inasmuch as the Government of those days did not publish price-currents. The prices quoted for the year 1854 are from Mr. Plowden's salt report of 1856, and are probably correct.

A Bengalee ryot of the present day with a wife and three children may consume during the year (at 474 seers per head) about 23½ seers of salt, on which the duty would be (at Rs. 3-4 a maund) a little under Rs. 2; so that the salt tax paid by an ordinary labouring man whose yearly earnings are perhaps Rs. 60, all told, comes to nearly 3 per cent. on his income. The price of bonded Liverpool salt in Calcutta ranged during the year 1872-73 from Rs. 56 to Rs. 104 per hundred maunds; but these fluctuations do not seem very greatly to affect the retail price of salt in the towns and bazaars of the interior.

Salt supplies of 1872-73.

The main salt transactions of the last three years compare as follows:—

	1870-71.	1871-72.	1872-73.
	Mds.	Mds.	Mds.
Salt imported and manufactured.....	7,091,545	8,014,698	7,331,304
Cleared for consumption on payment of duty	7,957,221	7,766,133	7,981,286
Balance in stock at the close of the year	2,653,733	2,841,001	2,325,766
	Rs.	Rs.	Rs.
Proceeds from sale of Government salt	1,34,967	45,853	16,285
Duty on imported salt.....	2,49,10,428	2,41,56,830	2,45,85,766
Duty on excised salt	8,35,890	10,44,475	13,88,301
Total duty.....	2,58,81,285	2,52,46,658	2,59,40,352

Thus the supply of salt was 12 per cent. less in 1872-73 than in the previous year, while the consumption was more than 3 per cent. larger. The balance of salt in stock at the end of the year was therefore very much smaller than in previous years, and was barely 3½ months' consumption.

The imports of Liverpool salt into Calcutta were 20 per cent. smaller than during the preceeding year; but as a set-off against this decrease, the imports of salt from Bombay and Madras together nearly doubled; the imports from France and Italy were three times as large as during the previous year; and the imports of Liverpool salt to Chittagong increased 60 per cent. The imports from the Arabian and Persian Gulfs decreased by about 11 per cent. As the Board remarks, it is satisfactory that the foreign sources of salt supply for Bengal are extending and becoming more permanent.

The quantity of salt manufactured under the Excise Rules in Bengal during the last three years has been—

1870-71.	1871-72.	1872-73.
Mds.	Mds.	Mds.
578,707	214,427	363,402

Almost the whole of this manufacture takes place in Orissa, and more than half of the whole of the excised salt is made in the Pooree district. The salt manufacture is a very important industry to the poorer classes who inhabit the shores of the Chilka Lake; and it is very greatly to be wished that the industry could become permanent, instead of fluctuating from 371,000 maunds one year to 32,000 maunds next year. The circumstances of the season have no doubt much to do with these fluctuations; and salt cannot be made cheaply or well during a rainy summer like that of 1871. Still the principal obstacle to the Pooree salt industry is the great difference between the duty paid on salt manufactured at the two ends of the Chilka Lake. As the Commissioner says, the difference in price makes Pooree people consume Ganjam salt, as they are allowed by law to buy it across the border, so long as they carry home less than five seers at a time. The Ganjam salt producers also must command the Sumbulpore and Tributary Estates markets, so long as their duty is little more than half what the Pooree salt dealers have to pay. It will be the greatest possible boon to the people of Pooree when the Madras and Orissa rates of salt duty are equalised.

Measures have recently been taken for checking the production of illicit salt in Behar. The discussions of the year ended in the introduction of Act XXXI. of 1861 into Behar.

ELECTRIC TELEGRAPHS:—INDIA, 1871-72.

Administration Report of the Indian Telegraph Department for the year 1871-72.

For convenience of reference, the report will be divided into the following heads:—

- I.—International Relations: Communications with Places abroad.
- II.—Local Tariff and Traffic.
- III.—Extensions of Lines and Wires.

- IV.—Looshai Expedition.
- V.—Stores and Workshops.
- VI.—Finance.
- VII.—Miscellaneous.

I.—INTERNATIONAL RELATIONS: COMMUNICATIONS WITH PLACES ABROAD.

When, in 1868, the rate between London and India by the Indo-European line was reduced to £2-17 for a message of 20 words, the prospect of the establishment of the line via the Red Sea was still remote, and it was believed that the increase of traffic would in time more than compensate for the reduction in price. The Indo-European Company, which had constructed a reliable line between London and Teheran, was originated at a time when the traffic to India was £5 for a single rate message, and its supporters came forward, it is believed, on the understanding that a rate of at least £4 should be continued. The action of the Conference of Vienna compelled them to try the reduced rate of £2-17, and a considerable share of this reduction fell upon the Company's proportion of the gross charge. The successful submersion and working of the Red Sea cable was not anticipated when the Company started; nevertheless, a full trial was given to the experiment of working with a low tariff, and the result proved it to be in the highest degree unremunerative.

The Red Sea Cable Company, at the commencement of its operations, adopted the same tariff, viz., £2-17, between India and London, with a similar result. It was proved conclusively that the amount of Anglo-Indian traffic was insufficient to warrant the adoption of so low a tariff, and both Companies resolved to raise the rate from £2-17 to £4-10.

Although this Department was compelled to object to some irregularity in the procedure that preceded and accompanied this augmentation of charge, it could not fail to perceive that an increase was unavoidable, and the public outcry at the time, however natural, was not, when the facts were examined, found to be altogether reasonable. Experience had proved the Anglo-Indian traffic to be peculiarly inelastic, and although, perhaps, sufficient to support one line, totally unable to support two. The extra security obtained by having double and distinct means of communication is obvious, and this extra security had to be paid for, as private Companies could not be expected to work for the public benefit at a loss.

As already mentioned, the procedure adopted by the Companies was irregular, and the question also arose whether it was not, according to the terms of the Vienna Convention, illegal. To settle this point, and also to consider the possibility of assimilating the rates by all routes, a special Sub-Conference was convened at Berne, at which delegates from the States interested in the subject met to discuss the question of the Indian tariffs, and either to fix them or to determine at least the principle on which they should be framed.

At this Sub-Conference or Commission, India was represented by Colonel Robinson and Major Champain, and representatives from all the Companies, although not permitted to vote, were invited to be present, and had full liberty to take part in the discussions.

The result of the Berne Commission was (1) to admit the necessity for increased rates, and to sanction them with retrospective effect, while at the same time it was declared that the procedure adopted was irregular and illegal; (2) to equalise the tariffs by all routes, raising that *via* Turkey to the same rate as was admitted for the Teheran and Red Sea routes; (3) to sanction a lower rate between England and India for "transit" messages, i.e., those exchanged with the Far-East; (4) to fix the unit message at 20 words, cancelling the previously existing special rate for 10 words; and (5) to declare it to be the duty of this administration to insist on uniformity of rates as far as India by all competing routes.

The interest of the Indian Department in the matter of its share of the new tariff did not, at this Sub-Conference, receive the consideration to which, in the opinion of the Government and its officers, it was entitled; for, while the total charge between London and India was raised from £2-17 to £4-10, or 58 per cent., the Indian proportion was raised from Rs. 6d. to Rs. 6d., or less than half that percentage. It is easily demonstrable that even the former proportion of Rs. 3-12 out of a total charge of Rs. 28-8 (between 1/7th and 1/4th) is much less than India is fairly entitled to, even without claiming extra consideration, as it might well do, for extra expenditure necessarily incurred in consequence of its geographical position, its immense area, and the high cost of imported materials and of European supervision. If this be admitted, it will be evident that the proportion allotted to it under the Berne Commission (between 1/10th and 1/9th of the whole charge) would be altogether insufficient if the lines of this Department were to be regarded in connection with this question as purely commercial undertakings. Of these facts the Government of India was aware, and, in consideration of the political and other advantages which may be expected from the possession of telegraphic communication with foreign countries, it did not withhold its assent from the Berne tariff, as its concurrence appeared necessary in support of the private Companies who own a portion of the lines, and who without this aid appeared to be unable to carry on their part of the undertaking.

It should be explained that the meeting of this Sub-Conference was due to the urgency of the questions it was invited to discuss, and to the fact that the triennial Conference which was to have been held at Florence in May had unavoidably been postponed.

This formal Conference was finally fixed to take place on the 1st December, on which date it commenced its sittings at Rome. At this Conference some further changes were introduced in the tariff, but as they did not come into force until the 1st July 1872, they will not be referred to here. The same officers who were deputed to Berne represented India at the Conference of Rome, at which considerable changes in the international rules and regulations were decided upon. Of these, several were approved and supported, others appeared objectionable and were opposed by this administration, but the general result of the Conference may be stated to have been a simplification of procedure, and the gain to the public of greatly increased facilities for the employment of the telegraph.

Cable Extensions.

Sub-marine cables have been successfully laid between Singapore and Hong-Kong; Hong-Kong and Shanghai; Shanghai and Nagasaki; and from Nagasaki to Wladiwostok; whence, through Asiatic Russia to Europe, a land line has been constructed under subsidy from the Russian Government by the Great Northern Telegraph Company.

In the accompanying report by the Officiating Director of Traffic (Annexure L) will be found the particulars of the message traffic with foreign countries, and it will be seen that, while there has been a slight decrease in the number of messages to and from Indian stations, the transit messages have, owing to the extensions above noticed, increased very considerably, and the total revenue from international traffic has increased from Rs. 3,27,567 in 1870-71 to Rs. 4,55,881 in 1871-72, a result which may be accepted as fairly satisfactory.

II.—LOCAL TARIFF AND TRAFFIC.

The arguments that led the Government to consent to a modification of the tariff will be found in the Admn. Report. The revised tariff came into force on the 1st January 1872, and had, therefore, been three months in operation at the close of the year under review. The results obtained were very satisfactory. Compared with the same quarter of the previous year, there was shown an increase in the number of inland messages of nearly 14 per cent., and an increase in their value of nearly 42 per cent.

Much of this increase is doubtless due to the first action of a new tariff requiring on the part of the public some acquaintance with regulations and considerable power of condensing expression, to obtain a full equivalent for the charges levied. We must not therefore expect in the future so great a difference between numerical and valued results as is shown in the operations for the first three months; nor should the fact be lost sight of that the amount it is possible to collect from the most skilfully designed tariff can never exceed the amount which the public is able to expend for the luxury of telegraphy, and also that the principles which have successfully been applied to tariff manipulations in Europe are not necessarily applicable to this country. It is doubtless right that those who do employ the telegraph should pay a fair price for the accommodation they receive, but it is necessary to guard against the anticipation, not infrequently expressed, that any tariff modification, however well considered, can do more than add but very slightly to the departmental revenue for many years to come, until indeed the average prosperity and enterprise of the bulk of the people have so largely increased that new wants and new ideas and increased mobility of thought and action shall lead to an appreciation of the value of time and with it the desire to economise it.

Railway Telegraphs. Traffic exchanged between Government and Railway Telegraph Offices.

The number of private messages transferred to and from Railway and Government Offices shows an increase of nearly 40 per cent. over the figures for the previous year, but the total number is still insignificant, and out of all proportion to the accommodation available. * * * * The number of paid messages despatched entirely by the lines of the Railway Companies is not known in this office, but the traffic in both these directions can never approach its possible expansion until all the telegraphs of the country are conducted on a uniform system under one head.

India is now the only country possessing an extended telegraph organization in which Railway Companies are permitted to conduct their telegraph operations in practical independence of State control, and even to compete with the Government lines, and yet in none can their exist more valid arguments in favour of subordinating the Railway Telegraph systems to that of the State in the general interest of the community. The Government has hitherto hesitated to overrule the objections urged by Railway Companies against a more complete amalgamation of the two systems, and to insist on uniformity of procedure and subordination of the Railway to the State Telegraph, but such a course will eventually be found necessary; expedient and desirable it has long been, and when the numerous stations of the Guaranteed Railways are utilised to the utmost as feeders to the main lines of the country, the increased public convenience which will be afforded will assuredly lead to a much more extended use of the Telegraph.

III.—EXTENSIONS OF LINES AND WIRES.

Annexure III. is a classified and descriptive return of all the lines in India, showing their lengths section by section, the description of supports, wire, insulators, &c., of which they are composed, and the nature of all river crossings. This classification, which was first compiled for purely administrative reasons, will be found of value to all who are interested in the operations of the Department. It will be seen that the Telegraph system consisted on the 31st March 1872 of 15,326 miles of line, and 28,973 miles of wire, of which 4,602 miles of line, or about 30 per cent., are erected along railways. These have been arranged according to their importance into 11 primary, 17 secondary, 45 tertiary, and 15 local lines.

IV.—LOOSHAI EXPEDITION.

Early in September 1871, His Excellency the Commander-in-Chief brought to the notice of Government the desirability of arrangements being made by this Department for the construction and working of certain telegraph lines required in connection with the Expedition then about proceeding into the Looshai country.

The original intention was to construct lines of semi-permanent character from Silchar and Chittagong to Tepai Mookh and Demagiri respectively, and thence to carry flying lines for such further distances as the Commanders in the field might consider desirable. Proposals to meet these requirements were submitted to Government and eventually sanctioned on the 23rd September, as regards the lines to Tepai Mookh and Demagiri only; the further extensions being considered undesirable. An application was subsequently made, so late as the 12th October, by General Bouchier, Commanding the Left Column, for the construction of a line from Chittagong, the point beyond which steamers from Silchar are unable to proceed except in the rainy season, to Companyganje, a place on the existing line of telegraph between Sylhet and the foot of the Cheerapoonjee Hills. General Bouchier was of opinion that this line would be of the greatest value in connection with the transport arrangements, and after some correspondence regarding the nature of the intervening country, and the great difficulty of traversing it, a distance of only eight miles, the construction of the line was sanctioned by Government, intimation to that effect having been communicated on the 23rd October.

Orders to commence operations were received on the 23rd September, and as this was shorter notice than was convenient or than would be desirable on similar occasions, it was necessary that prompt and energetic action should be taken. Application had to be made to the Military Authorities for assistance in the matter of transport and labour, officers had to be nominated for the construction of the lines and relieved from their other duties, working parties had to be organized, and stores prepared and despatched from Calcutta to the two bases of operations—Silchar and Chittagong—and all these arrangements necessarily occupied considerable time.

The construction of the line from Chittagong fairly commenced on the 1st November and that from Silchar on the 12th idem; and though it would doubtless have been of great assistance to the Military Authorities if the Department had been earlier in the field, and the first sections of lines had been in working order before the arrival of the troops, no avoidable delay occurred, and credit is due to all concerned for the energy displayed in overcoming the preliminary difficulties.

The wire used was of iron, of No. 9½ Birmingham gauge, weighing 300 lbs. to the mile. It was supported on bamboos, and insulated with small field bracket insulators of two or three patterns specially adapted for the purpose. As much of the country traversed was covered with dense jungle and forest, whenever it was practicable advantage was taken to suspend the wires from the trees, rendering the erection of posts unnecessary. For temporary connecting lines, &c., copper wire of No. 16 Birmingham gauge was used. The material and tools selected answered, as a rule, admirably for the purpose required, and much valuable information has been furnished by the officers in charge of the parties on the merits of the various articles used, and on such minor modifications of them as their experience had shown to be desirable.

The country traversed is very hilly, and, from the accounts received, offers as great natural obstacles to the rapid construction of a line of telegraph as it is well possible to conceive. The jungle-clearing was especially heavy, and some idea of the labour of cutting a track through it may be formed from the following extracts from Mr. Pitman's very satisfactory and useful report:—

"In the first instance, a track 24 feet wide and 1,136 feet long was cut through a khud covered with dense bamboo jungle, that is, 3,030 square yards of bamboos had to be cleared away before the wire could be strained up.

"In the second instance, when spanning a piece of forest jungle, a track 1,322 feet long and 23 feet wide was cut."

The construction of the telegraph line connected with the Right or Chittagong Column commenced from Chittagong on the 1st November under the orders of Mr. Superintendent Flindell. Labour was procurable only with great difficulty, especially for work in the jungle; and it was mainly due to the energy displayed by this officer and his great local experience that sufficient coolies were collected to make a satisfactory start. Several parties were soon at work and rapid progress was made. An office was opened at Rangamuttee, 50 miles from Chittagong, on the 20th November; Kassalong office, 13 miles further, was opened on the 28th idem; Upper Barkhull office, 10½ miles further, on the 6th December, and after some delay, owing to quarantine arrangements, Demagiri, 21 miles further by wire, but over 40 miles by road, was reached on the 6th January. The telegraph line was not extended beyond this point, the total length of wire erected from Chittagong being 97½ miles. The Demagiri office remained open till the 23rd March, when on the return of the expedition it was finally closed. The office at Upper Barkhull was closed on the 28th March, and the whole line dismantled as far as Kassalong by the same date. The temporary retention of the line from Chittagong to Kassalong having been ordered by Government, the work directly connected with the expedition may therefore be considered to have been completed.

From the opening of the line to the closing of the offices only four interruptions, lasting in the aggregate 71 hours, occurred, a satisfactory proof of the care and judgment exercised in the construction of the line.

The country appears to have presented no great difficulties for 30 miles out of Chittagong; thence to Demagiri, with a few trifling exceptions, so covered with jungle as to admit of the wire being attached to trees instead of posts for nearly the whole distance. In parts the jungle-cutting is reported as very heavy.

V.—STORES AND WORKSHOPS.

The total cash expenditure under this head amounted Rs. 3,97,150, and the following are the principal items of charge:—

Pay and Allowances of Superintendent, Electrical Superintendent, Assistants, and Foremen...	Rs.	52,611
Workshop Labour	"	47,794
Store Contingencies, including temporary clerical establishment	"	29,287
Purchase of Stores	"	1,10,637
Carriage of Stores	"	1,06,028

Workshops.

The estimated expenditure on account of the workshops only during the year was Rs. 1,89,910-12-0, made up of the following items :—

	Rs.	A.
Stores issued for manufacture	1,98,395	3
Labour	43,516	3
Supervision, clerical establishment, and contingencies	17,999	6
	1,89,910	12

and the estimated value of the out-turn was Rs. 1,99,749, showing, therefore, a small profit. It has been found, however, that the percentage charged on the out-turn, viz., 15 per cent., for cost of supervision, clerical establishment, and interest on capital, is not sufficient to cover the actual cost of these heads, and a more equitable percentage is now adopted. The adjustment of this charge is, however, only *pro forma*, and does not affect the actual expenditure or receipts.

Every manufactured article susceptible of electrical examination continues to be tested before being brought on to the Store Books. These tests are carried out by the Electrical Superintendent, or under his supervision and on his responsibility; an independent check on the efficiency of the manufacture is thus secured. During the year all the insulators in stock were tested. They amounted to upwards of 41,000, and of these 2·3 per cent. were rejected as electrically defective.

The cable machine works satisfactorily, but, owing to the want of perfect "core," that in stock having deteriorated, there was but little cabling undertaken. On the arrival of fresh core from England, 6,810 yards of new cable were commenced, but not completed during the year.

Stores.

The total value of stores received for issue and for workshop manufacture amounted to Rs. 15,99,787, as compared with Rs. 9,87,333, the value of the receipts during 1870-71. The total issues, including transfers from one depot to another, amounted to Rs. 15,77,290; in 1870-71 the value of the issues was Rs. 12,44,808. The transactions were therefore much heavier in 1871-72 than in 1870-71. Of the total receipts Rs. 10,52,385 represent the value of stores received from England; the balance, Rs. 5,47,402, is made up of the following items :—

	Rs.
Stores out-turned from the workshop	1,99,749
Purchases in India	1,10,637
Received from other Departments	87,745
Miscellaneous receipts	1,89,271

The following is a resumé of the various heads of service against which the issues were charged :—

	Rs.
Construction and improvement of lines	10,53,895
Repairs to and renewals of lines	56,422
Revenue offices	94,662
Non-revenue offices	28,741
Issued to other Departments	4,706
Miscellaneous	2,15,469
Workshop	1,28,395

Endeavours were made to obtain insulators and battery cells from the potteries established in this country, but without success. In Madras and Bombay the manufacture was not even attempted. In Bengal attempts were made, and samples of insulators and jars were received from two firms but the former were quite worthless, and the stone-ware jars were found mostly porous, and far inferior to those obtained from England, although the price charged was the same. Experiments in this direction have therefore ceased for the present.

VI.—FINANCE.

The expenditure on capital account during the year is shown below :—

	Rs.
Construction of Lines	13,53,546
Ditto buildings	1,97,502
	15,51,048
Proportion of general charges debitable to capital account	2,80,847
Increase in stock balances	65,746
	18,97,641
Transfer from capital account of the value of lines dismantled during the year	4,96,429
	14,01,212

According to the last Administration Report of Colonel Robinson, the capital account of the Department on the 31st March 1871 was Rs. 1,91,26,975.

Since that date, attempts have been made to arrive at a more accurate account of the expenditure of the Department from its commencement. Elaborate calculations have been made by the Controller of Accounts with this object, who furnishes the following as a more correct statement :—

	Rs.
Capital expenditure to end of March 1871	2,36,36,017
Deduct expenditure on lines abandoned	48,56,839
Net expenditure to end of March 1871	1,87,79,178
Or, to the end of March 1872, gross expenditure	2,55,83,658
Net expenditure, less cost of abandoned lines	2,01,80,390

This amount is but an estimate however, and is much in excess of the real value of the lines, &c., as they at present stand. In the earlier years, of Indian Telegraphy, the lines were constructed hastily of temporary material, required consequently frequent renewal, and were removed abandoned, or replaced by others on military or political grounds, according to the exigencies of the service. No capital and revenue account was kept in those days; for the sums spent year by year, the State received ample equivalent in the assistance it derived from the telegraph, and the value of this service can scarcely be overrated.

The existing lines of telegraph bear about the same relations to those they have superseded, as a modern line of railway does to previous roads, tramways, temporary lines, or canals which may have been constructed in the same direction in previous years for political ends, and since abandoned in favour of a more perfect means of locomotion; or as a permanent barrack does to temporary ones that may have formerly occupied the same site.

The present endeavour to ascertain the total expenditure incurred on capital account from the commencement cannot be otherwise than unsuccessful, owing to the absence in any office of complete records. But, if the figures obtained were absolutely reliable, they would be of value only as a statistical record, and should find no place in a capital account now virtually for the first time to be commenced.

It has therefore been recommended to Government that the capital account shall commence with the lines and other property of the department at their present value. The recently prepared descriptive return of all lines, to which reference has already been made, will render such a valuation very simple, and it will then be practicable to separate with some attempt at accuracy the purely State lines from those erected and worked mainly on commercial grounds, and to exercise an intelligent financial control over the future operations of the department.

VII.—MISCELLANEOUS.

Notwithstanding several serious interruptions to communication caused by cyclones, inundations, and other non-preventible accidents, the speed of transmission maintained during the year shows a marked increase over the favourable results already recorded for 1870-71. The detailed figures are given in the report by the Officiating Director of Traffic, and they afford matter for congratulation as a sure indication of continued improvement. The average time occupied by all classes of messages on the five longest lines* of the country, which was in 1869-70, 7 hours 42 minutes, in 1870-71, 3 hours 3 minutes, fell in 1871-72 to 1 hour 48 minutes, although the number of messages had increased considerably.

The percentage of complaints has also markedly diminished, viz., from 12 in 1870-71 to 0·7 in 1871-72; and although there is doubtless room for further improvement, the immense progress made during the past three years in the regularity, speed, and accuracy of the service demonstrates very conclusively that the exertions of the department are rightly directed, and may be accepted as evidence of its determination to neglect nothing which can help to render the telegraph reliable and popular.

A comparison of our operations with those of other countries may not prove uninteresting. An examination of the statistics of all the administrations of Europe, excluding Great Britain, shows that India stands :—

4th in order as regards ordinary expenditure and length of line;
5th in order respecting revenue, length of wire, number of employes and number of offices (including railway offices); and
13th in order as regards the number of messages transmitted (excluding the number despatched by railway offices, of which we have no record, but which are included in many of the foreign returns).

SIMLA, the 5th June 1873.

R. MURRAY, Lieut.-Colonel,
Offy. Director-General of Telegraphs in India.

*Calcutta—Kurrachee. Calcutta—Bombay. Calcutta—Madras. Bombay—Kurrachee. Bombay—Madras.

ANNEXURE I.

Report on the Traffic Operations of the Telegraph Department for the year 1871-72.

THE extensions of telegraphic communication eastward of India which have been effected during the year under notice comprise the cables laid between Singapore and Hong-Kong, Hong-Kong and Shanghai, and Shanghai and Nagasaki. No change has occurred in the lines westward of India. A new route from Europe to China and Japan has been opened up "via Amoor" by the construction of a land line of telegraph through Asiatic Russia to the Pacific, and by a sub-marine cable laid thence to Nagasaki. This alternative route to China and Japan is also available for messages from India, which can be sent via Teheran and thence on to the Russian lines.

The British Indian Sub-marine Telegraph Company.—The working of this Company's cable has continued to be exceedingly satisfactory. No interruptions have occurred. Of the telegrams exchanged between the Government and cable offices during the year, 30,178 were for or from India, and 6,800 were messages in transit from the Westward to the Far-East.

The British Indian Extension Telegraph Company.—The cable of this Company has also been entirely free from interruption. Of the telegrams transferred at Madras during the year to and from the cable, 6,712 either originated in, or were destined for India, and 9,420 were messages in transit from the Far-East to places Westward of India.

British Australian Telegraph Company.—Communication between Singapore and Java by the cable of this Company was re-established on the 2nd April 1871, having been interrupted from the 12th March; it has since worked uninterruptedly. The land line connecting South Australia with Port Darwin was at the close of the year being rapidly pushed on, and the cable intended to link Java with Australia was on its way from England.

China Sub-marine Telegraph Company.—This Company's cable was successfully laid between Singapore and Hong-Kong, and the line opened to the public on the 8th June 1871; no interruption has since occurred. An intermediate station at Cape St. James for Saigon was established on the 31st July 1871.

Great Northern Telegraph Extension Company.—This Company had laid a cable from Shanghai to Hong-Kong about a month prior to the latter station being connected with Singapore. At the time of this latter event, the Hong-Kong—Shanghai cable was interrupted, but repairs were effected by the 20th June 1871; a second interruption occurred on the 14th February 1872, which lasted nine days.

On the 15th August 1871, a further section of this Company's cable having been laid from Shanghai to Nagasaki, a direct line of telegraph existed from Japan through India to Europe and America, a cable across the Pacific Ocean being the only link wanting to complete telegraphic communication round the world. A short interruption occurred on the Shanghai—Nagasaki section from the 25th to the 28th of August 1871. It is understood that this Company has been much harassed by wilful damage to its cables, the portions lying in shallow water being fished up by the Chinese who cut off and steal as much as they can carry away.

From Nagasaki this Company laid a cable to Wladiwostok, the terminus of the land line constructed by the Great Northern Telegraph Company through Asiatic Russia to Europe. This alternative telegraphic route from China and Japan to Europe was opened for traffic on the 1st January 1872.

The Indo-European Telegraph Company's Route to Europe, known to the public as *via Teheran*, has worked with commendable regularity and accuracy. Only one serious interruption occurred during the year, *viz.* from the 12th to the 18th December 1871. This stoppage occurred beyond Tiflis. Of the telegrams which passed through Kurrachee by this route during 1871-72, 16,631 were for or from India, and 1,173 were messages in transit from places westward of India to the Far-East.

The Turkish Line has worked fairly during the year, and up to the date when its rates were raised to the tariff in force on the other routes it obtained a considerable share of the traffic. The only serious interruption was one which occurred beyond Mosul on the 13th July 1871, lasting ten days. Of the telegrams which passed through Kurrachee by this route, 10,335 either originated in, or were addressed to India, and 1,233 were messages in transit from the westward to the Far-East.

TARIFFS.

MODIFICATIONS DURING 1871-72.

Inland.

On the 1st January 1872, a tariff was adopted under which the address is free, and six words in ordinary language are transmitted within Indian limits irrespective of distance for one rupee. For messages between India and British Barmah or Ceylon, the rates are 50 per cent. higher. The result of this measure, during the three months of the year it was in operation, was most satisfactory. As compared with the corresponding period of the previous year, the following results were obtained:—

	January, February, and March.	Number of messages sent.	Value of messages sent.
1871	.	1,45,130	2,65,128
1872	.	1,65,419	3,76,163
Increase	.	20,289	1,11,035
Percentage of increase	.	13.97	41.87

On the same date a concession came into force by which *bona fide* press messages are accepted at special reduced rates. The value of such rebates for January, February, and March 1872 was Rs. 10,644.

International.

The Vienna Convention had fixed the tariff from London to India (west of Chittagong) at Rs. 28-8 per 20 words by all routes. As mentioned in the last report, the charges *via Suez* and *via Teheran* were raised by the companies from the 15th February 1871 to Rs. 45 per 20 words, and those to other places were enhanced proportionately. The rates *via Turkey*, however, remained unchanged. It was contended by the companies that the lower rate was unremunerative, and that Turkey was working at a loss. A special Commission was thereupon convened at Berne which decided that Turkey must equalise its tariff with those by the other routes. It was also determined that the minimum chargeable length of a message should be 20 words, the special reduction in favour of 10-word messages being withdrawn. Turkey for sometime refused to ratify the proceedings of this commission, but eventually submitted. Accordingly, from the 10th December 1871, the rates by all routes were equalised. Since this date the number of messages traversing the Turkish route has decreased very seriously. No further changes occurred during the year in the tariff for places to the westward, excepting a reduction on the part of the Atlantic Cable Companies for messages between London or Brest and America; the tariff which had been £6 was lowered to £4 per 20 words.

The Indian terminal rate remained at Rs. 4-12 (with an addition of Rs. 2 for places eastward of Chittagong and in Ceylon) throughout the year.

The tariffs to the eastward were fixed as follows:—

For 20 words.			
FROM MADRAS.			
ON MESSAGES FROM INDIA.			
TO	From Stations west of Chittagong.	From Stations east of Chittagong or in Ceylon.	On messages originating to the westward of India.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Penang	19 12 0	21 12 0	17 4 0
Singapore	27 12 0	29 12 0	25 4 0
Java—			
Batavia, &c.	37 4 0	39 4 0	36 4 0
West of Samarang	37 12 0	39 12 0	36 12 0
East of Samarang	38 12 0	40 12 0	37 12 0
Saigon	39 12 0	41 12 0	38 12 0
Hong-Kong	51 4 0	53 4 0	45 4 0
Shanghai	63 12 0	65 12 0	57 12 0
Japan	73 12 0	75 12 0	67 12 0

From the 10th December 1871 the transit charge for Penang and Singapore messages was increased by the British Indian Extension Telegraph Company by Rs. 5. No further changes occurred during the year.

The Indian transit rate for foreign messages was fixed at Rs. 3-12 per 20 words.

NUMBER OF MESSAGES.

Of a total number of 7,02,706 messages despatched during the year, 47,768 were free, and the remainder, 6,54,938, paid, *i.e.*—

State	54,305
Private	6,00,633

The following comparative statement shows the number of each description of messages during the past five years, with the percentage of increase or decrease under each head :-

Number of messages of all descriptions, showing percentage of increase and decrease, as compared with previous year.

Number of messages of all descriptions, showing percentage of increase and decrease.																
Year.	State.			Private.			Public News-Free.			Telegraph Service and other, Free.			Total.			No. of offices open during each year.
	No.	Percentage of Increase or Decrease.		No.	Percentage of Increase or Decrease.		No.	Percentage of Increase or Decrease.		No.	Percentage of Increase or Decrease.		No.	Percentage of Increase or Decrease.		
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.	
1867-68	41,306	...	...	2,69,638	...	...	8,199	...	...	54,689	...	...	3,65,638	...	...	171
1868-69	40,615	...	1.67	3,33,856	23.82	...	6,690	...	18.44	52,391	...	4.20	4,33,552	18.57	...	186
1869-70	39,403	...	2.98	4,45,215	33.36	...	3,597	...	44.73	55,222	...	5.4	5,43,435	48.62	...	198
1870-71	37,696	...	4.5	5,39,755	21.23	...	3,873	...	7.69	47,999	...	13.08	6,29,233	15.79	...	205
1871-72	54,305	44.4	...	6,00,633	11.0	...	3,769	...	2.68	43,999	...	8.33	7,02,706	11.67	...	199

State Messages.—This class has, it will be observed, considerably increased, which is attributable to the Looshai Expedition, the Delhi Camp of Exercise, and Kooka rising, and the system of periodical telegraphic weather and crop reports introduced by the Department of Agriculture, Revenue, and Commerce.

Private.—The number of private messages sent during 1871-72 shows a satisfactory increase on the figures of the preceding year.

Public News-Free.—A slight decrease is observable under this head as compared with the figures of the previous year.

Telegraph Service Free.—This class of traffic continues to show steady decrease. It includes the daily telegrams exchanged between the more important stations, showing the state of communication and the latest dates of messages. This information is for the use of the public. The proportion of purely administrative telegrams is exceedingly small.

International Traffic.—As will be observed from the following table, this class of messages continues to increase considerably in number. The corresponding growth of inland traffic is shown side by side. The former has increased 173 per cent. in five years; the latter 116 per cent. in the same period.

Year.	Number of Inland private Telegrams.	Number of Foreign private Telegrams.	Year.	Number of Inland private Telegrams.	Number of Foreign private Telegrams.
1867-68...	2,41,287	28,351	1870-71...	4,72,735	67,920
1868-69...	3,01,297	32,559	1871-72...	5,23,023	77,610
1869-70...	4,01,924	43,291			

REVENUE.

The amount realized during the year was Rs. 16,00,383-3, viz:—

	Rs.	A.	Rs.	A.
Inland messages	11,20,742	8		
Foreign messages	4,55,850	11		
Sale of Telegraph Gazette			9,960	0
Guarantees			3,802	0
Miscellaneous			10,028	0
Total			16,00,383	3

The above was the amount actually realized in cash, but the following items must be added to show the total value of work done during the year:—

Value of "free" messages despatched by order of Government, as per Notification in <i>Gazette of India</i> , No. 474 of the 9th July 1869.	Rs. 48,982
Value of European news messages delivered free to Government functionaries	24,734
Value of press copies of the above after deducting payments made by Reuter at concessionary rates to 31st December 1871	36,850
Value of concessions on press messages under the rules which came into force 1st January 1872	10,644
Total	1,21,210

The actual earnings of the department during 1871-72 were therefore—

Cash	Rs. 16,00,383
Pro forma	1,21,210
Total	17,21,593

Details of the number and value of service and private messages transmitted during 1871-72, with increase or decrease on the preceding year. The following is an abstract of this return:—

Nature of collections.	Increase.			Decrease.			PERCENTAGE OF			
							Increase.		Decrease.	
	No.	Rs.	A.	No.	Rs.	A.	No.	Amount.	No.	Amount.
State...	...	...	...	...	...	...	44.4	80.8	...	...
Private...	...	...	...	...	...	...	11.0	14.9	...	...
Total.....	77,577	2,75,048	5	...	...	...	13.4	21.1	...	...

The following table shows the number and value of all messages during the past five years, and the percentages of increase or decrease under each head, as compared with 1867-68:—

Year.	State.		Private.		Total Paid Messages.		Free News Messages.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
1867-68	41,306	Rs. 1,78,700 15	2,69,638	Rs. 9,57,439 7	3,10,944	Rs. 11,36,140 6	8,199	Rs. 1,60,650 0
1868-69	40,615	1,61,297 7	3,33,856	9,94,795 3	3,74,471	11,56,092 10	6,690	55,990 0
1869-70	39,403	1,37,592 4	4,45,215	10,78,047 11	4,84,618	12,10,639 15	3,595	37,638 10
1870-71	37,696	1,22,760 7	5,39,755	11,78,784 9	5,77,361	13,01,545 15	3,873	49,775 0
1871-72	54,305	2,21,951 13	6,00,633	13,54,041 6	6,54,938	15,76,593 3	3,769	48,982 8

From the above it will be observed that the value of private messages has increased 41·48 per cent. since 1867-68. Separating inland from foreign, the following results are shown :—

Inland Private Messages.

Year.	Number.	Value.	Percentages of increase				Remarks.
			Compared with 1867-68.		Compared with preceding year.		
			Number.	Value.	Number.	Value.	
		Rs. a.					
1867-68.....	2,41,287	7,63,880 11	.....	.....	.....	.....	
1868-69.....	3,01,297	7,96,417 10	24·87	4·25	24·87	4·25	
1869-70.....	4,01,324	8,17,595 2	66·58	7·03	33·39	2·66	
1870-71.....	4,72,735	8,51,217 8	95·92	11·43	17·62	4·11	
1871-72.....	5,23,023	9,22,639 14	110·76	20·78	10·63	8·38	Free address conceded and six-word unit adopted, 1st January 1872.

It will be remarked that while the annual increase in the number of inland private messages sent is not so great as in the previous years, the enhanced value is more than double that of the average annual increase shown under this head. This is mainly attributable to the incidence of the new tariff during the last quarter of the year.

Foreign messages.—In para. 28 of the report it was shown that the growth of international traffic continues to be steady. Adding to the figures therein given the State message totals for the year, and separating the results so obtained under the heads of received, sent, and transit, it is found that the first category exhibits barely any increase, the second a considerable decrease, while it is to the third we must look for the fact of the growth of foreign traffic having been progressive during the year. The enhanced charges detailed in the report account for this serious check to Indo-European traffic, while the extensions of sub-marine lines to the eastward, as referred to in the first six paragraphs of the report, could not but result in a largely increased number of telegrams passing through India. It may indeed be said that this class of traffic was created during the year under report, as the line previously extended only as far as Java, and even that section had at the commencement of 1871-72 been working only three months. The following is an abstract of foreign traffic returns for the past five years :—

Statement showing the number of sent, received, and transit foreign messages and the Indian share of their value from 1867-68 to 1871-72.

Year.	Number of messages despatched				Indian share of value.	Percentages of increase as compared with previous years.		Remarks.
	To India.	From India.	Transit i.e. between Far-East and places westward of India.	Total.		Number.	Value.	
1867-68.....	14,521	13,830		28,351	Rs. a. 1,93,558 12			Tariff reduced during 1868-69.
1868-69.....	16,417	16,142	.....	32,559	1,98,377 9	14·84	2·49	
1869-70.....	21,824	21,467	.....	43,291	2,55,452 9	32·96	28·77	
1870-71.....	28,310	35,115	3,095	67,020	3,27,567 0	54·81	28·23	
1871-72.....	28,856	31,889	18,658	79,403	4,55,850 11	18·80	39·16	Tariff increased, viz., <i>via</i> Suez and <i>via</i> Teheran, on 15th February 1871, and <i>via</i> Turkey on 10th December 1871. Ten-word messages abolished from latter date.

The total charge for messages between India and Europe having been raised 58 per cent., and the number of telegrams exhibiting an increase of nearly 19 per cent., the percentage of increase of value in the above statement might be expected to be higher than is shown. In explanation of this apparent anomaly, it must be mentioned that when the traffic was thus so considerably enhanced by the companies, the Indian share was raised only by 26 per cent.

EXPENDITURE IN SIGNAL OFFICES.

The following statement shows that while the number of messages sent has increased 44 per cent. since 1868-69, the expenditure in signal offices during the same period has been reduced by 8 per cent. :—

Year.	Number of offices open.	Number of messages.	Expenditure in signal offices.	Decrease in expenditure as compared with 1868-69.
			Rs. A.	Rs. A.
1868-69	186	4,33,552	13,47,706 6	.....
1869-70	190	5,43,435	13,13,425 1	34,281 5
1870-71	197	6,29,233	12,49,022 8	98,688 14
1871-72	192	6,24,746	12,36,566 2	1,11,140 4

As the Ceylon Telegraphs were transferred to the Government of India during the period embraced in the above return, they have been excluded to facilitate comparison. The saving effect in three years, it will be seen, amounts to Rs. 2,44,105-7. But in order to arrive at the real result of the efforts to economise, it is necessary that the annual increments of Telegraph Masters and Signallers, which is an item of increase beyond control, shall be added. This results in a total decrease of expenditure of Rs. 4,46,332, since the direction of the traffic branch was first made over to a special officer. Although, moreover, the signalling establishment has throughout this period been in excess of the requirements of the service, no arbitrary reduction of establishment either in pay or numbers has been resorted to; the financial result would have been more striking had a less considered policy been adopted in this respect.

The services of supernumerary Signallers have, as far as possible, been utilised in opening experimental telegraph offices wherever (on the route of the existing lines) there appeared a probability of the receipts covering the expenses. These experiments have unfortunately demonstrated the inelasticity of telegraphic correspondence in the interior of India, many such stations having already had to be closed, while others which are unremunerative must gradually be dispensed with. Much valuable evidence of the necessity for caution in expending capital on branch extensions of telegraph lines has, however, thus been gained at a minimum of expense.

The following is an abstract of the number and percentage of complaints during the last five years :—

Number and percentage of complaints by the public.

Year.	Total Number of Private and State paid Messages.			Total Number of Complaints.			Percentage of Complaints.		
	Indian.	Indo-European.	Total.	Indian.	Indo-European.	Total.	Indian.	Indo-European.	Total.
1867-68	2,82,583	28,361	3,10,944	414	174	588	·15	·61	·19
1868-69	3,41,845	32,626	3,74,471	618	285	903	·18	·87	·24
1869-70	4,41,327	43,291	4,84,618	418	403	821	·09	·93	·17
1870-71	5,10,341	67,020	5,77,361	312	409	721	·06	·61	·12
1871-72	5,75,535	79,403	6,54,938	244	240	484	·04	·03	·07

The above result evidences a progressive improvement in the regularity and reliability of the service, and may be accepted as satisfactory.

The value of refunds chargeable to the Indian Administration during the year was as follows :—

Inland messages	Rs. a. p.
Foreign messages	19 0 0
	473 7 3
Total	492 7 3

ANNEXURE II.

Report of Construction Operations during the year 1871-72.

Our line from Belgaum to Tuticorin, running for 831 miles along the western coast in a notoriously moist climate, was formerly uninsulated. On this account great interruption was caused to our telegraphic communication. This insulation has been effected, and the communication along the coast from Ceylon up to Bombay will thereby be rendered far more efficient and secure.

To provide increased telegraphic facilities between Calcutta and Bombay, Government have sanctioned the erection of an additional wire of a thicker gauge than those ordinarily used; this wire of No. 3 gauge has been erected during the past working season from Raneeungee to Luckeeserai, and from Allahabad to Deolalee, for a distance of about 783 miles. As the telegraph is worked between Bombay and Calcutta with only one repeating station, this long distance to be traversed must always cause considerable resistance to the electric current, and it is to decrease this resistance as far as possible that this abnormally thick wire has been introduced by the employment of the best feasible conducting material, and by the use of none but insulators of an extremely high resisting power; every endeavour within our reach has been made to construct the very best line possible between the two important cities of Calcutta and Bombay. Our means for working over very long lengths of line have often been proved to be greater than those in almost any other country, thus testifying the soundness of our electrical work, but these means have been very greatly improved by the erection of a better conductor, and by the continuous system of testing of the lines section by section, and of the insulators one by one both before they are erected and after they have been in use. But besides this thick wire, three wires, of No. 5½ gauge have been erected for a distance of 162 miles along the chord line of railway between Raneeungee and Luckeeserai; this line has been constructed substantially with posts twenty-two to the mile, and will henceforth form our main road for communication between Calcutta and Allahabad; but besides this route, we still retain alternative channels by the Grand Trunk Road from Raneeungee to Mogulserai by the loop line of railway, thus ensuring ourselves against local accidents from wind or flood, which may damage any one of these three routes. An additional wire of No. 5½ gauge has also been erected together with the above-named thick wire between Allahabad and Jubbulpore, and an extra wire of No. 3 gauge has been put up from Nassick to Bombay.

In addition to this, two extra wires to accommodate the up-country traffic have also been erected between Calcutta and Raneeungee, and an extra wire of No. 5½ gauge from Deolalee on to Bombay.

In order to avoid the unhealthy piece of jungle which lies between Nassick and Malligaum, the telegraph line has been dismantled between these two stations, and a loop has been constructed from the railway station of Munmar to Malligaum; the portion of our line between Dhoolia and Mhow has also been dismantled, as there is no through traffic between these places; a quantity of valuable material is thus placed at our disposal, which will be used in constructing the new line along the state railway from Khundwah to Indore.

Formerly the line of telegraph between Rangoon and Prome passed through a very difficult country to Henzadah; this entailed great expense in jungle clearance and repairs, and the line was most difficult to inspect. Advantage has been taken during the past working season to construct a line of two wires along the new road from Rangoon to Prome, along which road it is under discussion to construct a railway, and the portion of our line from Rangoon to Henzadah will be dismantled.

A new road has also been made between Pegu and Thonkyan, a spot on the Rangoon to Prome road; the advantages for purposes of inspection offered by this road have been utilized by removing our line of telegraph from the old route Rangoon to Pegu, and by constructing it afresh on the Rangoon to Prome supports as far as Thonkyan, and thence by the new road from Thonkyan to Pegu.

In the Province of Kattyawar, the new line of telegraph for the joint use of the Railway and Government from Ahmedabad has been finished to Veerungaum, 40 miles; and the work on this section from Veerungaum to Wudwan, 41 miles, well advanced. This line provides two wires, viz., a No. 5½ and a No. 8 for the railway, and one No. 5½ for our own use. Our own special wire has been extended from Wudwan to the important cotton mart of Dholera, a further distance of 56 miles.

A considerable amount of re-construction work has been done in the Punjab during the past working season. Owing to the decayed state of the wooden posts on the line from Rawul Pindee to Abbottabad, it had become absolutely necessary to re-construct the line of telegraph; this work has been done this time substantially with iron supports throughout; advantage was also taken of this re-construction to take the Abbottabad line off at Kalaka Serni on the Peshawur Road instead of at Hussein Abdool. The present route runs alongside better road, and besides affording greater facilities for inspection, the present route is a little shorter than the former one.

An additional wire has been added from Nowshera to Peshawur, which work was commenced 11th March and finished in the third week of April 1872.

An additional wire has also been erected between Umballa and Kussowlie for a distance of 47 miles, and military stations of Dughai and Subathoo have been connected to Kussowlie, thus bringing these important posts in telegraph communication with the rest of India.

As regards the railway in the Punjab, our telegraph line has been shifted from beside the Grand Trunk Road to the Scinde, Punjab, and Delhi Railway between Umballa and Lahore during the past season, and a line for ourselves and for the State Railway has been constructed from Lahore as far as Wuzerabad, a distance of 61 miles.

Besides this, a branch line to Pattiala has been erected from Umballa at the expense and charges, and for the use, of the Maharajah of Pattiala. Our new line from Umballa to Lahore consists of three wires as far as Loodiana, where the Ferozpoore wire branches off, and beyond this from Loodiana to Lahore of two wires.

Beyond Lahore, as far as Wuzerabad, the line consists of three wires, two for the railway and one for ourselves.

A branch on wooden supports has likewise been constructed from Wuzerabad to Sealkote, thus bringing the last-named military station into connection with our working system.

In addition to the short line from Umballa to Pattiala erected at the expense of a Native Prince, another portion of telegraph has been constructed at the instance and under the guarantee of the Maharajah Scindiah, viz., from Indore to Oojein, via Dewas; the opinion traffic will probably make this line a remunerative one, and render the Maharajah's guarantee unnecessary.

Finally, the telegraph for the joint use of the State and Railway along the Oudh and Rohilcund Railway lines has been nearly completed. A short portion between Jounpore and Akberpore, a distance of about 46 miles, alone remains to be finished. The whole of this new work consists of substantial iron posts, tested insulators, and a system of three wires, two of which are for the use of the railway and one for ourselves, and extends to a system of 570 miles.

In the Madras Presidency, the station of Bellary has been joined by a loop line to the station of Goondacul on the Great Indian Peninsula Railway line, and the wire, which originally ran along the Kurnool road from Bellary towards Hederabad in the Deccan, has been removed to the new line of posts which were erected for our new loop line before mentioned, thus making Bellary a station of observation on the long and important line between Madras and Bombay, and bringing the Kurnool and Bellary line within easy inspection of a line of railway.

The station of Metapollum has also been connected by a direct line with the sanitarium of Ootac mund.

J. ECKFORD, Captain, R.E.,
Offy. Director of Construction,

COMMERCE OF BENGAL.
This and the annexed Table, showing at one view the progress for five Years of the External Commerce of Bengal, Imports and Exports, have been added to the Commercial Annual at the suggestion of the Right Honourable The Earl of Ellenborough.

IMPORTS.

From what Countries or States.	1868-69.			1869-70.			1870-71.			1871-72.			1872-73.		
	Merchan- dise.	Treasure.	Total.	Merchan- dise.	Treasure.	Total.	Merchan- dise.	Treasure.	Total.	Merchan- dise.	Treasure.	Total.	Merchan- dise.	Treasure.	Total.
Great Britain	14,85,37,770	40,02,098	15,25,39,868	13,65,99,541	26,68,157	13,93,67,698	16,09,82,895	5,65,520	16,09,48,415	14,56,69,712	2,05,40,554	16,62,10,266	14,36,23,280	11,88,160	14,48,11,440
France	30,79,136	83,29,714	1,14,08,850	27,30,767	33,29,831	60,60,598	21,10,110	56,800	21,66,910	16,51,671	16,46,399	32,98,070	18,71,233	1,06,840	19,80,133
South-America	4,616	.....	4,616	7,126	.....	7,126	628	.....	4,50,146	4,64,354	.....	28,198	23,943	.....	23,943
North-America	6,77,090	.....	6,77,090	2,53,342	.....	2,53,342	4,50,146	.....	72,20,985	49,08,207	27,81,918	4,64,354	3,41,565	.....	3,41,565
Madras	26,80,832	1,39,890	28,19,722	21,01,783	14,04,023	35,05,806	29,37,106	42,63,879	12,48,485	24,60,611	17,96,058	20,42,119	51,63,886	41,15,077	92,78,963
Ceylon	67,56,453	65,66,654	1,33,23,107	1,53,963	67,99,195	69,53,158	4,33,435	8,15,060	2,84,634	3,67,761	.....	3,67,761	1,92,017	8,99,754	10,91,771
Maldives and Laccadives	3,04,119	.....	3,04,119	2,51,214	.....	2,51,214	2,84,634	.....	35,65,713	20,28,508	28,776	20,57,284	2,51,247	.....	2,51,247
Bombay	42,05,888	4,000	42,09,888	54,44,404	18,600	54,44,404	33,34,001	31,712	35,65,713	20,28,508	28,776	20,57,284	2,51,247	.....	2,51,247
Arabian and Persian Gulfs	3,86,093	3,86,093	7,72,186	6,16,089	1,77,141	7,93,230	6,39,984	1,60,004	8,19,988	8,28,664	59,984	8,88,648	8,06,117	2,14,201	30,25,607
Singapore	8,65,420	41,52,539	50,17,959	11,11,133	39,03,390	50,14,523	13,17,368	12,65,703	25,83,071	9,35,181	8,39,334	17,84,115	8,48,622	2,97,719	30,84,441
Penang and Malacca	14,54,385	2,14,363	16,68,748	19,45,958	52,419	19,98,377	15,86,175	14,569	16,70,744	14,64,542	65,701	16,205	14,07,774	16,205	14,28,979
China	16,35,763	1,78,92,028	1,95,27,791	11,63,245	2,65,23,169	27,68,414	14,32,984	77,40,758	91,73,742	23,10,984	1,22,44,100	1,45,55,084	17,24,873	39,05,258	56,30,131
Australia	16,25,527	28,12,255	44,37,782	26,78,599	28,78,112	55,56,711	20,11,976	19,66,699	39,78,675	19,04,477	26,75,287	45,76,764	4,93,902	28,90,328	33,84,230
Pegu	25,43,159	28,89,850	54,33,009	32,98,684	34,89,742	67,88,426	32,97,007	19,29,393	51,66,400	29,04,741	20,43,185	49,47,926	40,57,024	7,04,449	47,61,473
Mauritius	23,232	2,18,934	2,42,166	4,928	2,80,819	2,85,747	4,863	22,923	27,786	20,632	1,82,063	2,02,701	15,221	1,00,000	1,15,221
Bourbon	2,376	66,130	68,506	55,924	.....	55,924	8,200	3,35,300	3,43,500	68,542	4,68,000	4,88,907	69,747	5,00,000	5,11,621
Cape and St. Helena	2,04,972	.....	2,04,972	1,19,301	.....	1,19,301	2,83,193	.....	2,83,193	12,710	.....	68,542	69,747	.....	69,747
Mozambique and Zanzibar	98,637	.....	98,637	1,19,301	.....	1,19,301	83,522	.....	83,522	.....	.....	12,710	1,19,060	.....	1,19,060
Sumatra	4,975	13,750	18,725	2,250	59,430	61,680	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trinidad and Barbadoes .....	.....	.....	.....	2,250	.....	2,250	.....	.....	.....	.....	.....	.....	.....	.....	.....
Abyssinia	9,060	.....	9,060	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Japan	29,902	.....	29,902	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hamburgh .....	.....	.....	.....	1,708	.....	1,708	16,378	.....	16,378	11,736	1,02,700	2,32,215	2,78,350	.....	2,78,350
Italy .....	.....	.....	.....	269	.....	269	12,416	.....	12,416	2,16,512	10,200	2,26,712	5,97,264	.....	5,97,264
Batavia .....	.....	.....	.....	.....	.....	.....	2,06,278	.....	2,06,278	2,96,008	.....	2,96,008	5,39,595	250	5,39,845
Malta	1,03,147	.....	1,03,147	923	.....	923	6,880	.....	6,880	3,028	.....	3,028	8,428	.....	8,428
Andamans .....	.....	.....	.....	748	.....	748	.....	.....	.....	.....	.....	.....	4,732	.....	4,732
Alexandria	93,838	.....	93,838	3,67,688	2,000	3,69,688	4,29,684	.....	4,29,684	5,07,456	.....	5,07,456	2,34,930	4,000	2,38,930
Trieste	12,845	.....	12,845	15,408	.....	15,408	1,25,383	.....	1,25,383	4,07,378	.....	4,07,378	2,96,144	.....	2,96,144
Gibraltar	748	.....	748	25	.....	25	2,330	.....	2,330	8,723	.....	8,723	22,343	.....	22,343
False Point .....	.....	.....	.....	.....	.....	.....	2,18,479	.....	2,18,479	3,24,503	4,000	3,28,503	4,60,997	14,000	4,74,997
Constantinople	6,016	.....	6,016	3,870	.....	3,870	4,483	.....	4,483	1,676	.....	1,676	1,572	.....	1,572
Chittagong	1,05,019	12,000	1,17,019	1,18,187	4,50,000	5,68,187	3,52,404	4,300	3,56,704	25,779	.....	25,779	5,25,051	700	5,25,751
Port Elizabeth .....	.....	.....	.....	.....	.....	.....	2,07,107	.....	2,07,107	2,57,779	.....	2,57,779	11,478	.....	11,478
Port Natal .....	.....	.....	.....	.....	.....	.....	766	.....	766	.....	.....	.....	.....	.....	.....
Nicaragua .....	.....	.....	.....	.....	.....	.....	10,252	.....	10,252	185	.....	185	2,36,237	.....	2,36,237
Saugor Islands .....	.....	.....	.....	.....	.....	.....	2,330	.....	2,330	2,917	.....	2,917	2,917	.....	2,917
Danerara .....	.....	.....	.....	.....	.....	.....	7,478	.....	7,478	10,615	.....	10,615	67,565	.....	67,565
Diamond Harbour .....	.....	.....	.....	.....	.....	.....	10,615	.....	10,615	6,870	.....	6,870	14,043	.....	14,043
Pondicherry .....	.....	.....	.....	.....	.....	.....	62,407	.....	62,407	90	.....	90	.....	.....	.....
Belgium or Antwerp .....	.....	.....	.....	.....	.....	.....	1,470	.....	1,470	.....	.....	.....	16,531	.....	16,531
Moradunge .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Portugal .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spain .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Syria .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Rs.	16,89,37,915	4,77,00,598	21,66,38,513	15,91,19,607	5,20,86,548	21,12,06,155	18,23,41,677	1,93,88,899	20,17,30,576	16,81,92,015	4,54,87,165	21,36,79,180	16,71,85,557	1,50,81,865	18,22,67,422

EXPORTS.

To what Countries or States.	1868-69.			1869-70.			1870-71.			1871-72.			1872-73.		
	Merchan- dis.	Treasure.	Total.	Merchan- dis.	Treasure.	Total.	Merchan- dis.	Treasure.	Total.	Merchan- dis.	Treasure.	Total.	Merchan- dis.	Treasure.	Total.
Great Britain	840,59,606	.....	8,40,59,606	865,59,230	2,03,200	8,67,62,430	10,41,39,982	25,21,745	10,67,21,727	12,42,63,376	414	12,42,63,376	10,73,61,584	1,78,430	10,73,60,004
France	1,40,38,213	.....	1,40,38,213	1,56,58,818	1,924	1,56,60,742	63,36,910	1,500	63,36,410	1,31,21,187	.....	1,31,21,187	1,98,46,017	5,600	1,98,51,517
North-America	1,42,82,195	.....	1,42,82,195	1,33,98,789	.....	1,33,98,789	2,26,50,865	.....	2,26,50,865	2,11,51,381	.....	2,11,51,381	1,75,60,611	.....	1,75,60,611
Madras Coast	84,38,243	70,38,258	1,54,76,501	59,71,730	28,98,739	88,70,469	78,76,494	10,03,986	88,79,486	1,07,94,689	11,62,419	1,19,57,108	1,01,53,085	3,15,040	1,04,68,125
Ceylon	39,20,792	34,71,570	73,92,362	25,37,345	10,06,000	35,43,345	23,86,886	2,24,210	25,60,096	11,38,757	10,00,000	21,38,757	21,84,325	5,00,000	26,84,325
Maldives and Laccadives	1,40,67,490	.....	1,40,67,490	98,091	.....	98,091	1,74,532	3,000	1,74,532	2,18,819	.....	2,18,819	1,20,324	.....	1,20,324
Malabar Coast	1,84,864	.....	1,84,864	1,48,94,541	5,47,701	1,54,42,242	1,32,81,530	.....	1,32,81,530	1,28,85,053	3,031	1,28,85,053	1,10,43,624	10,000	1,10,53,624
Singapore	34,33,111	30,000	34,63,111	26,90,771	.....	26,90,771	30,16,245	.....	30,16,245	31,52,747	5,00,000	36,52,747	29,51,563	.....	29,51,563
Penang and Malacca	31,34,316	78,550	31,66,416	48,60,010	15,540	48,75,550	71,47,174	6,167	71,53,321	1,00,71,453	1,625	1,00,73,078	86,01,946	1,13,100	87,15,046
Gulf	5,97,38,832	2,100	5,97,38,832	22,89,947	39,049	23,28,996	32,15,774	75,236	32,91,010	30,19,624	16,950	30,36,574	22,06,450	89,920	22,96,370
China	9,68,754	.....	9,68,754	5,51,33,954	.....	5,51,33,954	5,60,24,393	25,443	5,60,49,836	6,37,17,645	.....	6,37,17,645	5,44,23,575	1,066	5,44,24,641
Australia	2,00,253	.....	2,00,253	4,93,871	.....	4,93,871	8,15,416	.....	8,15,416	8,89,013	.....	8,89,013	11,15,539	.....	11,15,539
Java	91,91,714	78,06,511	1,69,98,225	54,651	59,28,181	1,55,94,134	1,22,55,331	30,000	1,22,55,331	1,32,17,815	84,37,509	1,32,17,815	1,69,07,119	50,000	1,69,07,119
Pegu	54,00,438	.....	54,00,438	40,42,022	1,59,000	42,01,022	51,00,056	63,36,213	1,85,94,514	50,09,712	6,00,000	56,09,712	73,23,433	1,10,00,872	2,79,07,991
Mauritius	13,81,186	.....	13,81,186	10,06,052	.....	10,06,052	17,90,186	.....	17,90,186	6,92,599	.....	6,92,599	4,63,883	.....	4,63,883
Bourbon	3,39,768	.....	3,39,768	1,53,759	.....	1,53,759	3,20,620	.....	3,20,620	1,73,369	.....	1,73,369	5,41,761	.....	5,41,761
Cape	1,07,477	.....	1,07,477	4,71,245	.....	4,71,245	7,51,991	.....	7,51,991	6,42,904	.....	6,42,904	13,124	.....	13,124
Trinidad and Barbadoes	28,015	.....	28,015	2,13,593	680	2,13,593	1,98,090	.....	1,98,090	.....	.....	.....	4,529	.....	4,529
Genoa	9,36,194	.....	9,36,194	1,65,765	.....	1,65,765	11,70,935	.....	11,70,935	60,31,328	.....	60,31,328	39,60,767	.....	39,60,767
Trieste	4,081	.....	4,081	3,261	.....	3,261	26,571	.....	26,571	10,848	.....	10,848	125	.....	125
South-America	11,13,481	.....	11,13,481	11,18,907	.....	11,18,907	8,49,372	.....	8,49,372	13,13,103	.....	13,13,103	40,179	.....	40,179
Gibraltar	636	.....	636	13,583	.....	13,583	1,43,998	.....	1,43,998	4,700	.....	4,700	3,417	.....	3,417
Port Said	20,489	.....	20,489	3,290	.....	3,290	7,029	.....	7,029	1,83,750	.....	1,83,750	74,183	.....	74,183
Constantinople	6,90,735	.....	6,90,735	10,42,920	1,63,617	12,06,537	12,63,747	16,423	12,80,170	1,33,680	.....	1,33,680	1,02,797	.....	1,02,797
Chittagong .....	.....	1,62,112	1,62,112	.....	.....	.....	16,16,455	2,500	15,18,955	15,35,422	6,57,999	21,93,421	23,52,968	4,26,819	27,79,787
Balsore	4,715	.....	4,715	80	.....	80	788	.....	788	3,088	.....	3,088	1,19,657	10,300	1,29,957
Shyva .....	.....	.....	.....	1,935	.....	1,935	23,996	.....	23,996	20,244	.....	20,244	3,081	.....	3,081
Japan .....	.....	.....	.....	1,985	.....	1,985	2,250	.....	2,250	.....	.....	.....	45,724	.....	45,724
Morrelling .....	.....	.....	.....	.....	.....	.....	3,52,447	.....	3,52,447	13,85,273	.....	13,85,273	10,54,835	.....	10,54,835
Sun Francisco .....	.....	.....	.....	1,78,712	.....	1,78,712	87,623	.....	87,623	3,23,410	.....	3,23,410	80,751	.....	80,751
False Point .....	.....	.....	.....	.....	.....	.....	2,399	.....	2,399	.....	.....	.....	9,888	.....	9,888
Russia .....	.....	.....	.....	.....	.....	.....	620	.....	620	.....	.....	.....	18,51,349	.....	18,51,349
Mozambique and Zanzibar .....	.....	.....	.....	.....	.....	.....	2,25,129	.....	2,25,129	55,488	.....	55,488	5,16,978	.....	5,16,978
Spain .....	.....	.....	.....	.....	.....	.....	12	.....	12	7,625	.....	7,625	27,916	.....	27,916
West-India Islands .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,25,346	.....	14,25,346	488	.....	488
Alexandretta .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,301	.....	2,301	21,559	.....	21,559
Port Elizabeth .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24,67,970	.....	24,67,970	40,76,477	.....	40,76,477
Belgium .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,991	.....	11,991	21,876	.....	21,876
Port Natal .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24,47,695	.....	24,47,695	10,76,771	.....	10,76,771
Italy .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	794	.....	794	25	.....	25
Poorce .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,723	.....	3,723	318	.....	318
Holland .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	257	.....	257	20	.....	20
Africa .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	60	.....	60	.....	.....	.....
Syria .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,831	.....	6,831	.....	.....	.....
Germany .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	75	.....	75	.....	.....	.....
Manilla .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	89,856	.....	89,856	66,883	.....	66,883
Batavia .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,94,357	.....	2,94,357	99,972	.....	99,972
Atchep .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,36,606	.....	3,36,606	16,03,408	3,600	16,07,008
Pondicherry .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	.....	50
Kurnabee .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,180	.....	8,180
Catuck .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,47,271	.....	2,47,271
Switzerland .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,43,623	.....	2,43,623
Demerara .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	347	.....	347
Beirut .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Andaman Islands .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nicobar Islands .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Rs.	25,21,122	2,24,25,101	25,45,32,223	22,44,21,638	1,09,62,621	23,53,84,259	35,76,07,461	1,09,45,430	26,76,52,884	30,26,76,162	1,24,41,187	51,51,17,349	27,40,53,805	1,27,04,637	28,67,58,442

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

[illegible]

PROVINCE OF PUNJAB, 1861-70.

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

ARTICLES.	GOHANAH.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	20.52	27.75	29.85	25.56	26.12	23.32	24.26	23.32	19.59	20.82
Common rice, husked	14.40	15.62	15.97	12.36	11.43	10.73	12.13	9.91	8.63	11.19
Best rice, husked	10.32	11.43	12.13	9.09	9.33	9.21	9.33	8.51	7.58	10.25
Wheat	16.56	31.26	18.42	21.57	17.96	19.47	22.16	14.51	9.91	15.62
Barley (<i>Hordeum coeleste</i>)	22.62	45.25	40.12	32.19	27.06	27.75	27.99	18.19	13.41	19.71
Bajra (<i>Penicillaria spicata</i>)	21.28	41.98	31.84	24.96	23.31	24.02	25.66	18.66	13.06	19.24
Jowar (<i>Sorghum vulgare</i>)	21.92	36.74	34.87	26.59	27.29	27.40	29.16	18.19	14.92	21.81
Gram (<i>Cicer arietinum</i>)	17.72	34.87	35.92	30.32	27.99	28.34	26.12	13.06	9.79	17.02
Lentils, mash (<i>Phaseolus radiatus</i>)	16.62	31.08	23.67	16.32	15.16	16.44	17.72	11.19	10.03	15.16
Cotton, cleaned	4.84	3.03	1.74	2.09	2.27	3.03	3.49	2.44	1.98	2.09
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	167.95	158.62	153.96	153.28	167.95	149.29	144.63	121.30	130.63	133.53
Sugar, raw	13.99	13.29	15.04	11.66	16.32	16.21	8.79	8.16	9.33	12.94
Sugar, refined	3.26	3.09	3.09	3.73	3.32	2.68	2.79	2.79	2.91	2.91
Salt	7.69	7.46	7.23	7.58	7.69	7.46	7.46	7.46	7.58	7.46
Ghee	2.09	1.98	2.15	2.09	1.74	2.56	1.51	1.51	1.28	1.63
Milk	36.39	32.65	31.72	30.55	29.16	29.85	27.99	17.72	19.59	20.52
Tobacco (<i>Nicotiana tabacum</i>)	6.53	5.71	5.59	7.69	7.23	5.59	4.19	6.99	6.99	7.46
Firewood	373.24	333.11	195.95	223.94	186.62	186.62	186.62	192.21	201.55	167.95
Til (<i>Sesamum orientale</i>)	12.13	11.89	14.22	18.66	19.59	23.32	18.66	17.72	13.99	16.79
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	15.86	15.39	16.91	23.32	25.19	27.99	21.46	19.59	17.72	18.66
Turnips (<i>Brassica rapa</i>)	74.64	55.98	74.64	73.71	71.84	73.71	74.64	74.64	73.71	69.98
Radishes (<i>Raphanus sativus</i>)	74.64	55.98	74.64	73.71	74.64	74.64	83.97	83.97	74.64	74.64
Carrots (<i>Daucus carota</i>)	74.64	74.64	74.64	74.64	73.71	74.64	74.64	74.64	74.64	73.71
Molasses	...	...	...	...	...	...	...	...	...	...
Keekur Bark (<i>Acacia Arabica</i>)	149.29	144.63	111.97	111.97	121.30	149.29	111.97	111.97	121.30	111.97
Arbi (<i>Arum colocasia</i>)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Rath alu (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turmeric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	1 8 0	1 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0
Wages of unskilled labourers { Coolies	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0
per diem { Kahars	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0
{ Bheesties	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0

ARTICLES.	JHAJJAR.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	23.32	17.72	20.99	18.66	20.52	17.72	20.52	14.92	16.79	17.72
Common rice, husked	11.89	10.49	11.02	9.60	9.33	9.33	11.66	9.56	8.16	10.72
Best rice, husked	...	...	...	...	...	...	...	...	...	...
Wheat	16.56	28.57	28.45	21.69	17.02	18.77	21.81	15.97	8.86	13.99
Barley (<i>Hordeum coeleste</i>)	26.12	43.85	39.19	28.69	27.06	31.02	31.14	20.52	14.46	25.19
Bajra (<i>Penicillaria spicata</i>)	26.12	37.32	33.94	25.13	25.66	26.71	25.89	20.52	15.86	22.99
Jowar (<i>Sorghum vulgare</i>)	21.46	34.75	35.80	27.26	26.12	32.19	23.79	19.42	15.27	23.32
Gram (<i>Cicer arietinum</i>)	19.12	34.05	37.09	28.10	23.56	25.19	23.79	18.19	10.73	15.86
Lentils, mash (<i>Phaseolus radiatus</i>)	24.26	35.22	24.63	11.66	14.81	16.79	16.44	13.53	9.79	14.22
Cotton, cleaned	4.43	2.85	1.63	2.09	2.44	3.26	3.26	2.09	1.69	2.21
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	149.29	149.29	149.29	149.29	149.29	149.29	149.29	149.29	149.29	149.29
Sugar, raw	9.09	8.22	12.07	8.74	11.48	14.11	9.16	12.83	12.83	12.30
Sugar, refined	3.03	2.79	2.79	3.49	3.26	2.97	2.91	3.09	3.26	2.97
Salt	10.73	10.73	10.73	10.73	10.73	10.73	10.73	10.73	10.73	10.73
Ghee	2.15	1.98	2.33	1.98	1.74	1.74	1.80	1.45	1.39	1.74
Milk	22.39	19.59	20.52	21.46	24.96	24.26	25.42	18.66	26.12	26.12
Tobacco (<i>Nicotiana tabacum</i>)	7.40	6.53	7.46	5.59	8.39	4.66	5.59	7.46	4.66	6.53
Firewood	111.97	186.62	177.28	167.95	186.62	205.28	186.62	195.95	223.94	223.27
Til (<i>Sesamum orientale</i>)	10.26	12.13	8.39	9.33	10.26	8.39	8.39	8.39	7.46	7.40
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	21.46	22.39	15.86	18.66	20.52	14.92	13.06	10.26	10.26	12.13
Turnips (<i>Brassica rapa</i>)	93.31	79.31	69.98	88.64	93.31	93.31	74.64	74.64	88.64	93.31
Radishes (<i>Raphanus sativus</i>)	83.97	79.31	69.98	46.65	93.31	88.64	79.31	72.78	89.57	93.31
Carrots (<i>Daucus carota</i>)	93.31	102.64	97.97	102.64	107.30	107.30	111.97	111.97	102.64	107.30
Molasses	...	...	...	...	...	...	...	...	...	...
Keekur Bark (<i>Acacia Arabica</i>)	37.32	41.98	46.65	37.32	51.32	55.98	46.65	55.98	46.65	74.64
Arbi (<i>Arum colocasia</i>)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Rath alu (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turmeric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	1 8 0	1 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0
Wages of unskilled labourers { Coolies	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0
per diem { Kahars	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0
{ Bheesties	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0

Best Rice (husked) not sold at Jhajjar.

SIRSA.

Sirsa is out of Customs jurisdiction, while Fasilka is within; this accounts for the disparity in the prices of Salt. Spirits 25 per cent. below proof, manufactured on establishment of Sadr Distillery system. The abundance of Keekar trees in Sirsa accounts for cheapness of rind.

ARTICLES.

[illegible]

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

ARTICLES.	LUDIANAH.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	16.79	26.65	45.48	29.68	19.59	21.16	21.63	22.97	13.23	19.12
Common rice, husked	9.09	11.95	12.71	11.95	10.67	10.38	9.21	10.67	6.88	8.80
Best rice, husked	7.46	9.08	8.39	9.68	7.17	6.82	7.75	7.05	5.83	5.83
Wheat	14.92	22.62	19.30	31.31	21.05	22.56	23.38	17.02	9.33	16.09
Barley (<i>Hordeum coeleste</i>)	17.08	34.11	47.23	49.74	36.79	34.69	31.55	23.56	13.12	20.70
Bajra (<i>Penicillaria spicata</i>)	15.10	28.28	43.15	28.92	19.36	22.39	25.13	20.29	11.60	17.90
Jowar (<i>Sorghum vulgare</i>)	16.79	31.90	12.83	17.02	34.35	26.88	28.85	21.22	12.53	22.45
Gram (<i>Cicer arietinum</i>)	15.04	26.65	41.69	40.97	48.46	36.97	27.75	23.32	11.95	16.38
Lentils mash (<i>Phaseolus radiatus</i>)	40.82	22.51	22.10	20.52	18.60	19.01	15.62	12.36	8.45	13.47
Cotton, cleaned	3.67	3.61	2.15	1.45	2.04	2.33	3.32	2.44	2.27	1.69
Indigo, manufactured (<i>Indigofera tinctoria</i>)	69	69	69	69	69	69	69	69	69	69
Indigo, fresh plant	27.99	27.99	27.99	27.99	27.99	27.99	27.99	27.99	27.99	27.99
Sugar-cane	8.86	8.68	9.27	9.09	12.57	10.38	7.75	5.13	5.83	9.09
Sugar, raw	3.08	2.91	2.56	3.09	2.85	3.44	3.26	3.79	3.44	2.33
Sugar, refined	10.28	8.80	8.10	6.41	8.39	7.87	8.33	8.04	7.63	8.10
Salt	1.98	1.92	1.92	1.98	1.74	1.45	1.45	1.86	1.34	1.22
Ghee	13.93	14.92	14.92	14.92	14.92	15.74	14.46	13.18	10.55	10.55
Milk	22.56	16.44	11.19	20.06	29.85	16.67	10.67	13.35	15.39	13.12
Tobacco (<i>Nicotiana tabacum</i>)	128.71	112.96	149.29	139.95	111.97	129.41	124.39	129	106.54	91.38
Firewood	10.61	12.71	7.46	17.55	10.38	13.93	14.39	15.39	7.52	8.33
Til (<i>Sesamum orientale</i>)	16.21	14.92	15.10	18.72	16.85	22.97	21.75	18.13	10.38	11.54
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	90.27	145.21	93.31	298.59	135.30	74.64	74.64	96.45	92.55	89.30
Turnips (<i>Brassica rapa</i>)	93.31	107.30	93.31	349.91	135.29	111.97	74.64	95.64	92.72	90.51
Radishes (<i>Raphanus sativus</i>)	86.31	83.27	46.65	111.97	74.64	74.64	74.64	88.57	205.28	59.07
Carrots (<i>Daucus carota</i>)	29.85	37.32	46.65	37.32	41.98	55.98	55.98	46.65	46.65	46.65
Molasses	149.29	149.29	149.29	149.29	149.29	149.29	149.29	149.29	149.29	149.29
Keekur Bark (<i>Acacia Arabica</i>)	...	...	...	...	...	...	...	...	...	...
Arbi (<i>Arum colocasia</i>)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Rath alu (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	17.32	30.38	47.47	46.89	32.83	31.02	31.31	23.09	13.47	22.10
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turneric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	2 10 0	2 10 0	2 10 0	3 12 0	3 12 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0
Wages of unskilled labourers { Coolies	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6
per diem. { Kahars	0 3 6	0 3 6	0 3 6	0 4 0	0 4 0	0 4 6	0 4 6	0 4 6	0 4 6	0 4 0
{ Bheesties	0 2 6	0 2 6	0 2 6	0 3 0	0 3 0	0 3 0	0 3 6	0 3 6	0 3 6	0 3 0

Sugar-cane sold per acre. Indigo (fresh plant) is produced in the Jagraon Tehsil, but in such small quantities that it is not sold till manufactured.

ARTICLES.	JAGRAON.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	13.99	25.89	44.78	29.45	19.29	21.46	21.46	23.32	13.	19.59
Common rice, husked	10.38	10.73	10.84	11.89	9.55	8.39	10.26	8.68	16.79	9.50
Best rice, husked	7.17	9.15	8.04	9.33	6.76	6.53	7.46	6.53	5.59	5.59
Wheat	15.86	31.08	31.25	38.14	30.79	21.69	21.46	14.69	9.79	20.06
Barley (<i>Hordeum coeleste</i>)	21.92	34.58	56.68	57.91	53.36	37.44	27.52	19.77	12.13	28.69
Bajra (<i>Penicillaria spicata</i>)	29.85	37.32	39.19	37.32	27.06	22.39	20.52	18.66	31.73	17.26
Jowar (<i>Sorghum vulgare</i>)	39.19	64.08	48.05	44.32	33.12	33.59	14.92	22.39	39.19	29.39
Gram (<i>Cicer arietinum</i>)	18.07	34.81	43.44	48.52	41.75	37.32	28.69	19.94	39.75	20.11
Lentils mash (<i>Phaseolus radiatus</i>)	15.74	23.44	22.16	25.89	17.02	26.24	15.16	9.73	9.56	15.86
Cotton, cleaned	3.73	3.49	1.86	2.79	2.21	3.73	2.56	1.98	3.03	2.27
Indigo, manufactured (<i>Indigofera tinctoria</i>)	64	86	1.34	87	87	1.08	64	64	69	95
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	...	...	...	...	...	...	...	...	...	...
Sugar, raw	5.83	7.17	8.86	8.63	8.86	7.69	9.38	7.69	5.89	8.04
Sugar, refined	2.97	2.91	3.09	2.85	3.09	3.14	2.62	2.62	2.56	2.44
Salt	9.50	8.16	8.33	8.28	8.28	8.34	7.69	7.69	7.52	8.45
Ghee	2.21	1.98	1.63	1.86	1.86	1.45	1.45	1.16	1.22	1.16
Milk	17.72	17.72	18.66	14.92	15.86	16.79	17.72	18.66	17.72	18.66
Tobacco (<i>Nicotiana tabacum</i>)	10.38	15.86	20.52	17.72	9.79	15.62	22.39	20.99	10.49	21.46
Firewood	186.62	186.62	186.62	167.95	167.95	158.62	149.29	149.29	149.29	149.29
Til (<i>Sesamum orientale</i>)	12.59	15.86	13.06	12.13	12.59	11.89	7.93	7.23	8.39	5.59
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	14.92	16.79	19.59	23.32	22.39	21.46	20.52	14.69	13.06	9.56
Turnips (<i>Brassica rapa</i>)	149.29	156.76	144.63	186.62	152.09	149.29	159.56	149.29	153.96	186.62
Radishes (<i>Raphanus sativus</i>)	149.29	139.56	138.09	179.15	186.62	151.16	158.62	153.96	152.09	186.62
Carrots (<i>Daucus carota</i>)	223.94	205.28	214.66	233.27	242.60	251.93	223.94	212.74	234.20	261.26
Molasses	85.45	81.72	47.58	47.58	39.65	31.72	19.59	15.86	32.65	31.72
Keekur Bark (<i>Acacia Arabica</i>)	186.62	186.62	186.62	186.62	186.62	186.62	186.62	186.62	186.62	186.62
Arbi (<i>Arum colocasia</i>)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Rath alu (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	37.32	56.91	38.25	38.25	29.85	30.79	13.29	16.79	27.99	19.82
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turneric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	2 0 0	4 8 0	4 8 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0
Wages of unskilled labourers { Coolies	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0
per diem. { Kahars	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0
{ Bheesties	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0

THE Statistical Reporter,

A MONTHLY JOURNAL OF STATISTICAL ENQUIRIES CONCERNING INDIA.

VOL. V.]

CALCUTTA, SATURDAY, 29TH NOVEMBER 1873.

[No. 4.]

EXPECTATION OF EUROPEAN LIFE IN INDIA.

TO FREDERICK J. MOUTAT, Esq., M.D., F.S.S., F.R.G.S., Athenaeum Club, Pall Mall.

MY DEAR SIR,—Understanding from Mr. Nassau, senior, a member of our London Board, that you have devoted attention to the question of rates payable in India for the assurance of European lives, and knowing the experience which you have had in many parts of India, not only as a Surgeon but as Superintendent of Gaols, I venture to write to you this letter.

This Company has, after most careful consideration, determined upon issuing to Europeans in India (exclusive of what I may call the common soldier class) Policies of Assurance at the same rates as are charged by them for English risks.

This determination has led to comments being made by persons opposed to this office as to the impolicy and imprudence of such a step, but the comments have been of that nature that I am unable to lay my hand upon any fixed statement of objections with which I can grapple. I believe, however, that the objections are founded upon ideas derived from tables of mortality in the various services under the Indian Government, tables which would hardly appear to form reliable data with the extraordinary changes and improvements already effected, and which are daily increasing in India.

On behalf, therefore, of the Company, I venture to ask you carefully to consider the whole of this question and to give us the benefit of your great experience; and in doing so, I venture to hope that I am not trespassing too far in asking you to state the reasons for any opinion you may express.

Mr. Baylis will be glad to give you any further information as to the questions raised as to these rates which you may require.—Believe me to be, My dear Sir, yours faithfully,

JOHN D. BELL,
Chairman.

TO J. D. BELL, Esq., Chairman, Positive Government Security Life Assurance Company, Limited.

Athenaeum Club, London, July 28, 1873.

MY DEAR SIR,—With reference to your letter dated 23rd instant, requesting me carefully to consider the question of the present value of European Life in India, with special reference to the prudence and policy of insuring such lives at European rates, I have the honour to inform you that the question is by no means new to me.

2. Some years since, several gentlemen in Calcutta, myself among the number, considered that the risks to European life in India had been greatly over-estimated in the case of all in easy circumstances; and that the premiums charged for assuring such lives were unnecessarily and extravagantly high. We accordingly met together, discussed the question with great care and minuteness, collected a considerable amount of information on the subject, and constructed tables of rates greatly below those in current use at that time, with a view to the establishment of an Insurance Company on such reasonable terms as would enable persons of moderate means to insure their lives at more equitable and less oppressive rates than those then charged, with perfect safety to the concern as a commercial enterprise.

3. As most of those who contemplated the above scheme were in the service of the Government, and the law of limited liability had not then been enacted, difficulties arose in the formation of a Company, which was consequently abandoned.

When your Director, Mr. Nassau, senior, spoke to me on the subject, I wrote to the gentleman who prepared the tables above referred to; but he unfortunately has not kept a copy of them, and I have not one by me, as they were not printed. The gentleman is now in England, and is well known to you as a learned man and an accomplished mathematician.

4. With this brief preamble I will proceed to answer your letter in the sense you require, stating, as I go on, the grounds of the opinions I have long entertained on this vital question as regards the comfort and happiness of thousands of my fellow-countrymen who select India as the field of their fortunes, and who wish to make suitable provision for their families in the event of their own deaths.

5. It strikes me that the most simple and concise plan of considering the important issues involved, without entering into technical details that would be unintelligible to the majority of those interested in the stability of your undertaking, whether as shareholders or clients, will be to consider the question categorically.

6. First, then—Are the tables of mortality in the various services of the Indian Government, to which you refer in your letter, correct estimates of the present value of European lives in India?

With the most important of these tables I am familiar. They bear internal evidence of having been constructed with extreme care, great ability and minute scrutiny of all data available at the time of their preparation. For that time they were thoroughly reliable, and for the departments of the public service to which they relate; the subsequent working of the funds for which they were constructed has proved them to have been correct.

But, as you rightly surmise, the physical and moral conditions of life in India are now so greatly changed, that I do not consider them to be applicable to existing circumstances.

With respect to the chief exciting cause of sickness formerly, irrespective of climate, the habits of society in India have changed quite as much as have those of the corresponding classes at home. Sobriety and moderation are now the rule—excess the exception.

The diet and general mode of life of Europeans in India are far more sensible and wholesome now than they were when I landed in Madras and Calcutta in 1840.

The great extension of steam communication and railways, with the use of the telegraph, have produced a greater revolution in Hindustan than they have in any part of Europe. Wholesome food and drink are now procurable at nearly every place in India in which Europeans dwell. Better means and appliances for dealing with sickness when it occurs, are now available; and the power of rapid removal from unhealthy to healthy places has increased so considerably, that, practically, no one need remain exposed to the influences of the former an hour longer than his medical adviser considers necessary for his removal with safety.

The influence for good in diminishing risks to life from all the causes above referred to, must be, and is, in fact, very great; so great, indeed, that if the data existed for the construction of corresponding tables now, they would, I am satisfied, show that the chances of survivorship to all other classes of Europeans have improved as much as the War Office returns show to be the case with the European soldier in India since the publication in 1863 of the Report of the Royal Commission, presided over by the present Lord Derby.

7. Many years ago I arrived at the conclusion, from facts which came under my personal observation, that much of the sickness and mortality among all classes of Europeans in India which was debited to climate, was in reality due to causes connected with the habits of the individuals, and strictly within their own control.

Strong confirmation of the correctness of this view was afforded by the Presidency Gaol of Calcutta and the European Penitentiary at Hazareebagh.

In both of those prisons, the majority of the Europeans confined were from the most reckless and dissipated classes of society; in truth, a drunken and depraved lot. A large number of them were in bad health on admission, and subsequent to imprisonment suffered from repeated attacks of sickness.

In the Calcutta Gaol, in the fourteen years from 1855 to 1868 inclusive, my published reports show that from an annual average of 115 prisoners, there were 5,366 admissions to hospital from all diseases, exclusive of cholera. Of the above, 25 died, or in the proportion of 18 per 1,000 of the inmates.

The greater number of these prisoners improved in health when removed from the exposure and vicious habits of their lives without the prison, and most of them were discharged in good health.

In the European Penitentiary at Hazareebagh, where none but long-term prisoners were confined, from 1865 to 1868 inclusive, 418 persons were incarcerated. Of these, one man died from organic disease, under which he laboured when he entered the prison.

This gives a death-rate of 8·5 per 1,000 in four years.

The prison was first occupied in 1865, and of the small number of deaths which subsequently occurred, up to the date of my leaving India in December 1870, not a single one could be fairly ascribed to tropical diseases, with one doubtful exception.

If, in both the prisons above referred to, the death-rates are compared with those of soldiers in the Presidency divisions, to which both places belong, the result shows conclusively that, with good hygienic conditions, the chances of survivorship of Europeans with insurable lives are nearly, if not quite, as good as they are in Great Britain.

In Calcutta the death-rate of European soldiers from 1865-1869 was 27.36 per 1,000 from all causes, and at Hazareebagh in the same period it was 18.69 per 1,000.

The above is inclusive of cholera, of which I have not the return by me.

8. Another reason for my strong conviction on the subject is, that during my thirty years' personal knowledge of Calcutta and Bengal, I could almost count on my fingers the number of persons in my large circle of acquaintance who had died from tropical diseases, or affections which could fairly be traced to purely climatic causes. A large proportion of those who died, and they were sufficiently numerous, were carried off by organic diseases or constitutional affections which would have proved as surely fatal in Europe as they did in India.

9. The healthy and vigorous appearance of numbers of planters with whom I came in contact in various parts of Bengal pointed to the same conclusion, viz., that Europeans of healthy constitution, active habits, temperate lives, and who avoid needless exposure to certain causes of disease, which are always, more or less, in active operation in all tropical countries, have as fair a chance of life as those who dwell in temperate climates.

There is a balance of proclivities to loss of health which redresses many irregularities in the apparent incidence of disease, to a greater extent than is generally supposed.

In India, as compared with Great Britain for example, the abdominal organs take the place of the contents of the chest in their importance as sources of disease and causes of death. I am not prepared to state statistically the exact relations which they bear to each other; for no special data so far as I am aware, have been collected in this direction.

But the exciting causes of diseases of the chest are less under personal control than are diseases of the digestive system; hence, a not unfair inference that the former reckon their victims in at least as high a ratio as the latter.

10. My hospital experience, as Professor of Medicine in Calcutta, taught me that fevers of a severe type, as a rule, were more tractable and amenable to treatment among Europeans in India, than the same class and severity of disease in Europe; that acute inflammatory affections of all the great organs of the body, with the exception of the liver and alimentary canal, run a milder course, and less often end in irreparable organic changes than they do at home; and that in most of the constitutional, hereditary, and similar affections of all the constituent parts of the human organism, there is little real difference in tropical and temperate climates. No such difference in fact, with moderate care and prudence of life, as to vitiate your tables or to demand exceptional rates for supposed Indian risks.

The ordinary endemic diseases of the country are certain classes of fevers, liver and spleen affections, dysentery, and some forms of diarrhoea. None of these are due to elevation of temperature alone; for in some parts of Africa, and even of India itself, the inhabitants are exposed to much greater heat than is ever experienced on the alluvial plains of Hindustan, are healthy and vigorous, and the majority of the above diseases are little known among them.

The exciting causes of nearly all tropical diseases are tolerably well ascertained, and to the majority of them, Europeans of the classes who effect insurances on their lives need never be exposed, and, as a matter of fact, are seldom or never exposed.

11. There are two other circumstances necessary to notice in order to cover the whole ground of the questions raised in your letter.

The one is, Are the risks to life in India increased by length of residence in that country? The other is, Do persons who go out late in life run greater risk than those who leave England at an earlier age?

12. The recent military returns seem to show that young soldiers are healthier than old ones; that more men are invalided and die in each succeeding year of age and service, than in that preceding it; and that short terms of service and frequent removal of regiments are in consequence necessary to diminish sickness and mortality, and the consequent drain upon the population of Great Britain to supply the needs of Indian service.

The conditions of military employment as regards the private soldier class are so different from those of civil life that, even were the above inferences to be accepted, they would not be applicable to the circumstances of your Institution.

But I doubt strongly the correctness of the statement itself, as I have a very limited reliance on any deduction from the figures collected, in the absence of explanation of the many collateral circumstances that make up the sum of the causes of sickness and mortality among the soldiery.

Were the necessary data collected with the minute care, scientific accuracy, and patient detail essential in all such inquiries, I have little doubt it would be found that age of greater vitality is the same in India as in Europe, and that the risks to life of progressive increments of age, obey the same law as in temperate climates.

13. Among the selected men of the old East India Company's European forces, who were placed upon what was known as the Town Major's list, the contrary results were certainly seen. Nowhere have I met in India or elsewhere, with a finer and healthier set of men than the warrant officers of the Ordnance, Commissariat, and Public Works Departments. These men seldom or never left the plains, and among them were some of the oldest Europeans in India. They were the sober, steady, well-conducted, temperate soldiers of the Artillery and Infantry. Their continuance on the Town Major's lists depended upon their continuous exhibition of the qualities which placed them there, and they probably afforded a fairer sample of the value of European life in India than even the officers of the Civil and Military Services, from whose lives all calculations and estimates of Indian risks have heretofore been taken.

14. As regards the greater risk of persons proceeding to India tolerably late in life, I am afraid that it is so after forty years of age, but to a more moderate extent, if at all, prior to that period.

The number of persons who go to India in advanced life is, however, so limited that I doubt if the data exist to form the basis of any reliable statistical calculation. In any event, the number of such persons who would effect insurances in your Company is not likely at any time to be so great as to affect your calculations in the direction of disturbance.

15. I have thus endeavoured to answer your letter as briefly, as so large a subject would admit of, and in as untechnical language as I could employ.

In conclusion, I have no hesitation in declaring my conviction that, to the best of my professional judgment, based upon a considerable knowledge and careful study of the question from a purely professional point of view, the basis of action of The Positive Government Security Life Assurance Company in extending its business to European lives in India at English rates, is sound and secure.

16. You will perceive that I have not referred to the epidemic diseases of India in my remarks. I have omitted them advisedly, because the incidence of the most formidable of them is no longer confined to India, and because in truth they exercise very little appreciable influence upon the risks to life of the classes who are likely to become your clients.

They may therefore, I think, be safely disregarded in the discussion of the question.—I have the honour to be, Dear Sir, Your most obedient Servant

FREDERICK J. MOUAT, M.D., F.R.C.S.

Formerly Professor of Medicine and Medical Jurisprudence, Calcutta; late Inspector-General of Prisons, Bengal; now Secretary, Statistical Society, London; and Local Government Board Inspector.

* LETTER FROM DR. EWART REGARDING THE VALUE OF EUROPEAN LIFE IN INDIA.

To GEO. L. KEMP, Esq., Secretary to the Standard Life Assurance Company, Calcutta, 42, Chowringhee Road, Calcutta, 8th September, 1873.

DEAR SIR,—I have to acknowledge the receipt of your letter of the 5th instant, enclosing Dr. Mouat's communication, dated the 28th of July to the address of the Chairman of the Positive Government Security Life Assurance Company, Limited, and requesting me to state "how far my opinions coincide with those expressed by Dr. Mouat as to the sufficiency of English premiums for Indian risks."

2. In your opening paragraph, you state,—and I think correctly,—that "Dr. Mouat's views are utterly opposed to the most recent statistics; that they are certainly so in regard to the experience of your Company, inasmuch as the deaths among *Civilians*" (the most valuable lives to be found in India) "in the 24 years, from 1846 to 1870, had been 131 against 69, which would have occurred among persons of the same age in Great Britain; and that, if the Company had accepted those lives at European rates, the business must have ended in heavy loss."

3. In the following observations I propose to point out, for your information, some grave fallacies and errors in Dr. Mouat's letter, which, to my mind, vitiate his opinions and conclusions.

4. It is asked in the 6th paragraph—"Are the tables of mortality in the various services of the Indian Government correct estimates of the present value of European lives in India? With the most important of these tables, I am," says Dr. Mouat, "familiar. They bear internal evidence of having been constructed with extreme care, great ability, and minute scrutiny of all the data available at the time of their preparation. For that time they were thoroughly reliable, and for the departments of the public service to which they relate; the subsequent working of the funds changed, that I do not consider them to be applicable to existing circumstances."

5. The changes alluded to are greater sobriety; a more sensible and wholesome style of living; better food and drink; better means and appliances for dealing with sickness when it occurs; increased facilities for rapid removal from unhealthy to healthy places by means of the extension of steam communication, railways, and the telegraph.

6. But against these advantages may be urged the hitherto unparalleled overwork and severe mental strain imposed on the official and non-official classes alike; the comparative general impoverishment of all men, on fixed salaries, brought about by a remarkable increment in the cost of almost all the absolute necessities of life, owing to which the changes referred to are only available to a few at long, instead of short intervals, and frequently too late to do more than temporarily patch up constitutions, irretrievably impaired by the inroads of tropical diseases. This general straitening of the means of the insuring portion of the community is partially illustrated in Calcutta by the conversion of many of the best dwellings of the city into boarding houses, in which families, who, in former days, would have occupied whole houses, are crowded into small spaces in suites of apartments and flats, now paying nearly as much for this cramped accommodation as they would formerly have paid for a separate palatial residence. The improvement in the food is, I believe, only applicable to the upper classes in the Presidency Towns and some few large stations in

the Mofussil. But, as regards the general European population scattered throughout the length and breadth of India, the staminal elements of the dietary have rather deteriorated than improved, whilst, owing to the universal rise in prices, the means of all, on fixed incomes, of obtaining them have positively diminished. The truth is that, according to my experience,—and I have travelled over the three Presidencies inclusive of the Peral, Assam, and Cachar,—the poorness in the quality of every description of meat, from fish and fowls to beef and mutton, is so considerable, that it accounts, I feel convinced, for much of the ill-health from which Europeans in India suffer so severely.

7. We are informed in Mr. Bailey's letter to the *Insurance Record*, dated 13th June last, on the authority of a paper published by the eminent actuary, Mr. Brown, in the 16th volume of the *Journal of the Institute of Actuaries*, that "taking the period of life between 20 and 50 years of age as the ordinary period of residence in India, the following are the number of deaths in the year at the ages stated, out of 10,000 living at the beginning of the year :—

Age.	English assured lives.	Indian Military Officers.	Indian Civilians.
20	63	235	169
30	77	277	167
40	103	281	206
50	159	282	212

8. In former days, the great bulk of assurable lives belonged to the civil and military services, the members of which were much more highly favoured, as regards pay and position, than they are at the present time. In Mr. Brown's *Report on the Bengal Civil Fund*, dated 27th February 1865, it is stated at page 9, that "during the last thirteen years to 1st January 1863, the average mortality is generally (among the members of the Civil Service) a constant of about one per cent. per annum at all ages on a hundred living in the middle of the year above the rate of the English Healthy Life Table." But, of late years, the mercantile and non-official classes, who are not so favoured, form a considerable proportion of the business transacted by every important insurance office in India. Thus, in the *Standard Life Office*, the proportion, in every hundred lives assured, is as follows :—

OFFICIAL—		
Civil Service	...	12.4
Military men of all denominations,	...	32.6
		— 45.0
NON-OFFICIAL—		
Legal, Medical and Ecclesiastical	...	11.1
Mercantile Men.—Bankers, Merchants, Brokers, Planters, Tradesmen, Clerks, &c., &c.,	...	33.4
Railway Engineers, Contractors, &c.	...	10.5
		— 55.0
		100

When, therefore, it is borne in mind that of all the lives in India those belonging to the civil and military services of Government are still the most favoured, whilst they only form less than half of the successful candidates for life assurance, it will be readily conceded that it would be supremely unsafe to disregard such facts as these, especially since we may rest satisfied that these new conditions have been taken into account, in the most recent calculations, by the best actuarial authorities of the day. Viewed in connection with the remarkable depreciation of the value of the lives of the civil and military officers as illustrated in the third and fourth columns of the foregoing statement, these facts are too important to be refuted by the mere *ipse dixit* of any retired Indian medical authority, however eminent he may appear to be.

9. Again, Mr. Samuel Brown, who in his capacity as an actuary, has reported, on no less than twelve occasions, on the position of the Indian funds (civil, military, and medical), gives in a paper published in the *Journal of the Institute of Actuaries*, dated April 1871, the most recent information regarding the mortality among European civil, military, and medical men residing in India. His results are contrasted with Mr. Woolhouse's military rates and those extracted from Dr. Farr's Healthy Male Life Table for Great Britain in the subjoined statement :—

Rate of Mortality per cent.

Age.	Brown's combined military.	Brown's combined Civil.	Woolhouse's Bengal military.	Farr's healthy male lives.
15—25	2.38	1.70	.....	.69
25—35	2.81	1.68	.....	.82
35—45	2.85	2.08	3.22	.93
45—55	2.86	2.14	4.29	1.27

Considering that this last announcement of Mr. Brown's was published to the world so recently as April 1871, one is naturally curious to know by what process of reasoning the public in India are now informed in the letter under review that such results as those embodied in this statement are "not applicable to existing circumstances." In a question of so much real importance as the making provision, by a wise forethought, for the possible needs of the widow and orphan, or for securing the lenders of money against risk of loss, mere opinion however ingeniously advanced, mere assertion and word-painting however dogmatic and ornamental, cannot be allowed to override the hard, dry, stubborn facts of our most distinguished actuaries.

10. Dr. Mount winds up the 6th paragraph of his letter by stating that the influence for "good in diminishing risks to life from all the causes above referred to" (such as a change in the habits of society, the effects of steam communication, railways, and telegraphs in facilitating removal from unhealthy to healthy localities) "must be, and is, in fact, very great; so great, indeed, that if the data existed for the construction of corresponding tables now, they would, I am satisfied, show that the chances of survivorship to all other classes of Europeans have improved as much as the War office returns show to be the case with the European soldier in India since the publication in 1867 of the Report of the Royal Commission presided over by the present Lord Derby." If this extract has any signification at all, it must mean that there has been an improvement in the value of European lives in India eligible for assurance at least equal to that which is alleged to have taken place in the lives of the British soldiers in this country. Admitting that there has been a reduction in the mortality of the soldiers, and a small diminution in that of the English classes, of which latter, however, no statistical proof has been offered, this asserted improvement is certainly not so great as to justify the statements of Dr. Mount. There is still a heavy balance of excessive mortality against the soldiers serving in India as compared with men in the United Kingdom, illustrated in the subjoined table,—*ergo*, according to Dr. Mount's reasoning, there will be found, when the figures are forthcoming, a proportionate excess of mortality against English assurers residing in India as contrasted with the same classes living in Britain. This, I think, is a fair inference :—

The Mortality among the British Troops in Bengal and the United Kingdom contrasted.

Years.	Bengal.* Ratio of deaths per 1,000 of strength.	United Kingdom.† Ratio of deaths per 1,000 of strength.	* Difference, being excess of the death-rate against the European Army in Bengal.
1861	45.93	9.24	36.69
1862	28.11	8.72	19.39
1863	24.12	8.86	15.26
1864	21.10	9.99	11.11
1865	24.24	8.86	15.38
1866	20.11	9.62	10.49
1867	30.95	9.40	21.55
1868	20.11	10.90	9.20
1869	42.89	9.41	33.48
1870	21.90	9.48	12.42

11. Since the Crimean War and the Indian Mutiny, there have been important alterations in the condition of the soldiers both in England and India. None but picked men are allowed to be drafted into the army. The soldiers are sent out in roomy, well ventilated, well-found, and well-ordered troop-ships by the overland route, at a season of the year, when, by the aid of railways, they can be landed, at their destination on the Continent of India, before the advent of the hot weather. They are accommodated in two or three storied barracks, and, therefore, to a certain extent, above the miasmata and effluvia of the basement or ground floors. The utmost care is taken in perfecting the sanitation, hygiene, and conservancy of their quarters. Abundance of wholesome malt liquor, and as good food as can be secured, are supplied for the consumption of the soldiers. Excellent cricket grounds are provided for their amusement, exercise, and recreation. Care is taken that, in the execution of parades and manoeuvres on field days, no undue exposure to sun or rain is risked. When they fall sick, excellent hospitals have been constructed for their accommodation, and skilful physicians and surgeons—armed with all the most approved remedies, instruments, and medical comforts, for the alleviation, mitigation, or cure of their ailments—have been appointed, on a scale of liberality unequalled in any other standing army in the world. A lock hospital system for their protection against enthetic disease has been instituted in every station occupied by English soldiers; and the results of the working of these special hospitals prove incontestably that the diseases treated therein, and in the regimental hospitals, have undergone a sensible diminution. Ministers of religion watch over their morals. Gymnasias, workshops, and libraries have been established for their exclusive benefit. Much forethought and philanthropic anxiety are evinced in transferring those soldiers, whose health has been damaged by climatic diseases, to hill sanatoria; and many of the worst cases, not suited to the hills are, temporarily invalided to Europe for the recovery or renewal of their health.

* Eighth Annual Report of the Sanitary Commissioner with the Government of India, 1871, p. 3.
† Army Medical Department Reports for 1861 to 1870.

In short, the State has left no reasonably good device untried for the amelioration of the intellectual, moral, and physical welfare of the English soldiers residing in India. Notwithstanding all these vast improvements what are the results unfolded in the foregoing tabular statement? Why that the mortality among the European soldiers in the Bengal Presidency exceeded that of their brethren in the United Kingdom—

In	1861 by	38.69	in the 1,000	In	1866 by	10.49	in the 1,000
"	1862	19.39	"	"	1867	21.35	"
"	1863	15.26	"	"	1868	9.20	"
"	1864	11.11	"	"	1869	33.48	"
"	1865	15.38	"	"	1870	12.42	"

12. What makes these figures still more significant is the fact that the period over which they extend was a decade of uninterrupted peace. But, in India, previous experience shows that peace cannot always be calculated upon; and that the casualties in times of war, mutiny, and insurrection, must be taken into account by every soundly constituted Insurance Company. If, therefore, tables were prepared down to the present time for the insuring and insurable classes in India corresponding to those so lauded for their accuracy by Dr. Monat, it must be manifest from these figures that they would not uphold the conviction which he has formed to the effect—"that the basis of action of the *Post Office Government Life Assurance Company* in extending its business to European lives in India at English rates is sound and secure."

13. The following statements also show that, in the Madras and Bombay Presidencies, there is a considerable excess of mortality against British soldiers serving therein as compared with that of their companions located in the United Kingdom:—

The Mortality among the British Troops in Bombay and among those of the United Kingdom contrasted.

Years.	Bombay.* Ratio of deaths per 1,000 of strength.	United Kingdom.† Ratio of deaths per 1,000 of strength.	Difference, being ex- cess of the death-rate against the European Army in Bombay.
1861.....	24.72	9.24	15.48
1862.....	24.60	8.72	15.88
1863.....	16.14	8.86	7.28
1864.....	15.9	9.99	5.91
1865.....	35.1	8.86	26.24
1866.....	13.7	9.62	3.08
1867.....	19.3	9.40	9.90
1868.....	13.9	10.90	3.00
1869.....	21.4	9.41	11.99
1870.....	16.7	9.48	7.22

The Mortality among the British Troops in Madras and those of the United Kingdom contrasted.

Years.	Madras.* Ratio of deaths per 1,000 of strength.	United Kingdom.† Ratio of deaths per 1,000 of strength.	Difference, being ex- cess of the death-rate against the European Army in Madras.
1861.....	16.3	9.24	7.06
1862.....	18.16	8.72	9.44
1863.....	19.51	8.86	10.65
1864.....	20.1	9.99	10.11
1865.....	22.1	8.86	13.24
1866.....	21.7	9.62	12.08
1867.....	18.0	9.40	8.60
1868.....	19.3	10.90	8.40
1869.....	23.3	9.41	13.89
1870.....	19.2	9.48	9.72
1871.....	20.10	.....	.....

It has long been known that service in Bengal has proved more inimical to the British soldier than in Madras or Bombay. But there is illustrated in these tables a tangible excess of the death-rate among the European troops of the two minor Presidencies as compared with that of the army at home. Hence the inference is plain, that the death-rate among the insurable classes in these presidencies will be found, when it has been calculated down to the same date, to be proportionately greater than in the corresponding classes in the United Kingdom. Would it not, therefore, be supremely unsafe for insurance offices to insure European lives in these presidencies on precisely the same terms as they accept those of Englishmen and Englishwomen living in the more salubrious and congenial climate of the United Kingdom?

14. Dr. Moore, Surgeon to the Agent, Governor-General, for the States of Rajpootana, one of the most talented and conscientious physicians in India, and a deservedly high authority on Medicine and Sanitation, has shown in the *Indian Medical Gazette* that, though the mortality among the European troops in this country has been somewhat decreased of late years, yet by far the greater part of this reduction has been caused by the careful removal of soldiers—rendered inefficient by climatic disease—by invaliding them to Europe, and by the greater care now exercised by the medical staff in the selection of recruits, rather than by any other tangible cause or series of causes advanced by the sanitarians or statisticians of the day.

A glance at the columns of the following table will show how much truth there must be in the opinions promulgated by Dr. Moore:—

Statement showing the aggregate Loss by death and invaliding among British Troops in Bengal and those of the United Kingdom contrasted during 1861 to 1870 inclusive.

Years.	Bengal.‡ Ratio of loss per 1,000 by death and invaliding.	United Kingdom.† Ratio of loss per 1,000 by death and invaliding.	Difference, being excess of the loss from death and invaliding against the European Army in Bengal.
1861.....	74.02	60.43	13.59
1862.....	59.61	49.99	9.62
1863.....	60.05	41.44	18.61
1864.....	57.85	41.73	16.12
1865.....	71.11	45.30	25.81
1866.....	69.15	39.75	29.40
1867.....	78.23	31.58	46.65
1868.....	66.38	32.78	33.60
1869.....	98.87	45.28	53.59
1870.....	74.40	40.63	33.77

15. Thus, view the question under consideration from whatever stand point we may,—from the life tables of our best actuaries,—from the statistics of mortality singly,—or from the statistics of mortality and invaliding combined among the European soldiers residing in India—there is only one reasonable conclusion to be arrived at, and that is that Dr. Monat has doubtless unintentionally fallen into a most and grievous error in staking his professional reputation on the absolutely unsupported assertion that the lives of the insuring classes in India are quite as valuable as they are in Great Britain.

16. It follows, from what has been advanced, that Lord Sandhurst, in his letter of the 4th of August, is wrong in believing that stated in the 6th paragraph of Dr. Monat's letter are "beyond dispute." All the essentially important points of the said 6th paragraph have only been disputed by me, but they have been demonstrably rebutted by a series of authentic figured statements compiled from the writings of the best statistical authorities of the day. Such being the plain truth,—so far as that can be ascertained by the data at my disposal—the assertions and opinions of his lordship, on the very important question under discussion, must be held to possess no greater value than those which have been put forth by Dr. Monat. And as his lordship's letter is merely an amplified and popularized edition of Dr. Monat's 6th paragraph, it seems to me that that letter demands no further criticism at my hands.

17. Such being the facts of the case in reference to the alleged parallel improvement in the condition of the insurable classes and the British soldier in India, it will not be surprising, if I find Dr. Monat in an equally unhappy position regarding the facts he adduces in confirmation of his erroneous views from his experience of the Presidency Jail and the Hazareebagh Penitentiary. He says:—"In the Calcutta Jail (Presidency Jail), in the fourteen years from 1855 to 1868 inclusive, my published reports show that from an annual average of 115 prisoners, there were 5,366 admissions to hospital from all diseases, exclusive of cholera. Of the above 26 died, or in the proportion of 16 per thousand of the inmates."

18. The first thing that strikes the ordinary observer is the exclusion of cholera from the account. Why this is done it is difficult to conceive, unless with a view to produce the effect of an artificial reduction of the mortality. Perhaps the following statistics may be allowed to throw some light on the exclusion of cholera. In order that the facts may be revealed in the exact dress in which they have been supplied to me, I give the statement in its entirety:—

Statement showing the Mortality among European Prisoners in the Calcutta Presidency Jail during the nine years from 1864 to 1872 inclusive.

Years.	Daily average Number of Prisoners.	Deaths.			Ratio of Deaths per 1,000 from the under-mentioned Diseases.		
		From Cholera.	From all other Diseases.	Total from Cholera and all other Disease.	From Cholera.	From all other Diseases.	Total from Cholera and all other Diseases.
1864.....	162	3	1	4	18.5	6.1	24.6
1865.....	171	1	1	2	5.8	5.8	11.6
1866.....	161	3	2	5	19.7	19.8	39.5
1867.....	85	...	5	5	...	58.8	58.8
1868.....	89	2	5	7	22.6	56.2	78.8
1869.....	163	3	...	3	29.1	...	29.1
1870.....	90	...	2	2	...	22.2	22.2
1871.....	92	...	2	2	...	21.7	21.7
1872.....	89	1	7	8	11.2	78.7	89.9
Total.....	989	13	25	38	131.4	252.8	384.2

NOTE.—The Presidency Jail was not under the jurisdiction of the Inspector-General of Jails prior to 1864.

* Eighth Annual Report of the Sanitary Commissioner with the Government of India for 1871, p. 3.

† Seventh Annual Report of the Sanitary Commissioner with the Government of India, 1870, p. 277.

‡ Army Medical Department Reports for 1861 to 1870.

The average rate of mortality from all causes is, therefore, 38.42 per 1,000, and not 16 as stated by Dr. Mouat, and it will be seen from the last column that the range has been considerable from 11.6 in 1865 to 89.9 per 1,000 in 1872.

19. Now for Dr. Mouat's figures regarding the Penitentiary at Hazareebagh, one of the healthiest places in the presidency of Bengal in which an amount of ingenuity has been displayed which must to any honestly constituted mind be calculated at least to shake confidence in any unauthenticated statistical declaration which he may think it necessary to make.

He says, at page 4 of his letter "in the European Penitentiary at Hazareebagh, where none but long term prisoners were confined, from 1865 to 1868 inclusive, 118 persons were incarcerated. Of these one man died from organic disease, under which he laboured when he entered the prison."

"This gives a death-rate of 8.5 per 1,000 in four years."

"The prison was first occupied in 1865, and of the very small number of deaths which subsequently occurred up to the date of my leaving India in December 1870, not a single one could be fairly attributed to tropical diseases, with one doubtful exception."

Statement showing the Mortality among European Prisoners in the Hazareebagh Penitentiary during the eight years from 1865 to 1872 inclusive.

Years.	Daily average Number of Prisoners.	Deaths.			Ratio per 1,000 of Deaths to Daily average Number of Prisoners from the under-mentioned Diseases.			Remarks.
		From Cholera.	From all other Diseases.	Total from Cholera and all other Diseases.	From Cholera.	From all other Diseases.	Total from Cholera and all other Diseases.	
1865.....	15							This prison was not brought into use until the 31st March 1865.
1866.....	28	.....	1	1	.....	35.8	35.8	
1867.....	38	.....	.....	.....	.....	.....	.....	
1868.....	37	.....	.....	.....	.....	.....	.....	
1869.....	41	1	1	2	24.4	24.4	48.8	
1870.....	39	.....	1	1	.....	25.6	25.6	
1871.....	42	.....	1	1	.....	23.8	23.8	
1872.....	74	.....	3	3	.....	40.6	40.6	
Total	314	1	7	8	32	22.8	25.6	

Thus, this statement, when brought to bear on the results given by Dr. Mouat, shows how dangerous it is to hazard opinions on limited and imperfect information. It is quite true that during the four years—1865 to 1868 inclusive—out of 118 persons only one person died, or 8.5 in the thousand; but the statement shows that "the very small number of deaths which subsequently occurred up to the date of Dr. Mouat's leaving India in December 1870," or for six years, averaged 20.20 in the thousand; and that, during the eight years, ending 1872, it reached 25.6 per thousand!

20. Dr. Mouat says:—"If, in both the prisons above referred to, the death-rates are compared with those of the soldiers in the Presidency Divisions to which both places belong, the result shows conclusively that, with good hygienic conditions, the chances of survivorship of Europeans with insurable lives are nearly if not quite, as good as they are in Great Britain." But it must be manifest to the commonest understanding that, to make the statistics of the Presidency and Hazareebagh Jails useful in supporting the position which has been taken up by Dr. Mouat, the comparison should be made between the death-rate of the European inmates of those jails and the corresponding classes at home, or at least with the British Army serving in the United Kingdom. The materials for the comparison between the death-rate of the European prison population in India, or in the two jails in question, and that in the prisons of Great Britain, are not before me. But from memory, I do not hesitate to declare that even "with good hygienic conditions," the balance is greatly against Indian prisons. And as regards the comparison of the death-rate in the Presidency Jail and the Hazareebagh Penitentiary with that of the English army in the United Kingdom, the subjoined statements show how much it goes against the European prisoners in these jails during a corresponding number of years:—

Presidency Jail and British Army at Home.

Years.	Death-rate per 1,000 in Presidency Jail.	Death-rate per 1,000 in British Army at Home.	Difference.
1864.....	24.6	9.99	14.61
1865.....	11.6	8.86	2.74
1866.....	49.5	9.62	39.88
1867.....	58.8	9.40	49.40
1868.....	78.8	10.90	67.90
1869.....	29.1	9.41	19.69
1870.....	22.2	9.48	12.72

Hazareebagh, 2,000 feet above the level of the Sea, the Sanitarium of Bengal and British Army at Home.

Years.	Death-rate per 1,000 in Hazareebagh Penitentiary.	Death-rate per 1,000 in British Army at Home.	Difference.
1865.....	.....	8.86	.....
1866.....	35.8	9.62	26.18
1867.....	.....	9.40	.....
1868.....	.....	10.90	.....
1869.....	48.8	9.40	39.40
1870.....	25.6	9.48	16.12

If I possessed the materials for making the comparison with English prisons, I am positive that the death-rate against Indian prisoners would be very excessive indeed.

21. We are informed in para. 8 that during "Dr. Mouat's thirty years' personal knowledge of Calcutta and Bengal, he could almost count on his fingers the number of periods in his large circle of acquaintance who had died from tropical diseases, or affections which could fairly be traced to purely climatic causes." In answer to this I subjoin a statement showing the number of deaths which have taken place in the civil, military, and uncovenanted services during the period specified opposite each class:—

1. Deaths among Covenanted Civilians since 1840..... 251
2. Deaths among Military, Medical, and Ecclesiastical subscribers to the Bengal Military Fund, from 1840 to 1870..... 2,614
3. Deaths among subscribers to the Uncovenanted Service Pension Fund, from May 1837 to June 1871..... 437

This statement shows, like the others produced in this criticism, that whenever Dr. Mouat's opinions can be tested by statistics, they are invariably inaccurate and untrustworthy.

22. In para. 9 we are told that those planters, who avoid needless exposure to certain causes of disease, are healthy and vigorous. These causes of disease are the direct and indirect rays of the sun, and malarious influences, &c. But we are not informed how, if a planter is to do his duty to himself and his employers, he is to avoid exposure to these causes of an amount of disease and death, which in the more unhealthy districts of Assam, Cachar, Bengal, and the Terai are appalling. Are not these causes of disease universally acknowledged by all experienced medical men in India to be at the foundation of the high cost of European agency for the working and management of the indigo, tea, coffee, and jute enterprises in India? Are they not fruitful causes of ill-health and death in the civil, military, medical, ecclesiastical, and uncovenanted services even in times of peace, but especially in periods of war?

23. It is all very well to point to our hill sanatoria increased facilities for transfer from unhealthy to healthy climates afforded by the new furlough rules, steam communication and railways; but does not the necessity for Europeans availing themselves of these advantages in securing change of climate for prolonged periods essentially tend to prove that to maintain health change must frequently be sought from the insalubrious influences of the plains? Still a large portion, by far the largest portion of the community seeking for insurances, are condemned to live for long consecutive periods on the plains. But with all these advantages, pay and privileges to boot unparalleled in any other services in the world, how few of the men after retirement—at an age too, which is practically the prime of intellectual activity in Europe, ever take a prominent position at home! The reason is obvious. It is in short this. That although the majority of men retire comparatively early in life, judging from an English standard they are permanently enervated by the climate and its diseases, and altogether unequal to compete with their healthy and more vigorous rivals of even greater ages at home.

24. Then, with reference to "the abdominal organs taking the place of the contents of the 'chest as source of disease and causes of death,' Dr. Mouat overlooks the elaborate medical machinery employed at home for the exclusion of all lives hereditarily liable to pulmonary diseases; the extreme caution which is exercised in rejecting risks in which it is demonstrated that there is a hereditary history to consumption, cancer, gout, &c., and how infinitely more easy it is there to protect insurers than in a country like India, where the liability to abdominal diseases cannot be so easily proved to be hereditary, and where Asiatic cholera forms an enduring and constantly prevailing item in the mortality among all classes of insurers.

25. "The ordinary endemic diseases of the country," says Dr. Mouat, "are certain classes of fevers, liver and spleen affections, dysentery and some forms of diarrhoea." * * * The exciting causes of nearly all tropical diseases are tolerably well ascertained, and to the majority of them, Europeans of the classes who effect insurances on their lives need never be exposed, and, as a matter of fact, are seldom or never exposed." To the diseases referred to—typhoid, typhus, and relapsing fevers, according to the best recent authorities, and, according to the revelations of the museums of morbid anatomy at Calcutta, Madras, and Bombay, most of the diseases, even including consumption, cancer, and gout, met with in Europe, must be added. The last quotation is, in fact, wide of the truth. It has already been shown that, where duty calls, the civil, military, medical, ecclesiastical, and uncovenanted officers of Government must respond, whatever the consequences to their own health may be; and the records of the services show how large numbers of the members of these services, both in peace and war, have nobly and conscientiously done their

duty, and sooner or later perished in the attempt, or soon after the completion of their appointed work. And how many of the pioneers of civilization and commercial enterprise either succumb or have to retire from the country in impaired health from malarious or other disease contracted in India must be well known to every medical man, devoting himself to the practice of his profession.

26. To say, as Dr. Monat does, that "Europeans of the class who effect insurances on their lives need never be exposed" to tropical diseases, betrays an amount of ignorance as to the distribution of the classes who do insure their lives, which is deplorable. To face exposure to sun and malaria is as much a necessity to the planter, police officer, doctor, civilian, or military officer, as it is for the city banker or merchant to visit his office at stipulated periods.

27. There can be no doubt, as Dr. Monat concedes, that the risks to life in India are increased by length of residence. Most men feel this in their own experience. That persons who come out late in life run greater risk than those who leave England at an earlier age, is an accepted fact.

28. There is one point which has not been referred to by Dr. Monat, and which, as much as any other, proves beyond question, the inimical nature of the Indian climate to the European constitution; and that is the impracticability of the colonisation of India, or any part of its plains at least, by Europeans, or "by those who are likely to effect insurances on their lives." So manifest is this that, even up to the present time the statement of Twining, that there is no example of a third generation of pure European descent reared in this country, still remains uncontradicted. Moreover, it is now admitted by the best authorities that children, reared on the most healthy of our hill sanatoria, are, at the best, mentally and physically, but enfeebled representatives of the race from which they have sprung.

29. In the 16th paragraph Dr. Monat says: "You will perceive that I have not referred to the epidemic diseases of India in my remarks. I have omitted them advisedly, because the incidence of the most formidable of them is no longer confined to India, and because in truth they exercise very little appreciable influence upon the risks of life of the classes who are likely to become your clients." A more misleading statement than this was never penned. Cholera is never absent from India, and one of its peculiarities is that it selects its victims from all classes—rich and poor—high and low. Not many years ago a Governor of Madras died from it. Last year our most respected Archdeacon perished from it. During this year an Inspector of Education in Bengal, the Inspector-General of Education in the Central Provinces, and one of the ablest of the Judges of the High Court of the North-West Provinces, and others, died from this dreaded disease.

Not a year passes in which the chief Insurance Offices have not to pay handsomely for the ravages committed among their clients by cholera. Whereas in Great Britain and the Colonies, the disease only manifests itself as a rule, in fits and starts, or at long intervals; whilst in Australia and at the Cape it has never been observed. Cholera and other epidemic diseases cannot, therefore, as Dr. Monat thinks, be safely disregarded in the discussion of the question as to whether the *Positive Company* is doing justice to itself and its clients by insuring Indian lives at English rates. I have the honor to be, Dear Sir, Your most obedient Servant,

JOSEPH EWART, M.D.,

Surgeon to the Presidency General Hospital; Professor of Physiology in the Medical College; President of the Bengal Social Science Association; formerly Officiating Principal of and Professor of Medicine in the Medical College; Statistical Officer to Indian Medical Department; and Author of the Vital Statistics of the European and Native Armies of India.

RAILWAYS AND IRRIGATION WORKS.

SIMLA, JULY 18TH, 1873.

Official Forecast of expenditure on, and returns from, the Railway and Irrigation Works now in hand and previously constructed embracing both Guaranteed and Loan Works.

THE expenditure upon Railways and Irrigation Works, as well as the liabilities which have already been incurred, or are likely to be incurred, by the State for the construction of such works, have now and will continue to have an important bearing upon the finances of India.

The Governor-General in Council, being desirous, so far as the nature of the case admits, of forming an estimate of the results of the expenditure which has been incurred or is contemplated upon such works, (whether from capital raised through the agency of Guaranteed Companies, or supplied directly by the State from loans or surplus revenue), directed calculations to be made for the purpose of ascertaining the probable results—

1st.—Of the expenditure already incurred upon Guaranteed Railways and upon Irrigation Works;

2ndly.—Of the completion of the Guaranteed Railroads; and

3rdly.—Of an annual expenditure of about three millions sterling upon State Railways, and one and a half millions upon Irrigation Works during the next five years.

These calculations are contained in the Memoranda and Tables now under consideration. They have not been compiled for the purpose of showing the profit or loss upon any particular work, but solely with a view to give the best available materials for forming an opinion whether or no the expenditure already incurred, coupled with that which is contemplated during the next five years, will produce an increased annual charge upon the General Revenues.

The manner in which the calculations have been made reflects credit upon the officers of the Public Works Department. The estimates of the cost of construction are not in all cases complete, and it is to be expected that some of the original estimates will be exceeded. The precaution has, therefore, been taken of allowing in the forecast larger sums for the probable cost of the works than are shown either in the detailed or rough estimates for the works. The estimates of income have been taken at very moderate amounts; new works are not calculated to produce any considerable return during the period embraced by the forecast; the traffic on the Guaranteed Railways is expected to give a moderate increase of net revenue, and this expectation does not appear unreasonable, as several hundred miles of new lines will be opened for traffic, and thus a considerable amount of guaranteed capital which has hitherto been employed upon construction will begin to give a return.

It is assumed in the calculations that the funds required for State works during the five years included in the forecast will be borrowed at the rate of 4 per cent. Interest on the whole Capital expenditure is a part of the actual cost of such works, even though the money be not borrowed but provided from surplus revenue; for were the surplus not so appropriated, debt and the charge upon the revenues for interest is provided for (as in the present year) from the revenues without further borrowing, their construction will not cause any addition to the amount of interest now paid from the public revenue.

Although the estimates have been framed with great caution, there exist so many disturbing causes which may affect them that the results have been put forward with considerable reserve, and can only be so accepted by the Government.

It is, however, satisfactory to know that, so far as reliance can be placed upon the most carefully prepared estimates, no additional annual charge upon the revenues is likely to result from the past and contemplated expenditure upon Railroads and Irrigation Works; and His Excellency in Council considers that the scale of annual expenditure for the next five years upon which these calculations are based, may, subject to the confirmation of Her Majesty's Government, be accepted as a guide for future operations; and that, in the course of the next five years, an addition of 2,700 miles of Railway, and Irrigation Works calculated to secure from liability to drought 50,000 square miles of country, will probably be provided without any financial difficulty.

The works specified in the lists appended to the Memoranda have been selected as being those most likely to be commenced within the period embraced in the forecast; but their insertion in the lists does not imply that they have received the sanction of Government. The sanction of any particular work will depend upon the consideration of estimates and plans which, in respect to some of the works included in the lists, have not yet been elaborated, and upon the approval of Her Majesty's Government.

The margin of annual expenditure which is left unappropriated to works already sanctioned and commenced will permit of the rate of annual expenditure being contracted, if a reduction should be found necessary.

MEMORANDUM NO. I.

Irrigation Works.

The works in hand and in contemplation are given in the list accompanying Memorandum No. II., by which the total expenditure required is estimated at £20,325,000. Of this sum, £1,589,000 has already been spent, and during the next six years, including 1872-73, the outlay will be about £8,489,000; of this last amount, £625,000 will be paid by the Puttialla and other Sikh States, and the balance of £7,864,000 must be raised by loan, or paid from surplus of ordinary revenue over expenditure.

The increased charge for interest, supposing the whole of the funds to be borrowed, is shown in the first column of the following table, the estimated net revenue in the second column, and in the third column the net increase of annual charge, by deducting the increased net revenue from the charge for interest:—

Year.	Interest charge at 4 per cent. £	Increased net revenue. £	Increase of annual charge, £
1872-73.....	38,760	.....	38,760
1873-74.....	89,400	20,000	69,400
1874-75.....	148,400	40,000	108,400
1875-76.....	206,360	60,000	146,360
1876-77.....	262,400	80,000	182,400
1877-78.....	314,560	100,000	214,560

The estimate made of the net traffic receipts for Guaranteed Railways for 1877-78 in the forecast is £3,470,000; by that time it is calculated that there will be 5,970 miles of rail open, so that the net receipts per mile open have been calculated at £572.

It will be seen from the figures given in the explanation of the estimates of net traffic receipts of Guaranteed Railways for 1872-73 and 1873-74, appended to Memorandum No. III., that the net receipts per mile of railway open were:—

In 1868	£653	1871	£533
1869	618	1872	550
1870	593		

The calculation adopted in the forecast puts the net traffic receipts per mile at a less figure than the actual results for either of the three favourable years, 1868 to 1870, but somewhat higher than those of the two unfavourable years, 1871 and 1872. Even if the figures of the last year or of the most unfavourable year (£550 or £533 instead of £572) were taken, still the general conclusion would not be affected, as the net annual charge would not exceed that estimated for the current year. And, further, if we are contented with the calculation of the net receipts would come to £493; traffic receipts at which low figure would be sufficient to prevent any increase of charge to the State.

MEMORANDUM No. II.

On the Forecast of Irrigation Charges.

On the whole, it is believed that we are getting such a return from past expenditure on Irrigation Works, that they have thrown no burden on the finances; but until the returns are completed the result cannot be told certainly.

The following gives the best information available:—

Capital Account to end of 1871-72.	Interest at 4 per cent.	Net income as per interest information.
Madras (for 30 works only) ... (c) £ 307,000	£ 12,280	£ 367,000
Bombay, excluding Sindh ... (c) 798,000	31,920	1,500
Bengal	86,520	—22,500
North-Western Provinces ... 3,331,000	133,240	(a) 166,000
Punjab	90,400	(b) 188,000
Sindh	32,000	190,000
Total..... 10,659,000	426,360	890,000
(a.)—Includes increase of land revenue due to the canals, of £44,000.		
(b.) Ditto ditto £98,000.		
(c.) Amounts not known. These are approximate sums.		

Besides these works, we have the project of the Madras Irrigation Company. This Company has a guaranteed capital of one million sterling at 5 per cent., and a loan of State funds of between £500,000 and £600,000. The works have not yet begun to yield any net returns.

The present burden on the finances on account of this Company is, therefore, here taken at £50,000 per annum, which is to be added to the £126,360 in the foregoing table. This makes the total charge for interest £476,360, while the estimated net income is, as above, £890,000. As far as existing information goes, therefore, the net result of the entire outlay on Irrigation Works up to the year 1871-72 is a return of £413,640 per annum above the interest at 4 per cent. per annum on the first cost of the works.

The works now in hand and contemplated are given in the accompanying table. The rate of expenditure set down is that which is calculated on the whole to be the most advantageous, considering the establishments available and the probable rate of growth of the irrigation.

Some of these works, as those at the Godavery and Kistna, are extensions of projects previously carried out with great success. These will, doubtless, pay well. The Bombay projects are more experimental. There are in that Presidency no large works in full operation. The capital outlay, however, is comparatively small, and the extension of the projects will be limited until experience has proved that they will pay. In Sindh, the works are for the most part what are called inundation canals. They come into operation only where the Indus is in flood, and afford means of cultivation in localities where there is practically no rain. These works are always found to pay well when their extension is kept within the limits of the possible spread of cultivation.

In the Lieutenant-Governorship of Bengal there are two great projects: neither is in the Province of Bengal Proper. The Orissa Scheme was first undertaken by a Company, and was purchased by the Government. The famine of 1866 justifies the expenditure of a large sum in order to guard against the recurrence of such a calamity, and though the growth of irrigation will be slow, it is believed that ultimately the canals will at least pay interest on the capital laid out. At present there is no net return. The Soane Works are in the Province of Behar, where the climate more resembles that of the North-Western Provinces, in which canal irrigation has been practised with success. Some of the canals will be ready to receive water and commence irrigating next year.

In the North-Western Provinces, the Ganges Canal has paid interest on the average of the last five years at 5 per cent. Some original defects of construction still require to be remedied, and the completion of the network of distributing channels is in hand: the Agra Canal is a new work, the head of which is formed by a weir across the Jumna a few miles below Delhi; water will probably be admitted next year, and the nature of the climate is such that there is no doubt that the water will be acceptable. The Lower Ganges Canal is a new project just set on foot; it is to take up the irrigation of the Doab where the original Ganges Canal leaves off; the country is well-suited for canal irrigation. The eastern Ganges Canal amongst the contemplated projects, is intended to take water from the Ganges to irrigate the western part of Rohilkhand, which has in former years suffered severely from famine, and where water will be as valuable as on the western side of the Ganges.

The works contemplated on the Bareilly Doab Canal involve the construction of a second head to obtain an additional supply of water, to be followed by remodelling and extensions as in the case of the Ganges Canal; the water in this tract is most valuable, and there is every hope that this canal will pay well when brought into proper working order. The Sirhind Canal is a new project with a head on the Sutlej at Roopur; it is intended to water the dry tract between the Jumna and the Sutlej, and though the works will be expensive there is every prospect of its paying; the Puttiala, Jheend, and Nabha States join the British Government in undertaking this work.

The extensions of the Western Jumna Canal also involve improvements; this work is the oldest of the canals in the North-West of India; it was originally a Mahomedan work, and was re-opened by the British Government in 1821 since then it has much more than re-paid, with interest, the entire capital expended on it. The original works, however, were very defective, and in the early days of irrigation the drainage in that dry tract was not much regarded, while the cultivators were allowed to take their distributing channels from the main canal much as they pleased. As the irrigation has developed, the evils of these arrangements have been seriously apparent; drainage is interfered with and unwholesome swamps formed; the partial remedies applied from time to time have failed to keep pace with the requirements of the irrigation. It is desirable to extend the irrigation, but this cannot be satisfactorily done unless it be accompanied by a complete revision of the main canal and distribution channels. The income derived from irrigation here is so large that there is no doubt the cost of the works will be fully covered by the returns.

No profits have been calculated on from any of the new works within the period embraced in the forecast. It is found by experience that, as a rule, the growth of irrigation from new canals is slow, and in the first few years the canals hardly pay working expenses, if so much. It is safe, therefore, to abstain from reckoning on any returns. Some of the works may give a small profit; others will probably not pay working expenses.

The only source of increased income to be reckoned on, therefore, is the growth of the returns from the canals already working. It has been found from experience that returns continue to grow long after the works are apparently in full use. A great deal of the growth of income arises from the economical management of the water, which is due to experience and constant efforts to economize it, so that after a time more acres are irrigated from a given supply of water than at first. But growth also takes place by a larger supply of water being taken up for irrigation. The Western Jumna Canal was opened in 1821, and the Eastern Jumna Canal in 1830. In both the income is still growing; it rises greatly in years of drought, and falls back more or less in years of plentiful and well-timed rain; but on the whole it grows.

It is not, of course, possible to give any accurate estimate of the probable total growth of the entire income from the whole of the Irrigation Works. The local circumstances are different in each case, and the returns depend much on the seasons. It would not be right to neglect the fact of this growth on the one hand, or to rely too much upon it on the other. What has been done is to consider the probability of growth under various aspects in reference to the local circumstances in each case, in reference to the general growth of income in past years, in reference to the "duty" to be expected from each cubic foot of water supplied, and so forth. Several calculations have been made from these data, and the lowest of them has been taken; it gives the following result, which the best authorities agree in considering quite safe:—

Increase of net revenue over that for 1871-72 in 1873-74.....	£20,000	Increase of net revenue over that for 1871-72 in 1876-77.....	£ 80,000
Ditto ditto ditto	1874-75..... 40,000	Ditto ditto ditto	1877-78..... 100,000
Ditto ditto ditto	1875-76..... 60,000		

The intended capital outlay upon new works is shown in the following table, together with the interest upon it at the rate of 4 per cent., and deducting from the charge for interest the estimated increase of revenue, the result—that is the net increase of annual charge on account of Irrigation Works—is shown in the last column:—

Total Capital outlay.	Less contributed by Sikh States.	Net Capital outlay from Imperial funds.	Interest charge at 4 per cent.	Increase of net income.	Net increased annual charge.
1873-74... 1,079,000	110,000	969,000	£ 38,760	£ 38,760	£ 38,760
1875-74... 1,356,000	90,000	1,266,000	89,400	69,400	69,400
1874-75... 1,575,000	100,000	1,475,000	118,400	108,400	108,400
1875-76... 1,511,000	100,000	1,411,000	206,360	186,360	186,360
1876-77... 1,501,000	100,000	1,401,000	262,400	242,400	242,400
1877-78... 1,429,000	125,000	1,304,000	514,560	489,560	489,560

IRRIGATION WORKS.

Rough forecast of money likely to be required from Loan Funds during six years.

Province.	Number.	Name of Work.	Estimated cost.	Approximate expenditure to end of March 1872.	Probable expenditure for						Total from April 1872.	Deduct to be contributed by Native States.	Total Loan Funds required during six years.	Number.
					1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.				
		<i>Sanctioned altogether or in part.</i>	£	£	£	£	£	£	£	£	£	£	£	
Madras.....	1	Completion of Godavery Delta Works	246,000	81,000	18,000	49,000	40,000	40,000	18,000	...	163,000	...	163,000	1
"	2	Ditto Kistna ditto....	570,000	95,000	11,000	16,000	30,000	30,000	30,000	30,000	147,000	...	147,000	2
"	3	Ditto Pennair ditto....	55,000	40,500	8,500	6,000	...	...	...	...	14,500	...	14,500	3
"	4	Cauvery Delta Improvements	90,000	32,000	18,000	1,000	10,000	12,000	12,000	10,000	56,000	...	56,000	4
"	5	Other Projects	263,000	43,500	27,500	19,000	30,000	50,000	30,000	30,000	165,500	...	165,500	5
Bombay	6	Moota Project	500,000	263,000	37,000	61,000	19,000	...	...	...	117,000	...	117,000	6
"	7	Tapties Project	300,000	11,000	8,000	8,000	50,000	50,000	50,000	50,000	216,000	...	216,000	7
"	8	Other Projects	350,000	267,000	25,000	28,000	16,000	14,000	...	...	83,000	...	83,000	8
Sindh	9	Various small schemes	131,000	103,000	7,000	3,000	6,000	6,000	6,000	...	28,000	...	28,000	9
"	10	Eastern Narra, Jhambras and Mitrow Canals	867,000	246,000	10,000	5,000	20,000	20,000	20,000	20,000	95,000	...	95,000	10
"	11	Desert Canal	496,000	...	...	...	20,000	20,000	20,000	10,000	70,000	...	70,000	11
Bengal	12	Orissa Project	2,770,000	1,719,000	203,000	167,000	160,000	160,000	160,000	160,000	1,010,000	...	1,010,000	12
"	13	Soane Project	3,775,000	444,000	244,000	243,000	250,000	250,000	250,000	250,000	1,487,000	...	1,487,000	13
N.-W. Provinces ..	14	Remodelling Ganges Canal (including new branches) and completing distributaries	850,000	218,000	37,000	47,000	45,000	45,000	45,000	45,000	264,000	...	264,000	14
"	15	Agra Canal	575,000	313,000	105,000	101,000	56,000	...	...	...	262,000	...	262,000	15
"	16	Lower Ganges Canal	1,699,000	12,000	48,000	135,000	160,000	160,000	160,000	160,000	823,000	...	823,000	16
Punjab	17	Baree Doab Canal. Extension and improvements including Lower Baree Doab	1,100,000	164,000	63,000	75,000	80,000	80,000	80,000	80,000	458,000	...	458,000	17
"	18	Sirhind Canal	2,980,000	410,000	174,000	290,000	250,000	250,000	250,000	250,000	1,470,000	1625,000	845,000	18
"	19	Western Jumna Canal Extensions	1,170,000	71,000	44,000	56,000	100,000	100,000	100,000	100,000	500,000	...	500,000	19
Minor Provinces ..	20	Minor Works	100,000	2,000	23,000	16,000	25,000	25,000	25,000	30,000	18,000	...	98,000	20
		Total.....	18,487,000	4,541,000	1,060,000	1,326,000	1,373,000	1,292,000	1,256,000	1,225,000	7,582,000	625,000	6,957,000	
		<i>Contemplated.</i>												
Madras	21	Pennair Extension and others	410,000	...	...	...	...	...	...	...	...	...	...	21
N.-W. Provinces ..	22	Eastern Ganges Canal	845,000	21,000	2,000	6,000	...	...	...	...	...	...	...	22
"	23	Other Projects	328,000	15,000	5,000	8,000	...	...	...	...	...	...	...	23
Punjab	24	Swat River Project	147,000	3,000	5,000	4,000	202,000	257,000	245,000	204,000	957,000	...	957,000	24
"	25	Other Projects (Derajat Canal)	...	9,000	7,000	12,000	...	...	...	...	...	...	...	25
Central Provinces ..	26	Ramtoak Project	108,000	...	...	...	...	...	...	...	...	...	...	26
		Total.....	1,838,000	48,000	19,000	30,000	202,000	257,000	245,000	204,000	957,000	...	957,000	
		Grand Total.....	20,325,000	4,589,000	1,079,000	1,356,000	1,575,000	1,549,000	1,501,000	1,429,000	8,539,000	625,000	7,914,000	
		Less to be contributed by Native States	...	...	110,000	90,000	100,000	100,000	100,000	125,000	625,000	...	...	
		Net grant from Imperial Funds	...	...	969,000	1,266,000	1,475,000	1,449,000	1,401,000	1,304,000	7,914,000	...	...	

* Allowing for continuation of portion beyond Poona, funds for which, if sanctioned, will be provided for from grants for contemplated projects.

† Sanctioned for the present against "Ordinary," but will probably be ultimately charged to "Loan Funds." Grant for 1873-74 £15,000.

‡ The total contribution required will be £1,062,200 but only £925,000 will be required within the six years.

§ Under survey. Estimates not yet prepared.

a Refunded from Ordinary Grant on account of Sardar Canal Project

Less the probable expenditure on Minor Works during this year

Net Difference.....

b Excludes outlay on works already completed, and not included in this scheme.

Note.—Items 5, 6 to 8, 10, 12, 13, 15 and 18 include outlay against capital account from ordinary funds.

MEMORANDUM No. III.

On the Forecast of Railway Charges.

The accompanying forecast of the charges on the revenues on account of Railways has been prepared in the following way:—

Statement No. I. shows the total capital expenditure on Guaranteed Railways up to the close of 1871-72, and the estimated expenditure thereafter for each year up to 1877-78. The figures for 1872-73 and 1873-74 are taken from the Regular and Budget Estimates of expenditure in India, and from estimates of expenditure in England prepared in the India Office. The rates of exchange fixed in the contracts have been followed in this Statement and in No. III., in converting rupees into sterling. There is not much room for difference of opinion as to the general sufficiency of this forecast. It cannot be absolutely said that one or two millions more than are here estimated could not be properly spent in enlarging the conveniences of, or improving, the existing Guaranteed Railways, but it may be affirmed that there is no immediate need for any further expenditure than is there set down, nor any near prospect of its being required.

Statement No. II. gives similar information in regard to State Railways. These figures are based on the best available information as to the probable cost of each Railway, and on the assumption that a yearly total expenditure of three millions sterling will be met by the State.

In this table all Railways belonging to the State are included, except the Pattee Salt Branch, which may be looked upon as a tramway for the service of the Salt Works, and has been paid for out of current revenue. First come the open Lines—two in number—the Calcutta and South-Eastern, which was surrendered by the Company that had constructed it, and the Nullahtee Branch, which was purchased.

The second group consists of sanctioned Lines in more or less advanced stages of progress. In this group is included the Holkar (State) Railway, which is made with funds lent for the purpose by the Maharaja to the British Government at 4½ per cent. interest.

The third group consists of Lines which may probably be undertaken hereafter, and for which projects and estimates have been prepared. The total annual expenditure on all the State Lines from the years 1874-75 onwards is taken at £3,000,000, but in order to allow of any modification that circumstances may require, or more precise information may show to be necessary, the annual expenditure on the third group of Lines (with the exception of the Gwalior Railway, for which Maharaja Scindia has undertaken to contribute a loan at 4 per cent. interest) is only shown in the gross, and not parcelled off between the several Lines, as is done in the second group of "sanctioned" Lines.

The rejection of any one or more of the proposed Lines need not, then affect the total annual expenditure either on the third group, or on all the Lines taken together, which may be adjusted to the estimated figure of three millions sterling a year from 1874-75 onwards.

In Statements III. and IV. we arrive at the effect of the foregoing estimates on the annual revenues of India. Statement III. exhibits the total of the capital expenditure on Guaranteed Railways as detailed in No. I., and the interest thereon.

It is clear that much of the value of this forecast depends upon the estimate of the net traffic receipts. For the years 1872-73 and 1873-74, the estimates lately submitted are taken—for 1874-75 the increase is taken at £270,000—and for subsequent years, the annual increase is estimated at £100,000. A brief explanation of the estimates for 1872-73 and 1873-74, abstracted from the reports already laid before the Government of India, is attached to this Memorandum. It is believed that this estimate is not oversanguine. A comparatively small development of any new paying traffic on one of the great lines would make the estimate too low.

In Statement IV. a similar process is repeated for the State Lines, but with a little difference. The Holkar 4½ per cent. loan of one million is shown by itself, and the interest is calculated separately. The Nizam's State Railway is not taken into account at all, as the funds are provided by the Nizam. But all other Railways are supposed, for the purposes of this forecast, to be constructed from funds raised by loans bearing interest at 4 per cent. The only head calling for further remark is that of "net traffic receipts." It is quite impossible to foretell with any accuracy what these will be on lines of a novel character, which pierce districts where trade does not run in the well-worn channels occupied by some of the Guaranteed Lines. All that can be done is to study the results of the Guaranteed Lines, and such statistics of the new districts as can be obtained, and then to frame an estimate, leaving a wide margin for unknown contingencies. This has been done, and of four different estimates, three of which were prepared on different plans, the lowest has been taken. It is believed that these figures represent a very low estimate of the probable returns of the State Railways. For the year 1873-74, the Budget Estimate of net receipts has been taken as a guide. Lastly, Statement No. V. shows the Guaranteed and State Railway net charges together. The "total" figures in this return show the whole estimated net charge on the revenues, on account of all the Railways, on the basis of calculation explained in this Memorandum.

Explanation of estimates of net traffic receipts of Guaranteed Railways for 1872-73 and 1873-74.

The Regular estimate of net traffic receipts of Guaranteed Railways for 1872-73 is £2,470,000, the Budget Estimate having been £2,924,000—a decline of £454,000. Of this sum, the Great Indian Peninsula Railway accounts for £315,000, the Bombay and Baroda Railway for £11,600, and the Eastern Bengal Railway for £88,000. A great portion of the last two differences is explained by the expenditure in restoring the works injured by floods being met from the Revenue Advance Account. On the Great Indian Peninsula Railway the decrease is partly attributable to a decline of traffic, and partly to the adjustment in the course of year of certain charges between Capital and Revenue, which throw a large charge on the revenue of the year.

The actual net traffic receipts applied in reduction of the charge for guaranteed interest have been—

1868-69	£ 2,230,527	1871-72	£ 2,868,948
1869-70	2,628,912	1872-73 Regular Estimate.....	2,470,000
1870-71	2,556,781	1873-74 Budget Estimate.....	2,900,000

Before the last figure can be accepted, it is necessary to show the decrease in 1872-73 is not due to any general decline of traffic that can be considered permanent. This can best be deduced from the Revenue Accounts, which show the actual earnings and actual expenditure for each calendar year.

Year.	Earnings. £	Expenses. £	Profits. £	Miles open.	Percentage of earnings absorbed in working.
1868.....	5,353,209	2,874,503	2,478,706	3,931	53.7
1869.....	5,739,382	3,226,878	2,512,504	4,065	56.2
1870.....	6,246,591	3,411,959	2,834,632	4,780	54.6
1871.....	6,125,382	3,444,361	2,680,971	5,025	56.2
1872.....	6,373,590	*3,510,353	2,863,087	5,209	53.1

It appears from this that, although there has been a decline of traffic on the two chief Railways of the country, the gross earnings for the year 1872 were greater than those of any preceding year. And while the cessation of the work of construction has thrown on the Revenue Account the whole cost of such charges as were previously shared with the Capital Account, the cost of working has not increased in such a way as to neutralise the benefit of the increase of earnings.

During the year 1873-74, the open mileage will exceed 5,600 miles and some new traffic may be expected. On the old lines the state of the goods traffic will depend on many circumstances which cannot be foreseen with precision. In the passenger traffic, however, an increase may be confidently expected. The number of 3rd and 4th class passenger tickets (which constituted 95 per cent. of the whole number) issued during a series of years has been—

Year ending 30th June 1867	No. 12,849,975	Year ending 30th June 1870	No. 16,759,537
" " " 1868	14,490,165*	" " " 1871	17,368,575
" " " 1869	15,340,191	" " " 1872	18,391,485

It is calculated that an increase of 10 per cent. over the number of passengers carried in the year ending 30th June 1872 would yield £150,000 of additional earnings.

Bearing in mind the present position of trade, and the circumstances affecting the different Railways, it is considered that £2,900,000 should be taken as the best estimate that can now be formed of the net traffic receipts for 1873-74.

* Exclusive of £94,329, expended on works rendered necessary by the floods of 1871 and 1872, part of which is chargeable to Capital.

STATEMENT No. I.

GUARANTEED RAILWAYS.

Approximate Statement of past expenditure and probable future Capital outlay (both in England and India) during six years ending 31st March 1878.

Name of Railway.	Length. Miles.	Total estimated cost after reduction of Stores in hand to normal amount. £	Estimated expenditure to end of March 1872. £	PROBABLE EXPENDITURE IN						Six years ending 1877-78. £
				1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	
Great Indian Peninsula ...	1,286	23,525,000	23,250,000	£	£	£	£	£	£	£
Bombay, Baroda and Central India ...	313	7,725,000	7,665,000							
Do Ditto ditto—Ahmedabad to Wadwan ...	77									
Madras ...	857	10,650,000	10,040,000							
Ditto Bellopoorto Cannanore (if sanctioned) ...	57									
East Indian, including Jubbul-pore Extension ...	1,503	30,700,000	*30,726,000							
Great Southern of India ...	168	2,850,000	1,722,000							
Ditto Southern Extensions ...	216									
Curatic—Arconum to Conjeve-ran ...	183	55,000	93,000							
Ditto Madras to Cuddalore.	85	540,000								
Ditto Cuddalore to Tanjore.	80	480,000								
Eastern Bengal ...	157	3,050,000	2,893,000							
Sindh, Punjab and Delhi ...	662	10,400,000	10,220,000							
Quah and Rohilkhand ...	544	6,000,000	3,400,000							
Ditto Moradabad to Ram-augur† ...	47									
Total	6,070½	95,945,000	90,009,000	986,000	1,525,000	2,000,000	825,000	400,000	200,000	5,936,000

* It is estimated that the amount of capital expenditure on the East Indian Railway will be reduced by £118,000 in 1872-73, and £335,000 more in 1873-74. The reduction of the stores in hand will cause similar decreases on other Lines.

† To this is now added a proposal for about 110 miles of railway from Moradabad to Saharunpore. This is not included in the Statement, not being either provided for in the contract or sanctioned.

STATEMENT No. II.

STATE RAILWAYS.

Approximate Statement of past expenditure and probable future Capital outlay (both in England and India) during six years ending 31st March 1878.

Name of Railway.	Length.	Actual cost.	Approximate expenditure from loan funds to end of March 1877.	PROBABLE EXPENDITURE AT						
				1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	Six years ending 1877-78.	
OPEN LINES.										
	Miles.	£	£	£	£	£	£	£	£	£
Calcutta and South-Eastern	28	...	a 529,000	...	...	...	...	...	...	...
Nuthattee Branch	27½	...	30,000	...	...	...	...	...	...	...
Total...	55½	559,000	559,000	...	...	...	...	...	...	...
SANCTIONED LINES IN PROGRESS OR FINISHED, BUT NOT OPEN, b										
		Estimated cost.								
Rajpootana—Agra to Sambhar Junction	185½	1,030,000	113,000	281,000	575,800	475,200	...	...	...	1,332,000
Rajpootana—Sambhar Junction to Nusserabad with Salt Branch...	69	415,000								
Rajpootana—Delhi to Rewaree, including Furrucknagar Branch c	58	780,000								
Rajpootana—Rewaree to Bandikuri Junction e	84	780,000	172,000	138,000	276,800	193,200	...	...	...	608,000
Punjab Northern—Lahore to Jhelum	101	650,000	d 739,000	420,000	566,100	300,000	293,900	...	...	1,380,000
Punjab Northern—Lahore to Jhelum three large bridges with selective works	3	1,200,000								
Punjab Northern—Jhelum to Rawalpindi	69	475,000								
Indus Valley—Mooltan to Rohree.	270	1,760,000	122,000	243,000	609,200	745,800	900,000	700,000	...	3,198,000
Indus Valley—Kotree to Rohree, with Indus Bridge	222	1,560,000								
Wardah Coal Branch	50	400,000								
Holkar State—Khundwah to Indore f	85½	1,000,000	e 4,000	102,000	246,500	44,500	...	...	...	393,000
			36,000	160,000	283,800	440,200	80,000	...	...	861,000
Total...	1,197	9,270,000	1,186,000	1,344,000	2,558,200	2,198,900	1,273,900	700,000	...	8,075,000
PROPOSED LINES.										
The Sindia State Railway g	82	750,000	...	...	26,800	300,000	300,000	123,200	...	750,000
Indore to Oojein and Neemuch	169	1,046,000	32,000	13,000	...	...	...	...	...	...
Western Rajpootana—Ahmedabad to Deesa and Ajmere h	330	1,650,000	...	...						
Neemuch to Nusserabad	134	823,400	...	...						
Northern Bengal	200	1,500,000	5,000	11,000	27,000	501,100	1,426,100	2,176,800	3,000,000	7,169,000
Rangoon to Prome	160	895,000	...	...						
Carwar to Gudduk i	145	1,015,000	34,000	14,000						
Gudduk to Bellary	90	500,000	...	...	...	...	...	...	...	...
Nagpoor to Chutteesgurh	130	780,000	...	...						
Third rail from Kotree to Kurrachee and from Mooltan to Lahore on the Guaranteed Sindh, Punjab and Delhi Railways	...	345,000	...	...						
Puttambay to Cochin	60	600,000	...	...	...	...	...	...	...	...
Total...	1,500	9,905,000	71,000	38,000						
Total...	2,752½	19,734,000	1,816,000	1,382,000	2,612,000	3,000,000	3,000,000	3,000,000	3,000,000	15,994,000
Add—Expenditure by Secretary of State on stores not appropriated to any particular line	...	...	22,000	...	...	...	...	...	...	...
Grand Total...	2,752½	19,734,000	1,838,000	1,382,000	2,612,000	3,000,000	3,000,000	3,000,000	3,000,000	15,994,000
LINES NOT CHARGEABLE TO THE REVENUES OF BRITISH INDIA.										
Nizam's State—Waddy to Hyderabad j	123	1,100,000	120,000	600,000	380,000	...	...	...	...	980,000
Khamgaon Branch	7½	49,000	49,000	...	...	...	...	...	...	...
Oomraotee Branch	5½	47,000	47,000	...	...	...	...	...	...	...

a Excludes outlay of £108,500 from ordinary grant on purchase of land and control and £30,000 loss by Exchange. As also £83,050 due to debenture-holders, and which has still to be paid, so that the total outlay on the line has been £755,550.

b This excludes the Pattee Branch, length 29 miles, to be executed from the ordinary grant; estimated cost £100,000.

c Delhi to Rewaree opened since this table was first compiled.

d Excludes £6,000 debited to ordinary grant.

e Excludes £3,000 debited to ordinary grant.

f Loan at 4½ per cent. from Holkar.

g Loan at 4 per cent.

h Do. to extent of £750,000. } From Sindia.

i Minor past expenditure on surveys defrayed from the ordinary grant, is excluded.

j Constructed at charge of the Nizam.

STATEMENT No. III.

Approximate Statement of the total net charge on the Revenues of India on account of Guaranteed Railways, for the six years ending 31st March 1878.

	Actual outlay to end of March, 1872.	ESTIMATED OUTLAY IN					
		1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.
Capital outlay in each year ...	£ 90,000,000	£ 986,000	£ 1,525,000	£ 2,000,000	£ 825,000	£ 400,000	£ 200,000
Total ditto to end of each year ...	90,000,000	90,995,000	92,520,000	94,520,000	95,345,000	95,745,000	95,945,000
CHARGES ON STATE—							
Interest on total ditto at 5 per cent. ...	.....	4,549,750	4,626,000	4,726,000	4,767,250	4,787,250	4,797,250
Land and Control ...	.....	129,850	110,200	75,000	70,000	70,000	70,000
Total gross charge ...	.....	4,679,600	4,736,200	4,801,000	4,837,250	4,857,250	4,867,250
Estimated net earnings ...	.....	2,470,000	2,900,000	3,170,000	3,270,000	3,370,000	3,470,000
Net charge on Revenue ...	.....	2,209,600	1,836,200	1,631,000	1,567,250	1,487,250	1,397,250

* The capital actually paid up and bearing interest on 31st March 1872 was Rs. 193,555,648 and on 31st March 1873 it is estimated to amount to Rs. 293,793,924.

STATEMENT No. IV.

Approximate Statement of the total net charge on the Revenues of India on account of State Railways for the six years ending 31st March 1878.

	Actual outlay from loan funds to end of March 1872.	ESTIMATED OUTLAY IN						Remarks.
		1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	
Lines constructed or purchased from 4 per cent. Loans.	£	£	£	£	£	£	£	
Capital outlay in each year ...	1,222,000	2,328,200	2,559,800	2,920,000	3,000,000	3,000,000	3,000,000	
Total ditto to end of each year ...	1,802,000	3,024,000	5,352,200	7,912,000	10,832,000	13,832,000	16,832,000	The cost of the Pattee Branch is not included in this Statement.
Interest on total ditto at 4 per cent. ...	120,960	214,088	316,480	433,280	553,280	673,280	793,280	* This is the Holkar (State) Railway.
Line constructed from 4½ per cent. loan.	£	£	£	£	£	£	£	
Capital outlay in each year ...	160,000	283,800	440,200	80,000	...	...	...	
Total ditto to end of each year ...	36,000	196,000	479,800	920,000	1,000,000	1,000,000	1,000,000	
Interest on total ditto at 4½ per cent. ...	8,820	21,591	41,400	45,000	45,000	45,000	45,000	
Total interest charge ...	129,780	235,679	357,880	478,280	598,280	718,280	838,280	
Estimated net earnings ...	...	13,700	77,500	200,250	280,550	340,000	340,000	
Net charge on Revenue ...	129,780	221,979	280,380	278,030	317,730	378,280	378,280	
Average length of line estimated to be open for traffic during each year ...	...	Miles. 150	Miles. 775	Miles. 1,335	Miles. 1,810	Miles. 2,125	Miles. 2,125	

STATEMENT No. V.

SUMMARY.

Approximate Statement of the total net charge on the Revenues of India on account of all Railways for the six years ending 31st March 1878.

	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.
Guaranteed Railways ...	2,209,600	1,836,200	1,631,000	1,567,250	1,487,250	1,397,250
State Railways ...	129,780	221,979	280,380	278,030	317,730	378,280
Total...	2,339,380	2,058,179	1,911,380	1,845,280	1,804,980	1,775,530

ROAD CESS STATISTICS:—BENGAL.

SOME interesting figures concerning the Road Cess, have been submitted to the local Government as to the incidence of the cess in twelve estates in the Hooghly and Burdwan districts. Summarising the figures we arrive at the following results:—

Estates ... { Burdwan	7	
{ Hooghly	5	12
Gross jumma of the twelve estates	Rs. 10,82,039	
Gross valuation of the rental	21,89,454	
Gross claim on account of the cess:—		
Payable by zemindars	Rs. 4,870	
" under-tenants	8,129	
" lakherajdars	8,558	
" ryots	29,863	51,420
Number of ryots assessed at	29,863	1,81,248
Average amount of the cess on each ryot		A. P. 2 8
The three classes above the ryots to whom an income from the land amounting to	Rs. 21,89,454	
Less the jumma	10,82,039	11,07,415
And they contribute to the cess—		
Zemindars	Rs. 4,870	Rs.
Under-tenants	8,129	
Lakherajdars	8,558	
		21,557

or very nearly 2 per cent. on their income from the land.

The average rental paid by each ryot, would seem at first sight to be about Rs. 12, thus:—

Ryots Rs. A. P.
Gross rental Rs. 21,89,454 ÷ 1,81,248 = 12 1 6

and a cess of Rs. 29,863 on this amount is as nearly as possible 1½ per cent. Assuming then, as the Board of Revenue, we believe

does, that the ryot's profits equal the rental he pays the classes above him, he would at this rate be taxed 1·3 per cent. on his accumulations, and they 2 per cent. on their incomes.

Zemindar classes pay 2 per cent. on income. Ryots pay 1·3 per cent. on accumulations.

The annexed table given shows the average rental of each ryot to be about Rs. 12. But defining properly what we mean by a "ryot" for the purposes of this inquiry, we should say that the average is much higher; for as almost every one holds a patch of land in these districts, the entire shopkeeping and artisan class are, we imagine, put down as ryots in the road cess papers. The professional ryot class in Hooghly, according to the census, is but 180,537 strong, while the road cess returns make it 232,933. The probability, therefore is that the average rent of the true ryot is nearer Rs. 24 than Rs. 12, and the figures, taken as a whole, indicate this, we think, pretty conclusively. The rental per beegah of land varies, we believe, in these districts from about Rs. 1·8 to Rs. 12, or even Rs. 15 for the most expensive kinds of garden produce. If we suppose the average rental to be Rs. 3 per beegah, the average size of the holdings would upon the above estimate, be eight beegahs—

Or at..... Rs. 3 = Rs. 24 per year.

Road cess thereon..... = 0·312 per year.

Or about 5 annas increase to the rental. It is hard to see how such an impost can be oppressive if proper means are taken to familiarize the ryot with the proclamation that has lately been issued. There is no tax-collecting machinery to worry him, or extort money from him, or terrify him. He is simply required when he pays his rent to add thereto the trifling sum required on account of the cess; the proper amount of which every villager may know with certainty in the course of a month or two. It is hardly fair therefore to call the cess a direct tax, for it reaches the ryot indirectly through a minute increase of his rental, without the intervention of a tax collector. It is necessary however somewhat to qualify what we have written from the fact that the ryots of the lakherajdars do not appear to be included in these returns. The estimate that the profits of the ryot are about equal to the rental he pays the classes above him, does not seem an extravagant one. For the

Population of Burdwan is..... 20,34,745
 " Hooghly 14,88,556
 35,23,301
 Or say for this enquiry..... 35,00,000

Colonel Haig says that the people cannot live on less than 1·2 lbs. of rice per day per head, and this is no doubt a moderate estimate. Both districts export food however (rice) so that their produce for home consumption will be something like this:—

Food for 35,00,000 people annually.—35,00,000 × 1·2 × 365 = 76,65,00,000 seers.

Now the price of rice averaged between 21 and 22 seers per rupee throughout the ten years 1861-1870. To-day it is 17 to 18 seers per rupee. Assume the price to be 22 and the annual value of the food (bare rice only) consumed by the people themselves will be:—

Seers 76,65,00,000 ÷ 22 = Rs. 350,00,000
 Home consumption..... "

Exports for Europe.....

Rs.

1. Silk, jute, seeds, &c. Rs.
2. For consumption in the cities of Calcutta, Howra, Serampore, Hooghly, &c. Rs.

Rice, milk, eggs, poultry, meat, fodder, pan, dates, sugar, vegetables, fruit, &c. Rs.

Harvest Rs.

It is therefore difficult to believe that the gross value of the harvest is less than 5 to 6 millions sterling, and we should think it likely to be a good deal more. But the jumma of both districts amounts but to Rs. 44,98,110 and the Road Cess figures go to show that the gross rental is about twice the amount of the jumma. If we assume the harvest, then, to be of the gross value of Rs. 5,40,00,000 the gross produce will be appropriated in some such proportions as these:—

The jumma 1/12th Rs. 45,00,000
 The zamindar classes 1/12th..... 45,00,000
 The ryots 10/12th 4,50,00,000
 Rs. 5,40,00,000

According to this estimate the rental will absorb 1/6th of the produce, and if we take the ordinary estimate of the cost of cultivation at half the produce or 3/6ths, there would be a margin of 2/6ths left in the ryots' hands as profits. The margin is probably not so large as this; but if we estimate it at 1/6th, we doubt if we are not erring in the opposite direction. Say however:—

Rental (including jumma)..... 1/6th 90,00,000 | Expenses of cultivation..... 4/6th 360,00,000 | Ryots' profit... 1/6th 90,00,000

If this division comes somewhere near the actual appropriation of the harvest, then the road cess would fall on the zamindars' income but on the ryots' accumulations. It is necessary however to remember how uncertain such calculations are: that we are not sure that the estates are representative ones, and that the rental instead of being only twice the amount of the jumma may not on the average be four or five times as much, while the true cost of cultivation moreover has yet to be ascertained. It is satisfactory however that we are on the high road to attaining what we require to know; and the uncertainty in which we at present stand as to the simplest economic facts of our condition, is apology enough for the earnestness with which the local Government is seeking to remove it. There are no foregone conclusions to be proved, or pet theories to be established. We want to know the real condition of the people as the only safe basis of administering their affairs.

Summary of Road Cess Statistics for 12 Estates in Hooghly and Burdwan.

DISTRICT.	Towjee No.	Estate, mehal, or pergunnah.	Jumma.	Rent.	Road cess.	Paid by zemindar.	Paid by under-tenants.	Paid by lakherajdars.	Paid by ryots.	No. of ryots.	Average paid by each ryot.
			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		As. p.
HOOGHLY ...	687	Khandaree.....	177	2,374	71	33	1	.....	37	161	3 8
	170	Luckimpore	810	3,844	100	41	3	.....	56	469	2 7
	38	Sankhali.....	10,148	29,658	768	279	41	.....	148	28,887	1 2
BURDWAN ...	87	Mojkoory	654	2,981	83	29	2	12	40	2,575	1 8
	3475	Chuck Kristopore	164	591	16	5	2	.....	9	99	1 2
	2404	Balagar	150	599	16	6	1	.....	9	113	1 1
HOOGHLY ...	35	Pergunnah Mandalghat, Baboo Heera Lal Seal's share	1,79,039	4,28,329	10,619	2,688	580	1,286	6,065	22,596	2 6
	35	Premnath Chowdry's share	22,879	34,971	680	190	24	23	503	4,780	1 6
	111	Ramchunderpore.....	3,55,636	6,61,231	15,106	662	2,796	2,634	9,014	38,561	3 9
BURDWAN ...	3653	Balabazar Mehal	24,366	47,187	983	109	151	96	627	2,575	3 0
	3	Koreesoonda Mehal	23,466	43,197	981	108	151	96	626	3,460	3 0
	*12	Rajib-buttee.....	4,65,100	9,36,492	21,998	781	4,377	4,411	12,429	77,192	0 10
		Total.....	10,82,039	21,89,454	51,421	4,871	8,129	8,558	29,863	181,248	2 8 average.

NOTES.
 Gross rental Rs. 21,89,454
 Deduct jumma..... 10,82,039
 Zemindars' and under-tenants' profits 11,07,415
 ROAD CESS
 Paid by zemindars 4,871
 " by putnidars, &c. 8,129
 " by lakherajdars 8,558
 " by 181,248 ryots..... 29,863
 Total amount..... 51,421

Zemindar classes pay Rs. 21,558
 181,248 ryots pay 29,863
 Total..... 51,421

WEIGHT OF THE CESS.

1. Nearly 2 per cent. on the zemindars' incomes.
2. About 1·3 per cent. on the ryots rental, which is supposed to represent about the amount of their profit.

AVERAGE RENTAL

Rs. 21,89,454 ÷ 181,248 = Rs. 12-1-6.

HISTORY OF PRICES.—

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

[illegible]

Deputy Commissioner reports that the places chosen best represent the prices in the district, and that information other than shown in statement is not procurable.

[illegible]

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued

ARTICLES.	HUSHIARPUR.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	28.92	29.85	28.92	29.74	18.66	20.52	19.59	15.22	13.58	19.59
Common rice, husked	13.99	15.86	15.86	8.39	8.39	8.39	13.99	9.21	7.69	7.46
Best rice, husked	11.66	11.89	14.46	7.46	7.58	7.46	12.13	7.46	6.18	6.53
Wheat	14.46	32.65	32.65	25.31	14.22	23.32	22.97	13.18	9.56	17.26
Barley (<i>Hordeum coeleste</i>)	20.52	39.19	37.32	41.75	26.12	31.43	31.72	14.46	12.24	25.66
Bajra (<i>Penicillaria spicata</i>)	20.52	28.05	29.33	20.17	15.62	20.93	20.52	10.38	11.66	23.79
Jowar (<i>Sorghum vulgare</i>)	20.52	36.21	39.19	24.72	25.77	28.92	24.26	13.76	12.71	29.39
Gram (<i>Cicer arietinum</i>)	14.92	32.83	53.18	34.75	20.52	27.40	26.12	11.78	8.86	16.32
Lentils, mash (<i>Phaseolus radiatus</i>)	18.66	20.29	23.09	16.26	18.89	18.07	17.26	9.91	8.86	12.46
Cotton, cleaned	2.56	2.27	3.26	3.26	1.86	2.27	3.26	2.56	1.86	1.86
Indigo, manufactured (<i>Indigofera tinctoria</i>)	93	1.04	69	69	23	46	58	52	52	52
Indigo, fresh plant	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85
Sugar-cane	...	...	...	...	...	...	...	...	...	...
Sugar, raw	7.46	7.46	9.33	8.63	9.33	9	6.50	7.46	7.46	7.46
Sugar, refined	3.49	3.49	3.26	3.73	3.73	3.61	3.26	2.79	2.91	2.79
Salt	10.72	9.33	10.26	8.39	8.39	8.39	8.39	8.39	8.39	7.46
Ghee	2.68	2.68	1.74	1.86	1.74	1.45	1.39	1.39	1.34	1.39
Milk	13.06	13.06	13.99	16.79	14.92	12.13	12.13	12.13	12.13	12.13
Tobacco (<i>Nicotiana tabacum</i>)	9.33	9.33	6.53	9.33	11.19	9.33	9.33	9.33	5.59	9.33
Firewood	111.97	111.97	111.97	111.97	111.97	111.97	111.97	111.97	111.97	111.97
Til (<i>Sesamum orientale</i>)	14.69	15.16	12.13	14.46	9.79	11.66	13.52	10.73	12.83	12.13
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	18.66	18.66	14.92	14.92	11.19	14.92	16.79	11.19	11.19	13.59
Turnips (<i>Brassica rapa</i>)	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85
Radishes (<i>Raphanus sativus</i>)	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85
Carrots (<i>Daucus carota</i>)	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85
Molasses	74.64	55.98	55.98	74.64	74.64	46.65	46.65	46.65	55.98	55.98
Keekar Bark (<i>Acacia Arabica</i>)	74.64	74.64	74.64	74.64	74.64	74.64	74.64	74.64	74.64	74.64
Arbi (<i>Arum colocasia</i>)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Bath alu (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turneric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof per gallon	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Wages of unskilled labourers { Coolies	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
per diem { Kahars	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
{ Bheesties	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26

Sugar-cane sold per bigah.

ARTICLES.	DASUAH.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	39.19	41.98	51.32	40.12	25.19	29.85	27.99	16.79	14.92	29.85
Common rice, husked	23.32	21.46	16.79	16.79	13.52	14.92	16.79	11.19	5.39	14.92
Best rice, husked	13.99	13.47	15.86	13.06	10.38	9.85	13.99	13.06	5.39	9.09
Wheat	18.72	37.44	37.49	37.32	19.42	27.40	26.12	13.99	10.78	19.71
Barley (<i>Hordeum coeleste</i>)	23.79	53.82	56.74	51.32	28.05	36.85	33.59	15.86	13.64	27.35
Bajra (<i>Penicillaria spicata</i>)	22.39	32.77	29.85	25.19	18.66	21.51	26.12	16.79	13.99	27.99
Jowar (<i>Sorghum vulgare</i>)	23.32	42.68	51.90	26.12	26.24	31.49	27.99	16.79	14.92	27.32
Gram (<i>Cicer arietinum</i>)	15.62	37.32	42.68	37.32	23.91	28.10	27.06	12.13	10.03	16.67
Lentils, mash (<i>Phaseolus radiatus</i>)	17.90	23.38	23.56	22.39	20.38	19.65	14.92	11.19	8.45	15.04
Cotton, cleaned	2.79	2.79	3.26	3.03	1.86	2.79	2.79	3.03	2.27	2.69
Indigo, manufactured (<i>Indigofera tinctoria</i>)	69	69	81	69	58	58	69	69	46	69
Indigo, fresh plant	30.79	30.79	30.79	30.79	30.79	30.79	30.79	30.79	30.79	30.79
Sugar-cane	...	...	...	...	...	...	...	...	...	...
Sugar, raw	7.69	8.92	8.74	11.19	10.67	8.77	7.46	8.39	5.65	6.41
Sugar, refined	3.20	3.73	3.38	3.73	4.19	3.79	3.49	3.73	3.26	3.38
Salt	10.20	9.03	7.69	8.86	8.39	8.28	8.39	7.93	7.81	8.04
Ghee	2.04	1.86	1.86	2.09	1.86	1.39	1.39	1.39	1.39	1.34
Milk	16.32	15.74	15.74	14.92	16.62	14.52	14.46	13.99	11.19	10.26
Tobacco (<i>Nicotiana tabacum</i>)	11.19	12.13	11.19	12.13	9.33	10.73	9.79	9.33	8.39	7.46
Firewood	149.29	111.97	111.97	186.62	149.29	149.29	186.62	223.94	139.96	167.95
Til (<i>Sesamum orientale</i>)	14.92	15.86	13.06	13.06	10.26	13.06	13.99	11.19	9.33	13.06
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	19.59	20.52	15.86	16.79	13.06	16.79	18.66	13.99	12.13	15.86
Turnips (<i>Brassica rapa</i>)	93.31	149.29	149.29	93.31	93.31	149.29	111.97	102.64	102.64	149.29
Radishes (<i>Raphanus sativus</i>)	111.97	186.62	223.94	111.97	111.97	223.94	186.62	149.29	149.29	223.94
Carrots (<i>Daucus carota</i>)	111.97	186.62	186.62	102.64	111.97	149.29	149.29	102.64	102.64	186.62
Molasses	18.66	37.32	74.64	83.97	55.98	74.64	46.65	46.65	52.25	74.64
Keekar Bark (<i>Acacia Arabica</i>)	74.64	74.64	74.64	59.71	59.71	59.71	59.71	59.71	59.71	59.71
Arbi (<i>Arum colocasia</i>)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Bath alu (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turneric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof per gallon	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40
Wages of unskilled labourers { Coolies	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
per diem { Kahars	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
{ Bheesties	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26

THE Statistical Reporter,

A MONTHLY JOURNAL OF STATISTICAL ENQUIRIES CONCERNING INDIA.

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EXPECTATION OF LIFE IN INDIA: MEMORANDUM ON PENSION-VALUES.

(By J. Westland, Esq., Accountant-General, Bengal.)

THE compilation of a table for showing the capital value of pensions depends upon two data, namely, the rate of mortality, and the rate of interest. Observations of native life are extremely few, so few indeed, that those Assurance Companies in Calcutta which accept risks on native lives do not base their calculations on any data regarding native life. One office adopts European military rates, and two others take a certain percentage in addition to European civil rates, as the basis of assurance on native lives. If we were to follow them, we would simply adopt for native rates of mortality something in excess of European rates. The only regular investigation regarding native life which, so far as I know, has been made, was the work of Dr. Haines, a surgeon in Bombay, who made elaborate enquiries on the subject, on the basis chiefly of military records, and whose papers were purchased by the Government of Bombay in 1867. The following is a summary of the rates of mortality that resulted from his investigations:—

Age.	35-39.	40-44.	45-49.	50-54.	55-59.	60-64.	65-69.	70-74.	75-79.	80-84.	85-89.	90—
A.—Civil Pensioners, Warden's Official Fund, chiefly clerks.	·667	...	1·405	2·651	2·561	2·518	5·801	4·126	3·514	1·676	1·158	2·410
B.—Civil Pensioners, chiefly clerks, superannuated on medical certificate.	4	7·042	10·236	3·697	4·138	5·138	2·794	8·151	4·474	9·929	3·226	7·895
C.—Native Military pensioners, and a few others.	1·920	2·760	3·764	4·819	5·200	6·554	8·318	9·831	11·750	12·324	14·199	20·455
D.—Uncovenanted Service Fund, Mr. Woodrow's (figures).	1·78	2·12	2·94	3·99	4·15	7·28	8·45	...	...	...	...	...

Of these series of results, the first (marked A) and the second (marked B) are based upon observations of only 140 and 161 deaths, respectively, so that the area of observation is not wide enough to enable us to accept them with any confidence. This is especially the case with the ages above 80, where, in the first case, the observations were confined to five deaths, in an average of about twenty persons alive each year. The series marked C has a much wider area of observation, 6,355 deaths having occurred among the cases observed; the regular gradation of the results also shows that the area has been sufficiently large to eliminate departures from the average. They may, in my opinion, be accepted as a good guide, in the cases to which they immediately apply, namely, native military pensioners in Bombay; the only question is, whether the circumstances of native civil pensioners in Bengal are sufficiently similar to those of native military pensioners in Bombay, to warrant us in accepting statistics affecting the latter, as a guide towards conclusions affecting the former. I recently had occasion to make a close comparison between the actual deaths occurring among the civil pensioners in Bengal, during the years 1871-72 and 1872-73, and the number of deaths that might be expected according to the rates of the series C just mentioned. I quote here the results of the comparison, and my observations regarding them.

DESCRIPTION OF PENSIONERS.	Rate of Pension.	Number.	Actual mortality.	Expected mortality.
INDIA ...	All ...	204	25	24·5
BENGAL, MOFUSSIL ...	Under Rs. 10 ...	500	82	66
	Under " 50 ...	357	38	44·5
	Over " 50 ...	105	28	14
BENGAL, CALCUTTA ...	Under " 10 ...	83	9	9·5
	Under " 50 ...	186	16	24
	Over " 50 ...	99	11	18·5
MARINE ...	All ...	69	4	6
TOTAL ...	.....	1,603	215	202

I think, therefore, that it is a pretty fair conclusion that, so far as can be judged from information and calculations, so rough in their nature the mortality rates, with which we above started, are not far from the average applicable to the case. It is worthy of remark that the younger pensioners show a tendency to excessive mortality (compared with our initial figures), which is easily accounted for by the fact that they are, by the nature of the case, mostly invalids; and that, as we might have expected, the pensioners of the class between Rs. 10 and 50 seem to be more healthy than those on higher, or on lower, pensions.

It seems to me, therefore, that, pending further observation, we should base our mortality tables upon the rates which we have thus examined. It is necessary, however, to make an alteration in respect of the earlier ages. Pensioners in the Civil Department, of ages 35 to 50, are for the most part invalids, and therefore have necessarily a comparatively high rate of mortality. On this ground, therefore, I have taken the rate for these ages at 4 per cent. instead of at 1·920, 2·760, and 3·764. The second of the data is the rate of interest to be allowed. In a similar case, where the Government of India consented to receive money for annuities, simply at a fair rate of interest, without giving any privilege or donation of any kind, it fixed 3½ per cent. (the present Savings Bank rate) as the rate which it would give. I take this rate, therefore, as the

basis on which to make the calculation. The calculation and the result are shown in the following table. It should be added that the results which are shown in the table involve no margin for safety, or for working expenses, no allowance of any kind being made in favour either of the payers or of the receivers of the pension-values.

Age. x	Probabi- lity of dying in one year.	Probabi- lity of living one year.	Logarithm of ditto with inter- polations.	Logarithm of No. liv- ing l_x	Logar- ithm of v^x	Logar- ithm of D_x $=l_x v^x$	D_x	N_x	Logar- ithm of N_x	Logar- ithm of N_x $\bar{D}_x$	Value of annuity.	Adjusted value.*	Value of Pension of Rs. 1 a month.
Rs. a. p.													
35	...	...	9.9823	4.0000	9.4404	3.4404	2757	31893	4.5037	1.0633	11.569	12.036	144 6 11
36	...	...	9.9823	3.9823	9.4244	3.4067	2551	29342	4.4675	1.0608	11.503	11.967	143 9 8
37	04	9600	9.9823	3.9646	9.4084	3.3730	2360	26982	4.311	1.0581	11.431	11.892	142 11 3
38	...	...	9.9823	3.9469	9.3924	3.3393	2184	24798	3.944	1.0551	11.353	11.811	141 11 9
39	...	...	9.9823	3.9292	9.3764	3.3056	2021	22777	3.575	1.0519	11.269	11.724	140 11 0
40	...	...	9.9823	3.9115	9.3605	3.2720	1871	20906	3.203	1.0483	11.176	11.626	139 8 2
41	...	...	9.9823	3.8938	9.3445	3.2383	1731	19175	2.827	1.0444	11.076	11.523	138 4 5
42	04	9600	9.9823	3.8761	9.3285	3.2046	1602	17573	2.448	1.0402	10.970	11.413	136 15 4
43	...	...	9.9823	3.8584	9.3125	3.1709	1482	16091	2.066	1.0357	10.857	11.294	135 8 5
44	...	...	9.9823	3.8407	9.2965	3.1372	1372	14719	1.679	1.0307	10.732	11.164	133 15 6
45	...	...	9.9823	3.8230	9.2805	3.1035	1269	13450	1.287	1.0252	10.597	11.025	132 4 10
46	...	...	9.9823	3.8053	9.2645	3.0698	1174	12276	0.891	1.0193	10.454	10.875	130 8 0
47	04	9600	9.9823	3.7876	9.2485	3.0361	1087	11189	0.488	1.0127	10.297	10.712	128 8 8
48	...	...	9.9820	3.7699	9.2325	3.0024	1006	10183	0.079	1.0055	10.128	10.540	126 7 8
49	...	...	9.9817	3.7519	9.2165	2.9684	929.8	9253	3.9663	0.9979	9.952	10.359	124 4 11
50	...	...	9.9814	3.7336	9.2006	2.9342	859.5	8398	9.239	0.9897	9.766	10.171	122 0 10
51	...	...	9.9811	3.7150	9.1846	2.8996	793.6	7599	8.808	0.9812	9.576	9.977	119 11 7
52	0432	9568	9.9808	3.6961	9.1686	2.8647	732.3	6867	8.368	0.9721	9.378	9.774	117 4 7
53	...	...	9.9800	3.6769	9.1526	2.8295	675.3	6192	7.918	0.9623	9.169	9.566	114 12 8
54	...	...	9.9792	3.6569	9.1366	2.7935	621.6	5570	7.459	0.9524	8.962	9.358	112 4 9
55	...	...	9.9784	3.6361	9.1206	2.7567	571.1	4999	6.989	0.9422	8.754	9.150	109 12 10
56	...	...	9.9776	3.6145	9.1046	2.7191	523.7	4475	6.505	0.9317	8.545	8.940	107 4 6
57	0520	9480	9.9768	3.5921	9.0886	2.6807	479.4	3996	6.016	0.9209	8.335	8.729	104 12 0
58	...	...	9.9756	3.5689	9.0726	2.6415	438.0	3558	5.512	0.9097	8.123	8.519	102 3 8
59	...	...	9.9743	3.5445	9.0566	2.6011	399.1	3159	4.995	0.8984	7.914	8.312	99 11 11
60	...	...	9.9731	3.5188	9.0407	2.5595	362.7	2796	4.465	0.8870	7.709	8.109	97 4 11
61	...	...	9.9718	3.4919	9.0247	2.5166	328.6	2467	3.922	0.8756	7.509	7.911	94 14 11
62	0655	9345	9.9706	3.4637	9.0087	2.4724	296.8	2170	3.365	0.8641	7.313	7.716	92 9 6
63	...	...	9.9690	3.4343	8.9927	2.4270	267.3	1903	2.794	0.8524	7.119	7.526	90 5 0
64	...	...	9.9673	3.4033	8.9767	2.3800	239.9	1663	2.209	0.8409	6.933	7.345	88 2 3
65	...	...	9.9656	3.3706	8.9607	2.3313	214.4	1449	1.611	0.8298	6.758	7.174	86 1 5
66	...	...	9.9639	3.3362	8.9447	2.2809	190.9	1258	0.997	0.8188	6.589	7.008	84 1 7
67	0832	9168	9.9623	3.3001	8.9287	2.2288	169.4	1088.8	0.369	0.8081	6.428	6.852	82 3 7
68	...	...	9.9609	3.2624	8.9127	2.1751	149.7	939.1	2.9727	0.7976	6.275	6.700	80 6 5
69	...	...	9.9595	3.2233	8.8967	2.1200	131.8	807.3	9.070	0.7870	6.124	6.548	78 9 3
70	...	...	9.9580	3.1828	8.8808	2.0636	115.8	691.5	8.398	0.7762	5.973	6.400	76 12 10
71	...	...	9.9565	3.1408	8.8648	2.0056	101.3	590.2	7.710	0.7654	5.826	6.254	75 0 9
72	0983	9017	9.9551	3.0973	8.8488	1.9461	88.33	501.9	7.006	0.7545	5.682	6.110	73 5 2
73	...	...	9.9532	3.0524	8.8328	1.8852	76.77	425.1	6.285	0.7433	5.537	5.968	71 9 10
74	...	...	9.9513	3.0056	8.8168	1.8224	66.44	358.7	5.547	0.7323	5.399	5.833	70 0 0
75	...	...	9.9494	2.9569	8.8008	1.7577	57.24	301.5	4.793	0.7216	5.267	5.704	68 7 2
76	...	...	9.9476	2.9063	8.7848	1.6911	49.10	252.4	4.021	0.7110	5.141	5.580	66 15 4
77	1175	8825	9.9457	2.8539	8.7688	1.6227	41.85	210.5	3.233	0.7006	5.019	5.458	65 7 11
78	...	...	9.9451	2.7996	8.7529	1.5525	35.69	174.8	2.425	0.6900	4.898	5.333	64 0 0
79	...	...	9.9446	2.7447	8.7369	1.4816	30.31	144.5	1.599	0.6783	4.768	5.193	62 5 1
80	...	...	9.9440	2.6893	8.7210	1.4103	25.72	118.78	0.747	0.6644	4.618	5.034	60 6 6
81	...	...	9.9435	2.6333	8.7050	1.3383	21.79	96.99	1.9867	0.6484	4.450	4.854	58 4 0
82	1232	8768	9.9429	2.5768	8.6890	1.2658	18.44	78.55	8.951	0.6293	4.259	4.650	55 12 10
83	...	...	9.9410	2.5197	8.6730	1.1927	15.58	62.97	7.992	0.6065	4.041	4.422	53 1 0
84	...	...	9.9391	2.4607	8.6570	1.1177	13.11	49.86	6.978	0.5801	3.803	4.171	50 0 10
85	...	...	9.9373	2.3998	8.6410	1.0408	10.98	38.88	5.897	0.5489	3.539	3.890	46 10 11
86	...	...	9.9354	2.3371	8.6250	0.9621	9.164	29.713	4.729	0.5108	3.242	3.572	42 13 10
87	1420	8580	9.9335	2.2725	8.6090	0.8815	7.612	22.101	3.444	0.4629	2.903	3.207	38 7 9
88	...	...	9.9270	2.2060	8.5930	0.7990	6.296	15.805	1.988	0.3998	2.511	2.796	33 8 10
89	...	...	9.9204	2.1330	8.5770	0.7100	5.129	10.676	0.284	0.3184	2.082	2.338	28 0 11
90	...	...	9.9138	2.0534	8.5611	0.6145	4.116	6.560	0.8169	0.2024	1.594	1.805	21 10 7
91	...	...	9.9072	1.9672	8.5451	0.5123	3.253	3.307	0.5196	0.0073	1.017	1.161	13 14 11
92	2045	7955	9.9006	1.8744	8.5291	0.4035	2.532	0.775	0.8893	0.4858	0.306	0.749	8 15 10
93	...	...	...	1.8000	8.5131	0.2813	1.981	0.125	0.0969	0.2838	0.192	...	...
94	...	...	...	0.6000	8.4971	0.0971	0.125	0.000	...	...	...	...	...
95	...	...	...	...	...	...	0.000	0.000	...	...	...	...	...

* The adjustment is twofold: First, the figures in the column "Value of annuity" show the value at the exact age x , whereas we want for working purposes the value at age x last birthday. This may be taken at the mean between the value at age x and at age $x+1$. Secondly, the value thus given is the value of an annuity defined as a sum payable at the end of each year, provided the recipient is alive at the end of the year; we have to add about 5 to get the value of the annuity payable monthly up to the date of death.

MUNICIPAL AND LOCAL TAXATION IN INDIA.

The following comparative table of provincial, local, and municipal funds in the chief provinces of India, before the decentralization of the finances in 1870 would seem to show that the weight of local taxation in Bengal is light when compared with that of other Provinces :—

	Assumed total population.	Approximate local and municipal taxation.	For what year.	Sources or authority from which the figures are taken.	Proportion of provincial, local, and municipal taxation to each million of the population.
Bengal, omitting the metropolitan city and suburbs.	64 millions, exclusive of tributary states, Calcutta, and its environs.	25 lakhs	1870-71 before decentralization.	.....	About Rs. 38,000
Madras, omitting Madras town.....	30 millions.....	47 "	Ditto	Administration Report for 1870-71, pp. cxxv. and clxviii.	" " 1,56,000
Bombay, omitting Bombay city ...	13½ ditto	36½ "	Ditto	Ditto, pp. cxxxiv, cxxxviii, clvi.	" " 2,77,000
North-Western Provinces	30 ditto	53 "	Ditto	Ditto, pp. xviii., xxii., and cxxxiv.	" " 1,76,000
Punjab	17½ ditto	29½ "	Ditto	Ditto, pp. lxiv.	" " 1,71,000

The taxes are high in Calcutta, but in Bengal generally very low compared with the municipal taxation of other parts of India. Outside Calcutta and its environs, 11½ lakhs of municipal income are raised in 182 places from a population of about 2,472,000 souls, so that the average incidence is about 7 annas a head over the whole urban population subjected to this form of taxation. If the Bengal municipal taxation be compared with that of other provinces, excluding the Presidency towns, we get the following approximate figures :—

	Total population. Millions.	Number of Municipal towns.	Municipal income. Lakhs.	Proportion to each million of the population. About. Rs.
Bengal.....	64	182	11½	18,000
Madras	30	44	8	20,000
Bombay	13½	201	20½	1,52,000
North-Western Provinces	30	344	19½	65,000
Punjab	17½	821	17½	98,000

The following statement upon the subject showing the incidence of municipal taxation in the different provinces was laid before the Supreme Council some time ago :—

Incidence of municipal taxation in the different provinces of India.

PROVINCE.	Percentage of total population included in municipalities.	Rate of annual taxation per head of total municipal population.	RATE PER HEAD IN TOWNS EXCEEDING 10,000 POPULATION.			REMARKS.
			Indian money.	English money.		
<i>Class I.</i>						
Bengal, exclusive of Calcutta and suburbs.	3½	As. 7 5	As. 7 8	d. ...		Including income other than municipal taxation proper.
<i>Class II.</i>						
N.-W. Provinces	11	5 9	6 0	9		Municipal taxation only.
Oudh	5	8 5	11 3	17		
Madras, exclusive of town of Madras.	3	8 10	9 3	14		
<i>Class III.</i>						
Punjab	12	12 0	11 11	18		Municipal taxation only.
Central Provinces	8	11 5	15 7	28½		
Bombay, exclusive of towns of Bombay and Kurrachee	10½	13 5	14 2	21		
		13 3	16 8	25		

The municipal taxation of Calcutta is high even for the capital city of India: but the circumstances of the presidency towns are so different from the rest of India that their taxation cannot usefully be compared with that of towns in the interior, and the three presidency towns must be separately compared. Calcutta has no less than five different municipalities, namely, (1) Calcutta proper, containing all the houses and lands within the Maharatta ditch and within the original civil jurisdiction of the High Court; (2) Howrah, which has grown up on the opposite bank of the Hooghly and contains the terminus of the East Indian Railway, the Calcutta docks, and a number of factories of different kinds; (3) the suburban municipality; and (4-5) the two suburban towns, which adjoin Calcutta, and which are separated from it merely by a technical boundary, such as a particular street. The five municipalities form one uninterrupted stretch of houses, except where the river divides Howrah from the rest of the city, the five municipalities are in reality one town, though governed under different municipal laws and varying rates of municipal taxation. Their taxation, exclusive of miscellaneous receipts which are not taxation, compares with the taxation of Bombay and Madras thus :—

	Population.	Total taxation. Rs.	Per head per annum. Rs.
Calcutta (page 91 of Blue-book, year 1871-72).			
Calcutta inside the Maharatta ditch	447,601	23,36,596	5.22
Calcutta Suburban municipality	257,149	2,83,684	1.10
Howrah	97,784	1,34,876	1.37
North suburban town of Calcutta.....	27,263	20,294	0.74
South " " "	62,632	14,371	0.22
Total for Calcutta.....	892,429	27,84,861	3.12
Bombay (page 612 of Blue-book, year 1872-73)	644,405	29,69,283	4.60
Madras (page 498 of Blue-book, year 1873-74)	397,552	4,40,531	1.10

The municipal taxation of Calcutta and its suburbs is thus somewhat lighter than that of Bombay, but much heavier than that of Madras. In Calcutta proper, where the Justices control the rate of taxation, the taxation is very high; in the Suburban municipality, and in Howrah where the municipal commissioners have considerable but still restricted powers, the taxation is tolerably high; while in the two suburban towns, where the rate is fixed almost entirely by Government officers, it is extremely low.

Turning to the municipalities in the interior, the population brought within the pale of municipal taxation is as follows :—

	Total population of the province under regular government outside the presidency towns.	Total population of all municipal towns outside the presidency towns and Kurrachee.	Proportion of municipal to total population.
Bengal	64,000,000	2,400,657	3½ per cent.
Madras	31,000,000	1,077,709	3 "
Bombay	18,250,000	1,488,083	11 "
N.-W. Provinces	31,500,000	3,555,783	11 "
Punjab	19,500,000	2,408,825	12 "
Oudh	11,500,000	548,291	4½ "
Central Provinces	8,250,000	602,463	7½ "

Thus Bengal has a smaller proportion for her inhabitants of municipal taxation than any other province except Madras. The returns given in the Blue-Book for some of the provinces are not so full as for others, and the comparison cannot be made exactly accurate in all particulars. Some provinces give the actual income for one year and the estimated income for two years; some give only the estimated income for one year; some give the income from taxation proper, as well as the gross receipts from all sources; while some give only the income from taxation. Some of the provincial statements are not totalled. The several towns have, however, been classified, the different classes of income have been distinguished as far as possible, and totals have been made for the purpose of comparison.

The statistics of municipal taxation worked out as per appendix A, give the following results for towns containing over 10,000 souls each for towns containing less than 10,000 and for all towns, large and small, together :—

	Per head of the population in places containing over 10,000 souls outside the presidency towns and Kurrachee.		Per head of the population in places containing less than 10,000 souls.	
	Of the gross municipal receipts.	Of the municipal income from municipal taxation.	Of the gross municipal receipts.	Of the municipal income from municipal taxation.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Bengal	0 7 8	0 5 10	0 6 6	0 5 10
Madras	Not shown.	0 11 11	No small municipal towns in Madras.	
Bombay	1 1 6	1 0 8	0 7 6	0 6 6
North-Western Provinces	Not shown.	0 11 3	Not shown.	0 4 5
Punjab	ditto.	0 15 7	ditto.	0 6 1
Oudh	Not separately shown.	0 10 3	Not separately shown.	0 6 6
Central Provinces	1 0 7	0 15 0	0 11 2	0 11 2

The incidence of municipal taxation on all municipal towns, both large and small appears to, stand thus :—

	Incidence per head of the population of all municipal towns, both large and small.	
	Of gross municipal receipts.	Of municipal taxation proper.
	Rs. a. p.	Rs. a. p.
Bengal	0 7 5	0 5 10
Madras	Not shown.	0 11 11
Bombay	0 13 11	0 13 3
North-Western Provinces	Not shown.	0 8 5
Punjab	ditto.	0 11 5
Oudh	0 11 6	0 9 9
Central Provinces	0 14 7	0 13 5

Thus the general incidence of municipal taxation in Bengal appears to be less than half the average incidence for the rest of India; the average incidence in the North-Western Provinces is 4½ per cent. higher than in Bengal; while in other provinces the incidence is from 72 to 133 per cent. higher. For towns of more than 10,000 souls, the weight of municipal taxation in other provinces is from 76 per cent. to 164 per cent. more than in Bengal. For towns of less than 10,000 souls, the incidence in Bengal is about the same in other provinces, except the North-West where the incidence is 24 per cent. lighter, a very large number of petty places being there lightly taxed for police purposes only. As to the comparative incidence of provincial, local, and municipal taxation, taken together on the whole population of the provinces outside the Presidency towns, Appendix B shows in detail what funds and receipts should and should not be reckoned as income from taxation. The Punjab figures are open to some doubt, but the result of the calculations in appendix B is as follows :—

	Total population outside the presidency towns and Kurrachee, and exclusive of feudatory States.	Total income from provincial, local, and municipal taxation.	Incidence of total provincial, local, and municipal taxation per head of the population.
	Souls.	Rs.	Rs. a. p. English money.
Bengal	64,000,000	30,12,369	0 0 9 1½d.
Madras	31,000,000	69,03,614	0 3 6½ 5½d.
Bombay	18,250,000	41,17,129	0 4 10 7½d.
North-Western Provinces	31,500,000	85,93,555	0 4 4½ 6½d.
Punjab	19,500,000	69,29,473	0 5 6 8½d.
Oudh	11,500,000	13,51,032	0 1 10½ 2½d.
Central Provinces	8,250,000	14,77,023	0 2 9 4½d.
Bengal (as it will probably be two years hence when the road cess comes in regularly from nineteen districts.)	64,000,000	42,00,000	0 1 0½ 1½d.

It will thus be seen that in Bengal the pressure of local taxation on the people is very much lighter than in any other province of India. The people in Bengal pay in the shape of provincial, local, and municipal taxes about 1½ of a penny per head per annum; two and a-half times as much in Oudh; nearly four times as much in the Central Provinces; almost five times as much in Madras; nearly six times as much in the North-West Provinces; more than six times as much in Bombay; and more than seven times as much in the Punjab. In Bengal a very much smaller proportion of the people come within the pale of municipal taxation than in any other province of India except Madras, and that the pressure of taxation on the dwellers in municipal towns is very much lighter in Bengal than in any other province of India.

APPENDIX A.

The calculations on which the incidence of Municipal Taxation in the several provinces of India has been made out from the figures in the Local Taxation Blue-book.

BENGAL.

The year taken is 1871-72 and the accounts of the year are to be found at pp. 90-94 of the Blue-book. It will be seen from pages 82-83 that the total municipal taxation is about the same for the four years therein shown.

Places containing over 10,000 souls.

Population is 2,792,933, minus the 892,429 souls contained in Calcutta and its suburbs, equal to 1,900,504 souls.

The gross income of these places Rs. 39,51,391, minus the Rs. 30,45,399 accruing in Calcutta and its suburbs, is equal to Rs. 9,05,992, or 7 annas 3 pie per head of the population. If from the gross receipts be deducted the pound fees (Rs. 304 in all); other receipts described as "miscellaneous" or "other sources," which are mostly made up of refunds, grants from provincial revenues, such Rs. 26,000 for the Patna city police, rents of houses or lands vesting in the municipality, petty fines, and the yield of ferry tolls (Rs. 95,227 in all), which are not levied under the municipal law, but are really provincial or district income made over to townships, then the income from taxation proper will be—

Gross receipts as before	Rs. 9,05,992
Miscellaneous, ferry toll, and pound fee receipts, Government grants, &c.	2,13,840
Net income from taxation	6,92,152

giving an incidence of 5 annas 10 pie per head. Including ferry tolls as taxation, the total will be Rs. 7,87,379.

Places containing less than 10,000 souls.

Total population is 500,153 souls. The gross receipts are Rs. 2,03,552, equal to 6½ annas per head. The income from taxation is Rs. 2,03,552, minus Rs. 19,862, from miscellaneous sources, equals Rs. 1,83,690, which gives an incidence of 5 annas 10 pie per head. Including ferry tolls, the total taxation is Rs. 1,92,105.

Total municipal towns, both large and small.

The total population of all towns is 2,400,657 souls; the total gross receipts are Rs. 11,92,544; and the total income from taxation is Rs. 8,75,942; the incidence per head of population being respectively 7 annas 5 pie, and 5 annas 10 pie per head.

MADRAS.

The only year taken in the Blue-book is 1873-74, for which estimated figures are given at pp. 492 to 497. The income from taxation only is shown; the gross receipts of the several municipalities are not given, and consequently no rate of incidence can be struck for "gross receipts."

Places containing over 10,000 souls.

Population is 1,077,709 souls. The gross receipts amount to Rs. 8,03,914. No receipts from miscellaneous or other sources are shown, but only receipts from the six kinds of taxation obtaining in Madras, namely, rates on the houses and lands, tax on arts, &c., tax on vehicles, tolls, registration fee on carts, license fees. The rate of incidence on the population is 11 annas 11 pie. No municipal town in Madras contains less than 10,000 souls.

BOMBAY.

The municipality of Kurrachee has been excluded for the purpose of the calculations because it is a maritime town, with a large European population, where the circumstances are more like those of presidency towns.

The only figures given at pp. 612-628 of the Blue-book are the estimated receipts of the years 1872-73 and 1873-74. The estimates for 1873-74 are somewhat the smaller of the two, and they have been taken. The receipts from taxation and the receipts other than taxation are clearly distinguished in the Blue-book. Fines for stray cattle and the pound fund (*alias* cattle pound fees) are reckoned by the Bombay authorities as receipts "other than taxations." Tolls are every where reckoned as taxation, except in the case of the "Ellis Bridge" at Ahmedabad, which are reckoned as "other than taxation." The distinction made by the Bombay authorities between taxation, income and other receipts, has been adopted for the present calculations.

Places containing over 10,000 souls.

Total population is 942,404 souls. The gross receipts are Rs. 10,30,291. The income from taxation is Rs. 9,89,054. The incidence of the gross receipts upon the population equal to Rs. 1-1-6 per head. The incidence of the income from taxation is a little over Rs. 1-0-8 per head.

Places containing less than 10,000 souls.

Total population is 534,456 souls. The gross receipts are Rs. 2,61,004. The income from taxation is Rs. 2,32,717. The incidence of the gross receipts upon the population is 7 annas 6 pie per head. The incidence of the income from taxation 6 annas 6 pie per head.

Total municipal towns, both large and small.

Total population is 1,476,860 souls. The gross receipts are Rs. 12,91,295. The income from taxation is Rs. 12,21,771. The incidence of the gross receipts and of the taxation on the population is about 13 annas 11 pie and 13 annas 3 pie.

NORTH-WESTERN PROVINCES.

The Blue-book (pp. 192-199) gives the estimated receipts for the years 1872-73 and 1873-74. No "actuals" are given; the estimated figures for the year 1873-74 have been taken, as in the case of Bombay, for the purposes of the present letter. The Blue-book gives only the income from taxation from each town; it does not show any miscellaneous receipts, and consequently no rate of incidence can be struck for the gross receipts.

Places containing over 10,000 souls.

Total population is 2,078,067 souls. The income from taxation is Rs. 14,67,537. The incidence is 11 annas 3 pie per head.

Places containing less than 10,000 souls.

Total population is 1,457,716 souls, and the income from taxation is Rs. 4,09,630. The incidence is 4 annas 5 pie per head.

Total municipal towns, both large and small.

The total population is 3,535,783 souls and the total income from taxation is Rs. 18,77,187, giving an incidence of 8 annas 5 pie per head.

PUNJAB.

The Blue-book shows no miscellaneous or other receipts besides income from taxation, it has not therefore been possible to strike any incidence for gross municipal receipts. It seems right to omit from a statement of municipal taxation the moturpha tax shown (at page 306) to be raised from the whole district.

Places containing over 10,000 souls.

The population is 1,355,916 souls; the income from taxation is Rs. 13,09,152; its incidence is about 15 annas 7 pie per head.

Places containing under 10,000 souls.

The population is 1,052,909 souls, the income from taxation is Rs. 4,02,781, and its incidence is 6 annas 1 pie per head.

Total Municipal towns, both large and small.

The total municipal population is 2,408,825 souls, the total income from taxation is Rs. 17,11,933, and the rate of incidence is 11 annas 5 pie.

OUDH.

The municipalities in Oudh are shown at pages 242-243 of the Blue-book. The cesses on pilgrims who attend the Adfoodhia and Baraitch fairs are hardly municipal taxation, and have not been reckoned.

The contingent funds (pages 246-247) and the rates levied at places "where municipalities do not exist" (pages 244-245) are excluded from the calculations. The estimated income from taxation for the year 1873-74 is taken; the total of this estimate is largely below the actuals of the year 1871-72. The receipts other than taxation are shown (page 244) for all municipalities together; cattle pound fees are therein included; the rate of incidence of gross receipts has therefore been given for all towns together, and not for the two distinct classes of towns.

Places containing above 10,000 souls.

Total population 483,113 souls, income from taxation is Rs. 3,09,719, and the incidence is 10 annas 3 pie per head.

Places containing less than 10,000 souls.

The population is 65,178 souls, the income from taxation is Rs. 26,826, and the incidence is 6 annas 6 pie per head.

Total municipal towns, both large and small.

The total population is 548,291 souls, the gross receipts are Rs. 3,32,824, the total income from taxation is Rs. 3,36,545, and the incidence 11 annas 6 pie and 9 annas 9 pie per head.

CENTRAL PROVINCES.

The estimated figures for four years are given at pages 361-365; the income from taxation is distinguished from other receipts, into which latter the Rs. 27,904 paid in Nagpore for the cleansing of private latrines are reckoned. The totals of the population at pages 363-365 differ very considerably; neither seems to be right; 16,602, has been taken as the population of the 25 petty municipalities in Nimar. The estimated figures for the year 1873-74 have been adopted as in the case of other provinces.

Places containing over 10,000 souls.

Population is 386,479; gross receipts are Rs. 4,00,950; income from taxation is Rs. 3,63,855; the incidence is Rs. 1-0-7 pie and 15 annas per head respectively.

Places containing less than 10,000 souls.

The population is 215,983 souls; the gross receipts and the income from taxation are identical, and amount to Rs. 1,51,243; the incidence per head is 11 annas 2 pie.

Total of all municipalities large and small.

The total population is 602,462 souls, the gross receipts are Rs. 5,51,593, the income from taxation is Rs. 5,15,098, and the incidence per head is 14 annas 7 pie and 13 annas 5 pie respectively.

APPENDIX B.

Showing the figures which have been taken from the Blue-book as representing the Provincial, Local, and Municipal Taxation of each Province outside the Presidency Towns and Kurrachee.

Departmental receipts, such as registration fees, jail manufacturing proceeds, police receipts, education receipts, printing, dispensary, and other receipts of this kind are omitted from the present calculation, as they are in no sense taxation.

BENGAL.

The population under settled British Government and outside the presidency towns is 64 millions. The estimated income for the year 1872-73 is taken. The items are:—

		Rs.	Rs.
<i>Provincial Taxation—</i>			
Pp. 70-71.—Tolls on canals and artificially managed rivers		7,30,000	
" on ferries and bridges on provincial roads		2,17,000	
Ditto Cattle trespass fines and fees			9,47,000
<i>Local Taxation—</i>			
Pp. 74-75.—Tolls on ferries, roads, and canals		635,700	
Ditto One per cent. road cess		38,000	
Ditto Zemindaree dāk (postal) cess		2,40,000	
Ditto Moturpha		175	
			9,13,875
<i>Municipal Taxation—</i>			
Total of income from taxation as per appendix A, including ferry tolls granted to municipal bodies			9,79,484
Pp. 82-83.—Add yield of cantonment funds and of the chow-keedaree assessment under Bengal Act VI. of 1870		1,72,000	
Grand total			30,12,369

The local funds shown in pp. 76-77, and which are there described in detail, are not taxation, and are excluded from the present calculations.

The incidence of this taxation on a population of 64 millions is 9 pie or 14th of a penny per head. The estimate for 1873-74 shows that Rs. 6,00,000 may perhaps be raised during the current year on account of the road cess; some time hence the road cess receipts may perhaps reach 12,00,000. If this sum of Rs. 12,00,000 be added to the foregoing figures, the total provincial, local, and municipal taxation would be a little over one anna, or about 1½ pence per head. Up to the present date, however, scarcely a penny of road cess has been collected, and the existing taxation, other than Imperial, falls upon the people of Bengal at 9 pie, or scarcely more than a penny per head.

MADRAS.

The Madras returns give only the estimated figures for 1873-74: a large number of funds which are not, strictly speaking, the proceeds of taxation, have been excluded, such as the endowment fund (page 480), the irrigation cess fund (page 481), and several others (pp. 481-485.) The aggregate yield of these excluded funds for the year 1873-74 was estimated at Rs. 6,81,080.

The income from taxation which has been reckoned for the present purpose is—

<i>Provincial Taxation—</i>		None.	
<i>Local Taxation—</i>		Rs.	Rs.
Page 478.—Land cess		34,28,500	
" " House-tax		96,500	
" 479.—Tolls		1,34,600	
" " Jungle conservancy fund		1,56,000	
" " Cattle pound fund		2,11,000	
" 480.—Village service fund		19,13,000	
" 481.—C. and S. canal fund		43,000	
" " Canal and ferry fund		18,300	
" 482.—Ferry rents		99,700	
			61,00,600
<i>Municipal Taxation—</i>			
As per appendix A			8,03,014
Grand total			69,03,614

The incidence of these total of provincial, local, and municipal taxation on the population outside the town of Madras, namely 31 millions souls, is 3 annas 6½ pie, or over 5½ pence per head. Properly the population of the Jeypore zemindaree and similarly situated estates should be excluded for the purposes of this calculation; but as the population of these half-governed tracts is not given, the rate has been struck on the whole population outside the town of Madras. If the proceeds of the house-tax (Rs. 96,500) which has since been abolished be struck out, the incidence comes down about half a pie lower.

BOMBAY.

The population of the taxable British territory outside Bombay and Kurrachee is taken at 13½ millions. The estimated figures for the year 1873-74 have been taken. The proceeds of the "staging bungalow fund," (pp. 598-603), of "fees on sale of poisonous drugs," of "fisheries," "port and pilotage," "Indus conservancy," "school fees," "contributions in aid of local works," "jail funds," "ground rents," and such like sources have been excluded as not being taxation. The total yield of these excluded sources of income for the year 1873-74 is estimated at Rs. 2,76,049.

The receipts from taxation, which are included for the present purpose, are—

<i>Provincial Taxation—</i>		None.	
<i>Local Taxation—</i>		Rs.	Rs.
Page 596.—Local one anna cess		19,76,784	
" 597.—Toll fund		5,51,911	
" 598.—Ferry fund		1,13,993	
" " Panch mahal cesses		68,334	
" 599.—Sind jagher cess		3,639	
" " Thur and Parkur cess		4,000	
" 600.—Cattle pound fund		1,61,490	
" " Sand and quarry fund		15,216	
			28,95,358
<i>Municipal Taxation—</i>			
As per appendix A			12,21,771
Grand total			41,17,129

The incidence of this total of provincial, local, and municipal taxation on the population outside the town of Bombay, or 13½ millions of souls, is 4 annas 10 pie, or about 7½ pence per head.

NORTH-WEST PROVINCES.

The population is taken at 31½ millions. The Blue-book gives the estimated figures for the year 1873-74 only. From the provincial taxation have been excluded the departmental receipts and the Nuzzool fund income aggregating Rs. 10,46,835. From the local taxation figures has been excluded the commutation money for chowkedars' jagheers in permanently-settled districts amounting to Rs. 1,08,125. The items included are:—

Provincial Taxation—				Rs.	Rs.
Page 187.—Putwaree fund	...	...	...	17,47,062	
" 188.—Cattle pound fund	...	...	...	72,947	
" " Ferry and bridge tolls...	...	...	...	7,21,962	
" " Share of Punjab tolls...	...	...	...	19,000	
" " Ganges river tolls	...	...	...	22,000	
					25,85,971
Local Taxation—					
Page 189.—The five per cent. cess on the annual value of temporarily-settled estates	...	...	...	36,76,220	
" 190.—The Banda district cess	...	...	...	90,804	
" " Road cess in permanently-settled districts	...	...	...	47,049	
" 191.—Acreage cess in permanently-settled districts	...	...	...	3,16,333	
					41,30,397
Municipal Taxation—					
As per appendix A	...	...	...	18,77,187	
Grand total...					85,93,555

The incidence of this total on the population of the North-West Provinces, namely 31½ millions, is 4 annas 4½ pie, or about 6½ pence per head.

PUNJAB.

Pages 15 and 29 of the appendices to the Punjab Government letter No. 1645, dated 26th December 1872, give the totals of provincial and local receipts for the Punjab. The Punjab returns for the year 1873-74 are taken.

The items of receipts which may fairly be reckoned as taxation are:—

Provincial—				Rs.	Rs.
Dak (or postal) cess	...	...	...	45,633	
Tolls on ferries	...	...	...	5,53,625	
Tolls on roads	...	...	...	63,195	
Cattle pound fines and fees	...	...	...	83,619	
Moturpha in Huzara	...	...	...	14,000	
Fees at the Hissar fair	...	...	...	8,000	
					7,68,072
Local—					
Local rates cess	...	...	...	13,83,489	
School cess	...	...	...	2,19,994	
Road cess	...	...	...	2,26,940	
Chowkedaree cess	...	...	...	6,56,754	
Lambardaree cess...	...	...	...	10,54,176	
Ala lambardaree cess	...	...	...	59,435	
Putwaree cess	...	...	...	8,48,680	
					44,49,468
Municipal—					
Total of taxation as per appendix A	...	...	...	17,11,933	
Grand total...					69,29,473

The above grand total on a population of 19½ millions gives an incidence of 5 annas 6 pie, or 8½ pence per head.

ODDH.

The figures for the year 1873-74 are adopted, and the population is put down at 11½ millions.

Provincial Taxation—				Rs.	Rs.
Page 334.—The margin cess	...	...	...	...	38,617
Local Taxation—					
Page 336.—Local rates and taxes...	...	...	...	3,54,050	
" " Road cess	...	...	...	1,41,620	
" " School cess	...	...	...	1,41,620	
" " Dak (postal) cess	...	...	...	35,405	
" " Village chowkedaree fund	...	...	...	58,605	
" 340.—Road fund	...	...	...	4,472	
" " Oudh ferry fund	...	...	...	1,10,456	
" " Share of North-Western Provinces' ferry fund	...	...	...	23,000	
" " Cattle pound fund	...	...	...	53,616	
					9,25,844
Municipal Taxation—					
As per appendix A, with collections at fairs (page 342), equal to Rs. 10,200	...	...	...	3,46,745	
And at places where municipalities do not exist (page 344)	...	...	...	39,826	
					3,80,571
Grand total...					13,51,032

The incidence of the total on 11½ millions of people comes to 1 anna 10½ pie, or about 2½ pence per head.

CENTRAL PROVINCES.

The figures for the year 1873-74 are adopted, and the population of the taxable British territory is taken at 8½ millions.

Provincial taxation—				Rs.	Rs.
Page 355.—Pandhari tax	...	...	...	2,40,500	
" " Tolls on roads	...	...	...	38,300	
					2,78,800
Local taxation—					
Page 357.—Road cess	...	...	...	1,36,540	
" 358.—School cess	...	...	...	1,26,080	
" 359.—Dak (postal) cess	...	...	...	32,100	
" 360.—Putwaree (or village accountant) cess	...	...	...	1,10,600	
" 365.—Ferry tolls, and cattle pound receipts...	...	...	...	1,50,000	
					6,55,220
Municipal Taxation—					
As per appendix A	...	...	...	5,15,098	
Grand total					14,49,118

The incidence of this taxation upon a population of 8½ millions is 2 annas 9 pie, or about 4½ pence per head.

Note to Appendix B.

It may perhaps be said that the putwaree (village accountant), and lambardaree (village headman), funds in the North-West Provinces and the Punjab ought not to be reckoned as provincial or local taxation, seeing that these funds or their equivalents used in past times to be collected and distributed by the people among themselves without the intervention of Government. It may possibly be the case that the inclusion of these funds vitiates the comparison with Bombay where the "patelkee haks" (percentage on their revenue paid by ryots to the village headmen) are not shown as taxation. But in Bengal the institution of village accountant and village headman has unhappily almost entirely died out, and the people of Bengal, as a rule, have not to pay anything to village officers of these classes, whatever they may have to give in the shape of illegal exaction levied by the Zemindars and their agents. So far as Bengal is concerned, therefore, the comparison is fair as it stands.

MADRAS CENSUS.

THE CITY OF MADRAS.

Government Order, 19th July 1873.

Area and Population.—The township of Madras embraces within its municipal limits an area of nearly twenty-seven square miles, including thirty-six distinct villages, and about 3,000 acres of cultivated land. The preliminary enumeration of its inhabitants made during the month of September 1871, and the subsequent final one, which, commencing on the 13th of November in the same year, lasted seven days, showed it to contain 397,552 inhabitants occupying 51,741 houses, or an average of over seven inhabitants to a house. Of the houses, 20 per cent. are thatched.

Area	Square miles.	Population ..	Square miles.
Unoccupied portion ..	26.82	Houseless poor ..	3.632
Remainder ..	23.16	Remainder ..	393,920

Density of Population.—Deducting from its area such open spaces as the island, esplanades, &c., and from its population, the vagabond and houseless poor, the average number of residents to a square mile is found to be 17,008. The population is most unevenly distributed, for while that portion of Black Town forming the second municipal division, and measuring 0.74 of a square mile, has 73,062 inhabitants, the fourth division, or Perambore, has but 9,701 to more than five times the space.

Inaccuracy of previous Censuses.—The results now arrived at are widely different from those of previous censuses, as well as from the various estimates of the population that have been framed from time to time. The latter have varied from the "not less than a million" of Sir Charles Trevelyan to the 350,000 of the Sanitary Commissioners; while of the former, which were two in number, one, that of 1822, made the population to be 464,551, while the other, taken in 1863, put it at 427,771. An examination of the details of both these Censuses establishes their untrustworthiness. In 1863 the Hindoo population of Triplicane was returned as containing nearly three women to one man, while in Perambore the men were to the women as two to one. In 1822 the number of persons to a house was stated to range from 8.5 in Black Town to 36.4 in Nungunbaukum while, in Mylapore, Royapetia, &c., the average number of children given to each house was no less than thirteen.

Accuracy of present Census.—Of the correctness of the present return there can be but little doubt. The number of houses was arrived at from three sources: the work of the enumerators was tested in five different ways; the proportion of the sexes accords with the results of accurate censuses elsewhere; and the ages, arranged in five-year groups, show results "fairly in accord with the ascertained ages of population in other countries." The population actually afloat in the shipping was not enumerated, but this is of little importance except as affecting the accuracy of the European death-rate return.

The main results, and some of the more interesting features of the Census, are exhibited in the following abstract:—

Houses	51,741	Males	147,937
Population	397,552	Under ten years ..	46,739
Proportion of females to 100 males ..	104	Over ten years ..	155,200
Nationalities		Under ten years ..	47,676
Europeans	3,613	Over ten years ..	104
Eurasians	12,018	Under ten years ..	3,613
Hindoo	330,652	Over ten years ..	12,018
Mahomedans	50,964	Under ten years ..	330,652
Others	910	Over ten years ..	50,964
Pursuing some occupation, 140,651 ..		Under ten years ..	910
Educated	112,678	Over ten years ..	140,651
Schools	72,865	Under ten years ..	112,678
	671	Over ten years ..	72,865

Proportion of Sexes.—Unlike Bombay and Calcutta, where the male population preponderates, the females in Madras are in excess of the males, and approximate to the proportion of the sexes in England and Wales. This preponderance obtains in all the main divisions of the community, though Europeans and Brahmins form marked exceptions.

	Proportion of Females to every 100 Males.		Proportion of Females to every 100 Males.
Hindoo	104	Eurasians	107
Mahomedans	107	Native Christians ..	109
Europeans	59	Brahmins	87

Religion.—As far as was ascertainable, the percentage to the whole population of the followers of the various religions was as follows:—Hindoo † (308,611), 77.6 per cent.; Mahomedans (50,964), 12.7 per cent.; and Christians (37,067), 9.3 per cent.

Of the Christian population, the native portion numbered 21,441, or nearly 5 per cent. of the town population, and all castes, excepting those of potmaker and dhobi, were represented in it.

Of the Native Christian population—84.4 per cent. are Roman Catholics, and 15.6 per cent. are Protestants. Of the Mahomedan population—86.2 per cent. are Sunnis, 8.3 per cent. are Shi'ahs, and 5.5 per cent. are Wahabis.

Of the Hindoo population—43.4 per cent. are Sivaites, 33.4 per cent. are Vaishnavites, and 8 per cent. are Lingites.

Castes.—The total number of Hindoo castes, i.e., of bodies of Hindoos that will not eat together or intermarry, was found to be 124. These may be classed into eighteen grand divisions, of which the Kshatriyas are the fewest in number, while next to them come the Brahmins. The former are 1.4, and the latter 3.6 of the total Hindoo population.

Occupation.—The caste of a man is now, it appears, but an uncertain guide to his occupation. In classifying the population, the six great classes of occupations originated by Dr. Farr have been followed with some modification of their sub-divisions, and these would seem to have admitted of being still further modified since the head "learned professions" is now found to include some who can neither read nor write. Excluding children incompetent to work, and women employed only in the care of their homes, 140,651 persons followed some occupation. Of this number 27,973 were women. Of the adult male portion of the community, 76.1 per cent. were occupied in some calling. The Government Civil Service gave employment to 6,318 persons, or 1.6 per cent. of the entire population. The classes noted in the margin were those chiefly represented in it, but the caste of barber was the only one that did not supply a single member. Of all classes of the population 1.2 per cent. are engaged in military or police duties, the "learned professions" occupy 3 per cent., the most numerous calling being "doctors." Eight per cent. of the male population are engaged in personal service, and ten per cent. in trade. 5.6 per cent. are "carriers," 2.4 per cent. are "cultivators." Nearly 16 per cent. are "engaged in unskilled labour." Of 31,950 persons classed as labourers 8,340 are women. There are 4,129 beggars and mendicants, 61 fakirs, and 2,058 prostitutes including the women attached to the Hindoo temples.

Infirmities.—The information collected under the head "Infirmities" was not very accurate, or very carefully compiled. The returns give the following general results:—

	Males.	Females.		Males.	Females.
Idiot and insanes ..	198	166	Blind	689	720
Deaf	409	455	Lepers	250	158
Dumb	117	126			

The lunatics in the Asylum were, however, omitted from the return, and 168 should be added on this account, but it must be remembered that they are collected from all the southern districts of the Presidency. The return of lepers is also probably below the mark. There were 1,419 persons returned as blind, and the Sanitary Commissioner considers this a small number among so large a population in a tropical country. He attributes the result to the benefits of the Eye Infirmary, where, according to the returns for the last ten years, 2,286 persons have been wholly, and 4,958 partially, restored to sight.

* 388 square miles.

† 105 to 100.

‡ N.B.—Excluding Native Christians.

§ 147,937.

|| 112,678.

Education.—Of the gross population, excluding the homeless poor and all children under four years of age, 20½ per cent. can read and write. The highest percentages are shown in the margin. The Brahmans maintain their general intellectual superiority over other Hindus, of whom the handworking washermen are the most backward. Of the Mahomedans only 18½ per cent. had mastered sufficient of the elements of knowledge to be classed as "educated." Taking the entire resident population,

Europeans .. 89½ per cent. Brahmans .. 49½ per cent.
 Eurasians .. 69½ " Kanakians .. 37½ "

it seems that of persons between the ages of

15 and 25 .. 28½ per cent. 35 and 45 .. 23½ per cent. 55 and 65 .. 19½ per cent.
 25 and 35 .. 21½ " 45 and 55 .. 22½ " Over 65 .. 19½ "

could read and write. When it is considered how small is the number of native females who are allowed to learn even the rudiments, the progress of primary education appears not unsatisfactory.

His Excellency in Council has perused with much interest the elaborate report compiled by the late Mr. Gover on the results of the Educational Census, which demonstrated that, of children of both sexes between the ages of five and fifteen, 29 per cent. were at school. Of the entire male population 1 in 10 was under instruction. The female scholars reached the respectable total of 5,112, but of this number 1,544 were Europeans and Eurasians. The last mentioned is among all classes that which supplies most scholars of both sexes in proportion to its numbers. His Excellency considers that there is every reason to regard the Madras Town Census as having been a most successful operation. The result is mainly due to the intelligent and zealous supervision exercised by the late Mr. Gover; but the assistance he received from the President of the Municipality and from some among the Commissioners must not pass without acknowledgment. The work has been carefully brought to completion by Mr. Cornish, and His Excellency desires that he will accept the thanks of Government for his clear, practical, and able report.

W. HUDLESTON,
 Chief Secretary.

MODE OF TAKING THE CENSUS IN MADRAS.

THE arrangements included a preliminary and final Census. The first commenced September 1st, 1871, and continued throughout the month. The final Census commenced on the 13th November, and occupied seven days. It had at first been intended to tabulate each day's returns on the following day, so that errors then detected might be at once remedied and prevented in the future. A double staff was, therefore, engaged—44 enumerators and as many clerks. Unfortunately, however, the tabulating books were not received from the Government Press till the preliminary Census was over, and this part of the scheme, therefore, fell through.

The first operation was the numbering of the houses. This was done by the overseers and peons of the Sanitary Department, and the only expenditure was for paint and a few additional peons. It occupied about a fortnight, and was done with great care and accuracy. It was not necessary, therefore, to employ special "indicators," as was at first proposed.

Meanwhile every effort was made to make the people acquainted with the reasons for a Census, the mode in which it was proposed to be taken and the questions that would have to be answered. Hand-bills were delivered in every house; advertisements appeared in every newspaper, whether English or Vernacular. Notices were distributed in the streets. The town-criers or tom-tom-men were kept busily at work, and every other means adopted which would tend to re-assure the minds of the people. One measure was especially valuable. A circular was sent to every school in the town asking the master or masters fully to explain to their scholars the reasons for, and benefits to be expected from a Census. There is reason to believe that very much good was done in this way. It is impossible to measure the effect of each particular precaution, but the result was most gratifying, for there was absolutely none of that public feeling or general fear that many persons had expected to see.

Sixty-four enumerators were engaged, after a careful examination of the candidates. It is worthy of note that there were more than 700 applications. Those engaged were, on the whole, a very intelligent set of men of good position in native society. The high salary offered, Rs. 50 per mensem, was fully justified by the class of men it secured. One enumerator was stationed to each section, while the larger sections had two. Each enumerator was attended by a peon with belt and badge, whose business it was to be always a house or two ahead, warning the people, calling the head of the house to the door, and otherwise helping. This aid was of immense importance in identifying and giving warrant to the enumerator, the peon acting as a sort of commission from the Sircar. On more than one occasion it was found impossible to make satisfactory progress without the aid of the peon. The enumerators in each ward were placed under the charge of the overseer of that ward, and the local knowledge and well-known person of the overseer were of the first importance.

The work among the Mussulmans in Triplicane was placed under the personal charge of Mahomed Shahab-ood-Deen Khan, son of Jahan Khan, and a near relative of the Prince of Arcot. This appointment greatly smoothed the work among the Mussulmans.

Each enumerator was required to census an average of 30 houses per diem. This low figure was set, so that there might be no excuse for bad work on the ground of undue hurry. After a few days' experience, most of the enumerators were able to census an average of 50 houses per diem, while two men of exceptional ability for this kind of work produced an average of 90 houses admirably performed. They were supposed to work from 5-30 A.M. to 10-30 A.M. The morning's schedules were then sewn together in a bundle, and the enumerator made out an abstract of the returns in the form shown in the margin. One in ten, taken at random, of these abstracts was then tested by the supervisors, to see whether the abstracts were accurate transcripts of the schedules.

The tests applied to the work at every stage form the distinguishing feature of the Census of 1871. Previous Censuses had so often failed to ensure accuracy, that it was considered necessary on this occasion to omit no precaution, however labourious or expensive. An extensive system of check and countercheck was, therefore, introduced, so that no single detail of the Census should be left unguarded. The tests were five-fold.

In the first place, in addition to, and entirely distinct from, the ordinary enumerators, there was engaged a staff of 47 experienced and entirely trustworthy men to act as testers. As each enumerator came to office with his morning's work the Superintendent made a note of about one house in every ten, and directed a tester to re-census on the following day the houses so selected, and he was required to do this on a fresh schedule without being allowed to see the original schedule. The test schedule so obtained was then compared with the original. In case of error the enumerator was severely fined, and on the repetition of the offence was dismissed. In a few cases the enumerator challenged the test schedule. In these the houses were done a third time by the supervisor himself. The knowledge that their work would be thus tested rendered the enumerators so careful that errors were much fewer than might have been expected.

The second test was applied in my room. I had drawn up, previous to the actual Census, very careful and elaborate tables of what may be called the internal proportions the census should assume. Thus from the mortality tables and a comparison of previous Indian and European Censuses, and making allowance as accurately as possible for the difference in circumstances, it had been approximately ascertained what the proportions of the sexes should be, what the proportions of the various ages, &c. It has been seen that the enumerator's work was so arranged that the schedules filled in each day were totaled the same evening in all these details, and on the following morning I carefully compared these totals with the standard tables previously prepared. This soon enabled me to ascertain that, among other matters, the ages of children were not being correctly given. The suspicious portion of the enumeration was then done again, and orders were issued directing the enumerators how to obtain more correct information. Of course, on a point like this, absolute accuracy could not be gained, because the parents themselves did not know the ages of their children, but the result is now as accurate as the case permitted. This mode of testing was very efficacious, as the enumerators knew not how it was brought to bear, and could not devise a way of evading it.

The third test came from the Commissioners, some of whom were so good as to go round with the enumerators, and others undertook the trouble of inquiring in the circle of acquaintance, favouring me with the result of their inquiries. Several cases of rudeness and one or two of neglect were thus brought to light, but there was a most gratifying unanimity among the Commissioners in admitting that the Census, though somewhat roughly, was very accurately carried through. I believe that there was no instance thus brought to light of a house that was not censused.

The fourth test was obtained by comparing the number of schedules with the ascertained number of houses. The number reported by the overseers was 51,741, while the number of schedules was 51,730. The very difference was satisfactory as showing independent work. Every case of difference was, however, inquired into by special agency, and it was discovered that the actual difference was only five, as the other cases were mainly owing to the fact that some European houses with large compounds had been numbered more than once, as they had gates in different roads, and sometimes in different sections of the city. In a few other cases there had been difference of opinion whether a particular dwelling should be called a separate house, or be entered with one to which it seemed to belong. Not a single instance has been brought to notice of a house which was not enumerated, although the Club was nearly forgotten. In several instances English gentlemen complained that their houses had been omitted, but in most cases a schedule was produced bearing the signature of the person complaining. In others the wife had filled up the schedule or given the necessary information; in some the butler had made the entries; in a few the enumerator had not arrived and the house was subsequently censused. In one or two only had the family been omitted, and that unavoidably, seeing that they had moved from one house not yet censused to another that had been censused. An occasional error of this sort was inevitable, as the Census occupied several days.

The fifth test was the final Census. It has been shown that this was of especial value in catching those who had been absent at the first enumeration through fear. The final counting was of great use in another respect, seeing that it caused the Census to include the normal number of Europeans, who in September were largely absent. It is a pleasure to be able to state that these careful tests were most satisfactorily met. It is especially the province of those first named to prevent error, because of the almost certainty of its detection and punishment if committed. Immediately the preliminary Census ceased the schedules were partially tabulated, looking only to the columns of caste and occupation, as these demanded very careful consideration and classification before the final Census was carried through. No less than 195 castes and 657 occupations were returned. The occupations were classified according to Dr. Farr's scheme as adopted in the English Census, with such few modifications as the different circumstances of the country demanded. The system adopted was as follows:—

- Professional.*
1. Government servants (Civil).
 2. Military and Police.
 3. Learned Professions.
 4. Minor Professions.

- Domestic.*
5. Those occupied in personal service.
- Commercial.*
6. Those who buy or sell, keep or lend.
 7. Those who convey persons or goods.

- Agricultural.*
8. Those who work land.

- Industrial.*
9. Workers in textile fabrics and dress.
 10. Workers in food, drink, and stimulants.
 11. Workers in metals.
 12. Workers in constructive art.
 13. Workers in books and writing materials.
 14. Workers in household goods.
 15. Workers in combustibles.

- Indefinite and non-productive.*
16. Labourers (General).
 17. Persons of rank and property.
 18. Persons supported by community.
 19. Persons of other occupations.

This division was found very convenient. The entries under "caste or race" were divided into 19 classes, the most prominent members of which are shown in the following list:—

1. The priesthood	...	...	...	...	Brahmans.	9. Minstrels	...	...	...	...	Satani.
2. The warrior caste	...	...	...	...	Rajpoots.	10. Potters	...	...	...	...	Kusavan.
3. Merchants, &c.	...	...	...	...	Chetties.	11. Cultivators of the earlier immigration	...	...	...	...	Vunneers.
4. The cultivators of the later immigration	...	...	...	...	Vellalas.	12. Barbers	...	...	...	...	Ambattan.
5. Herdsmen	...	...	...	...	Golla.	13. Washermen	...	...	...	...	Vunman.
6. Artizans	...	...	...	...	Kammalan.	14. Fishermen	...	...	...	...	Sembadevan.
7. Weavers	...	...	...	...	Kaikalan.	15. Palm-cultivators	...	...	...	...	Shanan.
8. Accountants	...	...	...	...	Kanaccan.	16. Lower-races	...	...	...	...	Pariahs.

It was drawn up after most careful consideration and inquiry, and has found a suitable place for almost every known sub-division. It is true that many persons have complained about the order in which the classes are arranged, since almost every man believes that all the castes are rightly placed except his own. The liberty of thought and action introduced by the British regime has shown itself in no more curious phase than this, that the lower the caste the more it now claims pre-eminence for itself. A whole literature is being invented with no other object than caste exaltation. Shanan and Sembadevan unblushingly claim a caste superiority over all else but Brahmins, while Kammalan demand the first place of all in the Hindoo hierarchy. It is impossible to decide among such claims, nor is it the duty of those carrying out a Census to attempt to settle points of etiquette or social pre-eminence. It must be understood, therefore, that the list just given does not even pretend to decide comparative rank. A list of names must be given in some order, and that given above appears the best for our purposes, while it follows a well-understood system of employment, and all castes are based on employment.

The returns were, as a rule, admirably filled. When once the native community fell in with the idea of the Census, there was no farther difficulty, while the influence of the Prince of Arcot and his advisers prevented opposition among the Mahomedans. There were no complaints that the questions were inquisitorial, nor any appreciable reluctance to state the number of women and children. This is rendered certain by the fact that the returns answer all the tests with regard to sex and age. In most other Indian Censuses the men were more numerous than the women, and, in the North-West Provinces, Mr. Plowden entered into an elaborate argument to prove that while in cool climates females are found in larger numbers, in hot countries males ought to be much more numerous. But on this occasion the women answer to the experience of all countries in which there was no popular aversion to a census, and are more than the males. In the same way with ages. The results of the Madras Census are almost exactly what other Censuses would lead us to expect when compared with the known deaths, if we take them in five-year groups, although there is a palpable error in the ages of young children, owing to the grievous ignorance of the people as to the lapse of time, and also to the fact that age is frequently reckoned not from the last birth-day, but from the next to come. The child that we should call four years old may by many be reckoned as five years old. Thus we have to account for the comparatively small proportion returned as one, two, or three years old.

The main difficulty was among Europeans who, in too many cases, looked upon it as an impertinence that they should be called upon to answer the same questions as were put to natives. Many Europeans who ought to have known better positively refused to be included in a Census which should also include natives. In very many instances it was found necessary to give notice of our intention to prosecute if the return was not duly filled up. Very many treated the enumerator as they would a bill-collector, and told him to "call again," causing great delay and trouble. Some took the schedule, but did not return it. A few wrote vulgar remarks upon the schedule. By patience and the writing of many letters these difficulties were overcome, and only one person was actually summoned before the magistrate. He, a medical officer of high rank, would not fill in the return, but made what he supposed witty comments on the questions upon it. On receiving the summons his tone altered; he made the proper entries, and begged that the charge might be withdrawn. It was thought advisable to do this on his paying all expenses and apologising.

No result of the enumeration has been more surprising than the evidence it has produced as to the effect of poverty upon the Hindoo polity. In a very large number of houses there was more than one distinct family. Not only this, but there were hundreds of cases in which distinct families of different castes were found in one house. Indeed, it has been no uncommon thing to discover a separate family in each room, all using the pyral and courtyard in common. In one house 13 distinct families, representing half a dozen very different castes, were reported. Six or seven families is a common thing. Three or four were noticed in a hundreds of cases. It was especially repugnant to our feelings of propriety to learn that, in not a few instances, while half a house was used as a brothel, the other half was occupied by families whose reputation was free from any stain, though it need hardly be said that, among a people who generally sleep in the open air, the females of the honest families must be in considerable peril. In 51,741 houses there were about 70,000 families. The laws of the caste system are evidently very elastic, and bend to the needs of poverty and public convenience, else we should never hear of so marked a violation of the law that the dwelling together of different castes must entail shame and loss upon all that are above the lowest caste represented in the house.

COINS, WEIGHTS, AND MEASURES OF MYSORE.

(Heyne's Tracts: out of Print.)

THE current coins in this country are in gold, silver, and copper; but the first metal is most abundant. The gold coins are *mohirs*, which are of Moorish origin; *pagodas*, an original Indian coin, and *fanams*.

Most gold coins are alloyed. Few are of the twelfth colour* or pure gold. The alloy is called *matam*, and consists of three parts silver and one part copper. Pure gold is denoted by the number 12, and whatever is wanting to make up 12 in speaking of gold is to be considered as alloy. Thus gold of the 11th colour means an alloy composed of 11 parts gold and one part of alloy.

The pagoda is used as the standard weight for many of the dearer medicines.

In the determination of the value of the different coins I have used the silver fanam according to the Company's rate of exchange; namely, silver pagoda† at 45 fanams and 46‡ cash—and one fanam at 80 cash.

Gold Coins in the Mysore.

	Weight. Grains.	Alloy.	Fan.	Value. Cash.
Star pagoda	54	7/24	45	46‡
Bahadary or Sultany, Heckary, Paroky, Karku (Mettalu), or Madras pagoda	54	5/24	49	78
Jamshary or Samagberry	...	6/24	...	...
Harpunpilly, Venketpatty, or Venketraillu	...	7/24	...	...
Porto Novo	...	11/24	42	73
Gold Mohira, Bahadary or Amroody	...	...	228	40
Asheraffy	...	...	208	0
Mahomeddy	...	...	91	0
Putady cash, Venetian	...	0‡	65	5
Sannary	...	0	65	5
Calcutta cash	...	0	55	24
Apranjie cash	...	0	3	26‡

* The Hindoos distinguish the p of gold by its colour.

† In mercantile transactions the star pagoda is reckoned at 42 fanams.

‡ Pure gold.

The mode of purifying gold used by the natives is to take equal quantities of brick dust and common salt, a good handful, which is put between two pieces of potter's ware, and into it the gold. These are placed in the midst of a heap of dried cow dung (watties), lighted at the top in a place where the wind cannot produce a strong fire, and the pagoda or other pieces of gold when taken out appear incrustated with a black crust, which must be removed, and the process as often repeated as the same is reproduced.

Gold Fanams.		Weight.		Value.	
		Drams.	Grains.	Fan.	Cash.
Sultany and Kantiray		...	6	4	27
Heckary		...	0	5	49
Silver Coins are					
Company's rupee		2	51	14	51*
Arcof rupee		...	...	14	51
Pondicherry rupee		...	...	14	51
Rajah rupee		...	...	15	0
Sultany		...	...	15	0
Silver fanam		...	15	1	0

The Raja rupee is the stamp of the present Rajah, and its real value is in no degree greater than the Company's rupee.

The exchange of all these fluctuates very much.

Silver fanams are very scarce in Mysore, and only to be found in the larger places.

Copper Coin.		Weight.		Value.	
		Drams.	Grains.	Fan.	Cash.
Dutch dub		4	35		26
Arcof daddu		3	30		20
Elephant or Enne daddu		3	30		20
Double Elephant		7	0		40
Sirah daddu		1	35		14
Masulipatam		4	0		29
Saya daddu		...	...		29
Enne casu, or cash		...	40		7
Madras daddu†		1	44		19

The continual diminution of copper coins is owing to the natives who get them constantly made into brass or copper vessels, employed by all those who can afford them.

The Kantiray pagoda and the honnu are imaginary coins. The former is used in all revenue accounts, and likewise in settling most of the private accounts of the natives. Probably in former times it was a real coin. Whenever the word pagoda occurs without a particular stamp being marked, a Kantiray pagoda or three rupees is always understood. To the west of Hurryhurr, in some districts formerly belonging to Vizapoor, the word hunn, the Hindoostanee term for a pagoda, is used in the revenue accounts, and its value fixed at half a Sultany pagoda, or two rupees.

The weights or dry measures in this country are of two different kinds, both defined very accurately, though gross impositions are practiced respecting both. The former is called the bazaar weight, and, used in the sale of what are called bazaar articles, as tamarinds, turmeric, and all different kinds of drugs. The latter is used for grain both in the bazaars and in all revenue transactions. The great difficulty lies in the multiplicity of weights used in different districts; for almost every *Casbah* † of small district has weights and measures differing widely from all those in its neighbourhood. The consequence of this is that the cunning banyans frequently take advantage of this multiplicity to deceive strangers. The inhabitants of the place cannot be so easily taken in, as they are all well acquainted with their own peculiar weights and measures.

The only general and uniform measure and weight is the pucca sir of sixty-four dubs weight. And the weight of a dub is four drams. This sir alters according to the weight of the dub. If these be lighter than four drams more dubs will be requisite to make up the sir, if they be heavier fewer will do. This measure appears in some writings of very old date, as in the *Sudra Ganitam*; yet it is said to be of Moorish origin. It has made its way into all accounts, and has as it were dislodged all other weights.

Both fluids and dry articles are determined by weight, with the exception of oil, for the sale of which a kind of graduated measure is employed. All kinds of grain by common consent are sold by a measure which is not merely filled, but heaped up as high as possible above the lips. If a person buys only half the measure he loses the heaped part, which generally amounts to 1/7th or 3/4th of the whole.

It would be well worth while to ascertain the way that the agents buy grain in times of war. If they purchase by heaped measures and distribute it in a diffent way, the profits accruing to them and the consequent loss of Government must be considerable. Suppose that each man of an army of 20,000 receive each a sir a day, the profits of the agent will be 2,500 sirs per day, or 75,000 per month a quantity which would support the army for 3 1/2 days.

The lowest standard weight seems to be the dub. Smaller quantities are determined by common fractions, with which the lower classes of Hindoos are much better acquainted than the common people in Europe. They ascend regularly by fours. Of decimals, as far as I have had an opportunity of examining their arithmetic, they appear to be entirely ignorant. There is a Sanscrit work of the name of *Lilavaty* which treats of this subject. In the Telinga there is a work on the same branch of knowledge, called *Sudra Ganitam*, written long ago, or rather translated from the Sanscrit by a man of the name of Mulliah.

The following weights are the standards for the Circars. As they are derived from the Sanscrit, they may be considered as general for Hindostan:—

1 Paddy seed.....	is one visam	1/2 grain.
4 Visams.....	are one gulivindal or 1 Patika	2 grains.
2 Gulivindas	addaga.....	4 grains.
2 Addagas	chinum.....	8 grains.
2 1/2 Chinums	tsavila	20 grains.
2 Tsavilas	dharanum	40 grains.
2 Dharanums.....	mada.....	1 dram 20 grains.
3 Madas	talam	4 drams.
6 Tulams	pavu siru or 1/4 sir	3 ounces.
4 Pavus	Siru	12 ounces.
5 Sirs	visa or 1 tackeda	3 lbs. 12 ounces.
2 Visas.....	yettu	7 lbs. 8 ounces.
2 Yettus	arda manugudu.....	15 lbs.
2 Arda manugudu.....	manugudu	30 lbs.
5 Manugudu	yadum or panchakum	150 lbs.
2 Yadums	pandum	300 lbs.
2 Pandums.....	Putadu = candy	600 lbs.

* In the Company's accounts reckoned as 12 fanams, 60 cash.

† Of the old stamp.

‡ A principal town.

§ Seed of above quantities.

Dry Measure.

	lb. oz.
4 Dubs weight	are one gidda
2 Giddas	arasela
2 Araselas	sola
2 Solas	tavada
2 Tavadas	manika
2 Manikas	addadu
2 Addadus	conchum
2 Conchums	Irasa
2 Irasas	tum
5 Tums	yadum
2 Yadums	pandum
2 Pandums	puttadu

List of Candys and Tums reduced to Pucca Sir, used in different places of the Mysore, each Sir of 2 lbs. English weight.

Betumungalum.....	1 Candy is 160 Sirs and 1 Tum.....	8 Sirs.	Ayrany	1 Candy is 1600 Sirs and 1 Tum	80 Sirs.
Uscotah	1 ditto.....	200 ditto	1 ditto.....	1 ditto.....	1600 ditto
Bangalore	1 ditto.....	200 ditto	1 ditto.....	1 ditto.....	1600 ditto
Sewendrag	1 ditto.....	200 ditto	1 ditto.....	1 ditto.....	1600 ditto
Kyamungalum	1 ditto.....	960 ditto	1 ditto.....	1 ditto.....	320 ditto
Chittledrag	1 ditto.....	960 ditto	1 ditto.....	1 ditto.....	1280 ditto
Matod	1 ditto.....	960 ditto	1 ditto.....	1 ditto.....	1280 ditto
Talem	1 ditto.....	960 ditto	1 ditto.....	1 ditto.....	1440 ditto
Harryhar	1 ditto.....	3200 ditto	1 ditto.....	1 ditto.....	1920 ditto

Many different modes might be thought of to reduce this chaos into union. The easiest and most readily understood by the common people, and the least liable to fraud and imposition, would undoubtedly be the best. Stamped measures and weights are very bad modes of preventing deception; because, as they are always made of metal, a very small degree of hammering is sufficient to alter the shape of the one and the weight of the other, and thus render both unfit for the purpose for which they were intended. The surest and best mode of determining measures is certainly by determining the weight which each should amount to. The introduction of English weights would be commodious for Europeans, but on account of the ignorance of the lower classes of Indians, it would expose them to great imposition from the baryans, and on that account would be injurious. The rupee and dub are at present used every where as weights, and might, therefore, be taken as a standard.

A Company's rupee weighs about three drams, or two drams fiftysix grains.

12 Rupees would be $\frac{1}{4}$ Sir
24 Ditto

48 Rupees would be $\frac{1}{4}$ Sir.
96 Ditto.....

The higher weights could be easily settled, for example:—

4 Sir

20 Tums

The smaller weights might be determined as at present,—

$\frac{1}{4}$ Grain

28 Gulivingdas

The Masulipatam dub, if generally introduced, would be still more commodious. It weighs very nearly half an ounce. Sixty-four of them would make exactly a *sir* of two pounds.

This is already a received weight in many parts of the Circars. But care should be taken that all *dubs* have exactly the same weight, a circumstance which has not hitherto been attended to.

It is a very common practice to mention, in the settlement of a bargain, the weight to be employed. The common weight fixed upon is the copper coin of the country, and if large quantities of any article have to be weighed, stones, the weight of which has been previously determined, are employed for the purpose.

The common scales are merely flat baskets suspended from a balanced pole, which is tied to a noose. It is the usual practice to weigh the article first in one scale and then in the other, and nobody will buy any article without seeing that this precaution is attended to.

The land measures are still less accurately defined than those of which we have been speaking. In most places the amount of land is determined by the quantity of seed required to sow it. Thus a *sir* or a *tum* of land means an extent of ground which will take a *sir* or a *tum* of seed to sow it. This is obviously the vaguest of all the modes of measuring land hitherto devised; as the quantity of seed will vary, not only according to the kind of grain employed, but likewise according to the nature and fertility of the soil. In some places the extent of ground is determined by the quantity of it which a certain number of cattle are able to labour in a day. This mode is likewise inaccurate; though not quite so fallacious as the preceding.

It would be easy and very useful for the revenue officers to establish a general measure of land on the coast. The mode employed in the *Chetri Ganitam*, a work on land measures, might be adopted.

TRADE AND NAVIGATION OF BRITISH INDIA.

(For the three months ended 30th June 1873.)

TOTAL Value of Duty Free and Dutiable Imports—

	1871-72.	1872-73.	1873-74.
	Rs.	Rs.	Rs.
Bengal	3,91,28,207	3,46,31,932	3,45,11,225
Bombay	1,86,81,585	2,44,28,763	2,06,52,613
Sind	10,81,451	6,85,154	6,55,372
Madras	71,58,547	89,09,154	81,48,133
British Burmah	32,02,253	45,32,605	40,98,162
Total.....	6,92,52,443	7,31,87,908	6,80,05,505

Grand Total of Exports—

	1871-72.	1872-73.	1873-74.
	Rs.	Rs.	Rs.
Bengal	5,22,72,820	4,93,16,849	4,68,87,507
Bombay	9,02,40,329	7,37,65,656	7,90,03,611
Sind	19,39,226	26,55,902	32,98,750
Madras	1,97,63,244	1,86,16,424	1,89,14,971
British Burmah	76,71,851	1,28,05,280	1,16,00,863
Total.....	17,18,87,470	15,71,60,120	15,97,95,702

Total Value of Imports of Treasure—

	1871-72.	1872-73.	1873-74.
	Rs.	Rs.	Rs.
Bengal	32,54,781	42,76,666	36,63,194
Bombay	61,90,637	1,61,11,911	47,63,666
Sind	31,455	31,120	10,864
Madras	8,49,311	10,59,198	9,27,275
British Burmah	1,33,542	1,55,471	2,77,730
Total.....	1,04,60,326	2,16,34,366	96,42,729

Total Value of Exports of Treasure—

	1871-72.	1872-73.	1873-74.
	Rs.	Rs.	Rs.
Bengal	10,52,575	1,759	16,29,616
Bombay	30,27,110	24,61,000	19,36,317
Sind	4,600	1,320	17,300
Madras	8,26,140	1,18,583	15,22,544
British Burmah	96,564	61,303	64,593
Total.....	50,06,989	26,43,965	45,70,370

accompanying statement shows the rise and fall in the value of agricultural produce in Bengal from the year 1861 to 1870 inclusive. The prices shown are those prevalent at the height of the exporting season at the port of Calcutta, and the list includes all the articles concerning which information has been kept on record by the Chamber of Commerce.

As the Calcutta market have been selected for exhibition in the statement, as forming a truer test of the general fluctuation of prices throughout the country, than the rates at any other large mart, and also because it would be impossible to procure equally reliable statistics at any other centre of trade. It is almost needless to observe that prices vary, not only from year to year, but from day to day, in every district, and almost every village in the country, and that any attempt to show in a tabular form the market rates over the whole country for the last ten years would be hopeless.

PRICES.—CALCUTTA.—1861-70.

Articles.	Price on 21st Dec. 1861.	Price on 20th Dec. 1862.	Price on 22nd Dec. 1863.	Price on 20th Dec. 1864.	Price on 21st Dec. 1865.	Price on 21st Dec. 1866.	Price on 21st Dec. 1867.	Price on 21st Dec. 1868.	Price on 13th Dec. 1869.	Price on 27th Dec. 1870.
Panda	Rs. a. Per. 17 4 Br. Md.	Rs. a. Per. 23 0 Br. Md.	Rs. a. Per. 43 Br. Md.	Rs. a. Per. 55 0 Br. Md.	Rs. a. Per. 18 0 Br. Md.	Rs. a. Per. 15 0 Br. Md.	Rs. a. Per. 22 0 Br. Md.	Rs. a. Per. 22 0 Br. Md.	Rs. a. Per. 24 8 Br. Md.	Rs. a. Per. 16 0 Br. Md.
alone	Rs. a. Per. 16 8 "	Rs. a. Per. 22 0 "	Rs. a. Per. 11 0 "	Rs. a. Per. 6 8 "	Rs. a. Per. 7 12 "	Rs. a. Per. 7 0 "	Rs. a. Per. 7 0 "	Rs. a. Per. 7 0 "	Rs. a. Per. 6 4 "	Rs. a. Per. 6 4 "
homurgut	Rs. a. Per. 16 12 "	Rs. a. Per. 26 0 "	Rs. a. Per. 235 0 Fy. Md.	Rs. a. Per. 24 8 Bale.	Rs. a. Per. 19 0 Bale.	Rs. a. Per. none, Bale.	Rs. a. Per. none, Bale.	Rs. a. Per. none, Bale.	Rs. a. Per. 359 8 Fy. Md.	Rs. a. Per. 330 0 Fy. Md.
butchovrah	Rs. a. Per. 16 4 "	Rs. a. Per. None.	Rs. a. Per. 210 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 245 0 "	Rs. a. Per. 257 8 "	Rs. a. Per. 350 0 "	Rs. a. Per. 350 0 "	Rs. a. Per. 307 8 "	Rs. a. Per. 295 0 "
engal	Rs. a. Per. 10 12 "	Rs. a. Per. 12 0 "	Rs. a. Per. 200 0 "	Rs. a. Per. 229 0 "	Rs. a. Per. 235 0 "	Rs. a. Per. 225 0 "	Rs. a. Per. 255 0 "	Rs. a. Per. 285 0 "	Rs. a. Per. 300 0 "	Rs. a. Per. 280 0 "
new	Rs. a. Per. 10 12 "	Rs. a. Per. 12 0 "	Rs. a. Per. 170 0 "	Rs. a. Per. 130 0 "	Rs. a. Per. 210 0 "	Rs. a. Per. 200 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 260 0 "	Rs. a. Per. 282 8 "	Rs. a. Per. 260 0 "
old	Rs. a. Per. 10 12 "	Rs. a. Per. 12 0 "	Rs. a. Per. 150 0 "	Rs. a. Per. 175 0 "	Rs. a. Per. 185 0 "	Rs. a. Per. 165 0 "	Rs. a. Per. 225 0 "	Rs. a. Per. 242 8 "	Rs. a. Per. 262 8 "	Rs. a. Per. 240 0 "
"Liverpool fair," new	Rs. a. Per. 10 12 "	Rs. a. Per. 12 0 "	Rs. a. Per. 120 0 "	Rs. a. Per. 140 0 "	Rs. a. Per. 165 0 "	Rs. a. Per. 135 0 "	Rs. a. Per. 108 0 "	Rs. a. Per. 200 0 "	Rs. a. Per. 227 8 "	Rs. a. Per. 210 0 "
try	Rs. a. Per. 10 12 "	Rs. a. Per. 12 0 "	Rs. a. Per. 23 0 "	Rs. a. Per. 16 0 "	Rs. a. Per. 19 0 "	Rs. a. Per. 19 noml. Bale.	Rs. a. Per. 17 0 Bale.	Rs. a. Per. 17 12 Bale.	Rs. a. Per. 20 4 Bale.	Rs. a. Per. 25 8 Bale.
case, shipping	Rs. a. Per. 337 8 Fy. Md.	Rs. a. Per. 235 0 Fy. Md.	Rs. a. Per. 235 0 Fy. Md.	Rs. a. Per. 240 0 "	Rs. a. Per. 245 0 "	Rs. a. Per. 257 8 "	Rs. a. Per. 255 0 Fy. Md.	Rs. a. Per. 330 0 Fy. Md.	Rs. a. Per. 359 8 Fy. Md.	Rs. a. Per. 330 0 Fy. Md.
ad, ditto	Rs. a. Per. 285 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 210 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 245 0 "	Rs. a. Per. 257 8 "	Rs. a. Per. 255 0 Fy. Md.	Rs. a. Per. 330 0 Fy. Md.	Rs. a. Per. 359 8 Fy. Md.	Rs. a. Per. 330 0 Fy. Md.
hidding ditto	Rs. a. Per. 280 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 210 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 245 0 "	Rs. a. Per. 257 8 "	Rs. a. Per. 255 0 Fy. Md.	Rs. a. Per. 330 0 Fy. Md.	Rs. a. Per. 359 8 Fy. Md.	Rs. a. Per. 330 0 Fy. Md.
one, consuming	Rs. a. Per. 280 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 210 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 245 0 "	Rs. a. Per. 257 8 "	Rs. a. Per. 255 0 Fy. Md.	Rs. a. Per. 330 0 Fy. Md.	Rs. a. Per. 359 8 Fy. Md.	Rs. a. Per. 330 0 Fy. Md.
ood, ditto	Rs. a. Per. 280 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 210 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 245 0 "	Rs. a. Per. 257 8 "	Rs. a. Per. 255 0 Fy. Md.	Rs. a. Per. 330 0 Fy. Md.	Rs. a. Per. 359 8 Fy. Md.	Rs. a. Per. 330 0 Fy. Md.
adding ditto	Rs. a. Per. 245 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 170 0 "	Rs. a. Per. 130 0 "	Rs. a. Per. 210 0 "	Rs. a. Per. 200 0 "	Rs. a. Per. 240 0 "	Rs. a. Per. 260 0 "	Rs. a. Per. 282 8 "	Rs. a. Per. 260 0 "
rdinary ditto	Rs. a. Per. 230 0 "	Rs. a. Per. 210 0 "	Rs. a. Per. 150 0 "	Rs. a. Per. 175 0 "	Rs. a. Per. 185 0 "	Rs. a. Per. 165 0 "	Rs. a. Per. 225 0 "	Rs. a. Per. 242 8 "	Rs. a. Per. 262 8 "	Rs. a. Per. 240 0 "
ve, ditto	Rs. a. Per. 205 0 "	Rs. a. Per. 160 0 "	Rs. a. Per. 120 0 "	Rs. a. Per. 140 0 "	Rs. a. Per. 165 0 "	Rs. a. Per. 135 0 "	Rs. a. Per. 108 0 "	Rs. a. Per. 200 0 "	Rs. a. Per. 227 8 "	Rs. a. Per. 210 0 "
ed	Rs. a. Per. 14 8 Bale.	Rs. a. Per. 18 8 Bale.	Rs. a. Per. 26 0 Bale.	Rs. a. Per. 19 0 Bale.	Rs. a. Per. 165 0 "	Rs. a. Per. 135 0 "	Rs. a. Per. 108 0 "	Rs. a. Per. 200 0 "	Rs. a. Per. 227 8 "	Rs. a. Per. 210 0 "
mary	Rs. a. Per. 11 4 "	Rs. a. Per. 16 0 "	Rs. a. Per. 23 0 "	Rs. a. Per. 16						
ble K	Rs. a. Per. 11 4 "	Rs. a. Per. 16 0 "	Rs. a. Per. 23 0 "	Rs. a. Per. 16						
ble triangle M	Rs. a. Per. 11 4 "	Rs. a. Per. 16 0 "	Rs. a. Per. 23 0 "	Rs. a. Per. 16						
heart	Rs. a. Per. 11 4 "	Rs. a. Per. 16 0 "	Rs. a. Per. 23 0 "	Rs. a. Per. 16						
line marks, European	Rs. a. Per. 70 0 Br. Md.	Rs. a. Per. 63 0 Br. Md.	Rs. a. Per. 65 0 Br. Md.	Rs. a. Per. 60 0 Br. Md.	Rs. a. Per. 68 0 Br. Md.	Rs. a. Per. 68 0 Br. Md.	Rs. a. Per. 68 0 Br. Md.	Rs. a. Per. 68 0 Br. Md.	Rs. a. Per. 85 0 Br. Md.	Rs. a. Per. 75 0 Br. Md.
hidding	Rs. a. Per. 50 0 "	Rs. a. Per. 45 0 "	Rs. a. Per. 48 0 "	Rs. a. Per. 47 noml.	Rs. a. Per. 56 0 "	Rs. a. Per. 60 0 "	Rs. a. Per. 62 8 "	Rs. a. Per. 65 0 "	Rs. a. Per. 75 0 "	Rs. a. Per. 80 0 "
terior	Rs. a. Per. 32 0 "	Rs. a. Per. 25 0 "	Rs. a. Per. 35 0 "	Rs. a. Per. 30 0 "	Rs. a. Per. 35 0 "	Rs. a. Per. 35 0 "	Rs. a. Per. 35 0 "	Rs. a. Per. 39 0 "	Rs. a. Per. 50 0 "	Rs. a. Per. 50 0 "
—good to fine	Rs. a. Per. 14 0 "	Rs. a. Per. 12 8 "	Rs. a. Per. 11 0 "	Rs. a. Per. 11 6 "	Rs. a. Per. 12 0 "	Rs. a. Per. 12 8 "	Rs. a. Per. 13 0 "	Rs. a. Per. 12 8 "	Rs. a. Per. 12 0 "	Rs. a. Per. 12 8 "
lensed, fine, bold, clean	Rs. a. Per. 4 8 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 10 "	Rs. a. Per. 4 12 "	Rs. a. Per. 4 10 "
low to middling	Rs. a. Per. 3 12 "	Rs. a. Per. 3 10 "	Rs. a. Per. 3 9 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 12 "	Rs. a. Per. 4 10 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
trape, uncleaned	Rs. a. Per. 4 12 "	Rs. a. Per. 3 7 "	Rs. a. Per. 3 11 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 4 "	Rs. a. Per. 3 1 "	Rs. a. Per. 3 2 "	Rs. a. Per. 4 12 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
cleaned	Rs. a. Per. 5 1 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 2 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 8 "	Rs. a. Per. 3 4 "	Rs. a. Per. 3 4 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
uncleaned, black	Rs. a. Per. 5 1 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 2 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 8 "	Rs. a. Per. 3 4 "	Rs. a. Per. 3 4 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
yellow	Rs. a. Per. 5 1 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 2 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 8 "	Rs. a. Per. 3 4 "	Rs. a. Per. 3 4 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
uncleaned, black, new	Rs. a. Per. 5 1 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 2 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 8 "	Rs. a. Per. 3 4 "	Rs. a. Per. 3 4 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
yellow	Rs. a. Per. 5 1 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 2 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 8 "	Rs. a. Per. 3 4 "	Rs. a. Per. 3 4 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
uncleaned, black, new	Rs. a. Per. 5 1 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 2 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 8 "	Rs. a. Per. 3 4 "	Rs. a. Per. 3 4 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
yellow mixed	Rs. a. Per. 5 1 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 2 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 8 "	Rs. a. Per. 3 4 "	Rs. a. Per. 3 4 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
teel	Rs. a. Per. 5 1 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 2 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 8 "	Rs. a. Per. 3 4 "	Rs. a. Per. 3 4 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
black	Rs. a. Per. 5 1 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 2 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 8 "	Rs. a. Per. 3 4 "	Rs. a. Per. 3 4 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
white	Rs. a. Per. 5 1 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 2 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 8 "	Rs. a. Per. 3 4 "	Rs. a. Per. 3 4 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "
mixed	Rs. a. Per. 5 1 "	Rs. a. Per. 3 12 "	Rs. a. Per. 4 2 "	Rs. a. Per. 4 0 "	Rs. a. Per. 5 8 "	Rs. a. Per. 3 4 "	Rs. a. Per. 3 4 "	Rs. a. Per. 4 0 "	Rs. a. Per. 4 8 "	Rs. a. Per. 4 6 "

PRICES.—CALCUTTA.—1861-70—continued.

[illegible]

Highest prices of ballam and munghi rice at Calcutta as quoted in the fortnightly Price Current published by the Bengal Chamber of Commerce.

BALLAM.													MUNGHL.												
1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.		
Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.		
1 13	2 10	3 0	3 2	2 0	2 10	2 0	2 3	2 4	2 4	Rs. a.	Rs. a.	1 14	2 12	3 1	3 0	1 15	2 8	2 0	2 2	2 4	2 3	Rs. a.	Rs. a.		
1 15	2 12	3 2	3 2	2 2	2 8	2 4	2 4	2 4	2 2	Rs. a.	Rs. a.	1 15	2 10	3 1	None.	None.	2 6	2 0	2 1	2 4	2 4	Rs. a.	Rs. a.		
2 1	2 12	3 6	3 6	2 4	2 10	2 2	2 3	2 2	2 1	Rs. a.	Rs. a.	2 0	2 10	3 4	...	...	2 6	2 0	2 3	2 2	2 4	Rs. a.	Rs. a.		
2 1	2 13	3 12	3 2	2 2	2 8	2 1	2 5	2 2	2 1	Rs. a.	Rs. a.	2 0	2 11	None.	...	...	None.	2 0	2 2	2 2	2 4	Rs. a.	Rs. a.		
2 0	2 13	3 12	3 0	2 0	2 6	2 2	2 3	2 2	2 2	Rs. a.	Rs. a.	2 3	2 11	...	...	...	...	2 2	2 2	2 2	2 4	Rs. a.	Rs. a.		
2 0	2 13	3 10	3 2	2 0	2 8	2 2	2 3	2 3	2 1	Rs. a.	Rs. a.	2 3	2 11	...	...	...	...	2 4	2 2	2 2	2 4	Rs. a.	Rs. a.		
2 0	2 15	3 10	3 0	1 14	2 5	2 6	2 2	2 3	2 2	Rs. a.	Rs. a.	2 2	2 12	...	...	...	...	2 4	2 1	2 2	2 4	Rs. a.	Rs. a.		
2 2	2 15	3 9	3 2	1 14	2 7	2 6	2 5	2 4	2 3	Rs. a.	Rs. a.	2 2	2 12	...	...	...	...	2 4	2 1	2 2	2 4	Rs. a.	Rs. a.		
2 3	2 14	3 12	3 0	1 14	2 6	2 7	2 6	2 5	2 3	Rs. a.	Rs. a.	None.	None.	...	...	...	...	2 4	2 1	2 2	2 4	Rs. a.	Rs. a.		
2 4	2 14	3 12	3 1	2 1	2 7	2 10	2 4	2 5	2 3	Rs. a.	Rs. a.	...	...	...	...	...	...	2 5	2 3	2 2	2 4	Rs. a.	Rs. a.		
2 5	2 14	4 0	3 0	2 0	2 12	2 9	2 4	2 5	2 3	Rs. a.	Rs. a.	...	...	...	...	...	...	None.	2 1	2 2	2 3	Rs. a.	Rs. a.		
2 6	2 14	4 0	2 6	2 2	2 10	2 9	2 4	2 5	2 2	Rs. a.	Rs. a.	...	...	...	...	...	...	...	2 1	2 2	2 3	Rs. a.	Rs. a.		
2 9	2 14	5 0	2 8	2 3	2 12	2 6	2 3	2 4	2 2	Rs. a.	Rs. a.	...	...	...	...	...	2 7	2 7	2 3	2 4	2 2	Rs. a.	Rs. a.		
2 11	2 13	4 12	2 8	2 6	2 12	2 5	2 4	2 5	2 1	Rs. a.	Rs. a.	...	2 10	...	...	...	2 10	2 7	2 4	2 7	2 6	Rs. a.	Rs. a.		
2 10	2 13	5 4	2 8	2 4	2 11	2 6	2 4	2 5	2 1	Rs. a.	Rs. a.	2 9	2 9	4 12	2 8	2 8	2 7	2 7	2 3	2 7	2 8	Rs. a.	Rs. a.		
2 10	2 13	5 4	2 9	2 4	2 11	2 6	2 4	2 4	2 2	Rs. a.	Rs. a.	2 8	2 9	4 9	2 8	2 10	2 7	2 6	2 3	2 7	2 8	Rs. a.	Rs. a.		
2 9	2 14	5 4	2 8	2 8	2 10	2 6	2 4	2 6	2 2	Rs. a.	Rs. a.	2 3	2 9	4 8	2 7	2 8	2 8	2 6	2 3	2 7	2 7	Rs. a.	Rs. a.		
2 12	2 14	5 8	2 8	2 6	2 10	2 6	2 5	2 6	2 3	Rs. a.	Rs. a.	2 4	2 12	4 10	2 6	2 8	2 8	2 4	2 3	2 7	2 7	Rs. a.	Rs. a.		
2 12	No information available.	5 8	No information available.	2 8	2 14	2 4	2 5	No information available.	2 5	Rs. a.	Rs. a.	2 7	No information available.	4 12	No information available.	2 8	2 8	2 3	2 3	No information available.	No information available.	Rs. a.	Rs. a.		
No information available.	3 1	No information available.	2 2	2 10	No information available.	2 4	No information available.	No information available.	3 0	Rs. a.	Rs. a.	No information available.	2 15	No information available.	2 0	2 9	No information available.	2 3	No information available.	2 6	2 12	Rs. a.	Rs. a.		
3 1	3 5	5 12	2 2	2 10	2 12	2 3	2 8	2 5	3 8	Rs. a.	Rs. a.	2 14	3 1	4 13	2 0	2 9	2 9	2 2	2 3	2 6	3 3	Rs. a.	Rs. a.		
3 1	3 5	5 6	2 6	2 4	2 6	2 2	2 7	2 6	...	Rs. a.	Rs. a.	2 14	3 1	4 12	1 14	2 9	2 2	2 1	2 4	2 6	...	Rs. a.	Rs. a.		
3 1	3 8	4 4	2 0	3 0	2 6	2 4	2 6	2 4	...	Rs. a.	Rs. a.	2 13	3 2	3 6	1 14	2 10	2 1	2 1	2 4	2 3	...	Rs. a.	Rs. a.		
2 12	3 0	3 0	1 15	2 14	No information available.	2 4	2 4	2 3	...	Rs. a.	Rs. a.	2 13	3 2	3 0	1 14	2 12	No information available.	2 2	2 3	2 3	...	Rs. a.	Rs. a.		

Price of common ordinary rice in Calcutta in Rs. and Annas per mound.—1858 to 1873.

QUOTATIONS ARE GIVEN FOR THE FIRST FORTNIGHT OF THE MONTH.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average for year.
1858	...	1.15	2	2.3	2.6	2.6	...	2.6	2.10	2.11	2.15	2.14	2.7
1859	...	...	...	...	...	...	...	...	...	...	...	...	...
1860	...	...	...	...	...	...	...	...	...	...	...	...	...
1861	...	...	...	...	...	...	...	...	...	...	...	...	...
1862	...	...	...	...	...	...	...	...	...	...	...	...	...
1863	...	...	...	...	...	...	...	...	...	...	...	...	...
1864	...	...	...	...	...	...	...	...	...	...	...	...	...
1865	...	...	...	...	...	...	...	...	...	...	...	...	...
1866	...	...	...	...	...	...	...	...	...	...	...	...	...
1867	...	...	...	...	...	...	...	...	...	...	...	...	...
1868	...	...	...	...	...	...	...	...	...	...	...	...	...
1869	...	...	...	...	...	...	...	...	...	...	...	...	...
1870	...	...	...	...	...	...	...	...	...	...	...	...	...
1871	...	...	...	...	...	...	...	...	...	...	...	...	...
1872	...	...	...	...	...	...	...	...	...	...	...	...	...
1873	...	...	...	...	...	...	...	...	...	...	...	...	...
Average ...	2.3	2.2	2.1	2.1	2.1	2	2	2.7	2.6	2.7	2.8	2.4	2.3

The figures show the price of ordinary common rice in Calcutta to have averaged 18.3 seers per rupee during the last seventeen years. The provincial average during the same period was 22 seers according to the Board of Revenue.

Retail prices of common rice in ordinary use in Calcutta during the years 1864 to 1873 inclusive.

QUANTITIES PER RUPEE IN THE SEER OF 80 TOLAH.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	S. C. 19 6	S. C. 17 5	S. C. 21 5	S. C. 18 13	S. C. 20 5	S. C. 18 13	S. C. 17 12	S. C. 15 4	S. C. 16 0	S. C. 15 4	S. C. 15 2	S. C. 14 12	S. C. 17 8
1865	...	...	...	...	...	...	...	...	...	...	...	...	...
1866	...	...	...	...	...	...	...	...	...	...	...	...	...
1867	...	...	...	...	...	...	...	...	...	...	...	...	...
1868	...	...	...	...	...	...	...	...	...	...	...	...	...
1869	...	...	...	...	...	...	...	...	...	...	...	...	...
1870	...	...	...	...	...	...	...	...	...	...	...	...	...
1871	...	...	...	...	...	...	...	...	...	...	...	...	...
1872	...	...	...	...	...	...	...	...	...	...	...	...	...
1873	...	...	...	...	...	...	...	...	...	...	...	...	...
Average ...	18 7/10	18 3/4	19 7/10	18 2/5	18 6-3/5	17 11-9/10	18 3/5	18 5	17 11-1/5	17 8-4/5	17 7/10	...	...

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VOL. V.]

CALCUTTA, SATURDAY, 31st JANUARY 1874.

[No. 6.]

RAINFALL OF THE LOWER PROVINCES.

Notes on the Yearly Rain-fall of the years 1860-72.

1860.

JANUARY, February, and March, dry generally; monsoon rains below the average in Naddea and Burdwan divisions; very deficient in Behar, but not in Rajshahye, the eastern districts or Orissa. November, a little rain at Burdwan and Cuttack, elsewhere dry. December, rainless. Famine in North-Western Provinces in the following summer, the rubbee crops having failed.

1861.

Little rain anywhere except in Orissa and Chota Nagpore the first three months. Monsoon rains about the average. A good deal of rain in October, especially in Rajshahye and Bhargulpore divisions. Some showers both in November and December.

1862.

January and February, rainless in Behar. Some heavy showers in January in Burdwan and Orissa. In March showers were general and on the whole the monsoon rainfall was seasonable; but deficient in Behar and Rungpore, and above the average in Burdwan and northern part of Orissa. Rains general in October and heavier than usual in most parts of Bengal; in Behar about the average. November rainless. December nearly so.

1863.

January and March almost rainless. A few showers in February in Burdwan, the Presidency, and Orissa. From April on through the monsoon, and in October, an average rainfall, except in the eastern districts, especially Cachar, where the fall was very deficient. December rainless.

1864.

Rainfall well distributed through the year. Below the average in the western part of Burdwan, Kishnaghur, Berhampore, and Maldah districts, but excessively heavy at Hooghly, especially in July. Above the average in Calcutta. A good deal of rain in October, and some generally in November. December rainless except in Assam. A severe cyclone in October.

1865.

Rains in general about the average, but deficient in Assam, and especially in Orissa, and rather below the average in Behar. Well distributed up to July and unusually heavy in May. August much below the average, and in September somewhat less than usual. In October, November, and December no rain, except in the eastern districts, with unimportant exceptions.

1866.

Rainfall of year generally below the average and irregularly distributed. In January and February showers were general. In April rather heavier than usual. In Orissa deficient in the first two months of the monsoon. Very heavy in August, flooding the country. Rains light from July to September in Kishnaghur and Jessore, Bograh, and Pabna. Elsewhere seasonable. Rain very general in October. November and December generally rainless.

1867.

Rainfall about the average and well distributed through the year in most districts, but somewhat deficient in Rajshahye, Dacca, and Sylhet. A cyclone with a good deal of rain in November. December rainless.

1868.

In the early months of the year, especially February, several showers. The rainy season characterized by a rainfall in Naddea, Jessore, and Burdwan much above the average, especially in the months of June and August. In Behar and the North-Western Provinces the fall deficient. The October rains below the average. November and December rainless in most parts of Bengal.

1869.

Showers in the earlier months, more than usual in February and March. A cyclone in May and another in June, both of which passed over Bengal. The monsoon rainfall generally below the average especially in August. In October a cyclone, accompanied with a good deal of rain, passed over Midnapore, Purulia, and Gya. November and December generally rainless. On the whole the rainfall of the year was below the average in Orissa, the Gangetic delta and Arakan. Also in Eastern Bengal (except Sylhet) in Lower Assam, Sikkim and parts of Behar. It was above the average in Beerbhoom and Moorshedabad, Dinagepore, Rungpore, and Cooch Behar.

1870.

The earlier months of the year drier than usual in nearly all parts of Bengal. In June the rainfall above the average in Assam, Sylhet, and the northern districts, but considerably below it in Arakan, and somewhat so in Orissa and Burdwan. September unusually wet in Assam, Eastern Bengal, and Arakan, and October in Behar and the Northern districts. In Orissa the rains deficient in every month up to October, in which month and November that province received more than usual. On the whole of the year, the fall was in excess in Hazareebaugh, Chota Nagpore, and Beerbhoom; also Monghyr, Chumparun, Chuprah, and in Rajshahye Division. It was deficient in Orissa, Burdwan, parts of Naddea, and Dacca division.

1871.

The rainfall of 1871, unusually heavy in Northern India generally, and in Calcutta the greatest on record. Lower Assam, the Khasi Hills, and Cachar, also Dinagepore and Bhargulpore, were exceptions, also Orissa. January and February were dry months. In March some heavy showers fell, especially in Midnapore. In April the rain was frequent and copious, and indeed the rains may be said to have set in this month and poured on steadily till September, when an exceedingly heavy fall took place in Tirhoot, Chuprah, and Chumparun. The last three months of the year were somewhat drier than usual.

1872.

In most parts of Bengal the rains of 1872 were unusually light. But in Noakhally, Chumparun, and Tirhoot it exceeded the average, and in Orissa was greatly in excess. In Lower Bengal there was a deficiency in every month, but the rain fell seasonably and no general failure of crops ensued. Very stormy weather in the Bay in June and October, to which the excessive rainfall of Orissa is partly to be ascribed.

Central Bengal Rainfall, 1865-66 and 1873-74.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Jan.	Feb.	Mar.	REMARKS.
<i>Central Bengal.</i>																	
24-Pergunnahs.....1865-66	0.5	1.9	2.0	4.3	15.9	8.6	12.2	6.0	10.3	...	...	...	61.7	1.9	3.7	...	Average. 66.1 (No records.)
1873-74	...	...	1.2	1.8	5.8	4.3	14.7	10.2	5.8	2.4	0.1	...	44.8	...	...	...	
Jessore.....1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Average. 56.9
1873-74	0.2	0.0	0.7	2.8	3.4	8.2	9.9	14.7	4.6	0.6	...	...	45.1	...	...	...	
Nudda .....1865-66	...	2.8	1.8	3.1	22.6	12.0	7.0	5.5	11.4	...	...	...	66.2	4.6	2.0	0.1	Average. 62.2
1873-74	...	...	1.2	2.7	3.9	3.5	18.2	14.8	2.4	0.1	...	...	46.8	...	...	...	
Midnapore .....1865-66	0.8	3.4	1.4	4.3	16.6	13.3	25.4	9.6	17.4	...	...	...	92.2	No in forma	...	...	Ditto...62.2
1873-74	0.2	...	0.7	2.0	9.2	7.1	14.0	6.6	4.9	0.1	...	...	44.7	...	...	...	
Hooghly .....1865-66	...	3.0	5.5	5.5	12.5	12.5	7.5	9.5	8.0	...	...	...	64.0	3.5	2.5	...	Ditto...69.0
1873-74	...	...	0.9	2.4	4.6	4.5	15.4	6.7	3.8	0.3	0.1	...	38.9	...	...	...	
Burdwan .....1865-66	Nil	2.6	1.9	1.9	16.3	5.2	14.0	4.0	6.6	Nil	Nil	0.1	57.5	...	...	...	Ditto...59.1
1873-74	Nil	Nil	2.0	4.2	3.4	6.4	19.6	17.2	4.4	0.2	...	...	60.7	1.5	7.3	0.6	
Bancoorah .....1865-66	Nil	1.1	2.3	4.4	3.9	15.8	15.9	6.8	10.0	0.5	Nil	Nil	47.2	...	...	...	Ditto...52.5
1873-74	Nil	Nil	5.5	1.5	2.3	3.3	15.2	14.7	3.7	0.8	...	...	59.2	No in forma	...	...	
Beerbhoom.....1865-66	...	2.4	1.4	5.2	7.1	6.2	16.1	11.1	8.5	1.0	...	...	53.4	...	...	...	Ditto...51.5 (No records.)
1873-74	0.02	...	0.1	0.3	1.4	3.9	24.7	17.5	3.7	0.9	...	...	1.7	1.2	...	...	
Pubna .....1865-66	...	...	...	...	...	...	...	...	...	...	...	...	43.1	...	...	...	Average. 55.0
1873-74	0.1	0.1	0.8	7.1	3.1	6.0	15.5	7.2	4.8	0.5	...	...	51.4	0.8	2.1	2.9	
Moorshedabad.....1865-66	Nil	2.0	2.2	2.2	9.1	4.0	14.1	9.0	8.8	Nil	Nil	Nil	31.6	...	...	...	Ditto...53.8
1873-74	0.2	Nil	1.5	0.7	0.7	3.0	9.7	10.3	5.0	0.4	...	...	57.6	1.1	7.0	1.5	
Maidah .....1865-66	Nil	3.4	1.7	1.3	7.5	11.3	18.9	6.4	3.8	Nil	Nil	3.3	27.0	...	...	...	Ditto...61.7
1873-74	0.5	Nil	0.3	1.2	0.1	4.4	7.1	7.8	4.9	0.9	...	...	60.0	0.5	2.4	0.1	
Rajshahye .....1865-66	Nil	2.0	1.9	5.1	10.3	5.7	17.8	9.6	7.1	0.5	Nil	Nil	32.1	...	...	...	(No records.)
1873-74	0.5	0.2	1.5	1.1	0.3	6.9	6.7	11.3	3.1	0.3	...	...	...	...	...	...	
Sonthal Pergunnahs.....1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Average. 437.8
1873-74	0.2	...	1.7	1.6	0.11	4.7	21.0	7.7	7.9	0.0	...	...	44.9	...	...	...	
Total (excluding Jessore, Pubna, and Sonthal Pergunnahs).....1865-66	1.3	2.6	22.1	27.3	721.8	94.6	118.9	77.5	91.9	2.0	...	3.4	625.6	...	...	...	Average. 437.8
1873-74	1.6	0.2	14.9	17.9	29.4	47.3	145.3	117.1	41.7	6.7	0.2	...	423.5	...	...	...	

Eastern Bengal Rainfall, 1865-66 and 1873-74.

<i>Eastern Bengal.</i>																	
Dacca .....1865-66	Nil.	0.7	1.6	14.2	9.3	15.0	21.6	6.3	4.6	2.8	Nil.	Nil.	76.1	0.9	1.6	0.8	Average. 74.4
1873-74	Nil.	0.1	1.2	5.6	4.6	9.5	16.0	17.2	4.0	0.3	0.3	...	58.8	...	...	...	
Furreedpore .....1865-66	...	3.1	0.8	11.0	20.5	9.5	21.3	9.9	7.9	4.0	...	...	88.0	...	...	...	Ditto... 75.8
1873-74	Nil.	1.4	0.4	8.1	5.2	5.1	7.9	11.5	10.9	Nil.	...	...	50.5	...	...	...	
Backergunge .....1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Ditto... 76.5
1873-74	0.6	Nil.	1.1	2.8	3.3	7.7	16.4	17.3	7.9	2.0	0.1	...	61.2	...	...	...	
Mymensing .....1865-66	Nil.	1.6	0.8	29.7	30.0	27.6	27.2	10.8	6.3	Nil.	Nil.	Nil.	134.0	?	1.7	Nil.	Ditto... 103.2
1873-74	0.1	0.1	0.9	3.7	3.2	21.8	10.4	16.9	4.0	0.3	...	...	61.4	...	...	...	
Total (except Backergunge).....1865-66	...	5.4	3.2	54.9	59.8	52.1	70.1	27.0	18.8	6.8	...	...	298.1	0.9	3.3	0.8	Ditto... 253.2
1873-74	0.1	1.6	2.5	17.4	13.0	36.4	34.3	45.6	18.9	6	...	...	170.7	...	...	...	
Chittagong .....1865-66	0.3	0.7	0.2	3.5	11.1	12.5	40.4	7.9	6.4	3.8	1.6	Nil.	88.4	Nil.	0.3	0.1	Average. 105.8
1873-74	0.4	Nil.	Nil.	5.7	6.3	21.3	19.4	16.5	11.0	4.0	...	...	85.6	...	...	...	
Nokhally.....1865-66	0.2	0.4	Nil.	4.4	17.4	23.6	22.0	16.2	8.6	3.4	Nil.	Nil.	96.2	0.9	0.8	0.3	Ditto... 101.7
1873-74	Nil.	Nil.	4.8	9.0	9.0	19.3	28.4	26.8	11.6	7.4	...	...	115.7	...	...	...	
Tipperah.....1865-66	0.4	2.4	2.6	9.0	13.9	34.2	28.6	6.2	8.0	1.2	Nil.	Nil.	106.5	0.7	...	0.3	Ditto... 93.5
1873-74	Nil.	0.1	0.7	5.5	6.4	18.1	9.7	25.7	4.6	0.6	...	...	71.4	...	...	...	
Sylhet .....1865-66	0.1	0.3	0.7	17.8	21.0	38.2	24.5	28.8	10.3	4.8	Nil.	0.8	147.5	0.2	1.6	0.9	Ditto... 154.1
1873-74	0.8	1.7	5.8	11.6	5.1	34.1	25.1	25.9	17.5	0.8	...	...	126.4	...	...	...	
Cachar.....1865-66	Nil.	0.4	0.6	7.4	21.0	35.3	52.2	20.8	5.5	7.8	3.0	5.0	159.0	0.1	7.0	11.0	Ditto... 119.7
1873-74	1.0	2.5	7.5	5.6	6.8	22.4	23.8	13.6	10.7	8.1	...	...	102.0	...	...	...	
Total.....1865-66	1.0	4.2	4.1	42.1	84.4	143.8	167.7	79.9	39.0	21.0	4.6	5.8	...	119	10.9	12.6	Average... 574.8
1873-74	2.2	4.3	18.8	37.4	32.6	115.2	104.4	110.5	55.4	20.9	...	...	...	...	...	...	
General total .....1865-66	1.0	9.6	7.3	96.0	144.2	195.7	237.8	106.9	57.8	27.8	4.6	5.8	597.6	...	...	...	Average... 574.8
1873-74	2.9	5.9	21.3	57.6	45.6	151.6	138.7	155.9	74.3	21.5	0.3	Nil.	501.1	...	...	...	

North Bengal Rainfall, 1865-66 and 1873-74.

<i>North Bengal.</i>																	
Bograh .....1865-66	...	1.5	1.6	7.0	11.7	18.9	21.8	7.3	3.2	1.6	...	...	73.6	2.5	2.3	1.4	Average... 88.4
1873-74	0.2	0.1	0.5	3.1	2.0	6.7	8.0	12.8	3.3	...	...	...	36.7	...	...	...	
Dinagopore.....1865-66	...	2.0	1.7	12.0	7.6	22.4	24.9	10.4	6.9	...	...	0.2	88.1	0.3	2.6	...	Ditto... 84.5
1873-74	0.5	0.3	0.6	0.7	0.4	18.3	8.2	12.6	1.6	...	...	...	42.7	...	...	...	
Rungpore .....1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Ditto... 88.1
1873-74	0.1	0.2	0.9	8.2	1.1	13.1	3.9	14.1	2.6	...	...	...	44.2	...	...	...	
Purneah .....1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Ditto... 88.1
1873-74	0.3	...	0.8	2.6	0.4	6.3	11.0	10.6	0.8	...	...	...	38.8	...	...	...	
Cooch Behar .....1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Ditto... 88.1
1873-74	...	...	1.5	7.7	3.5	51.6	22.9	18.1	10.2	...	...	...	115.5	...	...	...	
Julpigoree .....1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Ditto... 88.1
1873-74	0.1	0.1	0.8	7.5	2.7	28.9	15.7	13.8	18.8	...	...	...	88.4	...	...	...	
Gowalpara .....1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Ditto... 88.1
1873-74	...	...	2.4	10.3	7.9	21.4	10.8	3.3	7.1	...	...	...	68.2	...	...	...	
Total (of Bogra & Dinagopore).....1865-66	...	3.5	3.3	15.0	19.3	41.3	46.7	17.7	15.1	1.6	...	0.2	167.7	...	...	...	Average 172.9
1873-74	0.7	0.4	1.1	3.8	2.4	25.0	16.2	25.4	4.9	...	...	...	73.4	...	...	...	

Behar Rainfall, 1865-66 and 1873-74.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Jan.	Feb.	Mar.	REMARKS.
Behar.																	
Chuniparan ...1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1873-74	0.9	...	3.0	0.8	0.9	8.0	15.1	11.5	0.73	...	...	...	40.93	...	...	...	
Saran .....1865-66	0.15	0.76	1.7	2.0	1.6	1.8	10.3	6.2	3.5	...	0.15	...	34.3	1.2	1.5	...	Average... 37.9
1873-74	0.3	...	1.7	1.0	...	3.4	15.5	10.8	1.10	...	...	...	33.8	...	...	...	
Tirhoot .....1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	(No records of this year.)
1873-74	2.2	...	2.2	0.6	...	4.0	10.1	7.1	2.8	...	...	...	29.0	...	...	...	Average... 43.9
Shahabad .....1865-66	...	0.5	1.9	2.3	3.9	2.5	19.8	5.7	2.1	...	...	0.5	39.1	...	...	...	
1873-74	0.3	0.06	1.0	...	0.7	1.9	19.7	11.0	3.0	...	...	...	37.6	...	...	...	
Patna .....1865-66	...	0.5	1.9	2.3	3.9	2.5	19.9	5.7	2.1	...	...	0.5	39.3	0.7	1.3	...	Ditto... 37.6
1873-74	0.2	0.02	0.8	0.1	0.1	3.4	13.0	11.8	0.9	...	...	...	30.4	...	...	...	
Gya .....1865-66	1.0	5.0	3.0	...	5.0	5.0	27.0	7.0	10.0	...	...	3.0	60.0	...	...	...	7 Ditto... 43.0
1873-74	0.1	...	0.9	...	0.3	1.5	18.4	10.0	4.1	...	...	...	35.3	...	...	...	
Monghyr.....1865-66	...	1.2	1.5	1.4	5.3	3.8	15.1	5.9	1.8	...	...	1.0	37.0	0.6	3.0	...	Ditto... 40.0
1873-74	0.3	0.0	1.1	0.2	1.1	2.6	13.3	15.3	3.7	...	...	...	38.2	...	...	...	
Bhaugulpore ...1865-66	0.2	0.8	1.5	3.6	9.5	6.1	17.2	16.0	9.2	...	...	0.9	65.0	2.1	3.0	...	Ditto... 42.0
1873-74	0.4	...	0.6	0.6	0.2	5.4	11.1	6.7	3.7	...	...	...	28.6	...	...	...	
Total (excluding Chuniparan & Tirhoot).....1865-66	1.36	8.76	11.5	11.6	29.2	21.7	115.3	46.5	28.7	...	0.10	5.9	280.7	...	...	...	Average... 255.4
1873-74	1.16	8.08	6.1	1.9	2.4	13.2	91.0	65.6	17.4	...	...	...	203.9	...	...	...	

Western Bengal Rainfall, 1865-66 and 1873-74.

Western Bengal.																	
Singbhoom .....1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Average.
1873-74	0.2	Nil	2.3	1.6	2.6	3.4	11.5	10.0	6.0	0.9	...	...	...	38.5	...	...	Ditto... 44.6
Maunbhoom ...1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Ditto... 43.2
1873-74	Nil	Nil	2.4	1.8	1.2	1.7	19.3	12.5	3.0	0.2	...	...	...	42.1	...	...	
Lohardugga ...1865-66	0.5	2.5	1.9	0.4	4.2	5.1	11.4	8.3	4.3	Nil	Nil	Nil	...	38.6	1.3	4.1	Ditto... 50.3
1873-74	Nil	Nil	1.6	0.5	1.2	2.3	17.6	13.9	12.2	0.6	...	...	...	49.9	...	...	
Hazareebaugh...1865-66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Ditto... 50.3
1873-74	Nil	Nil	0.9	0.1	0.2	2.2	23.0	20.3	12.1	0.2	...	...	...	59.0	...	...	
Total (Lohar-																	Average.
dugga).....1865-66	0.5	2.5	1.9	0.4	4.2	5.1	11.4	8.3	4.3	...	...	...	...	38.6	...	...	
1873-74	...	...	4.6	0.5	1.2	2.3	17.6	13.9	12.2	0.6	...	...	...	49.9	...	...	

Orissa Rainfall, 1865-66 and 1873-74.

Orissa.																		
Balasore	1865-66	0.25	1.3	5.7	5.7	11.5	4.2	6.0	8.2	9.3	0.3	Nil	Nil	52.6	1.0	3.3	...	Average... 67.
	1873-74	Nil	Nil	0.9	1.7	4.6	3.6	12.0	11.8	7.6	4.7	Nil	Nil	...	46.9	...	...	...
Cuttack	1865-66	1.1	2.3	3.6	0.7	7.4	8.1	12.2	7.7	7.5	Nil	Nil	0.8	51.4	...	...	...	Ditto... 54.2
	1873-74	Nil	Nil	2.7	1.6	1.1	3.0	10.5	10.0	6.2	2.5	0.3	Nil	...	37.9	...	...	...
Pooree	1865-66	Nil	1.8	0.8	Nil	13.0	5.6	4.3	5.6	5.2	Nil	Nil	Nil	36.3	...	3.9	...	Ditto... 55.5
	1873-74	Nil	Nil	1.11	0.8	4.2	2.6	8.5	15.8	9.2	12.5	0.6	...	55.3	...	...	...	...
Total ...	1865-66	1.26	5.4	10.1	6.4	31.9	17.9	22.5	21.5	22.0	0.3	0.0	...	140.3	...	...	...	Average... 177.0
	1873-74	...	...	5.7	4.1	9.9	9.2	31.0	37.6	23.0	15.0	0.69	...	140.1	...	...	...	...

Average or Normal Monthly Rainfall, Central Bengal.

DISTRICTS.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	REMARKS.
24-Pergunnahs	0.5	0.8	1.4	2.4	5.3	12.8	13.4	14.4	9.9	5.4	0.7	0.2	...	
Nudda	0.4	0.6	0.8	1.9	6.6	8.8	9.2	10.2	6.8	4.3	0.3	0.1	...	
Midnapore	0.6	0.2	1.4	1.7	5.3	10.6	9.2	9.9	8.2	5.0	0.3	...	...	
Hooghly	0.5	1.5	1.8	2.5	5.5	11.8	16.9	14.4	9.2	4.9	0.4	0.1	...	
Bardwan	0.6	0.8	1.2	2.1	4.2	9.7	13.5	11.5	8.1	5.4	0.4	0.5	...	
Bancoorah	0.3	0.8	1.6	1.6	3.1	8.9	12.2	10.9	8.0	3.9	0.1	0.1	...	
Beerbhoom	0.6	0.8	1.2	2.1	4.2	9.7	13.5	11.5	8.1	5.0	0.4	0.5	...	
Moorsshedabad	0.2	0.8	1.1	2.0	3.9	9.5	10.4	9.8	9.3	5.8	0.1	0.1	...	
Maldah	0.4	0.8	0.9	1.6	3.2	7.7	9.6	8.8	9.6	3.1	0.2	0.4	...	
Rajshahye	0.1	0.1	1.2	1.7	4.7	10.2	12.6	9.6	10.6	5.0	0.2	0.6	...	
Total.....	4.0	7.2	12.6	19.6	46.0	99.7	120.5	111.0	87.8	47.4	3.1	2.0	...	

Average or Normal Monthly Rainfall, Eastern Bengal Dacca Districts.

Dacca	0.2	0.7	1.2	7.0	8.7	13.3	13.4	12.5	8.7	5.4	0.7	0.5	...
Furreedpore	0.2	0.5	1.7	5.0	8.0	12.8	10.4	13.1	9.9	3.9	0.6	0.2	...
Mymensing	0.2	0.8	1.0	6.7	11.2	23.1	19.2	15.2	13.5	5.1	1.0	...	...
Total.....	0.6	2.0	3.9	18.7	27.9	49.2	43.0	40.8	32.1	14.4	1.8	0.7	...

Chittagong Districts.

Chittagong.....	0.3	1.1	1.1	4.8	8.5	22.6	21.6	21.8	12.9	6.8	1.5	0.4	...
Noakhally	0.3	0.5	1.5	4.2	8.4	20.2	17.0	19.5	14.9	7.9	1.2	0.3	...
Tippurah	0.5	0.7	2.0	7.6	16.7	19.0	16.2	14.8	10.1	6.2	1.5	0.6	...
Sylhet	0.2	1.3	4.4	12.7	20.6	29.9	24.5	24.2	15.8	9.1	0.6	0.1	...
Cachar	1.4	3.0	6.1	11.0	13.4	17.5	21.7	15.4	13.0	7.9	0.7	0.5	...
Total.....	2.7	6.6	15.1	40.3	61.6	109.2	101.0	95.7	66.7	37.6	5.5	1.1	...

Average or Normal Monthly Rainfall, North Bengal.

DISTRICTS.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	REMARKS.
Bogra	0.2	0.5	0.7	4.3	8.2	16.3	18.9	11.8	13.0	5.2	1.2	0.7	...	
Dinagopore	0.2	0.6	0.5	2.0	5.9	16.9	16.9	14.2	12.9	5.8	0.1	0.2	...	
Total.....	0.4	0.11	0.12	6.3	14.1	33.2	35.8	26.0	25.9	11.0	1.3	0.9	...	

Average or Normal Monthly Rainfall, Behar and Bhaugulpore.

Sarun.....	0.8	0.5	0.4	0.5	1.3	6.5	9.3	8.4	7.5	2.8	0.02	...	...	Total ... 37.9
Shahabad	1.0	0.6	0.6	0.9	1.3	7.4	13.9	9.8	10.4	2.9	0.2	0.06	...	" ... 49.0
Patna	0.6	0.8	0.3	0.4	1.2	6.6	10.4	7.3	7.4	2.5	0.09	0.06	...	" ... 37.6
Gya	0.8	0.6	0.6	0.6	0.9	6.5	12.3	10.1	7.1	3.2	0.05	0.08	...	" ... 44.3
Monghyr	0.4	0.6	0.5	0.4	1.5	5.7	11.1	10.3	7.7	3.3	0.05	0.10	...	" ... 40.2
Bhaugulpore	0.5	0.6	0.4	1.1	2.2	7.7	11.5	9.7	8.0	4.9	0.3	0.17	...	" ... 50.9
Total.....	4.1	3.7	2.8	3.9	8.4	40.4	68.3	55.6	48.1	19.6	0.71	0.47	...	Total ... 259.9

Average or Normal Monthly Rainfall, Western Bengal.

Lohardugga	0.7	0.7	1.2	0.6	1.2	7.4	10.4	10.3	7.1	2.8	0.1	0.3	...	
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Average or Normal Monthly Rainfall, Orissa.

Balasore	0.8	1.0	1.7	2.4	3.9	11.4	9.6	12.0	13.3	7.4	0.7	0.1	...	
Cuttack	0.4	0.2	1.0	1.5	1.8	8.5	10.1	9.4	8.2	5.6	1.0	0.2	...	
Pooree.....	0.1	1.2	0.7	1.5	2.5	7.9	9.1	12.4	9.2	8.1	1.6	0.7	...	
Total.....	0.13	2.4	3.4	5.4	8.2	27.8	28.8	33.8	30.7	21.1	3.3	1.0	...	

Total Normal Monthly Rainfall in all the above Groups.

Central Bengal.....	4.0	7.2	12.6	19.6	46.0	99.7	120.5	111.0	87.8	47.4	3.1	2.0	...	
Eastern Bengal—														
Dacca districts	0.6	2.0	3.9	18.7	27.9	49.2	43.0	40.8	32.1	14.4	1.8	0.7	...	
Chittagong districts.....	2.7	6.6	15.1	40.3	61.6	109.2	101.0	95.7	66.7	37.6	5.5	1.1	...	
North Bengal.....	0.4	0.1	0.1	6.3	14.1	33.2	35.8	26.0	25.9	11.0	1.3	0.1	...	
Behar	4.1	3.7	2.8	3.9	8.4	40.4	68.3	55.6	48.1	19.6	0.7	0.5	...	
Western Bengal	0.7	0.7	1.2	0.6	1.2	7.4	10.4	10.3	7.1	2.8	0.1	0.3	...	
Orissa	0.1	2.4	3.4	5.4	8.2	27.8	28.8	33.8	30.7	21.1	3.3	0.1	...	
Total.....	12.6	22.7	39.1	94.8	167.4	360.9	407.8	373.2	298.4	153.9	15.8	4.8	...	

Actual Monthly Rainfall in 1865 in the Groups enumerated.

Central Bengal.....	1.3	24.6	22.1	37.3	721.8	94.6	48.9	77.5	91.9	2.0	0.0	3.4	...	
Eastern Bengal—														
Dacca districts	0.0	5.4	3.2	54.9	59.8	52.1	70.1	27.0	18.8	6.8	0.0	0.0	...	
Chittagong districts.....	1.0	4.2	4.1	42.1	84.4	143.8	167.7	79.9	39.0	21.0	4.6	5.8	...	
North Bengal	0.0	3.5	3.3	19.0	19.3	41.3	46.7	17.7	15.1	1.6	0.0	0.2	...	
Behar	1.3	8.7	11.5	11.6	29.2	21.7	115.3	46.5	28.7	...	0.1	5.9	...	
Western Bengal	0.5	2.5	1.9	0.4	4.2	5.1	11.4	8.3	4.3	...	...	...	...	
Orissa.....	1.3	5.4	10.1	6.4	31.9	17.9	22.5	21.5	22.0	0.3	...	...	...	
Total	5.4	54.3	56.2	171.7	950.6	326.5	582.6	278.4	219.8	31.7	4.7	15.3	...	

Actual Monthly Rainfall in 1873 in the same Groups.

Central Bengal.....	1.6	0.2	14.9	17.9	29.4	47.3	145.3	117.1	41.7	6.7	0.2	0.0	...	
Eastern Bengal—														
Dacca districts	0.1	1.6	2.5	17.4	13.0	36.4	34.3	45.6	18.9	0.6	0.3	0.0	...	
Chittagong districts.....	2.2	4.3	18.8	37.4	32.6	115.2	104.4	110.5	55.4	20.9	...	...	...	
North Bengal	0.7	0.4	1.1	3.8	2.4	25.0	16.2	25.4	4.9	...	...	...	...	
Behar	0.1	0.1	6.1	1.9	2.4	18.2	91.0	65.6	17.4	...	...	...	...	
Western Bengal	...	...	1.6	0.5	1.2	2.3	17.6	13.9	12.2	0.6	...	...	...	
Orissa.....	...	...	5.7	4.1	9.9	9.2	31.0	37.6	23.0	15.0	0.7	...	...	
Total	4.7	6.0	50.7	83.0	90.9	253.6	439.8	415.7	173.5	43.8	1.2	...	...	

Comparison of the Total Rainfall in all the Groups Month by Month.

1865 Actual	5.4	54.3	56.2	171.7	950.6	326.5	582.6	278.4	219.8	31.7	4.7	15.3	...	
1873 Actual	4.7	6.0	50.7	83.0	90.9	253.6	439.8	415.7	173.5	43.8	1.2	0.0	...	
Normal fall	12.6	22.7	39.1	94.8	167.4	366.9	407.8	373.2	298.4	153.9	15.8	4.8	...	

The season of 1865 was thus marked by two peculiarities—(1) an enormous rainfall in the first five months of the year, 1,240 inches in fact against the normal 336; and (2) an exceedingly scanty one in the last four, or 270 inches against the normal 473.

The peculiarities of the present season are an exceedingly scanty fall at both periods:—the fall being 230 inches from January to May, against the normal 336; and 218 only from September to December, against 473. Thus the fall may be said to have been 100 inches short of the proper amount during the tillage and sowing season, and 250 inches short during the period when rain is absolutely necessary for forming the ear of the grain.

Circular Statement showing the monthly Rainfall from January 1837 to 20th November 1873, as taken at the Surveyor-General's Office, Calcutta.

Years.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total for year.	REMARKS.
1837	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	
1838	...	0.12	0.36	1.43	2.13	11.76	10.43	11.08	8.16	7.52	...	...	43.61	
1839	1.34	0.25	0.31	1.31	7.84	9.12	14.77	9.45	18.95	0.59	1.06	...	52.99	
1840	...	...	0.44	0.80	8.05	13.05	9.01	21.31	4.94	1.81	...	...	64.97	
1841	0.85	0.24	0.76	3.26	5.31	7.03	14.09	13.96	11.59	3.16	...	...	59.41	
1842	...	...	3.76	3.73	1.82	26.24	9.61	21.97	4.08	3.36	0.19	0.76	76.12	Cyclone, June 3rd.
1843	1.67	0.64	1.20	2.42	5.33	8.64	10.18	20.05	11.19	2.16	...	0.86	64.34	
1844	0.22	0.08	0.22	3.13	7.44	12.13	13.72	26.91	5.02	4.99	...	...	73.86	
1845	1.10	0.64	0.17	7.30	1.42	10.66	12.80	15.36	4.80	5.86	...	...	60.92	
1846	0.82	1.80	2.30	0.57	2.49	12.14	20.07	13.26	9.97	10.76	0.74	1.52	76.44	
1847	...	...	...	2.33	4.79	12.01	15.69	15.69	10.95	5.86	5.59	0.05	72.36	
1848	...	...	0.41	1.31	6.22	13.32	17.50	9.22	4.74	5.41	0.20	0.16	58.69	
1849	2.44	1.67	2.16	0.32	7.44	14.40	12.24	10.11	14.71	4.03	...	0.99	70.51	
1850	...	2.00	1.52	1.28	3.30	11.99	15.34	14.88	20.59	3.61	1.77	...	76.28	
1851	0.07	2.41	1.05	3.75	0.08	8.39	12.89	10.78	8.49	16.25	...	...	64.16	
1852	1.58	...	6.08	1.84	11.89	8.59	17.98	9.05	...	2.59	...	0.50	61.00	
1853	0.10	...	...	1.00	2.42	8.27	12.76	13.44	9.15	4.94	...	...	52.08	
1854	...	1.01	1.28	7.25	8.75	16.82	10.60	11.59	9.26	4.01	0.90	...	66.47	
1855	0.46	1.11	0.14	3.83	5.97	5.84	19.18	11.07	19.39	3.38	...	...	70.36	
1856	1.06	...	2.23	0.62	8.17	12.67	10.94	10.30	9.02	9.21	...	...	64.23	Gale, May 14th and Sept. 3rd.
1857	...	...	0.96	1.80	9.53	10.30	12.98	18.70	13.30	1.60	...	...	68.97	Gale, May 7th.
1858	0.07	0.54	0.22	0.97	3.28	8.22	17.96	14.65	4.74	8.63	...	1.08	59.76	
1859	...	0.66	4.23	1.29	3.18	12.48	9.09	21.22	11.55	4.96	...	...	68.66	Gale, July 27th.
1860	...	0.09	...	2.47	2.21	6.46	17.92	14.65	7.13	1.68	...	...	52.61	
1861	0.56	...	0.88	0.31	9.07	26.44	10.93	16.12	12.48	7.75	4.39	0.26	89.19	
1862	1.03	...	1.69	2.53	3.80	13.63	13.31	12.03	10.86	14.40	...	0.20	73.48	
1863	...	1.20	...	2.48	4.20	12.93	11.22	14.10	10.33	3.48	1.26	...	61.15	
1864	...	0.47	1.84	1.11	10.36	18.73	13.09	16.64	12.59	6.50	2.89	...	84.22	Cyclone, October 8th.
1865	0.48	1.86	1.96	4.28	15.94	8.63	12.19	5.99	10.25	...	...	...	61.58	
1866	1.91	9.74	...	1.81	2.56	7.02	13.42	11.48	15.97	7.83	...	...	65.74	Gale, November 1st.
1867	0.55	0.82	1.57	0.27	2.46	6.12	15.44	18.50	13.70	8.45	4.85	...	72.73	Cyclone, November 2nd.
1868	0.05	0.18	0.16	5.47	5.80	26.61	11.17	24.83	15.69	1.53	...	...	91.49	Gale, May 16th.
1869	0.90	2.72	4.59	0.20	3.32	18.33	14.54	6.02	7.91	3.03	...	...	61.61	Hurricane, June 9th.
1870	0.77	...	0.03	4.03	0.92	16.09	10.90	12.92	9.01	3.93	1.66	...	60.26	
1871	...	0.75	5.41	5.72	11.08	25.35	15.93	12.11	9.93	7.03	...	...	93.31	
1872	0.22	2.82	0.21	1.83	1.99	9.45	5.55	11.52	8.42	8.93	0.02	0.09	51.05	
1873	...	...	1.18	1.84	3.78	4.30	14.76	10.23	5.82	2.40	(a) 0.01	...	(a) 44.32	(a) Up to 20th November.
Average for whole period, 37 years.....	0.49	0.78	1.34	2.35	5.20	12.44	13.19	14.10	10.12	5.31	0.69	0.20†	...	

* Not forthcoming.

† Average of

Table of the Average Rainfall of the month of October, deduced from five years 1868-72.

	Total.	Average Rainfall, 1st to 15th October.	Average Rainfall, 16th to 31st October.		Total.	Average Rainfall, 1st to 15th October.	Average Rainfall, 16th to 31st October.
Burdwan ...	5.19	2.17	3.02	Rangamatee Hill ...	12.98	9.95	3.03
Bancoorah ...	5.01	2.35	2.66	Patna ...	2.61	0.77	1.84
Sooree ...	4.29	1.80	2.49	Gya ...	3.26	1.17	2.09
Midnapore ...	6.11	1.71	4.40	Arrah ...	4.23	2.55	1.68
Hooghly ...	4.21	2.34	1.87	Mozufferpore ...	5.35	0.57	4.78
Howrah ...	4.74	1.86	2.88	Chupra ...	2.71	0.73	1.98
Calcutta ...	4.89	1.97	2.92	Chumpanun ...	4.08	1.29	2.79
Alipore ...	5.22	2.31	2.91	Monghyr ...	2.98	0.75	2.23
Kishnagurh ...	4.05	2.75	1.30	Bhargulpore ...	2.85	0.85	2.00
Jessore ...	4.61	2.53	2.08	Purneah ...	5.08	0.22	4.86
Berhampore ...	5.11	2.75	2.36	Deogurh ...	7.03	3.55	3.48
Dinapore ...	5.60	1.66	3.94	Cuttack ...	7.22	2.86	4.36
Maldah ...	4.38	1.50	2.88	Poooree ...	7.11	2.07	5.04
Beaulcah ...	3.98	2.80	1.18	Balasore ...	6.38	1.46	4.92
Rungpore ...	4.35	1.29	3.06	Sambalpur ...	3.67	2.79	0.88
Bogra ...	5.47	3.21	2.26	Hazareebaugh ...	3.68	1.98	1.70
Pubna ...	5.89	3.87	2.02	Ranchee ...	2.25	0.83	1.42
Darjeeling ...	8.25	1.17	7.08	Chyebassa ...	4.94	2.26	2.68
Julpigoree ...	8.24	2.40	5.84	Purulia ...	3.85	1.79	2.06
Buxa ...	17.73	6.33	11.40	Goalparah ...	3.54	1.26	2.28
Dacca ...	3.98	2.40	1.58	Gowhaty ...	2.61	1.05	1.56
Furzedpore ...	5.93	3.78	2.15	Tezporo ...	2.11	0.75	1.35
Burrisaul ...	5.06	2.34	2.72	Nowgong ...	5.67	2.54	3.13
Mymensing ...	5.62	3.47	2.15	Sebsaugor ...	4.67	3.41	1.26
Sylhet ...	11.33	7.36	4.03	Debroogurh ...	5.11	3.85	1.26
Cachar ...	8.50	6.32	2.18	Samcoogoting ...	5.07	3.13	1.94
Chittagong ...	7.45	5.45	2.00	Shillong ...	4.96	2.70	2.26
Noakhally ...	7.87	3.92	3.95	Tura ...	9.61	4.46	5.15
Tipperah ...	5.46	3.77	1.69				
Average ...	.....	3.02	3.14	Average ...	.....	2.18	2.67

Table of the Average Rainfall of the month of September, deduced from the five years, 1868-72.

	Total.	Average Rainfall, 1st to 15th September.	Average Rainfall, 16th to 30th September.		Total.	Average Rainfall, 1st to 15th September.	Average Rainfall, 16th to 30th September.
Burdwan ...	8.79	5.08	3.71	Rangamatee Hill ...	11.53	5.51	6.02
Bancoorah ...	9.08	6.35	2.73	Patna ...	9.08	3.76	5.32
Scoree ...	11.16	6.02	5.14	Gya ...	6.64	3.81	2.83
Midnapore ...	8.90	5.91	2.99	Arrah ...	8.84	5.09	3.75
Hooghly ...	11.30	6.38	4.92	Mozufferpore ...	20.30	10.05	10.25
Howrah ...	11.71	6.38	5.33	Chuprah ...	12.24	6.34	5.90
Calcutta ...	13.19	6.24	3.95	Chumparan ...	12.43	4.92	7.51
Alipore ...	10.10	6.58	3.52	Monghyr ...	8.53	4.89	3.64
Kishnagur ...	7.06	2.97	4.09	Bhaugulpore ...	6.62	3.72	2.90
Jessore ...	8.68	3.79	4.89	Purneah ...	9.69	5.03	4.66
Berhampore ...	13.38	5.76	7.62	Purneah ...	7.04	3.90	3.14
Dinapore ...	13.13	5.94	7.19	Deogurh ...	9.25	4.52	4.73
Maldah ...	11.96	5.55	6.41	Cuttack ...	8.71	5.20	3.51
Beaulah ...	13.31	6.12	7.19	Poorce ...	12.61	6.80	5.81
Rungpore ...	15.81	6.98	8.83	Balasore ...	8.29	5.43	2.96
Bogra ...	18.64	10.64	8.00	Sambalpur ...	9.53	6.61	2.92
Pubna ...	13.52	6.55	6.97	Hazareebaugh ...	11.22	6.05	5.17
Darjeeling ...	16.35	9.04	7.31	Ranchee ...	11.28	7.76	3.52
Jaipur ...	22.16	11.52	10.64	Chyabassa ...	6.75	4.64	2.11
Buxa ...	33.11	20.55	12.56	Purulia ...	16.02	8.46	7.56
Dacca ...	12.04	4.71	7.33	Goalparah ...	12.01	6.25	5.76
Furzedpore ...	9.80	5.08	4.72	Gowhaty ...	11.66	5.37	6.29
Burrisaul ...	11.68	5.16	6.47	Tezpur ...	15.33	7.97	8.96
Mymensing ...	17.13	9.19	7.94	Nowgong ...	12.96	6.16	6.80
Sylhet ...	24.65	12.11	12.54	Sebsaugur ...	26.97	12.85	14.62
Cachar ...	14.95	7.85	7.10	Debroogurh ...	7.30	2.66	4.44
Chittagong ...	14.94	8.77	6.17	Samoogoting ...	18.19	9.28	8.91
Noakhally ...	17.94	7.27	10.67	Shillong ...	26.91	19.53	7.38
Tipperah ...	11.03	4.78	6.25				
Average ...	.....	7.23	6.64	Average ...	.....	6.50	5.59

Rainfall.—September, October, and November.

Dacca.			Sept.	Oct.	Nov.	ORISSA.			Sept.	Oct.	Nov.
Dacca	... Average	...	9.12	5.84	0.82	Cuttack	... Average	...	9.01	6.31	1.07
	1865	...	4.58	2.77	Nil		1865	...	...	...	...
	1873	...	3.96	0.30	...		1873	...	6.27	2.54	...
Furzedpore	... Average	...	8.34	5.18	0.53	Poorce	... Average	...	9.42	7.82	1.66
	1865	...	7.90	4.00	Nil		1865	...	5.20	Nil	...
	1873	...	...	Nil	...		1873	...	9.21	12.53	...
Bac	... Average	...	...	...	...	Balasore	... Average	...	13.76	7.61	0.89
	1865	...	...	...	...		1865	...	9.80	0.30	Nil
	1873	...	...	1.96	...		1873	...	7.61	4.69	...
Mymensing	... Average	...	14	5.74	0.12	CHITTAGONG.					
	1865	...	6.30	Nil	Nil	Chittagong	... Average	...	13.06	7.03	1.79
	1873	...	4.02	0.27	...		1865	...	6.35	3.62	1.60
Sylhet	... Average	...	15.95	9.69	0.66		1873	...	10.95	3.95	...
	1865	...	10.50	4.80	Nil	Noakhally	... Average	...	16.08	8.62	1.48
	1873	...	17.45	0.75	...		1865	...	8.55	3.40	Nil
Cachar	... Average	...	14.32	8.25	0.82		1873	...	11.61	7.38	...
	1865	...	5.50	7.73	3.00	Tipperah	... Average	...	10.57	6.97	1.63
	1873	...	10.72	8.13	...		1865	...	8.00	1.15	Nil
PATNA.							1873	...	4.64	0.55	...
Patna	... Average	...	7.43	2.55	0.09	Chittagong Hill	... Average	...	...	...	...
	1865	...	...	...	...	Tracts	1865	...	...	...	...
	1873	...	0.94	Nil	...		1873	...	9.10	4.94	...
Gya	... Average	...	7.17	3.24	0.05	Hill Tipperah	... Average	...	...	...	...
	1865	...	...	...	...		1865	...	...	...	...
	1873	...	4.13	Nil	...		1873	...	7.3	1.12	...
Shahabad	... Average	...	10.44	2.89	0.23	CHOTA NAGPORE.					
	1865	...	2.10	...	...	Hazareebaugh	... Average	...	8.15	3.56	0.12
	1873	...	3.00	Nil	...		1865	...	...	...	...
Tirhoot	... Average	...	8.84	3.56	0.03		1873	...	12.07	0.15	...
	1865	...	...	...	...	Lohardugga	... Average	...	6.91	3.27	0.13
	1873	...	2.82	Nil	...		1865	...	4.80	Nil	Nil
Sarun	... Average	...	7.45	2.72	0.02		1873	...	12.20	0.63	...
	1865	...	3.55	Nil	0.15	Singbhoom	... Average	...	...	...	...
	1873	...	1.10	Nil	...		1865	...	...	...	...
Chumparan	... Average	...	8.33	3.29	Nil		1873	...	5.94	0.88	...
	1865	...	...	...	...	Maunbhoom	... Average	...	6.49	4.80	0.09
	1873	...	0.73	Nil	...		1865	...	...	...	...
BHAUGULPORE.							1873	...	3.01	0.15	...
Monghyr	... Average	...	7.92	3.77	0.05	ASSAM.					
	1865	...	1.80	Nil	Nil	Gowalparah	... Average	...	13.00	5.33	0.33
	1873	...	3.68	Nil	...		1865	...	...	...	...
Bhaugulpore	... Average	...	8.19	4.93	0.03		1873	...	7.09	Nil	...
	1865	...	9.20	Nil	Nil	Kamroop	... Average	...	8.29	3.33	0.37
	1873	...	3.67	Nil	...		1865	...	...	...	...
Purneah	... Average	...	...	...	...		1873	...	4.92	0.32	...
	1865	...	...	...	...	Durrung	... Average	...	3.69	3.09	0.87
	1873	...	6.76	Nil	...		1865	...	4.00	3.00	1.10
Sonthal Pargunnahs,	... Average	...	...	...	...		1873	...	6.92	1.66	...
Deogurh	1865	...	...	...	...						
	1873	...	7.87	0.02	...						

Rainfall.—September, October, and November—continued.

ASSAM—continued.			Sept.	Oct.	Nov.	PRESIDENCY.			Sept.	Oct.	Nov.
Nowgong	... Average ...	12.40	4.69	0.58	24-Pergunnahs	... Average ...	9.70	...	...	...	
	1865	11.00	Nil	Nil		1865	...	5.12	1.54	...	
	1873	7.31	0.05	...		1873	...	7.58	4.38	0.33	
Sebsaugor	... Average ...	11.37	4.32	1.46	Nuddea	... Average ...	11.40	...	...	...	
	1865	4.40	3.50	0.10		1865	...	2.42	3.08	...	
	1873	9.84	1.17	...		1873	...	9.32	6.39	0.80	
Luckimpore	... Average ...	...	...	...	Jessore	... Average ...	...	...	...	...	
	1865	...	...	...		1865	...	...	...	...	
	1873	8.69	3.45	...		1873	...	4.57	0.61	...	
Naga Hills	... Average ...	...	...	...	RAJSHAHYE.			...	...	...	
	1865	...	...	...	Moorshedabad	... Average ...	9.60	6.13	2.20	...	
	1873	3.33	1.81	...		1865	...	8.75	Nil	Nil	
Khasi and Jyntea Hills.	... Average ...	18.39	5.78	1.48		1873	...	4.96	0.42	...	
	1865	...	...	...	Dinagore	... Average ...	13.78	6.30	0.19	...	
	1873	5.74	0.76	...		1865	...	6.90	Nil	Nil	
Garo Hills	... Average ...	...	...	...		1873	...	1.62	Nil	...	
	1865	...	...	...	Maldah	... Average ...	10.49	4.80	0.22	...	
	1873	10.00	0.62	...		1865	...	3.78	Nil	Nil	
BURDWAN.			...	...		1873	...	4.91	0.92	...	
Burdwan	... Average ...	8.75	5.75	0.47	Rajshahye	... Average ...	11.19	5.81	0.31	...	
	1865	6.60	Nil	Nil		1865	...	7.10	0.50	...	
	1873	4.44	0.20	...		1873	...	3.12	0.32	...	
Bancoorah	... Average ...	8.17	4.59	0.18	Rangpore	... Average ...	12.50	5.01	0.23	...	
	1865	10.00	0.50	Nil		1865	...	...	...	...	
	1873	3.65	0.80	...		1873	...	2.63	Nil	...	
Beerbhoom	... Average ...	8.65	4.47	0.13	Bograh	... Average ...	15.52	5.90	1.36	...	
	1865	...	...	...		1865	...	8.20	1.60	Nil	
	1873	3.74	0.91	...		1873	...	2.29	Nil	...	
Midnapore	... Average ...	9.64	6.82	0.42	Pubna	... Average ...	...	...	...	...	
	1865	...	...	...		1865	...	...	...	...	
	1873	4.92	0.11	...		1873	...	4.81	0.45	...	
Hooghly	... Average ...	9.40	4.14	0.54	COOCH BEHAR.			...	...	...	
	1865	8.00	...	...	Darjeeling	... Average ...	17.65	8.14	0.24	...	
	1873	3.77	0.60	...		1865	...	...	...	...	
Howrah	... Average ...	...	...	...		1873	...	10.36	0.02	...	
	1865	...	...	...	Julpigoree	... Average ...	...	...	...	...	
	1873	6.63	0.74	...		1865	...	...	...	...	
						1873	...	18.78	...	...	
					Cooch Behar	... Average ...	...	...	...	...	
						1865	...	...	...	...	
						1873	...	10.16	Nil	...	

Mean Rainfall Tables.

1.—ASEAM.										2.—KHASI HILLS.				3.—SYLHET AND CACHAR.					
		Sebsaugor.		Tezpor.		Nowgong.		Gowhatty.		Goalpara.		Shillong.		Cherra.		Sylhet.		Cachar.	
		Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.
January	...	1.18	12	.68	9	1.40	9	.70	8	.42	6	.23	3	.52	7	.23	13	.50	10
February	...	2.43	12	.99	10	1.45	9	1.43	10	.76	6	.87	3	3.64	8	1.59	14	3.53	11
March	...	3.77	11	1.91	9	3.05	10	1.48	8	1.84	6	2.13	3	3.89	7	4.89	13	6.09	11
April	...	10.15	11	6.84	10	5.87	10	7.27	9	4.85	6	3.76	3	36.71	7	14.40	13	12.69	10
May...	...	11.04	10	9.51	10	11.01	9	10.92	9	11.72	5	8.18	4	76.73	8	25.04	11	16.12	9
June	...	15.56	11	13.83	10	11.92	10	13.29	9	23.72	5	20.06	4	118.90	10	30.87	11	19.55	9
July...	...	14.87	11	16.51	10	15.08	8	13.08	9	21.33	5	13.44	4	157.35	11	23.94	11	24.58	9
August	...	13.88	11	13.06	10	13.20	10	11.98	8	12.67	5	9.77	4	80.05	10	23.61	11	16.84	9
September	...	11.13	11	7.91	10	11.17	9	6.82	9	10.93	5	18.42	4	60.47	11	13.49	10	13.90	9
October	...	4.46	11	3.10	9	4.33	10	3.20	9	5.61	5	6.97	4	17.66	8	8.71	11	7.77	9
November	...	1.29	11	.82	8	.65	10	.47	8	.39	6	1.62	4	3.10	4	.82	10	1.03	10
December	...	.69	11	.92	9	.37	10	.12	9	.20	6	.23	4	...	4	.17	10	.79	10
Year	...	90.45	...	76.08	...	79.50	...	70.76	...	94.44	...	95.88	...	559.02	...	149.76	...	123.39	...

4.—TIPPERAH AND ARACAN.										5.—GANGETIC DELTA.									
		Tipperah.		Noakhally.		Chittagong.		Akyab.		Sandoway.		Jessore.		Calcutta.		Kishnaghar.		Morshednabad.	
		Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.
January	...	.77	10	.42	12	.37	11	.43	11	0.14	5	.27	12	0.53	32	.61	10	.38	13
February	...	1.07	10	.63	12	1.62	11	.37	10	...	5	.46	11	0.72	32	.99	9	.93	14
March	...	2.28	9	1.62	11	1.31	10	.49	11	0.24	5	1.65	9	1.22	32	.77	9	1.20	14
April	...	2.28	10	4.31	13	5.46	11	3.38	10	1.35	4	3.95	8	2.25	32	4.91	9	2.41	13
May...	...	.51	10	9.07	13	9.42	12	8.00	10	14.01	5	7.33	9	5.43	32	8.33	7	4.17	14
June	...	20.38	10	21.27	13	22.92	12	65.16	10	55.32	5	12.61	10	11.80	32	11.84	...	...	...
July...	...	17.11	10	16.59	13	22.54	12	55.75	10	64.50	5	10.95	11	13.39	32	9.18	...	...	...
August	...	13.76	10	19.55	13	23.04	12	41.73	11	51.36	4	10.33	10	14.18	32	9.70	...	...	...
September	...	10.44	10	14.94	13	13.01	12	24.97	10	30.91	4	9.85	9	10.36	32	7.94	...	...	...
October	...	7.04	10	7.90	13	5.93	12	13.67	11	17.09	5	6.47	10	5.31	32	5.16	...	...	...
November	...	2.16	9	1.79	11	2.30	10	6.29	9	1.75	3	1.03	10	0.67	32	.44	...	...	...
December	...	.06	9	.04	11	.65	10	.21	11	...	4	.01	11	0.24	32	.29	...	...	...
Year	...	95.86	...	98.23	...	108.47	...	219.45	...	236.07	...	64.91	...	65.04	32	60.0	...	53.15	...

6.—NORTHERN GROUP.

	Dacca.		Mymensingh.		Bogra.		Rangpore.		Dinagopore.		Maldah.		Rampore.	
	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.
January ...	37	10	37	5	43	6	0.16	10	14	10	92	14	16	10
February ...	91	10	1.56	6	1.13	7	0.34	10	58	10	1.01	14	1.39	9
March ...	1.29	9	1.54	6	1.10	8	0.97	10	56	9	1.01	14	1.61	9
April ...	7.52	10	10.26	6	5.32	9	3.30	8	3.07	8	1.96	13	2.70	8
May ...	9.81	9	15.32	6	9.93	9	9.96	9	9.75	8	3.57	14	6.21	9
June ...	13.90	10	24.34	6	17.26	9	23.40	9	18.95	8	8.56	12	12.01	9
July ...	13.39	10	22.06	6	21.07	9	16.53	9	17.51	10	9.58	13	12.87	10
August ...	12.33	10	14.88	6	12.13	9	14.05	9	14.36	10	9.86	13	8.85	10
September ...	8.24	10	12.46	6	14.82	9	11.44	10	14.81	10	10.07	13	10.69	10
October ...	6.32	10	5.06	6	5.90	9	4.47	10	5.83	10	4.40	13	6.34	9
November ...	1.08	9	1.18	6	1.87	8	44	9	26	8	28	12	42	8
December ...	0.07	9	...	6	11	8	16	10	02	9	59	13	07	9
Year ...	75.23	...	108.03	...	91.07	...	85.22	...	85.84	...	51.81	...	63.32	...

7.—BEHAR.

	Monghyr.		Gyah.		Patna.		Tirhoot.		Chuprah.		Arrah.		Chumparun.	
	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.
January ...	41	14	1.05	7	61	8	71	10	78	14	1.01	14	31	7
February ...	69	14	62	7	1.01	7	55	10	57	14	62	14	37	7
March ...	41	14	77	6	30	7	60	9	54	14	69	14	95	6
April ...	36	14	34	7	41	8	40	10	51	14	91	14	45	7
May ...	1.71	14	90	6	74	7	1.71	10	1.26	11	1.24	13	1.11	7
June ...	6.02	14	7.49	8	6.51	7	6.07	11	6.26	13	7.73	11	8.16	6
July ...	10.39	14	12.19	8	10.43	7	8.64	11	8.63	12	14.41	13	9.81	6
August ...	7.85	14	9.47	8	7.19	7	9.66	10	7.72	13	8.96	13	10.63	6
September ...	7.30	14	8.00	7	6.02	7	5.72	11	5.96	13	10.61	13	5.16	6
October ...	3.66	13	3.43	7	2.26	7	3.07	11	2.59	13	2.66	13	3.03	7
November ...	0.06	14	0.07	7	12	8	...	10	03	13	28	14	...	8
December ...	13	14	...	7	06	8	...	10	...	13	04	13	14	8
Year ...	39.19	...	44.33	...	35.66	...	37.13	...	34.85	...	49.16	...	40.02	...

8.—WESTERN GROUP.

	Bhaugulpore.		Soory.		Ranigunge.		Burdwan.		Bancoorah.		Midnapore.		Manbhoom.		Hazareebagh.		Ranee.	
	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.
January ...	54	14	61	7	32	3	64	13	44	13	1.06	5	26	5	42	4	1.02	12
February ...	63	14	67	7	62	3	1.17	13	96	13	52	5	76	5	52	4	96	12
March ...	48	14	71	7	1.15	3	1.60	13	1.46	13	1.51	5	58	5	75	4	1.71	12
April ...	1.03	14	65	7	54	3	1.88	12	1.95	13	1.85	6	69	6	...	...	58	12
May ...	2.83	14	2.10	7	2.59	3	4.45	12	2.75	13	6.03	5	58	6	...	...	1.40	13
June ...	8.58	13	7.89	7	11.88	3	11.17	11	10.35	13	14.02	5	9.51	7	...	...	6.59	14
July ...	11.57	14	12.36	7	13.71	3	13.31	12	12.47	13	11.23	4	6.61	6	...	...	10.12	13
August ...	11.18	14	10.81	7	11.24	3	11.56	11	9.94	13	11.29	5	9.39	7	...	...	9.04	14
September ...	8.42	14	8.64	7	11.45	3	8.87	13	8.24	13	10.10	5	6.75	7	6.26	4	5.83	12
October ...	5.34	14	4.21	7	3.36	3	5.67	11	4.50	13	6.65	6	5.51	7	3.51	4	3.50	13
November ...	0.4	13	17	7	23	3	61	10	17	13	34	5	04	8	13	5	14	12
December ...	0.09	13	24	7	...	3	58	11	08	12	...	6	29	7	02	5	11	12
Year ...	50.93	...	48.98	...	57.09	...	61.41	...	53.31	...	64.85	...	40.96	...	50.52	...	41.02	...

9.—ORISSA.										63.—HYMALAYA.											
										Balasore.		Cuttack.		Pooree.		Sumbulpore.		Darjeeling.		Rungbee 5,000ft.	
										Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.	Inches.	Years.
January	...	...	...	...	...	...	...	...	...	1.18	10	4.8	12	11	13	19	6	0.76	8	1.41	4
February	...	...	...	...	...	...	...	...	...	1.32	10	5.1	12	1.46	13	68	7	1.60	8	1.66	4
March	...	...	...	...	...	...	...	...	...	2.15	10	1.16	12	66	13	96	5	1.65	8	1.82	4
April	...	...	...	...	...	...	...	...	...	2.34	9	1.39	10	1.40	12	25	6	3.62	8	6.22	4
May	...	...	...	...	...	...	...	...	...	4.96	10	1.59	10	2.62	12	1.81	6	7.01	7	6.35	4
June	...	...	...	...	...	...	...	...	...	12.82	10	9.60	10	7.95	12	9.99	7	27.50	7	33.94	4
July	...	...	...	...	...	...	...	...	...	8.94	10	11.04	10	9.04	13	13.22	7	29.40	10	46.31	4
August	...	...	...	...	...	...	...	...	...	12.62	10	11.22	9	12.45	13	10.27	6	29.09	8	36.70	4
September	...	...	...	...	...	...	...	...	...	18.86	10	8.99	10	9.59	13	6.83	7	18.06	8	25.55	4
October	...	...	...	...	...	...	...	...	...	7.42	10	5.63	10	7.43	13	4.79	8	6.56	9	8.15	4
November	...	...	...	...	...	...	...	...	...	84	8	90	11	1.21	12	...	6	20	8	0.16	4
December	...	...	...	...	...	...	...	...	...	...	9	76	19	91	13	16	7	14	9	19	4
Year	...	...	...	...	...	...	...	...	...	68.45	...	53.27	...	54.83	...	47.65	...	129.59	...	170.46	...

Average or Normal Monthly Rainfall in all the Districts of the Lower Provinces.

DISTRICTS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	DIVISIONAL AVERAGE.
Burdwan ...	0.53	1.01	1.88	2.02	4.08	10.43	12.52	11.71	8.75	5.75	0.47	0.46	59.11	Burdwan division: Average of all the districts... 60.2
Bancoorah ...	0.38	0.87	1.40	1.99	3.06	9.81	12.0	10.04	8.17	4.59	0.18	0.08	52.57	
Beerbhoom ...	0.43	0.73	0.72	0.89	2.06	8.26	12.45	11.98	8.65	4.47	0.13	0.17	51.54	
Midnapore ...	0.78	0.26	2.03	1.53	5.47	12.40	11.24	11.59	9.64	6.82	0.42	...	62.28	
Hooghly ...	0.70	1.71	2.79	4.49	5.45	12.44	13.23	14.0	9.40	4.14	0.54	0.13	69.62	
Howrah ...	0.16	1.2	2.88	2.36	3.43	15.07	13.1	12.68	10.86	4.06	0.4	0.02	65.22	
24-Pergunnahs ...	0.5	0.8	1.4	2.4	5.3	12.8	13.4	14.4	9.9	5.4	0.7	0.2	67.2	Presidency division: Average ... 63.5
Nudda ...	0.49	0.90	0.83	4.17	7.43	11.34	9.28	9.44	7.58	4.98	0.33	0.16	56.93	
Jessore ...	0.23	0.56	1.82	4.50	7.27	13.42	10.98	10.91	9.52	6.39	0.80	0.01	66.41	
Moorshedabad ...	0.31	0.98	1.09	2.27	4.17	9.89	10.44	9.86	9.60	6.13	0.20	0.10	54.99	Rajshahye division: Average ... 71.2
Dinapore ...	0.18	0.68	0.89	2.64	8.22	19.91	17.49	14.38	13.78	6.30	0.19	0.02	64.59	
Maldah ...	0.76	1.51	1.53	1.78	3.88	9.00	10.45	9.48	10.49	4.80	0.22	0.48	53.88	
Rajshahye ...	0.12	1.24	1.30	2.14	5.53	11.35	13.13	9.54	11.19	5.81	0.31	0.05	61.71	
Rungpore ...	0.12	0.27	0.97	2.68	10.08	23.68	18.86	13.57	12.50	5.01	0.33	0.12	88.19	
Bogra ...	0.29	0.92	0.91	4.69	9.57	17.10	19.91	12.16	15.52	5.90	1.36	0.08	88.41	
Pubna ...	0.31	0.76	1.33	4.92	5.97	13.02	12.95	11.37	10.6	5.03	0.62	0.01	66.89	Cooch Behar division: Average ... 112.8
Darjeeling ...	0.58	1.89	1.69	3.99	6.87	27.64	29.67	26.99	17.65	8.14	0.24	0.11	124.95	
Jalpaigee ...	0.28	0.62	1.65	3.06	7.96	30.54	26.82	26.48	21.5	6.2	0.02	...	126.24	
Cooch Behar ...	0.4	...	0.6	5.3	5	31.6	18	15.13	12.1	4.1	0.1	...	87.33	Dacca division: Average 100.7
Dacca ...	0.58	0.75	1.38	6.95	9.87	13.65	13.22	12.19	9.12	5.84	0.82	0.05	74.43	
Furreedpore ...	0.58	1.21	1.97	6.96	10.77	15.18	13.07	12.03	8.34	5.18	0.53	0.01	75.83	
Backergunge ...	0.24	0.28	1.86	3.82	9.27	15.76	14.86	13.21	11.08	5.67	0.32	0.13	76.50	
Mymensing ...	0.23	1.22	1.22	7.97	18.41	23.30	20.19	15.06	14.69	5.74	0.12	...	103.05	
Sylhet ...	0.13	1.47	4.65	14.36	23.57	31.72	26.39	25.59	15.95	9.69	0.66	0.13	154.31	
Cachar ...	0.44	3.05	6.03	12.29	15.09	18.57	23.39	16.85	14.32	8.25	0.82	0.62	119.72	Chittagong division: Average ... 86.4
Chittagong ...	0.29	1.30	1.40	5.08	8.76	22.62	21.95	22.03	13.06	7.03	1.79	0.48	105.75	
Noakhally ...	0.38	0.68	1.66	4.16	9.42	21.56	17.40	20.32	16.08	8.52	1.48	0.04	101.70	
Tipperah ...	0.61	0.94	2.23	8.17	11.59	19.14	17.50	14.03	10.57	6.97	1.63	0.07	93.50	
Chittagong Hill Tracts ...	0.1	0.7	1.6	6.1	10.1	15.9	18.1	17.6	12.0	9.3	0.2	0.2	90.9	
Hill Tipperah ...	0.1	0.05	0.8	3.4	2.7	5.7	9.6	11.3	8.4	4.6	...	0.5	40.15	
Patna ...	0.63	0.80	0.25	0.44	1.15	6.59	10.37	7.25	7.43	2.56	0.09	0.06	37.61	Patna division: Average... 42.9
Gya ...	0.83	0.63	0.56	0.60	0.86	6.52	12.34	10.14	7.17	3.24	0.05	0.08	43.02	
Shahabad ...	0.96	0.58	0.62	0.85	1.32	7.40	13.85	9.75	10.44	2.89	0.23	0.06	48.93	
Tirhoot ...	0.82	0.57	0.55	0.45	2.12	6.62	10.98	9.93	8.84	3.56	0.03	...	44.47	
Sarun ...	0.78	0.43	0.41	0.53	1.29	6.44	9.29	8.86	7.45	2.72	0.02	...	37.87	
Champaran ...	0.27	0.28	0.80	0.37	1.87	8.64	10.96	10.78	8.33	3.29	...	0.10	45.69	
Monghyr ...	0.42	0.63	0.51	0.45	1.55	5.92	10.96	7.75	7.92	3.77	0.05	0.11	40.04	Bhaugulpore division: Average ... 50.5
Bhaugulpore ...	0.49	0.72	0.42	1.06	2.61	8.25	11.41	10.45	8.19	4.93	0.03	0.07	48.63	
Purneah ...	0.42	0.99	0.73	2.38	4.02	15.93	16.30	14.03	9.26	2.78	0.03	...	66.92	
Sonthal Pergunnahs ...	0.14	0.46	0.92	1.16	2.62	5.44	13.6	9.54	7.2	5.7	...	0.02	46.80	
Cuttack ...	0.45	0.61	1.02	1.66	1.87	9.89	11.21	10.54	9.01	6.31	1.07	0.61	54.25	Orissa division: Average... 59
Pooree ...	0.09	1.30	0.66	1.56	2.27	8.85	9.25	11.93	9.42	7.82	1.66	0.74	55.55	
Balasore ...	1.01	1.22	1.79	2.94	4.39	12.09	9.46	12.03	13.76	7.61	0.89	0.11	67.90	
Hazareebangh ...	0.29	0.46	0.71	0.51	1.27	8.58	13.72	12.93	8.15	3.56	0.12	0.07	50.37	Chota Nagpore division: Average ... 46.9
Lohardugga ...	0.87	0.95	1.53	0.62	1.48	7.35	10.37	9.71	6.91	3.27	0.13	0.10	43.29	
Singbhoom ...	0.3	0.2	0.7	1.2	2.5	7.5	12	10.6	10.2	4.1	0.2	0.1	49.6	
Manbhoom ...	0.27	0.61	0.70	0.89	1.29	9.59	8.84	10.86	9.49	4.80	0.09	0.21	44.64	
Goalpara ...	0.37	0.58	1.71	4.93	12.97	26.88	20.19	12.33	13.00	5.33	0.33	0.13	98.75	Assam division: Average, 84.8
Kamroop ...	0.65	1.30	1.49	6.65	10.62	18.60	12.18	11.54	8.29	3.33	0.37	0.09	70.12	
Durrang ...	0.55	0.96	1.19	6.97	10.86	14.29	15.33	13.42	9.09	3.09	0.87	0.70	76.82	
Nowgong ...	1.25	1.46	2.86	6.70	13.13	12.66	16.44	16.07	12.40	4.69	0.58	0.23	87.52	
Sebsaugor ...	1.02	2.48	4.02	10.08	11.01	15.01	16.34	15.79	11.37	4.92	1.46	0.66	94.16	
Luckimpore ...	0.6	3.4	5.1	6.9	7.6	24.6	22.9	18.6	16.8	4.2	2.2	0.5	113.4	
Naga Hills ...	0.4	0.7	1.4	3	3.5	7.1	7.9	9.5	5.4	3.3	0.1	0.06	42.36	
Khasi and Jynteah Hills ...	0.04	0.51	0.32	3.07	9.90	11.96	15.89	10.11	18.89	5.78	1.48	0.08	77.94	
Garohills ...	0.1	0.6	1.2	5	8.7	17.1	24.3	15.1	22.6	7.5	0.1	...	102.3	

RAINFALL IN NORTHERN INDIA, &c.

I.—ARAKAN, EASTERN BENGAL, AND ASSAM.

	Years.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
I.—Sandoway.....	3-5	0.14	...	0.24	1.35	14.01	55.32	64.50	51.36	30.91	17.09	1.15	...	236.07
II.—Akyab.....	12-14	0.35	0.23	0.53	1.32	10.50	60.91	53.81	37.01	25.15	13.68	5.42	0.24	209.20
III.—Chittagong.....	13-15	0.29	1.30	1.40	5.08	8.76	22.62	21.95	22.03	13.06	7.03	1.79	0.48	105.79
IV.—Noakhally.....	14-16	0.38	0.68	1.66	4.16	9.42	21.56	17.40	20.32	16.08	8.52	1.48	0.04	101.70
V.—Tipperah.....	12-13	0.61	0.94	2.28	8.17	11.59	19.14	17.50	14.03	10.57	6.97	1.63	0.07	93.50
VI.—Cachar.....	12-14	0.44	3.05	6.03	12.29	15.09	18.57	23.39	16.85	14.32	8.25	0.82	0.62	119.72
VII.—Sylhet.....	13-17	0.13	1.47	4.65	14.36	23.57	31.72	26.39	25.59	15.95	9.69	0.66	0.13	154.31
VIII.—Cherra Punji.....	6-13	0.52	3.04	4.87	34.03	61.18	114.23	148.74	75.73	61.56	17.62	2.21	...	523.73
IX.—Shillong.....	5-6	0.04	0.51	0.82	3.07	9.90	11.96	15.80	10.11	18.39	5.78	1.48	0.08	77.94
X.—Sebsaugor.....	13-15	1.02	2.48	4.02	10.08	11.01	15.01	16.34	15.79	11.37	4.92	1.46	0.66	94.16
XI.—Nazerah.....	11-12	1.29	2.34	3.26	9.07	8.04	13.57	15.06	16.11	10.62	5.12	0.97	0.70	86.15
XII.—Tezporc.....	11-13	0.55	0.96	1.19	6.97	10.36	14.29	15.33	13.42	9.09	3.09	0.87	0.70	76.82
XIII.—Nowgong.....	11-13	1.25	1.46	2.86	6.70	12.13	12.66	16.44	16.07	12.40	4.69	0.58	0.28	87.52
XIV.—Gowhatty.....	11-13	0.66	1.30	1.49	6.65	10.62	13.60	12.18	11.54	8.29	3.33	0.37	0.09	70.12
XV.—Goalparah.....	8-9	0.37	0.53	1.71	4.93	12.97	26.88	20.19	12.33	13.00	5.33	0.33	0.13	98.75

II.—GANGETIC DELTA AND NORTHERN BENGAL.

XVI.—Mymensing.....	8-9	0.23	1.22	1.22	7.97	13.41	23.30	20.19	15.06	14.59	5.74	0.12	...	103.05
XVII.—Dacca.....	12-13	0.58	0.75	1.38	6.95	9.87	13.66	13.22	12.19	9.12	5.84	0.82	0.05	74.43
XVIII.—Bogra.....	10-12	0.29	0.92	0.91	4.69	9.57	17.10	19.91	12.16	15.52	5.90	1.36	0.08	88.41
XIX.—Rungpore.....	9-11	0.12	0.27	0.97	2.68	10.08	23.68	18.86	13.57	12.50	5.01	0.33	0.12	88.19
XX.—Dinapore.....	9-11	0.18	0.68	0.80	2.64	8.22	19.91	17.49	14.38	13.78	6.30	0.19	0.02	84.59
XXI.—Maldah.....	15-17	0.76	1.51	1.53	1.78	3.38	9.00	10.45	9.48	10.49	4.80	0.22	0.48	53.88
XXII.—Rampore Beaulah.....	11-13	0.12	1.24	1.30	2.14	5.53	11.35	13.13	9.54	11.19	5.81	0.31	0.05	61.71
XXIII.—Rajmahal.....	2-3	...	0.55	0.60	1.18	1.70	7.66	12.12	7.54	15.80	2.57	0.67	...	50.39
XXIV.—Furreedpore.....	10	0.58	1.21	1.97	6.96	10.77	15.18	13.07	12.03	8.34	5.18	0.53	0.01	75.83
XXV.—Berhampore.....	15-17	0.31	0.93	1.09	2.27	4.17	9.89	10.44	9.86	9.60	6.13	0.30	0.10	54.99
XXVI.—Jessore.....	11-15	0.23	0.56	1.82	4.50	7.27	13.42	10.98	10.91	9.52	6.39	0.80	0.01	66.41
XXVII.—Kishnagur.....	9-13	0.49	0.90	0.83	4.17	7.43	11.34	9.28	9.44	7.58	4.98	0.33	0.16	56.93
XXVIII.—Burdwan.....	13-16	0.53	1.01	1.38	2.02	4.08	10.43	12.52	11.71	8.75	5.75	0.47	0.46	59.11
XXIX.—Calcutta.....	32	0.53	0.72	1.22	2.25	5.43	11.80	13.33	14.18	10.36	5.31	0.67	0.24	66.04
XXX.—Saugor Island.....	5-6	0.04	0.68	1.40	1.89	5.11	14.93	13.86	15.60	15.46	12.48	0.80	0.04	82.29

III.—ORISSA AND PLATEAU OF WESTERN BENGAL.

XXXI.—Pooree.....	15-16	0.09	1.30	0.66	1.56	2.27	8.85	9.25	11.93	9.42	7.82	1.66	0.74	55.55
XXXII.—False Point.....	6	0.17	0.83	1.77	2.72	2.70	14.10	13.67	11.23	11.93	12.06	3.47	...	74.65
XXXIII.—Cuttack.....	12-15	0.45	0.61	1.02	1.66	1.87	9.89	11.21	10.54	9.01	6.31	1.07	0.61	54.25
XXXIV.—Balasore.....	11-13	1.01	1.22	1.79	2.94	4.39	12.09	9.46	12.03	13.76	7.61	0.89	0.11	67.30
XXXV.—Midnapore.....	7-9	0.78	0.36	2.03	1.53	5.47	12.40	11.24	11.59	9.64	6.82	0.42	...	62.28
XXXVI.—Contai.....	5-6	0.39	1.00	1.26	1.82	4.33	13.98	11.29	12.66	12.50	13.58	1.63	...	74.44
XXXVII.—Bancoorah.....	15-16	0.38	0.87	1.40	1.99	3.06	9.81	12.00	10.04	8.17	4.59	0.18	0.08	52.57
XXXVIII.—Raneegunge.....	6	0.21	0.53	1.04	1.09	2.37	10.54	14.03	11.51	9.42	3.84	0.30	0.01	54.69
XXXIX.—Soory.....	10	0.43	0.73	0.72	0.89	2.66	8.26	12.45	11.98	8.65	4.47	0.13	0.17	51.54
XL.—Purulia.....	8-11	0.27	0.61	0.70	0.89	1.29	9.59	8.84	10.86	6.49	4.80	0.09	0.21	44.64
XLI.—Hazareebaugh.....	7-8	0.29	0.46	0.71	0.51	1.27	8.58	13.72	12.93	8.15	3.56	0.12	0.07	50.37
XLII.—Ranchee.....	15-17	0.87	0.95	1.53	0.62	1.48	7.35	10.37	9.71	6.91	3.27	0.13	0.10	43.29

IV.—GANGETIC PLAINS (BEHAR AND NORTH-WESTERN PROVINCES).

XLIII.—Bhagulpore.....	16-17	0.49	0.72	0.42	1.06	2.61	8.25	11.41	10.45	8.19	4.93	0.03	0.07	48.63
XLIV.—Monghyr.....	16-17	0.42	0.63	0.51	0.45	1.55	5.92	10.96	7.75	7.92	3.77	0.05	0.11	40.04
XLV.—Gya.....	9-11	0.83	0.63	0.56	0.60	0.86	6.52	12.34	10.14	7.17	3.24	0.05	0.08	43.02
XLVI.—Patna.....	10-11	0.63	0.80	0.25	0.44	1.15	6.59	10.37	7.25	7.43	2.55	0.09	0.06	37.61
XLVII.—Arrah.....	14-17	0.96	0.56	0.62	0.85	1.32	7.40	13.85	9.75	10.44	2.89	0.23	0.06	48.93
XLVIII.—Chuprah.....	14-17	0.78	0.48	0.41	0.53	1.29	6.54	9.29	8.36	7.45	2.72	0.02	...	37.87
XLIX.—Mozufferpore.....	12-14	0.82	0.57	0.55	0.45	2.12	6.62	10.98	9.93	8.84	3.56	0.03	...	44.47
L.—Chumprah.....	9-11	0.27	0.28	0.80	0.37	1.87	8.64	10.96	10.78	8.33	3.29	...	0.10	45.69
LI.—Benares.....	9-10	0.66	0.40	0.36	0.30	0.58	4.70	12.62	6.87	8.64	1.92	0.02	0.14	37.21
LII.—Goruckpore.....	6	0.63	0.48	0.42	0.23	1.78	6.41	16.53	11.62	9.50	4.70	...	0.18	52.48
LIII.—Lucknow.....	6	1.51	0.04	0.32	0.25	0.77	5.42	17.22	7.39	11.65	2.13	...	0.59	47.29
LIV.—Agra.....	9-10	0.59	0.30	0.45	0.20	0.53	2.34	9.21	7.21	3.26	0.54	...	0.28	25.61
LIV.—Delhi.....	7	1.03	0.44	1.36	0.58	0.81	2.26	7.49	6.78	2.53	0.24	...	0.57	24.09
LVI.—Bareilly.....	5-6	1.16	1.32	0.80	0.58	0.59	6.42	14.70	8.11	7.57	1.23	...	0.60	43.03
LVII.—Roorkes.....	9	1.55	2.47	1.42	0.49	0.86	5.21	11.12	10.34	4.04	0.67	0.31	0.79	39.27
LVIII.—Umballa.....	7	1.12	2.75	1.29	1.31	0.93	4.63	10.79	7.84	3.36	0.20	...	0.13	34.35

Rainfall in Northern India, &c.—continued.

V.—BAJPOOTANA, BUNDELKUND, AND NEERUDDA VALLEY.

	Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
LIX.—Nimar	5	0.12	...	0.07	0.04	0.24	9.39	13.75	9.04	6.18	0.96	0.02	0.07	39.88
LX.—Hoshungabad	12	0.31	0.18	0.19	0.05	0.53	4.95	15.08	13.59	10.27	0.77	0.61	0.25	46.83
LXI.—Nursingpore	11	0.03	0.15	0.31	0.32	0.48	7.86	14.06	12.08	7.35	1.46	0.23	0.28	44.61
LXII.—Jubbulpore	12	0.51	0.51	0.65	0.13	0.13	8.96	19.84	13.14	8.17	1.25	0.11	0.35	53.75
LXIII.—Sagor	16	0.32	0.74	0.28	0.19	0.51	9.18	16.40	12.53	8.38	0.98	0.30	0.80	50.61
LXIV.—Jhansi	5.8	2.19	0.27	0.40	0.04	0.43	4.63	13.10	6.83	4.51	1.63	...	0.33	34.86
LXV.—Ajmeer	7.8	1.16	0.18	0.49	0.22	0.31	2.02	5.86	8.39	3.00	0.17	0.13	0.39	22.32

VI.—CENTRAL INDIA (SOUTH OF SATPOORAS).

LXVI.—Wardah	6	0.82	...	0.23	0.55	0.25	5.54	10.27	10.44	6.74	2.07	0.10	0.06	37.07
LXVII.—Nagpore	24	0.64	0.57	0.98	0.39	0.64	9.28	11.39	9.24	8.51	2.73	0.51	0.45	45.34
LXVIII.—Chindwarah	6	0.86	...	1.19	0.30	0.29	9.17	10.70	9.42	7.44	2.16	0.13	0.24	41.90
LXIX.—Seoni	11	0.37	0.87	0.60	0.48	0.56	9.51	14.60	10.70	6.55	1.50	0.48	0.65	46.87
LXX.—Chanda	7	0.13	0.29	1.64	0.67	0.39	7.98	15.96	9.44	9.72	1.86	0.21	0.19	48.48
LXXI.—Raipore	7	0.34	0.33	0.76	0.94	0.50	8.57	15.38	13.01	7.88	2.25	0.52	0.17	50.65
LXXII.—Belaspore	6	0.79	0.14	1.30	0.84	0.28	9.72	11.23	10.13	5.16	1.61	0.26	0.56	42.02
LXXIII.—Sumbalpole	8.11	0.50	0.55	0.52	0.36	0.92	10.59	13.74	11.33	7.55	4.22	0.06	0.11	50.45

VII.—WESTERN INDIA (SOUTH OF SATPOORAS).

LXXXIV.—Bombay	23	0.05	0.01	...	0.05	0.56	20.84	24.26	13.16	9.64	2.20	0.47	0.05	71.29
LXXXV.—Mahableshwar	16.17	0.08	0.24	0.13	1.23	3.15	45.17	95.17	72.86	4.81	5.03	2.06	0.05	259.98
LXXXVI.—Poonah	14	0.16	...	0.10	0.57	1.58	5.69	7.41	3.44	3.68	3.05	0.90	0.13	26.71
LXXXVII.—Satara	8	0.06	0.04	0.05	1.74	1.49	6.01	11.91	7.26	4.14	3.52	2.22	0.38	38.82
LXXXVIII.—Sholapore	10	0.11	0.06	0.25	1.26	1.78	4.95	3.26	4.57	6.65	3.64	1.25	0.12	27.90
LXXXIX.—Dharwar	6	0.04	0.01	0.70	1.05	2.58	7.50	7.25	7.63	3.42	3.34	3.18	0.25	36.96
LXXX.—Ahmednuggur	6	0.16	0.13	0.43	0.69	3.37	5.75	2.89	3.21	7.30	2.19	1.40	0.06	27.53
LXXXI.—Belgaum	6	0.18	0.01	0.82	2.57	2.47	8.55	14.01	10.95	4.33	4.60	1.72	0.14	50.85

VIII.—PUNJAB.

LXXXII.—Lahore	6.7	0.77	1.02	1.20	0.53	1.07	1.22	4.57	2.45	1.40	0.60	...	0.37	15.20
LXXXIII.—Shahpore	6	0.13	0.73	0.95	0.47	0.73	1.88	2.70	3.01	0.87	0.02	...	0.40	11.89
LXXXIV.—Rawalpindie	6.7	2.12	2.48	2.91	1.94	1.04	2.25	6.95	4.92	2.91	2.90	...	0.86	23.58
LXXXV.—Peshawar	6	0.78	1.25	1.43	1.87	0.48	0.25	1.05	2.10	1.53	0.27	...	0.80	11.81
LXXXVI.—Dera Ismail Khan	6	0.17	0.62	1.24	0.47	0.35	1.23	1.37	0.76	0.53	0.02	...	0.33	7.09
LXXXVII.—Mooltan	10	0.40	0.32	0.71	0.88	0.36	0.28	1.76	1.17	0.57	0.26	0.03	0.33	7.07
LXXXVIII.—Hissar	7	0.52	0.54	0.63	0.25	0.28	2.72	5.34	3.76	1.39	...	...	0.50	15.93
LXXXIX.—Sirsa	7	0.40	0.19	0.66	0.25	0.42	2.95	4.34	2.47	1.56	...	...	0.60	13.74

IX.—HIMALAYA.

X.—Buxa Fort	4	0.52	1.17	1.35	7.96	21.25	46.78	70.98	49.81	36.46	15.70	0.75	0.65	256.38
XI.—Rungbee	6	0.94	1.51	2.56	6.36	10.15	31.78	51.41	34.56	26.82	8.44	0.49	0.23	175.25
XII.—Darjeeling	10.13	0.58	1.39	1.69	3.99	6.87	27.63	29.67	26.99	17.65	8.14	0.24	0.11	124.95
XIII.—Khatmandu	4	0.44	1.79	0.17	2.61	3.11	7.25	12.05	11.86	6.27	4.96	0.47	1.21	52.19
XIV.—Naini Tal	7.8	6.39	4.09	4.47	2.08	2.82	13.20	19.26	20.18	7.88	8.51	0.09	2.61	86.58
XV.—Dehra	6	1.40	2.37	2.41	0.64	1.12	9.43	28.32	23.10	10.04	0.68	...	0.52	80.08
XVI.—Simla	7	1.17	1.19	3.51	2.31	2.69	10.09	17.29	14.92	4.84	0.29	...	0.05	58.35
XVII.—Kangra	5.6	3.13	6.13	4.78	1.31	1.78	11.80	38.30	28.04	8.94	0.48	0.32	1.07	106.08
XVIII.—Hazara	5	2.22	4.90	6.54	2.68	2.10	5.11	8.06	5.90	2.98	1.08	...	2.04	43.64

PRICES.—N. W. PROVINCES.

COMPARATIVE TABLE OF THE PRICES OF GRAIN RULING ON THE 1st JANUARY, DURING THE PAST FOUR YEARS.

District.	Wheat.		Wheat, white.	Wheat, common.	Wheat.	Barley.				Rice.	Rice, common.	Rice.	Rice, common.	Rice, Pilibheet.	Rice, Patna.	Rice, Zillah.	
	1870.	1871.	1872.		1873.	1870.	1871.	1872.	1873.	1870.		1871.		1872.			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.
Dehra Doon	19 0	18 0	19 0	21 0	...	35 0	28 0	27 0	...	...	...	18 0	...	...	...	...	13 0
Saharanpore	11 4	20 8	20 8	21 9	22 10	14 8	33 6	30 3	34 6	...	10 3	...	16 3	...	...	...	10 12
Moozuffernuggur	10 3	22 0	22 9	23 10	23 10	13 3	38 8	30 12	38 0	...	11 0	...	17 9	...	...	...	16 8
Meerut	10 24	21 0	20 8	21 8	22 1	14 1	31 8	29 8	33 11	6 14	11 0	6 12	17 0	7 0	...	...	16 8
Boondshuhur.....	8 12	22 0	22 8	23 8	21 8	16 0	37 8	28 0	39 0	9 8	...	9 0	...	7 0	...	...	12 0
Allypore	9 0	24 0	21 4	23 0	19 12	16 8	37 0	27 12	27 0	7 0	11 0	7 0	17 0	12 0	7 0	...	16 0
Kumaon	11 8	15 0	14 0	15 0	14 0	12 0	17 0	16 0	15 0	6 0	10 0	6 0	13 8	...	...	...	12 8
Gurhwal.....	17 8	22 0	13 0	14 0	20 0	28 0	24 0	20 0	22 8	8 0	14 8	10 0	18 0	...	...	...	12 8
Terai	11 4	27 8	30 10	34 6	22 8	8 12	56 0	47 3	25 0	10 0	12 8	10 0	22 8	...	...	...	20 0
Bijnour	10 10	22 8	21 15	22 8	21 6	10 2	36 0	34 14	32 10	10 1	11 0	17 0	18 0	6 12	...	...	15 12
Moradabad	...	24 11	23 2	24 6	...	...	35 0	36 4	...	...	...	10 5	20 10	...	...	...	18 12
Budaon	...	24 14	21 9	22 12	18 0	...	40 6	30 0	15 11	...	...	6 0	21 0	6 0	16 12	19 3	...
Bareilly	8 5	24 0	20 0	20 5	17 8	10 0	37 15	30 0	24 6	...	12 2	...	21 2	6 4	...	...	20 0
Shahjehanpore	9 1	24 6	22 8	23 0	16 12	10 0	35 0	30 0	23 0	10 0	11 0	20 2	22 2	5 0	...	...	18 0
Muttra	...	21 0	18 0	19 0	18 0	...	35 0	24 0	26 4	...	...	10 8	16 0	15 0	10 0	...	16 0
Agra	8 14	22 0	17 8	18 0	16 15	17 12	33 9	23 0	22 13	10 8	...	13 1	...	6 0	8 0	...	16 8
Farruckabad	9 4	22 13	20 8	21 0	16 8	17 1	34 12	24 8	22 6	5 8	11 15	6 14	18 7	13 0	9 6	...	16 8
Mynpoory	9 5	...	18 8	19 0	17 8	17 12	...	22 0	21 8	...	11 0	...	...	...	...	...	12 10
Etawah	9 6	21 8	18 8	20 0	17 8	14 0	28 0	24 8	21 8	10 2	11 8	13 0	17 0	12 8	...	...	16 0
Etah	8 8	24 0	15 12	19 8	18 8	16 0	31 0	25 0	24 4	8 0	8 8	10 0	20 0	9 0	...	...	13 0
Jaloun	8 8	21 8	22 0	22 0	17 8	10 0	19 0	30 0	19 0	6 0	12 0	9 8	14 0	...	10 0	...	14 0
Jhansi	11 4	17 8	21 8	21 8	16 0	10 0	22 8	23 4	...	10 12	...	11 4	...	...	...	...	8 0
Lullupore	14 12	21 5	24 0	25 0	18 0	...	50 0	36 0	28 0	7 8	9 14	9 0	14 0	...	...	...	14 0
Cawnpore	9 9	20 3	20 8	21 0	17 8	13 2	25 12	24 8	24 8	...	12 2	...	17 2	...	...	...	17 0
Futtehpore.....	9 2	17 8	...	19 8	14 0	12 12	21 8	24 8	23 8	...	11 12	...	18 0	...	...	...	18 0
Banda	9 10	18 6	...	23 4	15 10	13 4	22 8	28 4	20 12	11 8	14 10	14 12	16 12	11 12	9 12	...	15 12
Allahabad	9 12	17 0	18 8	19 8	14 0	12 0	21 0	26 0	20 8	...	13 0	...	17 0	10 0	14 0	...	16 0
Humeerpore	9 0	18 4	...	23 8	16 0	12 0	28 0	33 0	20 4	6 8	11 8	7 8	15 8	11 0	7 8	...	14 0
Jounpore	11 4	20 7	19 12	20 7	14 2	15 8	26 13	22 9	19 12	11 4	14 8	15 8	21 8	...	18 6	...	18 6
Goruckpore	11 7	24 7	18 0	21 4	11 8	13 2	34 2	27 13	16 0	10 10	15 15	18 7	29 0	...	...	...	22 15
Bustee	10 8	25 0	20 0	20 0	12 8	9 8	30 10	33 2	16 4	10 0	9 8	8 12	21 4	...	...	...	20 0
Azimghur	...	21 2	17 1	17 15	13 10	...	27 13	20 4	19 3	...	...	13 13	19 5	...	...	...	15 8
Mirzapore	10 0	16 0	17 0	18 0	13 8	13 0	24 0	23 0	22 0	8 0	15 0	10 0	19 0	...	16 0	...	18 0
Benares	10 12	21 0	15 0	17 0	13 8	12 0	25 4	20 0	18 0	10 6	17 6	14 4	22 0	...	...	...	12 0
Ghazeeepore	11 4	19 4	16 14	17 8	12 8	13 12	26 4	22 8	18 12	12 8	16 4	18 12	20 14	...	8 12	...	16 4

District.	Rice (best sort.)		Rice, common.	Bajra.				Jowar.				Gram.			
	1873.			1870.	1871.	1872.	1873.	1870.	1871.	1872.	1873.	1870.	1871.	1872.	1873.
	18	19		20	21	22	23	24	25	26	27	28	29	30	31
1	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.
Dehra Doon	12 0	13 0	...	32 0	21 0	20 0	...	31 0	24 0	18 0	...	17 8	17 0	19 0	...
Saharanpore	10 12	14 0	17 12	36 0	23 11	24 13	18 14	39 13	21 9	27 0	9 11	21 0	18 5	23 0	23 0
Mooznfarnuggur	6 1	14 5	14 13	34 1	24 3	26 6	17 9	39 9	26 6	26 6	9 14	19 12	19 13	24 1	24 1
Meerut	7 3	15 3	16 0	29 11	22 8	25 0	18 12	32 0	...	27 8	10 0	18 0	20 8	25 3	25 3
Boondshuhur	8 0	14 0	17 0	30 8	25 0	24 0	20 11	34 0	25 0	27 0	9 6	18 0	20 0	25 0	25 0
Allypore	7 0	14 0	17 8	29 8	23 0	22 0	22 0	34 0	20 0	23 0	8 8	20 0	22 0	23 8	23 8
Kumaon	8 0	12 0	...	...	...	...	...	...	...	...	...	...	...	...	...
Gurhwal	8 0	16 0	...	...	20 0	...	...	...	20 0	...	4 0	6 4	8 0	8 0	8 0
Terai	10 0	18 0	...	37 8	25 0	23 0	...	50 0	...	...	9 6	22 0	26 9	22 8	22 8
Bijnour	13 8	15 12	15 7	33 1	28 2	25 5	15 14	30 0	29 4	23 10	9 0	18 0	19 2	21 6	21 6
Moradabad	...	...	...	35 1	26 14	...	...	37 8	32 14	...	...	22 8	21 14	...	...
Budaon	12 0	16 12	...	34 6	22 12	20 0	...	37 3	24 0	20 0	...	25 3	26 6	25 11	25 11
Bareilly	6 9	17 8	17 15	31 15	25 0	20 0	18 7	35 0	22 8	21 4	7 8	23 12	21 4	24 6	24 6
Shahjehanpore	9 0	16 8	16 12	31 2	26 0	21 0	16 8	31 2	26 0	19 0	7 8	20 0	26 0	23 0	23 0
Muttra	8 0	14 0	...	30 0	19 8	21 0	...	35 0	...	23 0	...	20 8	20 8	22 8	22 8
Agra	6 8	14 0	16 5	26 10	18 8	17 13	21 10	33 0	20 0	19 12	10 0	24 5	22 8	20 3	20 3
Farruckabad	8 10	18 12	15 6	29 8	22 0	19 4	16 1	28 10	20 8	20 10	10 6	21 4	23 8	23 6	23 6
Mynpoory	6 0	16 0	18 9	...	20 0	19 8	19 8	...	16 0	21 0	9 14	23 0	23 0	22 0	22 0
Etawah	6 0	16 0	19 0	27 0	21 8	20 8	19 14	27 4	21 8	21 8	9 12	22 13	24 8	22 8	22 8
Etah	10 0	13 0	17 0	27 0	21 0	20 0	17 8	26 0	...	21 4	9 2	21 0	23 12	22 12	22 12
Jaloun	9 8	13 0	21 0	25 0	27 0	22 0	24 0	27 0	30 0	25 0	10 0	22 8	26 0	25 0	25 0
Jhansi	9 4	12 12	20 8	23 8	22 12	18 8	24 8	28 0	25 0	20 12	9 8	21 6	27 4	30 12	30 12
Lullupore	10 8	13 0	19 7	...	...	...	24 12	40 0	...	28 0	13 2	25 4	36 0	22 0	22 0
Cawnpore	11 4	16 4	17 10	25 12	23 0	21 2	19 0	25 3	24 0	23 8	10 9	27 0	26 0	24 8	24 8
Futtehpore	9 6	15 3	17 8	20 0	22 0	20 8	20 8	22 0	...	23 0	11 12	27 0	24 8	24 4	24 4
Banda	9 4	18 12	20 15	23 0	25 4	20 8	25 8	24 4	25 4	21 12	13 11	30 2	28 4	22 4	22 4
Allahabad	9 8	16 0	16 0	21 0	23 0	21 0	18 0	22 0	24 0	24 0	10 0	15 0	23 0	23 8	23 8
Humerpore	9 0	14 10	23 0	25 8	26 0	21 14	27 0	29 0	...	24 0	13 0	22 0	28 0	22 8	22 8
Jounpore	12 11	16 3	18 4	...	...	24 0	19 8	23 8	22 9	24 0	11 12	18 0	21 3	21 3	21 3
Goruckpore	12 15	20 0	16 0	...	...	...	24 13	32 12	26 3	26 0	8 3	22 13	24 9	20 4	20 4
Bustee	11 4	19 6	...	...	...	...	17 8	...	...	26 4	7 8	20 0	22 8	20 0	20 0
Azimghur	14 4	18 7	...	24 1	...	...	...	24 11	15 9	25 1	...	18 13	20 1	22 14	22 14
Mirzapore	10 0	14 0	17 0	21 0	22 0	20 0	18 0	21 0	22 0	21 0	10 4	16 0	23 0	21 0	21 0
Benares	10 0	14 0	16 12	24 12	20 0	18 0	22 12	27 0	21 0	20 0	10 7	16 8	21 0	21 8	21 8
Ghazeeepore	8 12	15 0	16 4	27 8	21 14	20 0	17 8	27 8	22 8	23 12	11 4	17 5	22 8	22 8	22 8

The following Statement shows the Prices of Wheat, Barley, and Gram, as they stood on 1st September and October, 1872, and 1st March, 1873 ; and of Bajra and Jowar, on 1st July, November, and December, 1872, the seasons respectively of sowing and harvesting :—

District.	WHEAT.			BARLEY.			GRAM.			JOWAR.			BAJRA.		
	September.	October.	March.	September.	October.	March.	September.	October.	March.	July.	November.	December.	July.	November.	December.
	1872.	1873.	1872.	1873.	1872.	1873.	1872.	1873.	1872.	1872.	1872.	1872.	1872.	1872.	1872.
	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.	S. C.
Dehra Doon	19 8	19 8	19 0	30 0	30 0	27 0	19 0	19 0	20 0	11 0	...	...	16 0	16 0	...
Saharanpore	22 1	23 12	22 1	35 15	35 1	34 4	22 10	23 3	25 5	11 14	25 14	22 9	17 4	21 9	25 14
Moozuffernuggur	24 5	23 10	23 1	38 8	38 8	36 5	24 6	24 3	24 12	11 0	22 0	...	13 3	22 0	...
Meerut	22 0	22 0	22 4½	32 8	33 8	32 0	21 12	22 8	26 3	10 0	24 0	...	15 0	26 0	...
Boolundshukur	24 0	22 8	23 0	35 0	35 0	32 0	26 0	25 0	26 0	18 0	22 0	29 0	18 0	22 0	26 0
Allypore	21 8	20 12	21 8	33 0	32 8	31 0	26 8	16 0	27 8	16 0	22 0	...	14 0	24 0	...
Kumaon	13 0	12 8	12 8	15 0	15 0	14 0	11 8	11 8	12 0	...	...	...	...	...	...
Gurhwal	16 0	16 0	20 0	22 0	22 0	25 0	8 0	8 0	9 0	...	...	...	...	...	...
Teraí	18 7	21 5½	20 0	30 15	30 0	30 0	22 8	22 3	22 8	...	...	...	...	...	...
Bijnour	23 10	23 1	19 11	39 6	48 0	27 0	23 10	23 1	20 13	7 14	29 4	...	22 8	28 2	...
Moradabad	23 12	23 2	20 10	38 2	35 10	29 6	25 10	25 0	25 0	31 4	30 0	...	27 0	22 8	...
Budaon	20 6½	21 9½	21 4½	31 3	33 9½	33 9½	30 0	31 3	30 0	16 12½	25 3	...	16 12½	24 0	...
Bareilly	20 15	25 0	20 5	31 4	27 8	30 5	27 8	26 4	26 9	8 12	...	...	15 0	...	...
Shahjehanpore	18 8	18 12	19 12	27 0	27 0	28 4	25 0	26 0	26 4	...	...	...	...	...	...
Muttra	...	19 0	19 0	...	26 15	25 8	...	22 2	22 0	...	20 0	...	14 0	21 15	...
Agra	19 8	...	17 13½	25 8	...	23 9½	23 0	...	20 15	13 8	21 0	...	14 8	18 8	...
Farruckabad	18 8	18 10	19 4	24 6	24 12	24 12	23 6	24 6	24 6	11 0	...	19 4	12 0	19 4	19 4
Mynpoory	20 0	...	21 8	27 8	...	25 0	24 12	...	24 0	...	...	...	...	20 0	...
Etawah	18 12	18 4	18 0	23 8	23 5	24 0	24 4	24 4	23 0	...	...	22 0	16 0	23 0	21 0
Etah	23 0	19 8	22 4	30 0	28 0	27 0	26 0	26 0	27 0	...	...	21 0	...	20 0	20 0
Jaloun	19 8	19 0	18 0	24 0	20 0	24 0	25 0	26 0	24 0	10 0	20 0	28 0	10 0	24 0	22 8
Jhansi	15 2	14 12	14 14	...	...	...	19 10	18 2	20 0	20 10	18 0	...	...	...	...
Lullupore	18 0	17 8	17 0	26 0	26 0	24 0	23 0	22 0	21 4	...	20 0	...	...	11 0	...
Cawnpore	17 0	16 0	18 0	25 8	24 0	25 0	22 0	21 0	26 0	...	...	26 6	...	...	26 0
Futtehpore	15 4	14 0	15 4	22 0	22 0	26 0	24 8	24 0	25 12	...	...	...	...	...	...
Banda	15 4	13 12	15 14	21 0	21 4	21 4	26 0	26 12	26 4	...	16 4	...	20 2	28 8	...
Allahabad	14 8	15 0	14 8	20 0	21 0	21 0	23 0	23 8	24 0	12 0	20 0	...	14 0	16 0	...
Humeerpore	17 4	16 8	18 0	24 8	23 8	22 0	24 8	23 8	25 4	...	...	...	...	22 0	...
Jounpore	13 6	13 6	13 6	19 12	18 6	18 5	19 12	20 7	26 13	...	20 7	24 0	...	14 2	18 5
Goruckpore	14 14	14 0	13 2	21 0	19 4	17 8	23 10	22 12	25 6	...	22 12	...	...	...	...
Bustee	15 7	13 12	13 12	16 4	17 8	15 0	17 3	18 12	18 12	...	...	...	...	...	...
Azimpore	13 2	13 0	13 5	17 1	18 14	19 15	18 0	20 3	26 9	10 5	20 11	26 4	1 7	...	...
Mirzapore	14 8	14 0	14 0	19 0	19 0	21 0	22 0	22 0	23 0	4 0	20 0	27 0	...	20 0	23 0
Benares	12 4	12 12	14 0	16 0	16 4	16 8	19 8	20 8	22 0	18 0	21 8	...	15 0	20 8	...
Ghazepore	13 12	13 2	11 14	20 0	18 12	18 12	21 4	21 4	24 6	10 0	23 12	...	13 12	15 0	...

HISTORY OF PRICES.—

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

[illegible]

Baira not produced.

[illegible]

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

[illegible]

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

ARTICLES.	SIALKOT.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	21.46	23.32	41.98	36.85	33.59	23.56	24.72	22.62	20.17	22.74
Common rice, husked	11.66	13.53	19.24	16.09	14.28	11.25	11.66	10.73	7.46	10.03
Best rice, husked	7.93	8.39	9.27	9.33	9.21	7.40	7.23	7.17	5.59	6.29
Wheat	17.96	25.89	35.92	32.36	24.26	19.77	18.89	14.98	11.08	13.12
Barley (<i>Hordeum coeleste</i>)	25.19	41.75	66.42	55.05	44.90	35.22	26.12	23.03	16.67	16.56
Bajra (<i>Penicillaria spicata</i>)	18.66	23.32	45.48	33.18	25.42	21.40	18.42	16.33	11.19	16.09
Jowar (<i>Sorghum vulgare</i>)	19.59	23.79	43.44	39.71	28.69	24.26	20.76	16.21	10.73	16.38
Gram (<i>Cicer ariselinum</i>)	15.86	32.36	43.38	30.03	23.73	25.77	20.23	16.67	10.26	12.83
Lentils, mash (<i>Phaseolus radiatus</i>)	10.73	14.22	17.76	12.36	14.69	13.82	11.89	10.14	7.52	11.02
Cotton, cleaned	3.73	4.19	2.04	1.39	2.74	2.39	2.98	2.97	2.56	2.33
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	74.64	83.97	93.31	83.97	93.31	74.64	83.97	65.31	83.97	74.64
Sugar, raw	8.93	10.96	12.59	12.24	11.83	11.48	12.13	9.91	6.59	8.39
Sugar, refined	2.39	2.44	2.62	2.79	3.03	2.15	2.39	2.39	2.15	2.21
Salt	11.66	9.50	9.33	9.38	9.39	9.33	9.33	9.33	9.39	9.21
Ghee	2.04	1.92	2.15	2.04	1.80	1.69	1.51	1.46	1.46	1.69
Milk	18.19	15.39	16.09	16.15	14.92	14.87	13.82	14.75	12.83	12.18
Tobacco (<i>Nicotiana tabacum</i>)	7.46	7.46	7.46	7.46	7.46	6.47	5.59	7.63	7.46	7.23
Firewood	111.97	111.97	111.97	111.97	111.97	111.97	106.37	107.39	109.17	110.10
Til (<i>Sesamum orientale</i>)	13.06	16.79	13.06	12.88	10.43	8.69	10.73	11.19	9.33	8.39
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	16.79	22.39	18.13	16.79	15.51	18.07	15.16	14.22	13.53	13.06
Turnips (<i>Brassica rapa</i>)	139.96	130.63	139.96	149.29	139.96	125.96	149.29	149.29	89.57	89.57
Radishes (<i>Raphanus sativus</i>)	89.57	88.64	93.31	89.57	89.57	89.57	97.97	111.97	97.97	108.24
Carrots (<i>Daucus carota</i>)	130.63	149.29	158.62	149.29	125.96	160.49	158.62	139.96	139.96	149.29
Molasses	...	...	...	...	...	...	...	...	...	...
Keekur Bark (<i>Acacia Arabica</i>)	111.97	93.31	102.64	107.30	93.31	97.97	89.57	91.44	102.64	93.31
Arbi (<i>Arum colocasia</i>)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Rath ali (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turmeric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	1.20	4.80	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Wages of unskilled labourers { Coolies	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.26	0.26
per diem { Kahars	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
{ Bheesties	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26

ARTICLES.	PASRUR.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	19.94	28.69	21.57	15.04	15.02	16.09	19.01	14.92	12.83	13.29
Common rice, husked	12.94	18.83	13.99	9.33	10.20	10.43	12.42	9.56	7.69	8.39
Best rice, husked	8.51	13.06	9.68	7.46	7.05	6.70	7.58	6.70	5.42	6.41
Wheat	18.77	34.11	40	31.90	27.23	23.73	21.75	14.98	11.78	13.82
Barley (<i>Hordeum coeleste</i>)	23.03	50.67	58.55	46.77	42.92	35.98	30.96	21.22	17.90	18.54
Bajra (<i>Penicillaria spicata</i>)	21.57	37.38	42.22	34.81	28.10	25.07	22.51	15.97	11.43	19.07
Jowar (<i>Sorghum vulgare</i>)	21.69	48.57	44.90	37.92	29.97	25.59	23.67	16.55	11.89	20.58
Gram (<i>Cicer ariselinum</i>)	16.15	39.42	46.30	29.97	24.78	28.51	22.97	15.16	8.98	12.36
Lentils, mash (<i>Phaseolus radiatus</i>)	14.46	20.52	23.09	16.91	16.79	18.02	16.76	10.55	8.22	10.14
Cotton, cleaned	2.56	2.79	2.33	2.33	2.79	2.56	3.09	2.21	2.33	2.44
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	149.29	158.62	186.62	149.29	167.95	149.29	149.29	130.63	130.63	149.29
Sugar, raw	11.02	11.08	13.06	11.60	12.65	13.76	12.36	10.03	7.58	9.09
Sugar, refined	2.56	2.79	3.03	2.79	3.26	3.14	2.56	2.56	2.44	2.56
Salt	10.73	9.27	9.09	9.21	9.33	9.33	9.21	9.33	8.92	8.74
Ghee	1.92	1.92	2.09	1.86	1.80	1.57	1.51	1.45	1.51	1.22
Milk	26.12	23.15	22.39	19.59	22.27	19.94	18.66	18.19	16.79	17.37
Tobacco (<i>Nicotiana tabacum</i>)	7.46	8.39	7.34	7.58	7.58	7.75	7.46	7.17	6.64	7.05
Firewood	130.63	130.63	111.97	111.97	111.97	105.67	102.64	83.97	93.31	83.97
Til (<i>Sesamum orientale</i>)	11.66	13.53	14.92	15.92	13.06	12.48	11.48	11.66	10.49	10.78
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	11.89	14.05	14.57	18.66	15.86	14.11	12.29	12.42	12.18	11.31
Turnips (<i>Brassica rapa</i>)	111.97	130.63	149.29	111.97	139.96	111.97	111.97	139.96	111.97	130.63
Radishes (<i>Raphanus sativus</i>)	59.71	74.64	79.31	65.31	74.64	65.31	35.98	59.71	65.31	59.71
Carrots (<i>Daucus carota</i>)	111.97	121.30	149.29	121.30	130.63	111.97	111.97	121.30	111.97	119.48
Molasses	...	...	...	...	...	...	...	...	...	...
Keekur Bark (<i>Acacia Arabica</i>)	74.64	65.31	65.31	55.98	74.64	74.64	65.31	74.64	65.31	65.31
Arbi (<i>Arum colocasia</i>)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Rath ali (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turmeric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	3.00	3.40	3.80	3.12	3.12	3.10	3.10	3.12	3.12	3.80
Wages of unskilled labourers { Coolies	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
per diem { Kahars	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
{ Bheesties	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40

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THE FAMINE.

ESTIMATES OF THE HARVESTS AND OF THE STOCK OF FOOD IN THE LOWER PROVINCES, 1873-74.

(By the Committee British Indian Association.)

To R. KNIGHT, Esq., Assistant Secretary to the Government of Bengal.

SIR,—I have the honour to acknowledge the receipt of your letters Nos. 3638 and 3871, dated the 26th ultimo and 9th instant, respectively, and to submit, in reply, the following statement of the grounds on which the Committee of the Association have based their estimates as to the food prospects of the people in the present drought.

The two facts which the Committee sought to bring to the notice of Government most prominently and pointedly in their former letter were: *Firstly*, their views as to the stock of old rice in the country; and, *secondly*, the probable outturn of the new crop.

STOCKS OF FOOD.

The Committee relied upon the following facts in forming their opinion upon the first point. They know it for certain that the great bulk of the people take to the new rice as soon as it is harvested and available for use, as it becomes available in the case of some descriptions ever since the middle of November. That rice recommends itself by its superior flavour and taste, and even a considerable number of the upper ten thousand take it after the ceremony of *Naranna*, or harvest home, which is celebrated in December; and, indeed, there are very few people that in sound health continue the use of the old rice beyond the month of Byasack (April). People in a delicate state of health, particularly those who suffer from disorder of the digestive functions, do not take new rice, but it is not positively unwholesome, and even those that can afford to use old rice at a considerable difference in price prefer the new. The difference in the price of the old and the new rice is, at the commencement of the harvest year, from 6 to 8 annas, rising to a rupee and more by the month of April and May in favour of the former; this places the old rice quite beyond the reach of the masses of the population, even if they had a preference for it. This rise in the price can only arise from the stock being extremely limited, not above the requirements of the small number of persons who find it necessary for their health to take old rice and make it worth the while of the merchant to hold it on for them for a long time. The Committee also know for a fact that, after the arrival of the new rice into the market, not a chutack of the old rice is bought for export by sea, except in the case of the moonghee rice, which, on account of difficulties of transport from the part of the district of Dinagore in which it is grown, does not commence to arrive into Calcutta till the rains had set in, that is, between July and August. Arguing upon these data the only conclusion the Committee could arrive at was that the stock of old rice in the country was not such as in any way materially to supply the deficit in the yield of the current year's crops.

The Committee are well aware that there is a belief current among district officers and others that the yield of an average annual crop is considerably in excess of the requirements of the country for home consumption and export. If so, and the excess be estimated at about three months' supply, the question would arise where does the old rice go to? The only answer that can be returned to it is, that it is held in the country. If so, the accumulations for four successive average years, such as the people had for the last four years at the estimated annual surplus, would amount to 12 months' supply for the whole population. Now, it cannot be denied as a fact, that, except in the eastern districts, that estate will be considered prosperous where fifty per cent. of the cultivators can after harvest hold grain for a whole year's consumption, that is to say, sufficient for food, as well as for the purpose of purchasing by the sale thereof, or by barter therewith, other necessities of life for the ryot and his family, and for payment of rent. The remaining cultivators can only hold from four to eight months, and, at the lowest calculation, about 10 per cent. of them have to part with all they reap to meet their creditors; and then subsist from year's end to year's end by advances from the mahajuns and their personal labour. If then, as a rule, the ryots are not in the habit of holding rice for more than a year, and that even not in the case of all, the accumulated savings of four years, as assumed above, must somehow find their way into the hands of mahajuns, who, in the mofussil, are engaged in the sale and purchase of rice, or in lending out the same on the *baree* system, that is, on the condition of getting back the quantity they lend out with an addition of 50 per cent. by way of interest. Now, however, large may be the number of such mahajuns, scattered all over the country, that number cannot exceed one in a 4,000 of the population, representing, say, 1,000 families at four souls to a house. In this calculation, the Committee do not include the petty dealers or shop-keepers, who retail by purchasing from mahajuns from four to eight maunds at a time or even less. The number of these mahajuns cannot, therefore, at an average, exceed 500 in each district representing two millions of the population. Now, to suppose that rice, equal to one year's consumption for two millions, is at all times held by these 500 men would mean, taking the consumption at four maunds 20 seers per annum per head, that is, at half a seer per diem, and rice at cost price to them at Re. 1-4 a maund,—that they, the 500 mahajuns, keep between themselves upwards of 11 millions of rupees always idle. Applying this test to the whole population of the country, and taking the total of the rice-eating population at 57 millions, a year's store for them would imply the locking up in the hands of 14,000 mahajuns of Rs. 31,35,00,000 from year to year. The surplus of every succeeding year would *pro tanto* depreciate the value of the old stock, and make the merchant not only lose the interest but also a portion of his capital; and there is no such extensive export trade as can remedy the evil. Under these circumstances the Committee are of opinion that it would be grossly absurd to imagine that such a state of things can exist in a country notorious for its poverty, a more incontestable proof of which could not be had than the income-tax returns.

That such is not the case the Committee have every reason to believe. They know for a fact that mahajuns who deal in *baree*, like other merchants, calculate their stock of supply according to their calculation of demand upon it, and they consider it a great loss, if, after lending out for the season, any large stock is left, because that stock represented capital left unemployed for the year. As for mahajuns who make purchases for the purpose of selling at a profit, it would be absurd to suppose that they would ever keep a stock merely for the purpose of holding it on from year to year. In a country where the normal value of money is from 25 to 50 per cent., as the *baree* system still is in full force in almost all districts, it is hard to believe that so much capital should be kept idle, unless it be to sell the reserved rice at its weight in gold, an opportunity which, however, according to past history, might not occur once in 100 years.

The Committee would here take leave to observe that, if rice or rather paddy, (for *osma* rice cannot be held more than a year without being materially damaged) equal to a whole year's consumption, ever happened to be held in the country (as it must periodically be, even on so modest a supposition as a surplus of three months over demand), and that by 14,000 mahajuns, or on an average of 400 men in every district, the stock of paddy in the country would so to say so obtrude itself upon every man's observation, (the article being bulky and requiring large space for storage) that there could not possibly be room for such an uncertainty, on the subject as has unfortunately prevailed from time to time resulting as in the case of the Orissa Famine in a serious loss of human life.

That under the natural conditions of commerce, in passing through the hands of different classes of traders, there must be a quantity of rice, like other commodities under similar circumstances, in circulation in the country, the Committee are ready to allow, but its measure cannot be equal to a three months' supply for the whole country or anything near it. To test this inference by the experience acquired during the Orissa Famine, if the supposition of a surplus of three months over home consumption, and export by sea, were at all correct, there must have been a stock sufficient at least from two to three years' consumption, when the deficient crop of 1865 was harvested, since there was no marked failure of crop in Bengal for a very long period previous to that year; and yet, in consequence of the scarcity caused by the failure of crop in a few districts, the price of ballam rice rose in Calcutta from Rs. 3-1 in October 1865 to Rs. 5-8 in September 1866, and it reached the highest point, viz., Rs. 5-12 in November following. Could such a famine-price have been possible on the eve of a magnificent harvest, such as the crop then about to be reaped promised and turned out to be, if there had been any large stock left in the country? And how could the old stock have been exhausted to meet the deficient harvest of a few districts only, which, on the supposition of an annually recurring surplus of three months over consumption must have lasted in 1864 at two to three years' consumption for the whole population? It might be said that the scarcity in 1866 was ushered in by a failure of crop in 1864 and 1865 successively. So far as Lower Bengal is concerned, it is true that in 1864 the southern part of the country was visited by a terrible cyclone, but as it happened about the beginning of October, when the rice plants had not even flowered, it had little or no disastrous effects upon them, except in a very small part of the 24-Pargannas and the Midnapore district, where injury was done by the inundation of salt water. It did no harm elsewhere, except what a shaking of the plants without ears would cause wherever the cyclone had extended. So that the cyclone of 1864 could have made no sensible impression upon the stocks of previous years, as the prices which ruled until October 1865 would otherwise plainly show. It was only in November following, when the prospect of the ensuing crop was pretty correctly ascertained that the price of grain rose above the normal rate. In no year, the Committee believe, is there an equal or seasonable distribution of rain in every district of Bengal, nor even in any part of the same district, and the consequence is, that there are bumper crops in some districts, or in some part of a particular district, and more or less

a deficient crop in others, and by a complicated system of interchange the normal price is pretty uniformly kept up. When, however, once in a long series of years, the crop of the whole country happens to be much in excess of the average one, it is instantly indicated by a great fall in the usual price, and the surplus is soon disposed of either by larger export by sea or land, or by increased home consumption, both in Bengal and the North-West, where with some it is a luxury for which they can only afford when the price is lower than usual, or when there is a deficient rubber harvest. In this way the surplus, whatever it be, is soon disposed of, and is never, to the best of the Committee's knowledge, held from year to year. It may be added also that a pretty correct knowledge of the requirements of the country, as also other economical causes, adjust the breadth of rice cultivation in the country, and a considerable surplus is not usually possible. As a rule, the Committee have no hesitation in asserting that it does not exist, and there is nothing exceptional in the history of the present year to justify a different assumption.

THE PRESENT HARVESTS.

With reference to the second subject of enquiry, namely the probable outturn of the standing crop, the Committee beg leave to observe that the aman crop is cultivated upon three descriptions of land: 1st, the very low lands or beels, which are sown broad-cast; 2nd, lands, not so low, that is, lands in which monsoon water does not collect with the first heavy showers of rain, and are, therefore, reserved for cultivation by transplantation of seedlings previously reared in seed-beds; 3rd, lands still higher, but which are also cultivated precisely in the same way as the second. Now, a sixteen-anna crop means that, by a seasonable fall of rain from May to November, all the three descriptions of lands have proved equally fruitful. But this consummation is seldom realized. The crop from the first description of lands is uncertain. The crop in such lands is ensured, only when there are slight showers of rain from the middle of Bysack (April) to the end of Jeyt (May), so as to admit of the lands being ploughed up and sown, but no such heavy showers in Assar (June) as to swamp the young plants. If there be heavy showers in Bysack and Jeyt, then the monsoon water collects in those hollows and they cannot be sown for the year; or, if after the plants had come up, there be heavy rains in Jeyt and Assar, so as to drown the plants, then crop is destroyed, and the lands cannot be re-sown. The rains in Bysack and Jeyt this year were all that could be wished for the cultivation of this description of land. For the proper growth of paddy on the two other descriptions of land there must be reasonable rains from Assar (June) to Kartick (October). The transplantation is commenced from the middle of Assar, and carried on even so late as the middle of Bhadr (August), as in the Scunderbans. From other lands, unless the transplantation is finished by the end of Sraban (July), the yield must be less than the average. It is seldom that the rains hold off during the time the transplantation is carried on and finished. But in some years the rains set in late, as was the case this year. Transplantation in many parts of the country could not be commenced before nearly the middle of Sraban (end of July). But, in the meantime, the soil had become so much enriched by the action of alternate sun and rain owing to scanty rain-fall that the transplanted plants attained in 15 days the growth of a month. From the latter end of Bhadr (beginning of September) the rains held off; still the plants did well till nearly the end of Assin (beginning of October). In Kartic (middle of October) the plants on the third description of land began to suffer, and gradually withered away in most places by the middle, and entirely by the end of that month. It is only in the first two descriptions of lands that the plants freely flowered and put forth ears. But to enable the plants to flower freely, and for the proper development of grains in the ears, it is not enough that there should be moisture in the land, for the fall of a shower or two of rain is needed from the latter end of Assin to the close of Kartic to help this development. So, by the cessation of rain from September, the crop even on the first and second descriptions of lands must have suffered, and the more so on the second than on the first. Accordingly, a large breadth of cultivation on lands of the second description, which began to be denuded of moisture from the end of Kartic, only partially flowered and put forth ears, which did not promise to contain properly developed grains. It was the crop on the first description of lands only, and such as are irrigated by fresh-water, tidal streams, as in Backergunge, that promised to do well, and has done well, but not so well as it would have done, if at the time of flowering it had been helped by a good shower of rain. With these data it would be easy to make a fair estimate of the probable outturn of the crop this year, if the respective area of the different kinds of the land under cultivation could be accurately ascertained. This is, however, not practicable. No record exists in the country to show the respective areas devoted to particular crops, and even the extent of cultivable lands existing in the province of Bengal can only be indicated by a guess.

In the absence of records the Committee have to depend upon individual experience. Relying on it they venture to state that the total area of the first description of lands is very small, hardly one-tenth of the whole area of aman lands of the country, and of that small area some portion is very often left fallow on account of the uncertainty of securing a crop therefrom, and as regards such portions as have been cultivated, the plants on the margin of those hollows cannot but have materially suffered in such a year of droughts as the present. So that it is the crop obtained from the second description of land which will determine the question of the probable food-supply for the ensuing year.

Knowing as the Committee do from actual experience that the average outturn from lands of the second class in such a year of drought cannot exceed 8 annas, they thought that it would not be safe to estimate the new crop of the whole province at a higher figure than 6 annas of the average crop. This they did after taking into account the better produce of the lands of the first description, and the crop of the districts that promised a full average crop, and making a due allowance at the same time for the utter loss of crop on the third description of lands. The last class embraces a very large breadth of aman cultivation in every district, and almost entirely that of the Behar districts, and some districts of Lower Bengal, such as Dinagore and Rungpore.

The Committee are deeply sensible of the difficulty, nay, the impossibility under present circumstances of making an accurate idea of either the stock or the probable out-turn, but in forming an estimate of them the Committee thought that it was much safer to go upon the grounds mentioned above than to hazard mere guesses. Without any large stock at the close of the year, and with a six-anna aman crop, the staple food of the country, to commence the year with, the Committee thought that the absolute deficiency in the food-supply of the country for some months was almost inevitable, which could not be met, except by importation from abroad. It is true that the Behar Districts are not entirely dependent upon rice, and that the rubber crop of Bengal and Behar, and of all India, as also the two other rice crops, *viz.* *boro*, which will be harvested in April, and *aus*, which will be harvested in September, should be taken into account in calculating the food-supply for 1874. But it must be borne in mind that the rubber crop of Bengal consists principally, if not wholly, of pulses and oil seeds, and very little indeed, of wheat; and as regards that of Behar, where wheat is produced, even if it should turn out to be favourable—still it would only go to supplement, as it does every year, the staple food crop (rice) of the country, but cannot make up for the deficient out-turn in it by more than one-half, leaving the other half to be made up either by reduced consumption or importation from foreign countries. The same remark applies to the two other rice crops of the year, the breadth of cultivation of one of which, *viz.* *aus*, has been materially reduced of late by the lands formerly devoted to it being appropriated to the cultivation of jute and oil seeds.

The Committee will now put the case in another form. Let it be granted that the aman rice crop, which is harvested from November to the beginning of February, the rubber food crop, which is harvested in April, and the two rice crops which are harvested in April and September, go towards supplying the country with food for the whole year without leaving any heavy stock at the end of the year. Let it be also granted that the rubber and the two rice crops which are in prospect would yield an average outturn; and the prospects of the people will stand thus: Of the four sources of supply, the aman crop will yield less than half the usual average crop, and it is well-known that this crop constitutes 12/16ths of the food-supply of the country. The rubber crop is sown in October and might be delayed at the most till the middle of November; but no sowing after that period, even under the most favourable circumstances, can be expected to yield an average out-turn. At the date of the Committee's letter to Government, the 21st November last, it was but a small breadth of rubber lands in the Behar districts that, for want of moisture in the soil, could have been sown, and what little had been sown had not come up, and what had come up was infested with insects. Under such circumstances the Committee thought that it would not be wise to calculate upon more than an eight-anna of the average rubber crop. The ensuing *boro* rice crop is also likely to turn out an average one. This crop is entirely dependent upon irrigation, and hence it is planted in the neighbourhood of beels and other reservoirs of water. But as most of these must have dried up this year, the cultivation of this crop must of necessity be limited to a very small area. As for the *aus* crop, it might be depended upon to meet the deficiency in the aman crop to an appreciable degree, if the cultivation of it were extended to all the lands suitable to the growth of that crop, which means the cultivation of all the lands with *aus* paddy, which are now appropriated to jute and oil seeds in addition to its ordinary breadth of cultivation. Taking the lands which may be disengaged from jute and oil seeds at one million of acres, these lands if cropped with *aus*, may, under favourable circumstances, yield 15 days' additional supply of food for the whole population. This is, however, not at all likely to take place, and the Committee have therefore no reason to alter the estimate which they submitted to Government in their letter of the 21st ultimo.

The Committee are willing to admit that some little benefit may be derived by drawing a supply from the rubber crop of the rest of India; but they are not without apprehension that like that of Bengal the rubber crop in these parts cannot, even under favourable circumstances, be much in excess of the requirements of the people. Be that as it may, when the Committee addressed to you their letter of the 21st ultimo, they were under an impression, from accounts then available to them, that the crop in several parts of the other provinces of India was not likely to turn out an average one. But as the prospects there have since improved, supplies may be now looked for from them.

These are the grounds upon which the Committee came to the conclusion, which led them to approach Government with their views on the subject. They may be mistaken, and nothing would give them greater pleasure than to find themselves really so; but unable as they were to take a sanguine view of the position of things, and knowing as they did the difficulties, not to say the expense, of procuring supplies from abroad sufficient to feed 60 millions for two months even, (leaving out Orissa and Assam), they humbly thought that no time should be lost in placing the results of their enquiries, views and opinions at the disposal of Government, in the belief that, if they had erred, it was an error on the safe side, which was better than fancied security, the mischief of which it might be too late to repair.

If the Committee's estimates of the stock of old rice, and of the probable out-turn of the present crop, as shown above, are at all reliable, the total stock will be only sufficient to feed the whole population for six months; and taking the ensuing rubber, *boro* and *aus* crops as sufficient for two months more, there is every apprehension of a deficiency occurring in the food-supply for four months. This deficiency might be easily met without unduly sending up prices and thereby causing starvation to many, if the whole available supply could be equally distributed. For people in that case would have only to live upon two-thirds of their usual rations, which might be safely done without any serious detriment to health or loss of physical powers. But, as a matter of fact, this needful economy is never practised, until in the natural course of things, high prices render it utterly unavoidable. It is then only that, according as the prices rise, it is only a comparatively small number of persons that supply themselves with full rations, a great number representing the bulk of the population, must, according to their respective purchasing powers, live upon two-thirds, half, or one-third of their ordinary allowances, and many are reduced to a condition, when they have no means left to purchase any food for days, and starve until relieved by death. The duration of such a period, and the proportion of the population that must pass through the different stages of destitution, must mainly depend upon the degree of economy exercised from the beginning of the deficient harvest, and their respective purchasing powers. But, as in the usual order of things, rigid economy and equal distribution of food sufficient for eight months to do service for a whole year is not possible, prices must gradually rise to that pitch, which will render food unattainable to many, and to a very large proportion of the population attainable only in quantities insufficient for the due preservation of the vital energies. By providing works on a gigantic scale, and a series rising with

the rise in the price of food, the Government might effect a more equal distribution of the food left than can otherwise be the case; but since the food stock is not sufficient for the proper sustenance of all, the pressure upon it will increase with the rise in price to the suffering and starvation of thousands over thousands, and that calamity can be averted only by pouring in grain into the country sufficient at any rate for a three months' supply. The Committee say for three months, because the out-turn of the rabi and kharif crops are yet uncertain, and imagining that one or two months' deficiency might be made up by the economy, which would be necessarily exercised in consumption.

The Government is in a better position than the Committee to judge whether the supplies in the other provinces of India would not be sufficient to meet the deficiency in Bengal. The Indian continent is so vast, and its population so numerous, that, if a small contribution were made from each of the different provinces, it would go a great way to relieve this province. If, however, the food-supplies in this continent be not sufficient, the Government, the Committee respectfully submit, have no other alternative than to import food-grains from abroad, if it considers, as the Committee have had abundant testimony to believe it does consider, its sacred duty not to allow a single one of its subjects to die of starvation.

Since writing the above, the Committee have been honoured with a further communication on the subject, dated the 9th instant, forwarding copy of a letter from the Government of India, and requesting the Committee's reply to the questions contained therein. The Committee have also to thank the Bengal Government for a copy of Mr. Geddes' compilation to assist them in making a comparison between the crops of 1865-66, and those of 1873-74. The Committee humbly think that they have, to a great extent, anticipated in the above the information and opinion called for by the Government of India.

The Committee have given above their own impressions as to the prospects of the crops and food-supplies in the country at the date of their letter, viz., the 21st November last, drawn from their own knowledge and observation. They will now, in compliance with the invitation of the Government of India, endeavour to institute a comparison between the crops of 1865 and 1873 with the aid of the official reports published by Government. They must, however, remark that the official reports are far from clear or full, and do not, therefore, afford sufficient data for an exact comparison. Even the reports connected with the Famine of 1866 do not give the exact outturn of crops in all districts, while the reports on the crops of this year are more indistinct. The Bengal Government seems to be alive to this defect. In the Special Narratives of Drought, dated the 21st November last, it is stated that "the district reports are very unequal in clearness and fulness; some of them, notably that from Bhangaipore, are very distinct; while from districts where the sub-divisional system has not yet been fully introduced, the information is imperfect. The estimates offered by the district officers are confessedly rough and imperfect, and do not pretend to arithmetical accuracy. It must be borne in mind, moreover, that farmers, when they speak of "a full average crop" really mean a bumper crop, such as is very seldom harvested, and therefore a three-quarter crop (or twelve-anna crop, as it is called,) is in reality a good average yield. In one point most of the replies are more or less incomplete, namely, regarding the comparison between crops, the prices, and the general outlook of the present year with 1865." Thus, the materials for a fair comparison are wanting. The Committee have arrived at the following conclusions upon the official data now before the public.

The Commissioners appointed to enquire into the Famine in Bengal and Orissa in 1866 described the result of the crops of the autumn of 1865 in the following general terms: "In the eastern districts (beyond the delta of the Ganges in that direction) material injury was not sustained. In the central districts of Bengal, that is, the districts of the delta and those to the north of the Ganges, although there was, on the whole, a very serious shortness of crop and consequent enhancement of price, and a good deal of alarm was experienced in several quarters, scarcity amounting to famine did not result, except in a comparatively minor degree and in a comparatively limited tract in what may be described as the most western section of the delta not far from Calcutta. This was chiefly in the Naddea district. It lies in the midst of a rich and accessible country. Timely and liberal measures of a relief were adopted, and happily all considerable mortality was avoided." The low-lying alluvial portions of the districts to the west of the Hooghly escaped with comparative impunity. It was only in the still more western districts of Orissa and higher parts of the Western districts of Bengal, where the alluvium gives place to a laterite soil that the full extremity of famine was reached." The Committee have compiled the following table from the extracts from official papers on the Famine of 1866, and the returns published in the *Calcutta Gazette* on the prospect of the crops of 1873—

Geographical Sections—Physical characters.	Districts.	1865-66.				1873-74.			
		Proportion of Yield of		Source of information—Geddes' Compilation.	Page.	Proportion of Yield of		Source of information—Calcutta Gazette of 1873.	
		Each District.	Average of the Geographical Section.			Each District.	Average of the Geographical Section.		
The Lower Delta and Littoral Districts.....	Midnapur... ..	or '5	Total 3-875, average 77½ or 77 per cent.	4-874, average 6092 or 60 per cent.	35	or '5	Total 3-25, average 65 or 66 per cent.	Total 5-75, average 7187 or 71 per cent.	22nd Oct. 17th Dec. 10th Dec. 26th Nov., 3rd Dec. 26th Nov. 17th Dec. 10th Dec. 17th Dec.
	Jessor	or '75			40	or '5			
	Backerganj	or '857			172	or '75			
	Noakhali	or '875			172	or '75			
	Chitragong	or '875	172	or '75					
	Catak	or '33	18	or '875					
Balasar	or '33	18	or '75						
Puri	or '33	18	or '875						
West Bengal below the Uplands	Burdwan	3 or '6	60 per cent.	31	3 or '5	50 per cent.			
	Hugli								
	Howrah								
Central Delta Districts.....	24-Pergannas	1/2 or '5	Total 1-958, average 391.9/10 or 39 per cent.	39	1/2 or '25	Total 2-162, average 432, 2/5 or 43 per cent.		26th Nov. 17th Dec. 3rd Dec. 3rd Dec. 26th Nov.	
	Nadia	2/5 or '4		40	7/16 or '437				
	Murshidabad	or '25		43	or '375				
	Faridpur	or '875		172	3/5 or '6				
	Pabna	or '333		43	1/2 or '5				
Northern Bengal.	Rajshahi	or '875	Total 2-958, average 591, 1/2 or 59 per cent.	42	7/16 or '437	Total 1-949, average 249, 1/5 or 24 per cent.		3rd Dec. 3rd Dec. 26th Nov.	
	Maldah	or '75		42	1/2 or '250				
	Dinajpur	or '333		42	or '125				
	Bogra	or '5		42	or '250				
	Rangpur	or '5		42	3/16 or '187				
Eastern Bengal...	Dacca	or '875	Total 4-250 average 850, 4/5 or 85 per cent.	172	or '5	Total 3-124, average 624, 3/5 or 62 per cent.			
	Mymensing	or '875		172	or '75				
	Sylhet	or '875		172	or '5				
	Cachar	or '875		172	or '624				
	Tripura	or '75		44	or '75				
North and South Behar	Tirhut		Total 4/9 or 44 per cent.	As per Mr. Cockerell's Report.	N. Behar 1/4 S. Behar 1/4	3, average 1/4 or 33 per cent.	Special Narrative on drought.		
	Bhagalpur ... ..	.....							
	Munghir ... ..	.....							
	Patna ... ..	.....							
	Shahabad... ..	.....							
Gaya ... ..	.....								
The Upland-country of Bengal and Chota Nagpur*.....									
* No precise information as to the out-turn of this part of the country is given in the official reports of 1865-66, or of this year, and, therefore, no comparison can be made.		1865. Total 347 per cent.; average 57-4 per cent., about 10 annas, or a little less than 10 annas.				1873. Total 283 per cent.; average 47-14 per cent., about 7½ annas.			

The Committee deem it necessary to observe that in preparing the above table they have been compelled to assume the proportion of probable yield of some districts from the absence of precise information in the official returns. They have, however, endeavoured to make as approximate an estimate as they could form from the character of the official reports.

The Committee observe that great stress has been laid upon the manner in which they expressed their sense of the heavy responsibility imposed upon Government in supplying any deficiency, which might occur in the food-supply of the immense population inhabiting this vast country, when

they said that "the task of feeding 60 millions of people may well appal the stoutest heart." It is superfluous for them to say that they could not have meant thereby that the whole population of the country would even for a day be without food. Such a contingency was absolutely impossible. Instead of dividing the whole province under the Government of Bengal into areas of scarcity and sufficiency, which they could not well do, as neither of them was uninterrupted in its range or uniform in degree, the Committee formed their own estimate of the probable average outturn of the crop of the whole province and calculated therefrom the possible deficiency arising amongst the whole population, taking for granted that the existing supply was equally distributed amongst all, the deficiency of some parts being met by the sufficiency of the other, which, to a great extent, must be the case. But, supposing that the famine area was accurately defined, and the calculation of deficiency was confined thereto, the actual result would be exactly the same, inasmuch as any reduction in the number of sufferers would be made up by a corresponding rise in the duration of their sufferings. So that, if, upon the former supposition there should be no food for 60 millions for one month, there would be no food for two months if the famine area were confined to a population of 30 millions. The price of the food anyhow must be kept within a reasonable figure, and that figure the Committee consider to be at the most 50 per cent. above the normal price in the different parts of the country. With such a price for 3 or 4 months aided in the shape of works liberally provided by Government, the people might tide over the crisis. Any price beyond that figure, and even with such a price for longer period, must reduce thousands to the point of starvation.

While on this point the Committee would invite the attention of Government to the following extract from the Report of the Famine Commission of 1866, showing what proportion of deficiency of crop will produce a famine in India:

"A most important lesson is, we think, distinctly to be learned from the study of Colonel Smith's report. We are not quite sure whether, in estimating the losses, he takes fully into account the great destruction of the inferior grains of the rainy season, which depend solely on rain, or chiefly refers to the subsequent crop, of which he saw the failure before him—the wheat and other main staples, a great portion of which is always kept alive by artificial irrigation; but his estimates seem to show that in his opinion the failure, taking broadly the whole of the distressed districts, did not exceed that which was from the first admitted in the most sanguine estimates to have occurred in Orissa in 1865, viz. half the produce. He specifically states the loss in several of the bad districts at about four-tenths; in some it was more, in some it is estimated to have been less. The famine country of 1861 is, generally speaking, a grain-producing country; with the exception of a good deal of cotton in some portion of it (and the cotton cultivation had not then been abnormally extended), food-grains may be said to be the main staple throughout, and in good years there must no doubt be a large surplus produce. Particular estimates apart, it is plain that the failure of the produce of the whole tract was not complete—that there was in parts (good and bad being intermixed) a very considerable yield. Yet it is abundantly evident that if there had been no importations and no relief works, the famine would have been frightful and very fatal. It may be assumed, then, as the result of Colonel Smith's inquiry, that in the ordinary modern condition of things in India, something much short of the entire and absolute failure of the whole crops of a year in any province will suffice to produce that state of extreme famine when food is scarcely to be had for money, if the market be not relieved by importation from provinces more abundantly supplied. Still more will this be the case when either by previous short crops, or by exportation, or both, the stocks have been already reduced below average; and as respects a famine caused by absence of grain as distinguished from one caused by absence of money, the effect of previous short crops and of exportation is much the same. Modern enterprise and means of communication, in relieving countries insufficiently supplied, drain those in which grain is more abundant to an extent which probably did not occur in the old days of native hoarding. In fact in India, where famines have generally been present to the memories and traditions of the people, the want of means of communication was much counteracted by the disposition to hoard largely the grain for which little could be got in years of abundance. An unhappy combination of circumstances which renders exportation in time of abundance large, but brings no importation in time of want, produces such terrible calamity as has just occurred in Orissa."

As to "whether the status of 1873 in the provinces under the Government of Bengal be materially worse than that of 1865-66," the Committee venture to submit that they have adduced sufficient evidence and facts to leave any doubt on that point. The disastrous effects of the failure of rain in 1865 were considerably more circumscribed than could be said of the same in the present year, and remembering that the population now affected is immensely greater than that in 1865, it would, the Committee are humbly of opinion, be scarcely reasonable to take a more sanguine view of things in this year.

But supposing that the status of 1873-74 would not be worse than that of 1865-66, the mortality which followed in the last mentioned year was appalling. In Orissa the lowest estimate was the loss of one-fourth the population by starvation. In Maunbhoon and Singhbhoon the death amounted to eighteen per cent. and twelve and half per cent., respectively. Of the other distressed districts no mortuary returns are given, but in the Behar Districts the mortality was very heavy:—

Districts.	Number of deaths from starvation or disease engendered by want.
Chumparun ...	56,000
Gya ...	3,387
Monghyr ...	1,247
Saran ...	8,175
Shahabad ...	4,424
Tirhoot ...	60,321
Total ...	1,33,554

Mr. Geddes' Compilation, p. 54.

If such was the disastrous effects of the drought of 1865, with a crop of from one-third to two-thirds in the Behar Districts, the gravity of the present crisis may be easily imagined when the probable outturn of those districts in 1873-74 is estimated by Government from one-fourth to one-third.

In submitting these remarks the Committee gratefully acknowledge the judgment, energy, and liberality, which have marked the proceedings of Government to meet the threatened crisis, and they desire to record their humble belief and hope that every thing will be done which can be done, to mitigate suffering, by a Government, rich in resources, and always ready to do its duty by the millions entrusted to its care by a merciful Providence.—I have the honor to be, Sir, your obedient and humble servant.

JOTEENDRO MOHUN TAGORE,

Hony. Secy. British Indian Association.

British Indian Association Rooms, No. 18, British Indian Street, the 24th December 1873.

MISSIONARY WORK IN INDIA.

(Mr. C. Markham's Official Report to Parliament on the Material and Moral Progress of India in 1871-72.)

THE numerous excellent missionary schools receiving grants-in-aid in the various provinces have already been referred to; but the whole subject of missionary enterprise in India has such an important bearing on the intellectual advancement of the people, that any notice of Indian education would be incomplete without giving some details respecting the work of the missionaries. A recent inquiry into the statistical details of missions in India, combined with the ordinary sources of information, furnished materials for estimating their progress, which are authoritative and complete.

The Protestant missions of India, Burmah, and Ceylon, are carried on by 35 missionary societies, in addition to local agencies, and now employ the services of 606 foreign missionaries, of whom 551 are ordained. They are widely and rather evenly distributed over the different presidencies, and they occupy at the present time 522 principal stations, and 2,500 subordinate stations. The entire Presidency of Bengal, from Calcutta to Peshawur, is well supplied with missionaries, and they are numerous in the southern portion of the Madras Presidency. The various missions in Calcutta, Bombay, and Madras are strong in labourers, and almost all the principal towns of the Empire have at least one missionary. A great impulse was given to the efforts of these societies by the changes in public policy inaugurated by the Charter of 1833, and since that period the number of missionaries, and the outlay on their missions have continued steadily to increase. In 1852 there were 459 missionaries in India at 320 stations, and in 1872 the number of missionaries were increased to 606, and of stations to 522.

This large body of European and American missionaries settled in India, bring their various moral influences to bear upon the country with the greater force, because they act together with a compactness which is but little understood. Though belonging to various denominations of Christians, yet from the nature of their work, their isolated position and their long experience, they have been led to think rather of the numerous questions on which they agree, than of those on which they differ; and they co-operate heartily together. Localities are divided among them by friendly arrangements, and with few exceptions it is a fixed rule among them, that they will not interfere with each other's converts and each other's spheres of duty. School books, translations of the scriptures and religious works, prepared by various missions, are used in common; and helps and improvements secured by one mission, are freely placed at the command of all. The large body of missionaries resident in each of the presidency towns, form missionary conferences, hold periodic meetings, and act together on public matters. They have frequently addressed the Indian Government on important social questions involving the welfare of the native community, and have suggested valuable improvements in existing laws. During the past 20 years, on five occasions, general conferences have been held for mutual consultation respecting their missionary work; and in January last, at the latest of these gatherings, at Allahabad 121 missionaries met together belonging to 20 different societies, and including several men of long experience who have been 40 years in India. The railway system rendered such a gathering easy, and brought the members of the conference from all parts of the Empire.

The labours of the foreign missionaries in India assume many forms. Apart from their special duties as public preachers and pastors, they constitute a valuable body of educators; they contribute greatly to the cultivation of the native languages and literature, and all who are resident in rural districts are appealed to for medical help to the sick.

No body of men pays greater attention to the study of the native languages than the Indian missionaries. With several missionary societies (as with the Indian Government) it is a rule that the younger missionaries shall pass a series of examinations in the vernacular of the district in which they reside; and the general practice has been, that all who have to deal with natives who do not know English, shall seek a high proficiency in these vernaculars. The result is too remarkable to be overlooked. The missionaries, as a body, know the natives of India well: they have prepared hundreds of works, suited both for schools and for general circulation, in the fifteen most prominent languages of India and in the several other dialects. They are the compilers of several dictionaries and grammars; they have written important works on the native classics and the system of philosophy; and they have largely stimulated the great increase of the native literature prepared in recent years by educated native gentlemen.

The mission presses in India are 25 in number. During the 10 years between 1852 and 1862, they issued 1,634,940 copies of the Scriptures, chiefly single books; and 8,604,033 tracts, school-books, and books for general circulation. During the 10 years between 1862 and 1872, they issued 8,410 new works in 30 languages; and circulated 1,815,503 copies of books of Scripture; 2,375,040 school-books; and 8,750,129 Christian books and tracts. Last year two valuable works were brought to completion, the revision of the Bengali Bible, and the first publication of the entire Bible in Sanskrit. Both were the works of the Rev. Dr. Wenger, of the Baptist Mission in Calcutta.

The missionary schools in India are chiefly of two kinds, purely vernacular, and Anglo-vernacular schools. The former are maintained chiefly, but not exclusively, in country districts and small towns; the education given in them is confined pretty much to reading, writing, geography, arithmetic, and instruction in simple religious works, such as the "Peep of Day." In the Anglo-vernacular schools a much higher education is given, not only in those subjects which are taught in English, but in those in which the vernacular is employed; a higher knowledge even of the vernacular languages is imparted in these schools than is usually given in purely native schools. These schools are most in demand in country towns, in the Presidency cities, and in the districts immediately around them. Bengal has long been celebrated for its English schools; and the missionary institutions in Calcutta still hold a conspicuous place in the system and means of education generally available to the young Hindoos of that city. All the principal missionary institutions teach up to the standard of the entrance examination in the three universities of India; and many among them have a college department in which students can be led on through the two examinations for B.A., even up to the M.A. degree.

In addition to the work of these schools it should be noted that several missions maintain training colleges for their native ministers and clergy, and training institutions for teachers. These colleges and institutions are 85 in number, and contain 1,618 students. The training institutions for girls are 28 in number, with 567 students. An important addition to the efforts made on behalf of female education is seen in the Zenana schools and classes which are maintained and instructed in the houses of Hindoo gentlemen. These schools have been established during the last 16 years, and now number 1,300 classes, with 1,997 scholars, most of whom are adults. Of these, 938 classes, with 1,523 scholars, are in Bengal and the North-West Provinces. The effort has not yet much affected the other provinces of India. The great progress made in these missionary schools, and the area which they occupy, will be seen from the following fact. They now contain 60,000 scholars more than they did 20 years ago. The figures are as follows: In 1852 the scholars numbered 81,850; and in 1872 the number was 142,952. The high character of the general education given in the college department of these institutions may be gathered from the following facts. Between 1862 and 1872, 1,621 students passed the entrance examination in one or other of the three Indian universities; 513 students passed the first examination in Arts; 154 took the degree of B.A.; 18 to the degree of M.A., and six that of B.L. A considerable proportion of the amount expended upon education by the missionaries in India is provided by school fees, which, in recent years, have been much increased. The statistical tables, however, do not give the exact amount, neither do they state the amount received from the Government grants-in-aid. In the higher education it is believed that little expenditure falls upon the missionary societies beyond the salaries of the superintending missionaries.

The statistical returns now referred to state very clearly and completely the number of the converts who have been gathered in the various Indian missions, and the localities in which they may be found. They show also that a great increase has taken place in the numbers of these converts during the last 20 years; as might be expected from the lapse of time, the effects of earlier instruction, and the increased number of missionaries employed. In 1852 the entire number of Protestant native converts in India, Burmah, and Ceylon, amounted to 22,400 communicants, in a community of 128,000. Native Christians of all ages. In 1862 the communicants were 49,688, and the native Christians were 213,182. In 1872, the communicants were 78,494, and the converts, young and old, numbered 318,363.

A very large number of the Christian communities scattered over India are small, especially in the country towns; and they contain fewer than 100 communicants and 300 converts of all ages. At the same time some of these small congregations consist of educated men, have considerable resources, and are able to provide for themselves. From them have sprung a large number of the native clergy and ministers in different churches, who have received a high education in English institutions, and who are now taking a prominent place in the instruction and management of an indigenous Christian church. The native ministry contains also men who have been well trained through the medium of the vernacular languages; but this important body of men are encouraged to master the English language also, that they may secure access to the vast store of Biblical literature which it contains, and which will give them direct aid in their duties. The native converts are thus described at the present time:—

Native Protestant Converts in India, 1872.

	Communicants.	Native Christians.	Native Ordained Ministers.	Native Contributions.
				Rs.
Bengal, Behar, &c.	13,502	46,968	35	8,937
North-Western Provinces, and Oudh...	3,031	7,779	19	5,265
Punjab	707	1,870	14	1,661
Bombay, and Central India	2,256	6,686	26	6,583
Madras	39,320	160,955	131	62,676
Burmah	20,514	62,729	77	42,786
Ceylon	5,164	31,376	79	31,267
Total	78,494	318,363	381	1,59,124 = £15,912

The missionaries in the course of their efforts have found the populations of the great cities much more tenacious in their opinions and firm in their social relations, than those of country districts. On the other hand, they are more intelligent; they are good listeners; appreciate argument and illustration; and their children flock to the mission schools. The rural population has been much more open to their instructions; the peasantry of large districts have been less bound by caste ties; and the aboriginal tribes and classes in the community, both in the hills and in the plains, have embraced Christianity in large numbers.

The religious movements which took place 40 years ago among the peasantry to the south of Calcutta, among the indigo ryots of Krishnagur, and in a thickly-peopled swamps of Barisal, gave to the Province of Bengal three large Christian communities, which now number nearly 16,000 persons. They have been steadily cared for and well instructed, and have been consolidated into prosperous, well-conducted communities. Within the last 20 years the German mission among the Cole tribes in the hills of Chota Nagpore now divided into two branches, has greatly affected this simple yet manly people; and notwithstanding considerable social persecution has led more than 20,000 persons among them to profess themselves Christians. Very recently the Santal tribes, in the same line of hills, have followed in their steps.

In the year following the mutiny a new division was commenced by an American Society in the provinces of Oude and Rohilkund; and the Christian congregation already include 2,000 converts. The largest congregations in the North-West Provinces are found in Benares, Allahabad, Fathigarh, Agra, and Mirat, and sprang from the boarding schools, established in the great famines of 1838 and 1861. An important religious movement has recently occurred in the dominions of the Nizam, under the conduct of native missionaries; and 1,100 persons have become Christians.

A similar movement has taken place among the Telugu people of Ongole, under the American mission, which has resulted in 6,000 converts. More than 7,000 are now included in the two missions at Cuddapah. And the Telugu missions in Guntoor, in the Masulipatam district, and on the Godavery, have increased during the last few years from 1,500 native Christians to more than 6,000.

But it is in the southern portions of the Madras Presidency that Christianity has most largely affected the rural populations. The Province of Tanjore, first instructed by the Danish missionaries, amongst them by the respected missionary Schwartz, has long possessed a large number of Christian congregations. These continue under the care of the Lutheran and the English Episcopal mission, and are reported to be in a prosperous condition. The Christians now number 11,000 persons in the Tanjore and Trichinopoly districts. In the neighbouring district of Madura the Americans have a flourishing mission, with 7,000 converts and a normal school.

The Tinnevely and Travancore missions are well-known; and are reported to be in every way in a higher position, and exerting greater influence than ever before. These two provinces contain a very large aboriginal population which has been but little affected by the Hindooism of Southern India. The Shanar tribe and their kindred, connect themselves by tradition with a great demon-ruler of Ceylon, the celebrated Ravana; and from the numerous and marked peculiarities of their social and religious life have proved a most interesting study to the missionaries who have lived among them. They have been under instruction from the commencement of the present century. Good schools have flourished

among them, by which girls have benefited as well as boys. Training schools have supplied well-taught school-masters; theological schools have in recent years provided a full supply of native ministers and clergy; while the congregations have steadily multiplied, and the character of the whole people has been raised. Three missions have been carried on among them by the Church Missionary Society, the Society for the Propagation of the Gospel, and the London Missionary Society, and a large and influential English staff has conducted the affairs of these missions. The result is reported to be highly satisfactory. At the present time, 30,000 persons of all ages are professing Christians among the Shanar people; the districts are dotted over with flourishing villages and Christian churches; there are hundreds of native teachers employed among them, of whom 56 are ordained, and are supported to a great extent by their congregations. Order and peace rule these simple communities, which give the Government little trouble, whether in the Madras Presidency, or under his Highness, the Maharajah of Travancore; while large tracts of country have been brought under cultivation, and the peasantry generally enjoy a larger share of material comfort than in days gone by.

Much the same may be said of the Church mission among the Syrians of upper Travancore and Cochin. The congregations among them now include some 14,000 people, and the Syrian Christians at large have been greatly stimulated and improved through the efforts of the English missionaries carried on in their midst. Only one other mission needs special mention here, the American mission in Burmah. This mission has drawn its converts chiefly from the Karen tribes, the aborigines of Burmah, and the Shan States who have so heartily welcomed the English rule. Information respecting them has been scanty of late; but it is certain that 60,000 of them are Christian converts, and that the mission is largely supported by the people themselves.

Taking them together, these rural and aboriginal populations of India, which have received a large share of the attention of the missionary societies, now contain among them a quarter of a million, native Christian converts. The principles they profess, the standard of morals at which they aim, the education and training which they receive, make them no unimportant element in the Empire which the Government of India has under its control. These populations must greatly influence the communities of which they form a part; they are thoroughly loyal to the English Crown; and the experience through which many have passed, has proved that they are governed by solid principles in the conduct they pursue. Dr. Hunter has recently set before the Government the importance of the Nile races and other aborigines of India reckoned at 70,000,000 in number, and both because of the simplicity of their habits, their general love of order, their teachableness, as well as their great numbers, has urged that new and large efforts shall be made for their enlightenment. In the same way many able missionaries advocate that the Christian efforts among them shall be increased. There is reason to believe that these estimable races will occupy a more prominent position in the empire, in the future, than they have done hitherto.

But the missionaries in India hold the opinion that the winning of these converts, whether in the cities or in the open country, is but a small portion of the beneficial results which sprang from their labours. No statistics can give a fair view of all that they have done. They consider that their distinctive teaching, now applied to the country for many years, has powerfully affected the entire population. The moral tone of their preaching is recognised and highly approved by multitudes who do not follow them as converts. The various lessons which they inculcate have given to the people at large new ideas, not only on purely religious questions but on the nature of evil, the obligations of law, and the motives by which human conduct should be regulated. Insensibly a higher standard of moral conduct is becoming familiar to the people, especially to the young, which has been set before them not merely by public teaching, but by the millions of printed books and tracts which are scattered widely through the country. On this account they express no wonder that the ancient systems are no longer defended as they once were; many doubts are felt about the rules of caste; the great festivals are not attended by the vast crowds of former years; and several Theistic schools have been growing up among the more educated classes, especially in the Presidency cities, who profess to have no faith in the idol-gods of their fathers. They consider that the influences of their religious teaching are assisted and increased by the example of the better portions of the English community; by the spread of English literature and English education, by the freedom given to the press; by the high standard, tone, and purpose of Indian legislation and by the spirit of freedom, benevolence, and justice, which pervades the English rule. And they augur well of the future moral progress of the native population of India, from these signs of solid advance already exhibited on every hand, and gained within the brief period of two generations. This view of the general influence of their teaching, and of the greatness of the revolution which it is silently producing, is not taken by missionaries only. It has been accepted by many distinguished residents in India and experienced officers of the Government; and has been emphatically endorsed by the high authority of Sir Bartle Frere. Without pronouncing an opinion upon the matter, the Government of India cannot but acknowledge the great obligation under which it is laid by the benevolent exertions made by these 600 missionaries, whose blameless example and self-denying labours are infusing new vigour into the stereotyped life of the great populations placed under English rule, and are preparing them to be in every way better men and better citizens in the great Empire in which they dwell.

The Catholic Missions in India are efficiently continued; but they are almost entirely confined to their Christian converts and have little to do with the non-Christian population. The missions are divided into two branches, those which maintain a connection with the Portuguese portion of the Church under the Archbishop of Goa and those which are under the vicariates of the Jesuit Mission. During the last 40 years both branches have been renewed and revived from the decay into which they had fallen, and seem to be well supplied with foreign as well as with native clergy.

The Goa Church has the largest number of its converts and followers in Bombay and its coast districts, in Travancore, around Madras, and in Eastern Bengal. The number in Bombay is not known; but in other parts of India they are about 48,000.

The vicariates of South India which sprang from the celebrated Madura Mission, are 10 in number; they contain about 160 regular clergy, who are foreigners; and more than 400 native priests. The converts under their charge are reckoned at more than 600,000; of these 150,000 are in the district of Madura; 90,000 in the French district of Pondichery, and over 250,000 in North Travancore. A few years ago a large secession took place from the last named mission. The fishermen on the coasts of South India, amongst whom St. Francis Xavier laboured with so much earnestness, still continue to profess the Christian faith, and regard him as their patron saint. There are six seminaries conducted by the Mission in South India, employed both as boarding schools for lads and as training schools for native priests. Two of these are at Verapoli, the head quarters of the Romo-Syrian Mission in Travancore; another is at Pondichery, and a third at Negapatam was established through the earnest exertions of Father Clifford, though opened only after his lamented death. The number of the students in these institutions is not known; and very little information is given respecting the Catholic schools in India generally.

THE RICE TRADE IN BENGALE.

(By H. J. S. Cotton, B.C.S.)

It may be unnecessary to premise, what must be known to our readers, that rice is divided in Bengal into two distinct main crops, locally known as the *aoos* or early and the *amun* or winter rice. The early rice is mostly raised upon the high-level lands; it is sown with the first showers of the spring and gathered in July and August. It requires more attention in cultivation than the *amun*, and is more liable to failure from the accidents of the seasons. It is not transplanted but reaped from where it is sown. The winter rice is of two principal varieties—one sown broad-cast and the other transplanted. The transplanted variety is the commonest kind of rice in Bengal. In the first instance it is sown on high land. Afterwards, when the rain renders the soil sufficiently moist and the seedlings are about a foot high, they are transplanted to a more marshy soil which must be such as in the rains is covered with water. The rice grows in the water, knee or thigh deep. It is sown at the same time as the early rice, transplanted in August, and reaped in November, December, and January. The winter rice, sown broad-cast and not transplanted, is sown in deep marshes, and as the water rises, the rice grows with it and the stem at times attains the height of twelve or even twenty feet. Of all kinds of rice this is the most rapid in its growth, frequently shooting up twelve inches in twenty-four hours as the inundation rises. Some species of this rice are capable of bearing submersion for seven or eight days if the water which has risen suddenly be clear. If it be submerged in foul water the plant dies in a day or two. This description of winter rice is sown and reaped at the same time as the transplanted species. There is another principal kind of rice known as the *boro*, which is a spring crop raised in marshes and on low alluvial soil. This crop is reaped in April, May, and June, and its success depends much on irrigation. Besides these descriptions of rice, there are innumerable minor varieties familiar to the peasantry, many of which are peculiar to particular localities.

Over the whole of the rice area of Bengal the winter rice is the principal crop, save in exceptional localities such as Nuddea where two-thirds of the rice lands are cultivated in *aoos* and one-third in *amun*, and in Moorsheadabad where the *aoos* rice predominates in the eastern parts of the districts. In all rice districts there is, however, an *aoos* cultivation, and in surplus districts this crop is usually consumed by the cultivators, leaving as much of the *amun* as possible for export. It may be said generally that five-sixths of the rice in Bengal is *amun*. The cultivation of *boro* rice is general, but it is not grown to a large extent in any district.

Rice is the principal article of diet over Bengal Proper, and, among Bengalees, is often the only food eaten; pulses, fish, vegetables, oil, salt, spices, and other condiments are only added to give the rice a relish.

The districts of the whole of Bengal Proper, or the great alluvial and deltaic plain between the Himalayas and the Bay of Bengal, and of Orissa, or the diluvial territory between the hills and the sea connecting these provinces with Madras, a level area of nearly one hundred thousand square miles, uninterrupted by a single hill, rich in black mould and of boundless reproductive fertility, subject to recurrent inundation and enjoying natural facilities such as no other country in the world possesses for internal commerce and irrigation—constitute the great rice producing tract of Bengal which is ordinarily much more than self-supporting. In the autumn months the whole country seems sown with rice; the early crop stands thick and yellow on the high lands, while the lower grounds are waving with a wide and unbroken sea of green. The surplus produce of this area finds its way, generally speaking, to three great marts from which the rice trading operations of the province are conducted. The imports into Calcutta have to find food for the metropolis, for foreign exportation and for export upcountry; Chittagong is the centre of a large and rapidly growing export trade by sea; Patna is theemporium of the trade for Behar and the North-Western Provinces.

The imports of rice into Calcutta in an ordinary year may be set down at about twenty millions of maunds or 714,285 tons; about ten millions of maunds are annually exported from Calcutta by sea; about seven millions are consumed by the metropolitan population, and it has been estimated that about three millions pass through Calcutta for up-country export.

The Financial Department of the Government of India has recently issued a table of "Statistics of the Export of Rice and Paddy from British India to foreign Countries for the 18 years ending with 1872-73," of which we republish the total quantities, though we confess we do not entirely trust the figures and would have preferred a comparative statement showing the total quantities of Exports by Sea. The return is, however, of interest as illustrating, first, the rapid increase of exportation which culminated in the year before the disastrous famine of 1865-66; and, secondly, the magnitude of the Exports from British Burmah, a country the rice resources of which seem almost boundless, and whence the Government relies largely for exports into Bengal during the present season.

Statement of Export from British India to foreign countries from 1855-56 to 1872-73.

Years.	Quantities of Rice and Paddy collectively exported to Foreign Countries from				
	Bengal.	Bombay and Sind.	Madras.	British Burmah.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.
1855-56...	297,651	5,128	128,755	270,077	701,611
1856-57...	302,613	5,085	121,888	158,997	588,583
1857-58...	290,056	6,774	130,575	344,489	771,894
1858-59...	169,473	2,503	87,897	190,337	450,210
1859-60...	165,082	1,656	105,848	127,508	400,094
1860-61...	251,680	5,571	133,203	218,586	609,040
1861-62...	342,315	3,932	77,484	264,200	687,931
1862-63...	376,394	5,508	62,058	268,759	713,659
1863-64...	399,741	882	72,168	341,906	814,697
1864-65...	404,609	977	71,089	424,859	901,534
1865-66...	256,946	749	65,410	373,509	696,014
1866-67 (eleven months)...	155,315	4,800	65,180	180,141	405,335
1867-68...	266,182	8,415	85,385	245,089	605,071
1868-69...	248,553	12,304	94,983	386,958	742,798
1869-70...	192,691	11,642	69,461	266,938	530,732
1870-71...	274,278	19,446	99,177	411,489	804,090
1871-72...	250,259	27,469	118,320	463,515	859,563
1872-73...	356,953	20,299	104,143	683,303	1,164,698

The actual exportation of rice by sea from Calcutta* was 9,170,223 maunds or 339,657 tons in 1871-72, and 9,781,842 maunds or 362,489 tons in 1872-73. Of this amount the principal consignments were as follows:—

	1871-72.	1872-73.
	Maunds.	Maunds.
Great Britain ...	1,333,446	1,473,924
Bombay ...	2,668,154	1,886,945
Mauritius ...	1,720,060	2,633,285
Gulfs ...	1,221,574	336,666
China ...	457,022	189,115
Madras ...	141,138	846,752
Ceylon ...	288,573	741,789
Bourbon ...	249,035	140,575
Australia ...	134,698	121,329
Cape and St. Helena ...	53,954	152,200
West India Islands ...	.....	766,547
Batavia ...	.....	219,996
South America ...	611,251	.....

It is not easy to calculate the actual consumption of rice in Calcutta. The population of the metropolis itself has been said to consist of not less than nine hundred thousand inhabitants, thus:—

Calcutta Proper ...	447,601
The Suburban Municipality ...	257,149
The further Suburbs known as the North and South Suburban Towns ...	89,895
Howrah ...	97,784
Total ...	892,429

But it must be recognised that the towns of Serampore, Chinsurah and Hooghly, and Barrackpore and Dum-Dum, all of them in the immediate vicinity of Calcutta, are practically outlying Suburbs; and that of the vast population of the districts of Hooghly and the 24-Pergunnahs a large part is in fact connected with Calcutta. The census returns, which do not profess to give the floating population of the city, much understate the actual number of its inhabitants. Allowing for a metropolitan population of from a million to a million and-a-half of souls who are dependent for their support on the import of food-grains into the city and its environs, and a daily consumption per head of three-quarters of a seer of rice or six maunds annually, the total annual consumption will approximate to the estimate we have accepted of seven million maunds.

It has been assumed that about three millions of maunds pass through Calcutta annually for up-country export, but no accurate information is available on this point. Although the exports by rail are small, not exceeding a few thousand maunds, the river traffic is known to be very large.

The largest share of the supply of rice for Calcutta is furnished by the littoral districts that fringe the Bay of Bengal. Between seven and eight million maunds are poured in annually through the Calcutta canals which connect the Soonderbuns, Backergunge, parts of Jessore, and the country about the Megna river with Calcutta. The imports into Calcutta of rice and paddy by the Calcutta canals during the years 1867-68 to 1871-72 are registered as follows:—

	Mds. of Rice.	Mds. of Paddy.
1867-68 ...	9,384,050	492,155
1868-69 ...	10,021,275	1,505,625
1869-70 ...	8,306,800	920,275
1870-71 ...	6,984,200	701,450
1871-72 ...	5,514,673	Not specified.

The subjoined table shows the imports of rice into Calcutta by the canals during the year 1872-73:—

By the Circular Canal.	By Tolly's Nullah.	Total.
Mds.	Mds.	Mds.
6,701,800	1,927,975	8,629,775

Besides rice there was an import of paddy or unhusked rice:—

By the Circular Canal.	By Tolly's Nullah.	Total.
Mds.	Mds.	Mds.
97,175	1,293,425	1,390,600

This supply was conveyed in 31,085 boat loads, and is registered from the districts of the 24-Pergunnahs, Jessore, Backergunge, Dacca, Sylhet, and Tipperah. It is a matter of regret that the Calcutta Canals returns do not at present show the places of shipment in detail, but arrangements

* These figures are derived from the Commercial Annual, or a Tabular Statement of the External Commerce of Bengal during the years 1871-72 and 1872-73: published by the Collector of Customs, p. 52. It is assumed that the figures are accurate, but the writer has tried to reconcile the totals with those published by the Government of India without success. The Financial Department figures give the whole exports from Bengal at only tons 256,259 in 1871-72, and at tons 356,953 in 1872-73, an export confined "to foreign countries" it is true, but that expression is not sufficiently explained. If it includes all countries not under the Government of India and no other, the Government figures, allowing for the exports from Chittagong and Orissa, will not correspond with those given in the Collector of Customs' Statement.

have now been effected by Government for ascertaining the future transactions of all the large export marts, and for grouping the transactions of the smaller places together according to districts.

As might be expected, the 24-Pergunnahs district imports very largely into the metropolis. It is the practice to sell in Calcutta the produce of the immediate neighbourhood as soon as the harvest is over, and to supply the deficiency thus caused by importation from Midnapore and other districts. In other parts of the district which are easily accessible and very populous, such as Baraset, Dum-Dum, and Barrackpore, rice is imported from Calcutta. The Southern and Soonderbuns sub-divisions of the district, Basirhat, Sakirah, and Barripore export largely, and their produce finds its way to Calcutta through the Canals. From Diamond Harbour the export is enormous: the Magistrate estimates it at 25 lakhs of maunds, though this is probably an exaggeration; and the bulk of it comes into Calcutta along the Hooghly or by road.

During the year 1872-73, 55,018 maunds of rice and 1,215 maunds of paddy were imported into Calcutta by the Port Canning Railway, all of which was derived from the same sources as supplied the canals with their traffic.

The imports of rice to Calcutta along the Eastern Bengal Railway of late years have been as follows:—

	Maunds.
1867-68	198,225
1868-69	299,318
1869-70	183,442
1870-71	113,521
1871-72	125,865
1872-73	814,277

It is satisfactory to note the increase in the traffic since the opening of the extension to Goalundo, but the quantity of food-grains carried by the railway always has been and is still very small. The supplies are received from Pubna, Furreedpore, Dinagepore, and the Eastern districts.

The Soonderbuns of Jessore supply their quota to Calcutta, but the importation is less than it is from the 24-Pergunnahs or Backergunge. The northern parts of this district import largely from the South and the exports of this district by sea are considerable. 110,200 maunds were exported last season from Morrelgunge for the Mauritius and Ceylon.

Backergunge has the reputation of being the finest rice district in Bengal, and a very large proportion of its exports go to Calcutta. * The rice is of superior quality and exported at once instead of being sold in the local markets. There are no data from which we can estimate the Calcutta import of rice from Backergunge, but it probably amounts to between two and three million maunds. Backergunge rice is also extensively imported into the neighbouring districts; the drain is so great and the demand for Backergunge rice so general that the district is compelled in some measure to feed itself by importation which it derives from Sylhet, Dacca, Mymensingh, and Tipperah. This rice is imported during the rainy season, and the people of Backergunge are said to rely on this imported crop for their maintenance in the latter part of the autumn and for a portion of the cold weather as well. Furreedpore exports to Calcutta by river and by rail but not in large quantities. The northern part of this district is especially dependent on importation from the surrounding districts. Pubna also exports to Calcutta and it receives supplies in considerable quantities from Bogra, Rungpore, Mymensingh, Dacca, and Sylhet, chiefly for exportation, a small quantity only being retained for local consumption. This district is much more than self-supporting.

The great rice producing districts of the Rajshahye division export largely into Calcutta. The whole of Northern Bengal, which is now suffering so much from short crops, in ordinary years has an enormous surplus produce. From the district of Dinagepore alone, which has been described as one huge rice field, a million and half of maunds were last year exported down the Attrai river to Calcutta through the Matabhanga river. The exports from the marts on the Attrai river in Dinagepore find their way to Calcutta; those from the marts on the Pournabubha, Kookeek and Tangun in the same district are sent up-country. The principal figures of rice export from the marts on the Attrai river during 1872 have been reported by the Collector:—

	Maunds.
Patiram	159,082
Koomargunge	162,361
Jeehun Bazaar	128,200
Fakeergunge	110,599
Chandgunge	84,608
Balooghat	81,937
Kalleegunge	80,000
Chuck Gopal	76,078
Rungamuttee	80,580
Paglee Bunder	74,531
Samjhéa	57,541
Brahmopore	37,001
Moheepore	22,137
Kenchun	18,000
Sahebgunge	4,500
	<u>1,177,155</u>

These fifteen marts are all on a portion of the Attrai river not more than 60 miles in extent in the district of Dinagepore, and according to the merchants' own books have exported these amounts to Calcutta; and this does not take into consideration other very large rice marts in the Dinagepore district, such as Khansama, Bhooshee, Sheebgunge, Mahadebpore and many smaller places which all export to Calcutta. The Bogra district is said to import into Calcutta about six hundred thousand maunds annually. The two great rice marts of this district are Hillee and Dupchanchia, which evenly divide the traffic. Hillee is situated on the river Jumona; Dupchanchia on the western bank of the Nagar, a branch of the Karatia river. The latter mart exports the rice crops of the Admaidighee tract which produces some of the best rice in Bengal, and where in 1872 the produce was so bountiful that rice was suffered to ripen and wither away uncut, because sufficient labour could not be obtained to harvest it. The town of Hillee is to be a station, and has always been held to be an obligatory point on the Northern Bengal Railway, and Dupchanchia will be connected with the railway by a good feeder road which has already been taken in hand. There is a brisk importation down the Bhagiruttee river into Calcutta from the marts of Azeemgunge and Baloochur in the Moorsshedabad district. The Rajshahye district exports little direct to Calcutta. It transmits, however, a good deal of rice into Moorsshedabad which is locally consumed in the eastern parts of that district. A large export of rice leaves Rajshahye for upcountry consumption. The district of Rungpore exports its immense surplus, amounting to at least two or three millions of maunds,—to Dacca, Pubna and Furreedpore and also northwards into the Cooch Behar division. Of the supply sent down South a certain quantity finds its way to Calcutta, but the greater proportion is, it is believed, destined for the mofussil and upcountry markets.

It is remarkable that Serajgunge, the commercial emporium of Pubna, Mymensingh, part of Bogra, Rungpore, and Dinagepore, and whence the annual exports are estimated to exceed a million sterling in value, does not export rice largely. The export to Calcutta does not exceed 35 or 40,000 maunds. It is principally the jute trade that has gained for Serajgunge its pre-eminence. At the same time the exports from Serajgunge northwards are considerable. Steamers belonging to European Companies carry rice from this mart for the Bengalee coolies who work in the tea producing districts, and generally Serajgunge exports rice northwards into Cooch Behar and the Assam province.

The Northern Bengal line of Railway from Koshtea to Darjeeling which traverses a portion of Pubna, Rajshahye, Bogra, Dinagepore, and Rungpore will, when carried out, tend more than any thing else to develop the great resources of the districts of the Rajshahye division. From Rungpore it was last year (1872-73) reported by the Magistrate that the yield of rice was considered too good by the ryots as the prices were thereby kept down. The same was observed in Bogra; but these ideas will presumably cease to exist when there are additional means of exit for the superfluous produce.

The Eastern Bengal Railway, as we have seen, imports food-grains to a very small extent. The East India Railway has been equally unsuccessful in attracting this traffic, and in a favourable year does not import more than a million maunds of rice to Howrah. This amount was exceeded in 1871, but in 1872 the imports fell of considerably, and during the first-half of 1873 there was a further decrease. The greater part of this importation comes from the districts of Beerbhoom and Burdwan, and to some extent from Moorsshedabad. The Hooghly district supplies no rice to Calcutta. There is a surplus cultivation of rice in the inland parts, but insufficient for the supply of the densely populated eastern Thannahs bordering on the Hooghly river, and large importations are always effected from Calcutta, and from the large river marts at Bhuddressur and Jhikrapoota in French Chandernagore, which are both within the district. The portion of imported rice from these marts to be consumed in the Hooghly district finds its way to Baboogunge, Boidyabatty, and Sooraphoolee markets. The rest is re-exported.

The Burdwan district exports to Calcutta. Considerable imports are received from Rungpore and Dinagepore, but the great proportion of this is passed on to Calcutta and a good deal into Nuddea. The east of Nuddea receives rice, though in small quantities, from Rungpore, Bogra, Dinagepore, Dacca, and other districts; and the west of Nuddea gets supplies from the large Burdwan marts of Cutwa and Culua. Nuddea does not, as a rule, export rice. Howrah imports on the whole, but chiefly from Midnapore and Balasore by land; the Shampore Thannah of this district produces rice of a fine quality which is exported to Howrah and Calcutta. Food is seldom, if ever, exported from Bancoorah, but in ordinary years sufficient is produced to support the inhabitants. When there is a succession of bad years rice is imported from Midnapore, Maunbhoom, and Rancegunge. Beerbhoom exports largely. But the principal rice producing tract among the Western districts is Midnapore. It is estimated that about 2,000,000 acres of this district are sown with rice, and it is well-known that the large rice fields of Hidgelee, and all the low lands east of the district, are among the most fertile in Bengal. The ordinary exports of this district are estimated by the Collector at 15,000,000 maunds, but it seems that the calculations by which this total has been arrived at are erroneous. At twelve maunds of rice an acre the whole district out-turn would amount to 24 million maunds. The population of the district is two and half-millions, and at a consumption of six maunds annually per head they would consume 15 million maunds. Even this estimate would leave nine millions of maunds available for seed and exportation. Allowing two millions for waste and seed the available exports will be seven million maunds, and it must be admitted that this total is very large indeed. The great bulk of this finds its way to the metropolis along the Russulpore estuary and up the Hooghly in fleets of native boats. The irrigation canal from Oolooberiah to Midnapore is now locked all along and it is hoped it will be navigable in future. Last year, 1872, it was in a very crippled

state, but it took nearly four hundred thousand maunds of rice to Calcutta, and as the Russulpore route is very dangerous, and involves the inconvenience of waiting—even for weeks it is said—at the mouth of the estuary for favourable weather, no doubt exists that the canal traffic will much increase and be very profitable. The other great rice route from Midnapore is along the Grand Trunk Road inland. Exports follow this route into Howrah and Hooghly and into Bancoorah. The over-populated thannahs to the north-east of Midnapore also receive large imports, calculated by the Collector to exceed a million and-a-half of maunds, from the central and north-western parts of the district. Ghatal, to the north of the district, is at the present time a remarkable commercial centre for the exports and imports which find their way up the Roopnata river to that part of the country.

It remains to indicate the supplies derivable from Orissa. The sea exports from Cuttack, Pooree, and Balasore to foreign countries and British India ports beyond the Bengal Presidency as obtained from the Collector of Customs in Calcutta, in 1872-73, were as follows:—

Whither Exported.	Cuttack.	Pooree.	Balasore.	Total.
	Maunds.	Maunds.	Maunds.	Maunds.
To foreign countries	8,736	6,286	8,667½	23,689½
To British Indian Ports beyond the Bengal Presidency	91,396	137,950	185,202½	414,608½
Total...	100,132	144,236	193,870	438,298

but it must be remembered that these figures do not include the exports to Calcutta or to any other port within the Bengal Presidency.

The present Collector of Balasore reports of his district:—

"Balasore is a rice-exporting district, and exports both by sea and land. Export by sea takes place from seven different ports situated on the coast between the Sooburnorekha and Byturnee rivers, from which rice is carried to Calcutta and the Madras ports, and in smaller quantities to Ceylon, the Maldives and Laccadives. The following figures show the quantities of rice annually exported by sea since the famine:—

	Mds.		Mds.
1868-69...	128,000	1871-72...	483,000
1869-70...	300,000	1872-73...	403,000
1870-71...	400,000		

"Exportation by land takes place northwards along the Trunk Road, but data as to its amount are not forthcoming; the rice is carried in carts and on pack bullocks; its destination is Midnapore, and even Raneeungee and Gurbetta."

Upon the whole Mr. Norman considers that the Balasore exports of rice by sea and land together cannot be placed lower than twenty-two thousand tons or nearly 600,000 maunds annually. It is probable that about two hundred thousand maunds of this, or a third of the whole export, finds its way to Calcutta; nearly as much to the Madras and foreign ports, and the remainder inland.

There are considerable exports from Pooree and Cuttack also, although the exports to Calcutta are not so large as they are from Balasore. A good deal of rice leaves Pooree by land for Ganjam and Berhampore, and a larger proportion leaves these districts for the Madras ports than is exported thither from Balasore. The Telinga merchants export from Cuttack, from the ports of False Point, Muchgaon, Chaudhally, and Damrah; the export of rice from False Point alone amounted to 91,344 maunds during 1872-73. The annual export from Pooree and Cuttack into Bengal is probably about fifty thousand maunds.

The total imports of the twenty millions of maunds which are annually consumed in Calcutta and its environs and exported from Calcutta may be summed up as follows:—

	Maunds.
By the Calcutta Canals	7,500,000
From the 24-Pergunnahs, and other neighbouring districts not by the Canal, and along the E. B. Railway, not shown elsewhere	2,500,000
From the Rajshahye Division not shown elsewhere	3,500,000
By the E. I. Railway, ditto	1,000,000
From the Burdwan Division, ditto, exclusive of Midnapore	2,000,000
From Midnapore	3,250,000
From Orissa	250,000
	20,000,000

The second emporium of the Bengal rice trade is Chittagong, Mr. Hankey, the late Officiating Commissioner, has reported of the trade of this port as follows in his last Administration Report:—"In Chittagong the principal export trade is in rice, of which 2,823,255 maunds or 104,565 tons were exported last season, against 1,540,809 maunds or 57,069 tons in the previous year. This business has greatly increased of late years. It is chiefly in the hands of European merchants, but there are one or two native firms. The bulk of the rice comes from Tipperah, Noakhally (including the churs of Sundeeep, Hatia, &c.), and the island of Dukhin Shabazpore, which belongs to Backergunge. It is brought down by *beparis* in boats, and during the cold weather whole fleets of these may be seen making for the mouth of the Kurnafulee from the northward. These *beparis* are not generally men of capital; they purchase rice in small quantities from the producers, and bring it down in their own boats. On arrival they deal with the merchants direct. Business is done to a certain extent through brokers, but under the immediate superintendence of the merchant, not as in Calcutta, where they employ *baniahs*.

"A little rice from the district of Chittagong itself is exported, but the merchants prefer the Tipperah and Noakhally grain, which, from the manner in which it is prepared, is better able to stand a sea-voyage." Chittagong rice is said, the Collector adds, "to be less carefully manipulated, and, being grown for eating purposes, is too expensive for export." Except in the south of the district, there is no very large surplus, production being not much more than sufficient for local consumption. A little rice is indeed imported into Chittagong for food, but the quantity is believed to be inconsiderable. What foreign rice does come to market is brought from the neighbouring districts of Tipperah and Noakhally, and occasionally from Arracan.

The Commissioner continues:—"The ships that take away the rice from Chittagong are generally European or American. They either come in ballast or bring salt from Liverpool. A few bring earth-oil, and sometimes timber (to order) from Rangoon. The rice is sent to Galle, Colombo, Coochin, Bombay, and other Indian ports. It also goes to the Mauritius. During the past season 453,376 maunds of rice were exported to the Mauritius. No rice has been sent to Europe during the last two years, as Chittagong cannot compete with Calcutta as regards freight, nor with Burma as regards cost of rice."

The district of Noakhally besides exporting rice to Chittagong, exports also to Calcutta and Dacca, and Akyab and Rangoon. Tipperah is a very large rice producing district and it is estimated that its exports are not less than four millions of maunds annually. The bulk of it is said to go to Naraingunge in Dacca for Western export. It is also exported to Furreedpore, Pubna, and one or two other districts. A small quantity finds its way in to the Frontier Hill States. The rice from the south-east of the district which has no water communication with the westward is carried to Chittagong by boat and absorbed in the export trade there. Sylhet is also essentially an exporting district. The surplus produce finds its way principally north to the Assam tea districts and east into Cachar, and this district adds also to the quota that is supplied for the consumption South and West by the fertile rice fields of the Dacca division. Cachar is said to import between two and three hundred thousand maunds from Sylhet. The rice export from Mymensingh is estimated by the Collector at about 2,763,500 maunds. From the east of the district it is exported to Dacca and is absorbed in the convoys of boats carrying rice to Calcutta and the up-country markets. From the north it is exported to Assam. There are always very large imports into the district of Dacca. It is calculated that the populous sub-division of Moonsheegunge, where the inhabitants average 1,031 souls to the square mile, imports at least a million and-a-half of maunds for its own consumption. This supply comes to any considerable extent. The rivers of the Dacca district are great channels of exportation and much rice from Eastern Bengal passes through this district and is re-exported at its marts for consumption up-country.

The province of Assam does not usually export or import rice largely, but the tendency is to import. The tea factory labourers are dependent on imported food which is mostly brought into the country by the river steamers from Serajgunge and Dacca. The coolies, Bengalees, and other foreign residents in Assam all consume imported rice, but this is due, not so much to the circumstance that a sufficient quantity of rice is not raised in the province, as to the existence of a prejudice, or, as the Commissioner says it may be, "a well-founded objection, derived from experience," against the use of Assamese rice by any but native-born Assamese. There is also a steady import into Assam from Goalparah. The dealers of Goalparah recently gave in returns to show that over 500,000 maunds of rice were imported from Bengal into that district, and no doubt nearly the whole of this passes on into Assam. The import into the tea districts of the province may probably decrease in time and as cultivation spreads, but at present it is probably not much short of three quarters of a million maunds. Among the mountainous tracts, the Khassiah Hills import largely. The supply is derived from Mymensingh and Sylhet, and is estimated by the Deputy Commissioner to amount to four or five hundred thousand maunds in the year. In the Garrow Hills the rice, as a rule, suffices for the wants of the people; only in time of scarcity they import from the plains of Mymensingh and Goalparah. The head-quarters station of Tura is reported to be entirely dependent on the plains for its supplies. During the present season of anxiety it is fortunate that the rice harvests in Assam have been fairly good, and exports from the province, instead of imports, have this year taken place.

The Cooch Behar division imports on the whole, but very slightly it is said, and the district of Julpigoree exports in small quantities. Goalparah imports from Rungpore, Mymensingh and even from Serajgunge, but the imports are, as has been intimated, mostly passed on to Assam. The district supports itself. Cooch Behar districts imports inconsiderably from the same sources, and exports a little by land carriage to the Doonah. Into Darjeeling, rice is imported from the Terai, but the largest share of the station supplies is imported or passed on from Kishengunge in Purneah and from Julpigoree, Rungpore, and Dinagepore.

The importation of rice into Behar is large; and rice is a principal food crop in Behar, though among the poorer classes and especially in the district of Sarun, maize and barley are in a great degree the food of the people. It may be roughly stated, that in Behar ordinary cultivators eat their meal, half rice and the other half in cereals, millet, or pulses.

The emporium of the up-country trade is Patna. The city of Patna has been described as a centre for collection and distribution; and its position on the Railway and on the Ganges just where the Ganges, Gogra, Gunduck, and Soane become united, and where the traffic branches off to Nepal, gives it in this respect great advantages.

The Ganges borne river traffic with Behar is now registered by Government at Sahebgunge, an important mart east of Bhaugulpore and to the extreme north of the Sonthal Pergunnahs. Sahebgunge is most favourably situated as the place of registry, above the point where the most westerly of the Ganges mouths leaves the main stream for the sea and below the junction with the Ganges of all the great tributaries that flow through the Behar districts. During the year 1872 the chief despatches of rice registered at Sahebgunge were:—

	Maunds.
From the Maldah and Dinagepore districts, about	1,500,000
Rajshahye district, about	320,000
Dacca and its neighbourhood, about	420,000
Moorsheadabad district, about	320,000
Rice from Central and Eastern Bengal was most largely consigned to—	
	Maunds.
Mirzapore, which took about	110,000
Benares, " " "	300,000
The Ghazeeepore district, which took about	760,000
Tirhoot and Sarun districts took about	580,000
Patna district took about	760,000

These quantities, as was remarked in the Government Resolution, seem large, but after all 1,340,000 maunds of rice is comparatively an insignificant contribution to the food-supplies of the thirteen millions of people in the Patna division, and would barely feed one-third of a million of people for one year. In point of fact the river traffic is doubtless much larger than has been registered; the year 1872 was the first year of registration, and the arrangements were not altogether complete and will be improved by experience; but under any circumstances it is to be feared that the figures will always give an under-statement of the full importation. It is impossible to entirely stop the system of bribery, for in the first place the boatmen and manjees dislike been stopped and overhauled and would always sooner pay something to avoid it, while the threat even of disturbing the cargo to measure the boat would be quite enough to make the owner give a present to avoid the annoyance and damage that would be caused to him; and again at a place like Sahebgunge many boats may go by with a favourable wind during the rains without the possibility of their being brought to. These facts have been pointed out by Mr. W. LeF. Robinson, the Magistrate of the Dinagepore district, who has also shown by an interesting examination of the up-country traffic derived from the merchants' account of the large marts of that district, that the Dinagepore exports are much larger than have been registered. The Sahebgunge returns register an up-country export of 969,575 maunds from Dinagepore. Mr. Robinson, however, shows that from six marts on the Poornabubha river alone, the up-country exports amounted in 1872 to 985,000 maunds, and this does not include the large mart of Raigunge on the Kooleck, whence the exports are about 700,000 maunds, "to say nothing of Kalkamara, Assanee, and other marts on the Taugua, Poonabubha, and other smaller streams which all lead to the Mahanuddee and so to the North-West." The Magistrate of Purneah also has drawn attention to the fact that the large consignments of rice which come down the Koossee river and go up-country to Behar and the North-Western Provinces necessarily escape registration as they enter the Ganges above that place. Even, however, with these defects, it must be admitted the results of the Sahebgunge registration are most valuable and interesting, and have thrown a flood of light on matters of which we were previously in the greatest ignorance. They give an approximate clue to the importations and exportations between Bengal and Upper India such as we never before possessed, and experience and care in registration will go far to remedy the defects which were indeed inevitable on a first experiment. It is, it may be said, a matter of surprise and congratulation that the returns are so valuable as they really are.

The imports of rice into Behar and the North-Western Provinces by Railway are more difficult to calculate, as the traffic returns of the East Indian Railway do not record this information in a very intelligible shape. Altogether, it is apparent that the up traffic of this line in rice during 1872 amounted to about two millions of maunds, but it is not apparent what amount of this was destined for the Patna division, and the intermediate stations, and how much was consigned to the Upper Provinces. Roughly speaking, as far as can be gathered from the statements, it may be concluded that about half this amount was for Behar and half for the North-West. This impractical nature of the East Indian Railway returns is much to be regretted; and their defects are the less excusable as the returns of the Great Indian Peninsular Railway are perfectly clear and well arranged. Perhaps in future years the statements of other Railway traffic may be assimilated to these. The Lieutenant-Governor of Bengal, as we are told in the resolution on the Sahebgunge traffic, "has submitted to the Government of India a statement of the traffic returns he would wish to receive and have published for general information regarding the East Indian Railway and Eastern Bengal and Mutlah Railways." We may next year expect more information on the subject of the movement of food-grains by rail.

The districts of the Bhaugulpore division generally support themselves with rice and export rather than import. The produce of Monghyr and Bhaugulpore is inferior and scarcely ever finds its way into Bengal. In former years, however, large quantities of rice have been exported westwards from these districts by rail and by boat, but in 1872, for some reason which is not explained, the exportation was next to nothing. Purneah, which in all respects is more of a Bengal district than the other parts of the division, exports both to Calcutta and the up-country markets. There is also a rice trade from Purneah into Darjeeling. There is usually a very large importation of rice into the northern part of the Bhaugulpore district from Nepal.

The vast and wealthy district of Tirhoot both exports and imports rice. The northern subdivisions of Seetamurhee, Mudhubunnee, and Durbhungha, bordering on Nepal, are extensive rice growing tracts, and export, especially into the districts of Sarun and Shahabad. There is an import into the sudder subdivision and southern parts of the district from Maldah, Bhaugulpore, Monghyr, and Purneah. Rice also comes into Tirhoot from Bengal Proper along the river. Only small quantities are said to be imported from Nepal. Chumparun also ordinarily exports rice, for the most part into Sarun, Patna, and Tirhoot. Food, on the other hand, is largely imported into the over-populated district of Sarun even in ordinary years. A large quantity of rice finds its way from Tirhoot, Chumparun, and Nepal, and a smaller quantity comes by the river from Central and Eastern Bengal to Revelgunge, Dooreegunge, and one or two other large marts on the Gunduck and Ganges, whence it is distributed into the district. The Ganges traffic returns give 361,520 maunds of rice imported into Sarun. The Magistrate considers that this is below the usual import. He states that from four to five hundred thousand maunds are annually landed at Revelgunge alone, "and if to this be added the amount received at other places, it appears likely that the ordinary imports from down country must equal nearly six lakhs per annum." It is estimated that from 15 to 20 lakhs of maunds of rice are imported into the Sarun district from the Nepal Terai. Shahabad imports rice from Gya and Palamow and also from Bengal. The imports are usually not very large. The Patna district imports and exports. The south-east part of the district, comprising the Behar subdivision, exports, the remainder of the district imports rice, chiefly from Bengal. The Patna district is, as a rule, not dependent on outside places for its sustenance, and it has large marts of its own most conveniently situated in respect of rail and river communication for obtaining supplies when required. In ordinary years the rice crop grown in the Gya district is sufficient for the consumption of the people, and exports and imports are inconsiderable. In the present year and when there is scarcity the merchants import their rice from Patna.

The traffic in rice in the Chota Nagpore division is inconsiderable. The extensive district of Lohardugga exports somewhat into Behar, the district of Singhbhum in the south-east of the division also exports slightly, Maunbhoom exports eastward to Bangoora and westward to Hazareebagh, but all these transactions are insignificant. "Articles of commerce are still conveyed chiefly on the backs of pack bullocks," though carts are coming into use where roads are opened out; but the means of communication in Chota Nagpore are very deficient. Many new provincial roads in the division are now under active construction.

In conclusion, it may be convenient to summarize briefly the generalisations we have arrived at in the course of this article. We have given the principal directions and quantities of the traffic of rice in Bengal as follows:—

	Maunds.
Exports from Bengal into Calcutta for export by sea	10,000,000
Exports from Bengal into Calcutta for consumption in the metropolis and its environs	7,000,000
Exports from Lower, Central, and Eastern Bengal into Behar and the N.-W. P. for consumption—(Behar $3\frac{1}{2}$ million and the N.-W. P. $2\frac{1}{2}$ million maunds)	6,000,000
Exports from the Soonderbuns and Chittagong by sea	3,000,000
Exports from Orissa by sea other than into Bengal Ports	500,000
Exports from Bengal into Assam	1,000,000
Total	27,500,000

Or, in another form, out of the surplus produce of the rice districts of Bengal sixteen millions are exported out of the Bengal provinces:—

	Maunds.
From Calcutta by sea	10,000,000
Chittagong, &c., by sea	3,000,000
Orissa by sea	500,000
Into the N.-W. P. inland	2,500,000
Total	16,000,000

And eleven and a-half millions are consumed by the importing tracts within the provinces:—

	Maunds.
By Calcutta, &c.	7,000,000
Behar	3,500,000
Assam	1,000,000
Total	11,500,000

Statement showing the Quantities and Value of Rice (not in the husk) exported to Foreign Countries and to Indian Ports, from each Presidency and Province of British India in each year from 1861-62 to 1872-73.

NOTE.—The figures for 1866-67 in this Statement are for 11 months only; and those for British Burma for 1867-68, 1868-69, and 1869-70 are for Grain and Pulse of all kinds; Rice not being shown separately, under each country, for these years, in the Local Returns.

Presidencies and Provinces from which exported.	TO FOREIGN COUNTRIES.											
	United Kingdom.		France.		Germany.		Mediterranean Ports.		Other Countries in Europe.		North and South America.	
	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£
1861-62.												
Bengal	1,644,179	511,806	311,002	91,077	139,121	50,076	...	...	...	...	372,524	117,656
Sindh	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	...	...	...	...	...	...	...	...	...	...	8,808	1,137
Madras	90,411	23,679	43,152	11,909	...	...	...	...	62,446	10,734	...	...
Brit. Burma.	4,465,964	729,776	159,696	28,127	29,750	4,932	...	...	...	...	...	...
Total...	6,200,554	1,265,261	513,850	131,113	168,871	55,008	...	...	62,446	10,734	376,332	118,793
1862-63.												
Bengal	929,124	331,136	97,074	30,577	98,587	36,690	...	...	...	...	213,775	59,746
Sindh	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	3	1	...	...	...	...	...	...	...	...	...	...
Madras	97,911	27,896	14	6	...	...	...	...	144,671	26,472	18,786	3,636
Brit. Burma.	3,902,743	641,261	33,675	5,307	54,711	9,860	...	...	...	...	...	...
Total...	4,929,781	1,000,294	130,763	35,890	153,098	46,550	...	...	144,671	26,472	232,561	63,382
1863-64.												
Bengal	730,030	245,025	54,694	17,400	27,548	10,344	...	...	...	...	164,954	50,357
Sindh	3	1	...	...	...	...	...	...	...	...	...	...
Bombay	4	5	...	...	...	...	...	...	...	...	...	...
Madras	141,594	38,339	20,317	5,992	...	...	...	...	15,129	7,152	...	...
Brit. Burma.	4,265,545	696,096	132,907	21,849	34,834	6,346	...	...	68,831	12,885	...	...
Total...	5,137,176	979,466	207,918	45,241	62,382	16,690	...	...	81,960	20,037	164,954	50,357
1864-65.												
Bengal	198,914	77,527	20,993	7,679	9,286	4,300	...	...	...	...	148,918	56,140
Sindh	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	6	2	...	...	...	...	...	...	...	...	...	...
Madras	84,884	20,323	3,071	1,198	...	...	...	...	15,076	2,748	...	...
Brit. Burma.	2,992,608	757,961	45,368	9,455	...	...	...	...	96,764	23,352	91,107	25,342
Total...	3,270,412	856,413	69,432	18,332	9,286	4,300	...	...	111,840	26,100	240,025	81,482
1865-66.												
Bengal	428,619	207,990	7,465	4,054	...	...	...	...	...	...	24,110	11,770
Sindh	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	...	...	2,500	1,200	...	...	...	...	...	...	...	...
Madras	8,527	2,654	...	...	...	...	...	...	4,647	2,704	...	...
Brit. Burma.	4,634,711	1,297,183	10,588	2,747	30,588	9,343	...	...	67,989	22,176	17,018	4,935
Total...	5,071,857	1,507,827	20,553	8,001	30,588	9,343	...	...	72,636	24,880	41,128	16,705
1866-67.												
Bengal	257,183	159,804	9,611	5,929	...	...	...	...	...	...	...	...
Sindh	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	2	1	...	...	...	...	...	...	...	...	...	...
Madras	13,714	4,449	7,907	2,830	...	...	...	...	13,266	6,110	...	...
Brit. Burma.	2,856,746	715,168	8,792	1,953	6,092	1,799	...	...	38,839	11,119	23,004	11,946
Total...	3,123,645	879,422	26,310	10,712	6,692	1,799	...	...	52,105	17,229	23,004	11,946
1867-68.												
Bengal	1,752,598	586,389	43,319	12,264	48,330	16,320	...	...	...	...	1,426	399
Sindh	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	...	...	...	...	...	...	...	...	...	...	...	...
Madras	351,020	95,476	46,666	12,272	...	...	...	...	12,101	5,500	...	...
Brit. Burma.	4,432,838	1,092,946	100,206	22,292	72,295	19,903	...	...	34,939	10,517	22,964	4,067
Total...	6,536,456	1,774,811	190,191	46,828	120,625	36,223	...	...	46,140	16,017	24,390	4,466
1868-69.												
Bengal	842,807	276,712	28,696	10,688	...	...	...	...	...	...	36,926	15,048
Sindh	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	...	...	...	...	...	...	...	...	...	...	...	...
Madras	232,332	54,544	27,856	7,993	...	...	...	...	11,162	4,933	...	...
Brit. Burma.	7,291,318	1,722,226	162,057	37,903	173,230	42,509	...	...	31,856	7,525	25,838	5,189
Total...	8,366,457	2,053,482	218,609	56,584	173,230	42,509	...	...	42,518	12,458	62,764	20,237
1869-70.												
Bengal	406,195	165,802	52,987	17,053	...	...	...	...	...	...	65,861	22,011
Sindh	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	...	...	...	...	...	...	...	...	...	...	...	...
Madras	31,353	9,425	4,393	1,125	...	...	...	...	5,311	2,387	...	...
Brit. Burma.	4,880,905	1,116,547	29,379	5,280	110,798	27,169	...	...	14,428	2,700	33,665	7,305
Total...	5,318,453	1,291,774	86,759	23,458	110,798	27,169	...	...	19,739	5,087	99,526	29,316
1870-71.												
Bengal	902,684	280,395	31,918	9,680	9,014	3,165	...	...	...	...	...	...
Sindh	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	2	1	...	...	...	...	...	...	...	...	...	...
Madras	221,006	61,485	51,378	12,763	...	...	...	...	9,921	2,512	...	...
Brit. Burma.	6,876,097	1,560,951	108,721	20,341	211,006	45,536	93,553	21,078	39,064	9,953	...	...
Total...	7,999,789	1,902,832	192,017	42,784	220,020	48,701	93,553	21,078	48,985	12,465	...	...
1871-72.												
Bengal	1,069,173	298,985	23,896	7,131	8,434	3,651	...	...	...	...	26,759	11,152
Sindh	...	...	...	...	...	...	...	...	...	...	...	...
Bombay	4	3	83	45	...	...	...	...	441	240	...	...
Madras	215,793	59,141	49,023	11,758	...	...	...	...	11,555	4,846	...	...
Brit. Burma.	6,842,885	1,466,108	65,235	12,734	212,639	52,784	29,849	6,675	130,919	28,335	...	...
Total...	8,127,855	1,823,637	138,237	31,668	221,073	56,435	29,849	6,675	142,915	33,521	26,759	11,152
1872-73.												
Bengal	1,108,266	340,753	1,798	409	...	...	6	1	...	...	105,836	26,820
Sindh	31,788	14,988	...	...	...	...	...	...	...	...	...	...
Bombay	7	4	...	...	...	...	162	88	...	...	...	...
Madras	150,231	40,432	8,346	2,137	...	...	...	...	5,621	2,445	...	...
Brit. Burma.	10,654,348	2,296,235	...	...	111,831	21,934	382,499	77,442	195,006	39,737	23,083	6,376
Total...	11,944,640	2,602,412	10,144	2,546	111,831	21,934	382,667	77,531	200,627	42,132	128,919	33,196

Statement showing the Quantities and Value of Rice (not in the husk) exported to Foreign Countries and to Indian Ports, from each Presidency and Province of British India in each year from 1861-62 to 1872-73—continued.

Presidencies and Provinces from which exported.	To FOREIGN COUNTRIES—continued.											
	West Indies.		Mauritius.		Bourbon.		Other Countries in Africa.		Arabian and Persian Gulfs.		Ceylon, Laccadives & Maldives, Andamans & Nicobars (chiefly Ceylon.)	
	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£
1861-62.												
Bengal	126,171	37,985	1,148,407	300,828	816,279	216,266	108,274	42,346	481,036	118,691	1,053,167	245,202
Sindh	...	...	...	...	...	...	...	...	13,223	4,593	...	...
Bombay	...	...	13	5	...	...	201	54	96,570	40,476	210	90
Madras	3,219	1,004	36,995	11,405	54,973	13,954	7,214	2,252	123,218	48,260	924,392	279,366
Brit. Burma.	...	...	188	52	...	...	36	3	...	...	2,429	476
Total...	129,390	38,989	1,185,603	312,290	871,252	230,220	115,725	44,655	714,047	212,020	2,050,198	525,136
1862-63.												
Bengal	104,666	27,847	1,388,896	325,902	631,654	152,448	96,079	33,918	335,292	77,214	1,505,783	346,111
Sindh	...	...	...	...	...	...	...	...	9,884	3,169	...	...
Bombay	...	...	277	95	...	...	3,562	2,872	114,308	46,160	737	900
Madras	5,821	2,385	5,576	1,989	...	...	...	...	92,701	37,194	856,311	289,150
Brit. Burma.	...	...	3,092	578	27	5	...	...	...	...	30,677	5,031
Total...	110,487	30,232	1,392,841	323,564	631,691	152,453	99,641	36,790	552,185	163,737	2,398,508	641,192
1863-64.												
Bengal	89,821	26,010	1,302,303	336,466	756,980	204,777	4,721	1,526	659,202	171,576	1,351,083	317,969
Sindh	...	...	...	...	...	...	...	...	3,067	998	...	...
Bombay	...	...	40	22	...	...	486	268	188,356	91,127	683	368
Madras	12,112	5,154	5,969	1,938	12,196	3,548	8,607	3,270	68,911	35,700	938,639	337,889
Brit. Burma.	...	...	5,227	1,216	...	...	...	...	...	...	15,762	5,024
Total...	101,933	31,164	1,313,539	339,642	769,176	208,325	13,814	5,064	919,536	299,401	2,306,167	658,750
1864-65.												
Bengal	149,871	47,737	1,095,049	347,568	642,179	195,291	54,728	21,423	766,001	252,586	1,556,391	459,957
Sindh	...	...	...	...	...	...	...	...	10,173	4,798	...	...
Bombay	...	...	7,469	3,947	...	...	3,826	2,145	267,867	154,047	4	5
Madras	2,929	1,200	8,205	2,400	16,192	5,935	1,759	667	16,288	8,511	1,045,928	426,695
Brit. Burma.	6,817	1,222	1,844	496	...	...	6,898	1,505	...	...	20,817	5,713
Total...	159,617	50,159	1,112,567	354,411	658,371	201,226	67,211	25,740	1,060,329	419,942	2,623,140	892,370
1865-66.												
Bengal	191,634	93,749	1,328,518	520,377	455,076	184,756	42,291	19,165	644,743	261,940	987,152	356,008
Sindh	...	...	9,317	4,070	...	...	80	35	4,464	1,972	...	...
Bombay	...	...	57,268	28,837	...	...	2,424	1,212	170,219	92,756	9	5
Madras	5,567	2,513	49	17	5,871	2,001	...	...	26,504	14,486	1,048,616	470,476
Brit. Burma.	20,125	5,410	5,021	1,347	...	...	5,554	2,089	...	...	9,233	2,455
Total...	216,726	101,672	1,400,173	554,648	460,947	186,757	50,349	22,501	845,960	371,154	2,045,010	828,944
1866-67.												
Bengal	231,162	140,391	742,723	374,613	329,271	203,644	62,531	38,919	475,879	153,339	954,363	471,667
Sindh	...	...	175	170	...	...	...	...	6,500	3,097	...	...
Bombay	...	...	2,781	1,539	...	...	1,675	894	51,826	29,904	37,897	19,749
Madras	...	...	129,602	67,391	2,709	1,480	...	...	69,244	38,866	943,566	532,277
Brit. Burma.	...	...	88,906	31,515	...	...	...	...	...	...	81,000	27,441
Total...	231,162	140,391	964,187	475,138	331,980	205,124	61,206	39,813	603,449	225,206	2,016,926	1,051,134
1867-68.												
Bengal	370,517	115,404	970,152	304,090	245,062	88,935	46,743	24,135	537,681	153,878	1,178,736	330,829
Sindh	...	...	...	...	...	...	...	...	8,246	3,511	...	...
Bombay	...	...	...	...	...	...	2,811	1,371	157,203	87,054	36	25
Madras	...	...	7,763	2,993	28,388	8,809	...	...	40,348	13,458	1,082,188	477,844
Brit. Burma.	...	...	9,427	2,910	...	...	...	...	...	...	108,682	29,461
Total...	370,517	115,404	987,342	309,993	273,450	97,744	49,554	25,506	743,478	257,901	2,860,642	838,159
1868-69.												
Bengal	241,376	86,842	1,288,140	402,285	306,459	90,524	61,698	23,977	673,030	235,616	1,461,904	406,936
Sindh	...	...	...	...	...	...	...	...	5,406	2,250	...	...
Bombay	...	...	372	222	...	...	19,908	10,508	220,470	118,106	...	...
Madras	5,833	2,366	20,309	4,277	53,616	15,777	3,088	738	49,960	22,342	1,177,701	493,739
Brit. Burma.	...	...	...	...	...	...	...	...	...	...	71,261	13,518
Total...	247,209	89,208	1,308,821	406,784	360,075	104,301	84,694	35,223	948,866	378,314	2,710,866	914,193
1869-70.												
Bengal	283,926	97,913	858,148	278,277	195,129	61,250	27,529	9,495	521,740	149,337	1,335,202	384,401
Sindh	...	...	...	...	...	...	...	...	4,060	1,664	...	...
Bombay	...	...	25,580	9,086	...	...	7,568	4,081	191,792	102,940	149	81
Madras	...	...	8,798	2,801	...	...	...	...	33,070	15,722	1,092,360	428,132
Brit. Burma.	...	...	32,435	13,915	...	...	...	...	...	...	64,116	11,349
Total...	283,926	97,913	924,961	304,079	195,129	61,250	35,097	13,576	750,662	269,663	2,491,827	823,963
1870-71.												
Bengal	368,282	112,110	1,262,613	374,867	527,921	157,626	58,526	21,033	666,714	182,249	898,718	240,158
Sindh	...	...	...	...	...	...	...	...	16,098	6,507	...	...
Bombay	...	...	60	33	...	...	26,791	13,693	345,646	170,234	6	3
Madras	...	...	38,028	12,395	11,269	3,712	...	...	46,028	18,972	1,368,009	523,563
Brit. Burma.	...	...	...	...	...	...	...	...	...	...	25,764	5,220
Total...	368,282	112,110	1,300,701	387,295	539,190	161,338	85,317	34,726	1,074,486	377,962	2,292,497	768,884
1871-72.												
Bengal	414,519	117,502	1,104,814	307,741	244,386	63,954	40,179	13,329	930,253	254,272	719,742	175,585
Sindh	...	...	...	...	...	...	468	166	51,783	20,052	...	...
Bombay	...	...	...	...	...	...	19,539	10,049	477,212	273,773	...	...
Madras	...	...	11,333	3,299	21,851	6,333	4,519	1,605	113,593	45,363	1,699,260	626,851
Brit. Burma.	...	...	4,480	917	...	...	...	...	...	...	35,647	5,983
Total...	414,519	117,502	1,120,647	311,957	266,237	70,287	64,705	25,139	1,572,841	593,460	2,454,649	808,419
1872-73.												
Bengal	577,748	175,548	2,422,920	641,565	144,186	40,746	111,209	40,824	710,046	195,425	1,415,033	327,707
Sindh	...	...	...	...	...	...	...	...	47,712	15,322	...	...
Bombay	...	...	...	...	...	...	28,344	14,390	328,176	167,528	447	244
Madras	2,588	1,060	12,115	4,916	4,050	1,327	782	421	30,399	12,310	1,622,410	693,513
Brit. Burma.	11,437	4,880	...	...	...	...	89	18	46,287	9,375	11,162	2,161
Total...	591,773	181,488	2,435,935	646,511	148,236	42,073	140,424	55,653	1,162,620	400,560	3,049,052	903,625

Statement showing the Quantities and Value of Rice (not in the husk) exported to Foreign Countries and to Indian Ports, from each Presidency and Province of British India in each year from 1861-62 to 1873-74—continued.

Presidencies and Provinces from which exported.	To FOREIGN COUNTRIES—continued.											
	Straits Settlements.		China.		Japan.		Other Countries in Asia.		Australasia.		Total to Foreign Ports.	
	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£
1861-62.												
Bengal	62,302	14,464	378,297	96,906	...	...	59	16	182,964	81,539	6,823,782	1,924,858
Sindh	...	...	...	...	...	...	...	...	...	...	13,223	4,593
Bombay	...	...	5,616	2,081	...	...	...	...	...	...	102,610	42,706
Madras	...	...	...	...	...	...	...	...	4	1	1,357,386	392,967
Brit. Burma.	596,855	116,142	82,116	12,145	...	...	14,904	2,540	...	...	5,414,444	904,929
Total...	659,157	130,606	466,029	111,182	...	...	15,023	2,556	182,968	81,540	13,711,445	3,270,063
1862-63.												
Bengal	167,999	35,567	2,297,177	576,009	...	...	62,929	15,215	232,916	89,708	8,155,861	1,938,088
Sindh	...	...	...	...	...	...	...	...	...	...	9,894	3,169
Bombay	1,187	566	3,330	1,277	...	...	...	...	...	...	125,404	51,871
Madras	1,027	377	...	...	...	...	...	...	272	170	1,059,533	359,167
Brit. Burma.	1,200,229	294,228	68,304	11,707	...	...	72,813	12,796	6,112	1,458	5,535,340	1,012,339
Total...	1,369,542	330,738	2,368,811	588,993	...	...	135,242	28,011	239,300	91,386	14,884,122	3,864,634
1863-64.												
Bengal	198,955	47,188	2,163,524	558,488	...	...	54	14	272,406	109,533	7,776,275	2,096,673
Sindh	...	...	...	...	...	...	...	...	...	...	3,070	999
Bombay	...	...	40	24	...	...	...	...	...	...	189,609	91,814
Madras	455	167	...	...	...	...	...	...	...	...	1,221,929	438,649
Brit. Burma.	2,081,401	490,299	334,425	67,898	...	...	56,678	8,442	4,386	1,531	6,999,996	1,309,686
Total...	2,280,811	537,654	2,497,989	626,410	...	...	56,732	8,456	276,792	111,064	16,190,879	3,937,721
1864-65.												
Bengal	291,558	90,002	2,935,325	961,967	...	...	...	...	199,435	88,579	8,068,648	2,610,756
Sindh	...	...	...	...	...	...	...	...	...	...	10,173	4,798
Bombay	...	...	36,902	16,934	...	...	...	...	...	...	816,074	176,430
Madras	571	240	9,884	4,441	...	...	...	...	2,625	1,158	1,207,412	476,116
Brit. Burma.	2,526,296	742,294	1,534,317	457,560	...	...	58,204	14,772	6,999	2,400	7,387,039	2,042,072
Total...	2,818,425	832,536	4,516,428	1,440,302	...	...	58,204	14,772	208,059	92,187	16,989,346	5,310,222
1865-66.												
Bengal	128,642	48,967	670,589	258,971	...	...	...	...	195,099	71,180	5,103,338	2,038,927
Sindh	...	...	...	...	...	...	...	...	...	...	13,861	6,077
Bombay	...	...	39,531	18,363	...	...	...	...	...	...	271,951	142,373
Madras	491	201	...	...	...	...	...	...	665	355	1,100,987	495,407
Brit. Burma.	1,661,055	534,886	1,071,476	330,916	...	...	62,344	15,968	...	...	7,595,702	2,229,455
Total...	1,790,188	584,054	1,781,596	608,250	...	...	62,344	15,968	195,764	71,535	14,085,789	4,912,289
1866-67.												
Bengal	26,713	11,585	485	355	...	...	...	...	121,129	75,723	3,207,150	1,635,969
Sindh	...	...	...	...	...	...	...	...	...	...	6,675	3,287
Bombay	...	...	9	5	...	...	...	...	...	...	94,190	52,092
Madras	1,080	485	...	...	...	...	...	...	...	...	1,181,088	659,798
Brit. Burma.	365,860	103,650	46,705	14,899	...	...	71,861	17,729	...	...	3,588,405	937,219
Total...	393,653	115,720	47,199	15,259	...	...	71,861	17,729	121,129	75,723	8,077,508	3,282,345
1867-68.												
Bengal	43,958	13,328	11,951	3,514	...	...	...	...	127,366	47,743	5,377,899	1,697,228
Sindh	...	...	...	...	...	...	...	...	...	...	8,246	3,511
Bombay	...	...	...	...	...	...	...	...	...	...	160,050	88,450
Madras	...	...	...	...	...	...	87	47	...	...	1,568,561	616,899
Brit. Burma.	303,146	72,121	...	...	...	...	14,131	3,823	...	...	5,097,728	1,258,045
Total...	347,104	85,449	11,951	3,514	...	...	14,218	3,875	127,366	47,743	12,212,424	3,663,633
1868-69.												
Bengal	40,913	12,687	959	445	...	...	2,502	851	99,474	35,746	5,084,884	1,697,867
Sindh	...	...	...	...	...	...	...	...	...	...	5,406	2,250
Bombay	18	16	...	...	...	...	...	...	...	...	240,768	128,852
Madras	508	208	...	...	...	...	617	227	...	...	1,582,982	605,144
Brit. Burma.	251,160	53,927	...	...	...	...	18,326	4,399	...	...	8,024,546	1,887,196
Total...	292,599	66,838	959	445	...	...	21,445	4,977	99,474	35,746	14,938,686	4,221,299
1869-70.												
Bengal	17,711	6,073	16,869	5,369	...	...	367	141	20,698	15,953	3,801,862	1,213,075
Sindh	...	...	...	...	...	...	...	...	...	...	4,060	1,664
Bombay	7	9	...	...	...	...	...	...	...	...	225,096	116,197
Madras	...	...	...	...	...	...	557	212	...	...	1,176,842	459,804
Brit. Burma.	247,673	65,271	...	...	...	...	6,856	5,548	...	...	5,420,255	1,255,084
Total...	265,391	71,353	16,869	5,369	...	...	7,780	5,901	20,698	15,953	10,627,115	3,045,824
1870-71.												
Bengal	42,789	12,324	63,770	19,247	...	...	24	9	65,349	24,047	4,898,322	1,436,910
Sindh	...	...	...	...	...	...	...	...	...	...	16,038	6,507
Bombay	...	...	14	10	...	...	...	...	...	...	372,519	183,874
Madras	1,231	496	...	...	...	...	1,174	369	...	...	1,746,044	636,207
Brit. Burma.	735,873	171,166	65,863	13,461	34,500	8,344	52,659	10,512	...	...	8,243,100	1,866,562
Total...	779,893	183,986	129,647	32,718	34,500	8,344	53,857	10,890	65,349	24,047	15,278,033	4,130,160
1871-72.												
Bengal	54,899	13,493	288,608	83,644	...	...	693	229	129,881	58,442	5,056,236	1,413,510
Sindh	...	...	...	...	...	...	...	...	...	...	52,251	20,208
Bombay	19	11	...	...	...	...	...	...	...	...	497,806	284,125
Madras	1,176	371	...	...	...	...	213	79	...	...	2,128,836	759,646
Brit. Burma.	1,747,210	387,079	81,953	17,553	...	...	80,839	16,325	...	...	9,281,656	1,994,593
Total...	1,803,904	400,954	370,561	106,197	...	...	81,745	16,633	129,889	58,444	16,965,785	4,472,082
1872-73.												
Bengal	42,197	11,655	201,470	57,406	...	...	173,361	50,536	87,001	44,751	7,101,077	1,954,146
Sindh	...	...	...	...	...	...	...	...	...	...	79,500	30,310
Bombay	...	...	16	10	...	...	...	...	...	...	537,152	182,264
Madras	1,145	456	...	...	...	...	31	11	...	...	1,837,718	699,658
Brit. Burma.	1,708,945	370,750	246,898	54,741	...	...	225,884	53,293	1,817	369	13,619,266	2,847,311
Total...	1,752,287	382,861	448,384	112,157	...	...	399,276	103,840	88,818	45,130	22,994,733	5,713,689

Statement showing the Quantities and Value of Rice (not in the husk) exported to Foreign Countries and to Indian Ports, from each Presidency and Province of British India in each year from 1861-62 to 1872-73—concluded.

Presidencies and Provinces from which exported.	To Indian Ports.*														Grand total to Foreign and Indian Ports.	
	Bengal.		Bombay.		Sindh.		Madras.		British Burmah.		Indian Ports not British.		Total to Indian Ports.			
	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£
1861-62.																
Bengal	...	...	526,453	151,782	16,203	6,172	795,778	175,156	5,926	969	87,281	9,672	1,381,041	343,751	8,205,423	2,268,609
Sindh	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60,513	14,820
Bombay	...	...	...	...	...	...	31,495	10,609	...	...	94,456	87,043	125,951	47,546	228,561	90,352
Madras	76	31	52,022	20,118	4,558	1,859	...	...	335	114	88,687	34,653	145,678	56,775	1,598,064	449,742
Brit. Burmah	455	126	733	148	...	...	64,041	10,300	...	...	...	...	65,229	10,574	5,479,673	915,603
Total...	581	157	579,208	172,048	20,761	8,031	891,314	196,059	6,261	1,083	267,714	91,595	1,765,789	468,973	15,477,234	3,739,026
1862-63.																
Bengal	...	...	484,561	149,379	...	...	965,292	187,824	4,407	843	31,021	5,631	1,485,281	343,677	9,041,142	2,281,765
Sindh	...	...	...	...	...	...	...	...	...	...	60,629	17,283	60,629	17,283	70,613	20,455
Bombay	...	...	...	...	...	...	38,429	13,740	...	...	76,678	35,781	115,102	49,521	288,506	101,892
Madras	165	52	95,500	36,035	...	...	...	...	1,491	509	92,477	35,735	189,633	72,331	1,249,266	431,498
Brit. Burmah	1,019	238	420	80	...	...	48,146	9,442	...	...	...	...	49,585	9,700	5,584,925	1,022,699
Total...	1,184	290	580,481	185,494	...	...	1,051,867	211,006	5,898	1,352	260,800	94,480	1,900,230	492,572	16,784,352	3,857,206
1863-64.																
Bengal	...	...	2,781,407	922,439	17,040	7,306	705,818	160,638	190,266	47,499	51,044	14,340	3,745,070	1,152,222	11,521,345	3,248,895
Sindh	...	...	...	...	...	...	...	...	...	...	61,576	25,584	61,576	25,584	61,646	26,583
Bombay	...	...	...	...	...	...	23,949	10,812	...	...	366,040	188,535	389,989	199,347	579,598	201,161
Madras	4	1	130,223	55,474	2,397	1,213	...	...	1,527	521	175,139	88,562	309,290	155,771	1,531,219	594,420
Brit. Burmah	477	109	205,835	56,989	...	...	150,482	19,632	...	...	...	...	356,794	75,730	7,566,770	1,885,316
Total...	481	110	3,117,465	1,043,902	19,437	8,519	879,744	191,082	191,793	48,020	653,799	317,021	4,862,719	1,608,654	21,053,593	5,546,375
1864-65.																
Bengal	...	...	4,508,821	1,662,719	105,386	38,719	1,185,741	240,672	23,684	3,549	14,543	4,761	5,888,175	1,950,420	18,906,823	4,561,176
Sindh	...	...	...	...	...	...	...	...	...	...	75,420	34,384	75,420	34,384	85,593	39,182
Bombay	...	...	...	...	...	...	67,139	35,894	...	...	315,871	174,636	383,010	210,530	699,084	387,010
Madras	241	84	146,205	77,408	1,478	844	...	...	732	253	122,911	63,124	271,567	141,713	1,478,979	617,829
Brit. Burmah	2,277	394	223,703	70,961	...	...	112,344	22,972	...	...	4,961	1,395	843,285	95,722	7,730,324	2,137,794
Total...	2,518	478	4,878,729	1,811,088	106,864	39,563	1,365,224	299,538	24,416	3,802	533,708	278,300	6,311,457	2,432,769	23,900,803	7,742,991
1865-66.																
Bengal	...	...	1,040,299	501,449	9,720	2,967	560,647	177,203	2,232	776	8,000	3,658	1,620,898	686,053	6,724,236	2,794,380
Sindh	...	...	...	...	...	...	5	2	...	...	73,317	32,948	73,322	32,950	87,183	39,027
Bombay	...	...	...	...	...	...	20,700	9,514	...	...	201,270	100,412	221,970	109,926	469,921	252,299
Madras	13	6	157,129	80,190	85	46	...	...	1,174	529	183,553	86,841	341,954	167,642	1,442,891	663,019
Brit. Burmah	1,363	431	119,948	33,433	...	...	166,070	31,710	...	...	...	...	287,381	65,574	7,883,082	2,296,029
Total...	1,376	437	1,317,376	615,072	9,805	3,013	747,422	218,429	3,406	1,305	466,140	228,859	2,545,525	1,062,115	16,631,314	5,974,354
1866-67.																
Bengal	...	...	988,742	511,662	...	...	249,603	132,372	7,414	2,581	288	182	1,246,047	646,797	4,453,167	2,282,766
Sindh	...	...	...	...	...	...	38,582	15,965	...	...	...	...	38,582	15,965	45,257	19,232
Bombay	...	...	...	...	...	...	19,743	11,580	...	...	85,656	51,372	105,406	62,966	195,596	115,048
Madras	39,112	18,049	169,089	96,397	30	17	...	...	926	489	119,788	69,264	328,945	181,216	1,510,033	838,014
Brit. Burmah	272,064	94,022	188,817	51,802	...	...	159,520	35,441	...	...	...	...	620,201	181,325	4,208,606	1,118,544
Total...	311,183	112,075	1,346,648	659,921	30	17	467,248	195,358	8,340	3,070	205,732	120,818	2,839,181	1,091,259	10,416,689	4,378,604
1867-68.																
Bengal	...	...	1,225,039	461,050	...	...	441,534	85,552	933	280	3,983	1,115	1,671,489	547,997	7,049,828	2,345,225
Sindh	...	...	...	...	...	...	...	...	...	...	90,025	36,961	90,025	36,961	98,271	40,472
Bombay	...	...	...	...	...	...	17,614	6,902	...	...	127,904	77,328	145,526	84,294	305,576	172,684
Madras	593	176	160,530	74,154	...	...	...	...	706	338	3,074	807	164,903	75,475	1,733,464	691,874
Brit. Burmah	1,157,907	112,362	402,166	32,227	...	...	1,434,213	102,074	...	...	...	...	2,994,286	246,663	8,092,014	1,504,708
Total...	1,158,500	112,538	1,787,735	567,431	8	4	1,893,361	194,528	1,630	618	224,986	116,211	5,066,229	991,330	17,278,653	4,654,963
1868-69.																
Bengal	...	...	2,111,706	795,728	...	...	517,614	156,271	2,346	726	15,732	5,525	2,647,398	958,259	7,732,282	2,556,107
Sindh	...	...	148,866	54,872	...	...	290	104	...	...	...	...	149,156	54,976	154,562	57,226
Bombay	...	...	...	...	...	...	16,480	6,899	...	...	159,069	90,411	175,561	97,820	416,329	226,172
Madras	42	17	177,565	85,258	188	106	...	...	964	369	640	215	179,899	85,965	1,762,881	691,109
Brit. Burmah	17,482	4,616	124,504	53,369	...	...	738,515	110,148	...	...	...	...	880,501	168,133	8,966,017	2,055,329
Total...	17,524	4,633	2,562,641	989,227	200	116	1,272,899	273,422	3,310	1,095	175,441	96,151	4,032,015	1,364,644	18,970,601	5,585,943
1869-70.																
Bengal	...	...	2,835,914	1,044,105	...	...	822,475	227,396	855	383	...	...	3,659,244	1,271,881	7,461,106	2,484,989
Sindh	...	...	78,925	32,932	...	...	121	59	...	...	...	...	79,046	32,991	88,106	34,656
Bombay	...	...	...	...	...	...	11,228	5,910	...	...	209,727	112,054	260,216	134,385	475,312	250,582
Madras	26	12	295,712	129,679	81	45	...	...	602	243	5,787	2,126	302,208	132,105	1,478,050	591,909
Brit. Burmah	77,736	17,329	551,511	111,227	...	...	672,259	101,636	...	...	...	...	1,801,506	620,192	6,721,761	1,485,276
Total...	77,762	17,341	3,762,062	1,317,948	29,342	16,466	1,506,083	335,001	1,457	626	215,514	114,180	5,592,220	1,801,557	16,219,335	4,847,381
1870-71.																
Bengal	...	...	2,922,376	995,949	...	...	770,436	168,124								

Price of ordinary common Rice in the Districts of the BURDWAN Division, in so many seers of 80 tolas each per rupee.

BURDWAN DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1862*	30	36	37	37	35	33	30	33	33	33	35	34	
1863*	35	35	35	35	34	34	31	33	33	32	32	33	
1864*	33	33	32	32	30	25	19	21	22	21	19	25	
1865*	20	20	20	19	19	20	17	17	17	12	12	16	17
1866	13	12	12	12	11	9	9	7	8	8	8	11	
1867	17	17	19	18	19	20	20	22	26	27	31	37	22
1868	33	32	30	31	28	27	24	24	24	22	24	19	26
1869	21	21	23	21	20	17	17	18	18	22	22	20	
1870	25	26	26	26	23	23	22	18	22	21	22	26	23
1871	35	27	26	27	27	26	22	24	26	...	25	24	26
1872	29	27	...	22	22	21	23	21	22	21	23	23	23
1873	19	22	20	24	26	19	17	17	21	17	15	15	19

BANCOORAH DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1862*	32	31	31	31	33	33	33	32	33	33	31	31	32
1863*	31	34	33	35	34	34	33	33	32	32	31	31	33
1864*	32	32	32	33	34	34	33	32	31	30	29	26	31
1865*	25	26	26	25	22	22	20	21	21	15	13	15	21
1866	15	13	12	11	10	7	6	6	5	15	17	20	11
1867	21	20	20	21	22	22	21	22	27	30	31	33	24
1868	32	32	33	33	33	33	27	25	25	25	26	26	29
1869	22	22	23	25	25	23	21	23	22	20	22	23	23
1870	25	25	24	25	25	24	22	22	24	22	24	26	24
1871	26	27	27	27	25	24	...	26	...	...	22	28	26
1872	28	29	...	22	22	19	14	15	15	16	19	20	20
1873	20	20	20	20	20	19	16	17	14	16	14	...	18

BEERBOOM DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	...	...	...	...	...	...	...	28	27	27	28	...	
1865	23	28	28	25	22	24	30	27	24	22	13	14	23
1866	10	11	11	12	12	9	8	8	8	9	14	21	11
1867	21	21	20	20	18	20	24	24	25	31	36	39	25
1868	35	33	35	34	34	30	24	22	25	25	22	20	28
1869	19	19	18	19	19	16	16	15	16	21	21	24	19
1870	22	24	25	25	22	24	23	24	24	21	25	32	24
1871	25	31	33	32	29	31	28	30	28	29	30	27	29
1872	29	29	...	27	23	19	19	21	21	19	24	24	23
1873	24	24	24	24	21	18	18	20	20	16	13	14	19

MIDNAPORE DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1862*	37	37	37	36	35	35	34	34	34	36	38	36	
1863*	38	38	37	36	36	36	26	26	26	38	38	33	
1864*	37	37	37	26	26	22	22	21	19	20	20	26	
1865*	23	22	21	21	21	20	10	16	16	13	13	14	17
1866	11	11	10	10	...	8	7	6	9	10	24	22	11
1867	22	20	19	19	20	21	23	25	28	32	32	40	25
1868	36	34	34	31	32	26	24	22	22	22	22	27	
1869	17	17	20	20	18	18	15	15	15	18	24	18	
1870	24	24	26	25	25	25	24	23	24	25	28	32	25
1871	...	28	26	26	25	25	...	22	24	22	24	24	
1872	24	27	...	22	21	22	22	21	22	22	26	26	23
1873	26	24	24	25	26	25	25	24	25	24	18	19	23

HOOGHLY DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1862*	33	32	31	31	31	31	31	31	30	30	30	31	
1863*	32	32	30	30	30	30	30	27	30	30	26	30	
1864*	18	20	18	29	26	30	20	20	22	20	18	18	21
1865*	13	11	12	17	16	16	15	16	13	12	12	14	
1866	12	12	12	11	11	9	7	8	8	14	17	11	
1867	16	14	16	16	16	17	19	19	21	23	22	24	18
1868	25	21	22	21	20	21	19	18	18	19	18	15	19
1869	14	15	14	18	19	15	15	16	15	16	17	18	16
1870	20	20	20	18	20	20	20	19	19	22	22	21	20
1871	19	20	20	20	20	20	20	22	23	...	17	17	20
1872	15	20	...	30	20	19	20	19	20	18	18	18	20
1873	17	16	15	18	19	19	18	18	19	18	11	12	16

HOWRAH DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1862*	20	20	21	22	23	23	23	22	25	25	25	26	23
1863*	26	26	26	26	24	24	24	24	24	26	26	23	25
1864*	23	23	23	23	22	20	18	19	18	17	17	17	20
1865*	17	17	17	17	17	17	16	16	14	12	12	15	
1866	13	11	12	10	12	9	8	7	10	8	10	7	10
1867	16	11	16	14	...	18	19	19	26	22	22	18	
1868	20	26	22	24	24	20	20	18	18	19	19	19	21
1869	19	...	16	16	16	16	16	16	16	16	16	16	16
1870	16	16	16	16	16	16	16	16	16	16	16	16	16
1871	19	19	19	19	19	19	19	19	19	19	19	19	19
1872	19	19	...	18	18	18	18	18	18	18	18	18	18
1873	20	22	22	22	20	20	20	20	20	19	13	13	19

Price of ordinary common Rice in the Districts of the PRESIDENCY Division, in so many seers of 80 tolas each per rupee.

24-PERGUNNAHS.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1862	20	20	19	19	18	18	18	18	18	18	19	20	18
1863	20	20	18	18	18	18	18	18	16	16	20	20	18
1864	18	18	18	16	16	16	16	16	16	19	20	20	17
1865	23	22	21	21	21	20	10	16	16	13	12	16	17
1866	13	10	11	11	10	10	8	7	8	7	9	15	10
1867	12	13	14	13	15	18	18	19	20	22	20	26	17
1868	20	21	20	24	21	21	18	18	18	20	18	16	19
1869	18	19	19	20	20	18	16	17	17	17	19	21	19
1870	20	20	21	18	18	18	20	20	20	22	24	24	21
1871	25	21	21	21	20	20	20	26	...	20	20	20	20
1872	22	22	...	...	16	20	17	16	17	17	18	17	18
1873	17	18	...	...	20	18	19	18	19	20	13	12	18

NUDDEA DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1862	29	29	29	29	30	27	27	26	28	27	29	28	29
1863	28	28	28	28	28	27	26	24	24	26	23	24	26
1864	30	30	26	25	25	22	22	24	20	20	19	24	
1865	17	15	13	13	13	11	10	11	10	10	14	14	13
1866	13	12	12	11	11	9	8	10	11	12	12	21	12
1867	14	13	14	14	16	16	17	18	21	26	26	26	19
1868	24	25	26	24	25	23	22	24	22	20	20	19	23
1869	22	22	22	22	18	17	16	20	17	18	20	19	23
1870	18	20	21	20	19	19	20	17	18	20	21	22	19
1871	22	22	22	22	19	21	20	29	29	23	22	23	23
1872	22	21	...	19	18	21	19	17	17	17	17	20	19
1873	20	20	20	24	18	17	17	17	16	13	12	12	18

JESSORE DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	34	32	30	24	22	18	18	22	20	21	25	25	24
1865	32	21	21	19	18	18	17	18	16	16	13	13	19
1866	13	11	11	11	12	10	9	8	10	11	11	19	11
1867	12	14	15	17	17	20	22	23	30	29	23	27	21
1868	26	26	26	26	24	23	18	22	22	22	22	22	23
1869	22	22	20	21	21	18	15	15	18	18	21	21	19
1870	23	25	26	21	22	21	23	21	23	28	31	29	24
1871	27	25	25	25	25	22	21	26	25	...	23	23	24
1872	22	24	...	24	24	21	25	32	29	26	26	26	25

Price of ordinary common Rice in the Districts of the RAJSHAHYE Division, in so many seers of 80 tolahs each per rupee—continued.

RAJSHAHYE DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	31	30	23½	30	27	24	24	22	24	23	20	22	25
1865	22	22	22	21½	21	20½	18	18½	16½	18	15	15½	19
1866	13½	15	14½	13½	12	9½	9½	12	9	12	12	16½	12
1867	16½	15	15	15	18	18	19	18	17½	20	29	32	19
1868	27	29	27	26½	24	18	22½	24	25	26½	21½	24	24
1869	21	22½	22½	24	25	18½	16½	17½	18½	18	20	20	20
1870	21	23	23	21	21	20	19	18	22½	26½	26½	28	22
1871	29	28	27	27	25	24	...	25	24	...	27	26½	26
1872	27	27	...	24½	22	20	21	22½	22½	24½	25½	24½	23
1873	24	25	26	24	22	21½	21	18	21	15	13½	15½	20

RUNGPORE DISTRICT.

1865	...	...	...	...	...	...	...	...	...	16	22	...	
1866	20	16½	...	16	17	16	11½	10	10	9½	13½	15	14
1867	16	15	15	15	13½	15	17	16	18	22½	32	29½	18
1868	25	28	26	24½	28½	28	23	23	28	19	29½	28	25
1869	29½	24½	28½	24½	24½	24½	22½	20½	21	18	24½	29	24
1870	29	29½	29½	29½	28	24½	23	22	24½	29	25	22½	26
1871	28	25	25	29	24	25	24	25	24	25	29½	25	26
1872	24	25	...	24	24	23	21½	22½	24½	22½	25½	29½	24
1873	30	30	27	27½	25	26	26	18	15½	15½	14	14	22

BOGRAH DISTRICT.

1864	...	...	...	...	...	...	...	...	30	30	36½	33½	...
1865	33½	30	30	29½	26½	26½	22½	21	20½	20½	22	18	25
1866	19	18	17	16½	17	14	11	10	10½	10½	13½	16	14
1867	18	15	16	16	18	19	23	14	30	35	35	40	24
1868	40	40	40	40	39	35	31½	31½	32½	32½	32½	33	35
1869	28	31	30	30	29	27	22	22	22½	22½	30	26½	26
1870	30	30	30	29	33½	23	23	22½	...	31	32	37	29
1871	37	34	33½	32	31	28	30	31½	32	32	36	34	32
1872	...	35	...	32½	31	31	30	30	30	30	34	36	32
1873	32	34	34	33½	30	28	26½	24	24	18½	15½	15	26

PUBNA DISTRICT.

1864	...	...	...	...	...	...	...	...	24½	25½	27	28½	...
1865	26½	23½	21½	22½	18½	19½	19½	18½	17½	17½	17½	16½	20
1866	16	14½	14½	13½	11½	9½	10½	10½	11	11½	15	16½	12½
1867	15½	15	16	17½	18	21½	24	30	30	30	30	30	23
1868	30	30	30	29	28	21	26½	26½	26½	30	30	26½	28
1869	26½	23½	23½	22½	22½	22½	21	22½	22½	20	22½	23	22
1870	22½	23	24	22½	20	20½	18	19	24	30	30	27	23
1871	26½	24	23	22	22½	21	25	30	26½	24	24	26½	24½
1872	27½	...	...	27	22	27	28	30	28½	27½	30	30	27
1873	30	30	30	28	26½	26½	26½	22½	25	19	16	16	24

Prices of ordinary common Rice in the Districts of the COOCH BEHAR Division, in so many seers of 80 tolahs each per rupee.

DARJEELING DISTRICT.

1865	...	...	...	...	...	...	...	...	...	8	7	7	...
1866	10	10	8	8	8	7	8	7½	7	8	9	8	...
1867	9	10	12	10	10	10	11	10	11	11	13	10	...
1868	...	16	17	16	16	14	13½	13½	11	14	14	14	...
1869	13	...	15	13	13½	11	10	10	11	10	12	14	12
1870	16	18	18	16	15	14	15	16	16	16	16	16	16
1871	16	16	17	15	13	13	13	13	12	14½	12	13	14
1872	13	14	...	10	9	9	10	10	11	12	11	14	11
1873	15	16	15	15	12	13	13	14	12	...	8	10	13

JULPIGOREE DISTRICT.

1871	...	...	...	...	28	28	26	22	16	20	18	21	22
1872	16	13	...	14½	16½	13	15	16	14	14	16	16	15
1873	20	24	22	24	20	16	20	...	18	...	...	16	20

COOCH BEHAR DISTRICT.

1864	...	...	...	...	...	...	...	...	22	21	21	21	...
1865	20	20	18	18	17	17	17	16	16	16	16	16	17
1866	16½	16½	16	16	15	9½	10	9	9	10	...	...	12
1868	...	...	...	...	...	...	...	...	13	13	13	14	13
1869	14	16	16	16	13	11	11	13	14	14	...	...	13½
1872	...	...	...	...	...	...	...	...	20	26½	22½	26½	23
1873	26½	24½	22½	20	16½	13½	16	20	16	14½	14½	...	16

Price of ordinary common Rice in the Districts of the DACCA Division, in so many seers of 80 tolahs each per rupee.

DACCA DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	...	...	...	...	...	...	...	...	16	16	16	18	...
1865	18	16	16	16	16	16	16	16	16	14	15	16	16
1866	14	14	13	11	11	10½	10½	10½	10	11½	15	16	12
1867	16	18	19	20	21	22	24	30	30	35	37½	30	25
1868	27	30	33	32	30	20	29	30	30	25	22	20	27
1869	19	22	22	24	21	17	18	19	18	17	18	22	19
1870	24	24	24	22	23	18	21	21	25	24	25	24	23
1871	23	22	23	21	21	21	28	30	26	22	25	26	24
1872	30	32	...	29½	27	26	30	32	32	32	32	32	30
1873	32	32	32	32	28	30	28	25	25	25	14	14	26

FURREEDPORE DISTRICT.

1865	...	...	...	...	...	...	...	...	...	...	15	14	...
1866	12	13	12	13	10	9½	9½	9	8½	9½	13	23	11
1867	14	15	16	16	18	18	20	26	24	28	24	31	20
1868	26	26	25	25½	25	20	21	23	23	21	22	20	23
1869	20	19	22	21	22	16	14	18	18	16	17	21	18
1870	21	21	21	21	17	16	22	23	23	25	25	21	21
1871	22	23	23	20	22	22	25	27	26	23	25	24	23½
1872	26	26	...	25	25	23	23	26	24	24	21	26	24
1873	26	27	26	25	25	22½	24	23	22	18	17	16	22

BACKERGUNGE DISTRICT.

1865	...	...	...	...	...	...	...	...	...	...	18	17	...
1866	15	...	14	14	13	11.	10 $\frac{1}{2}$	9	9	8 $\frac{1}{2}$	14	19	12
1867	16	16	18	19	20 $\frac{1}{2}$	26	32	27	27	40	32	42 $\frac{1}{2}$	26
1868	30	22	29	31	29	26	23	18	17 $\frac{1}{2}$	20	18	20	23
1869	16	18 $\frac{1}{2}$	22	20	20	17	14	17	17	18	20	21	18
1870	8	25	25	24 $\frac{1}{2}$	21	19	22	19	21	22 $\frac{1}{2}$	23	22	21
1871	21	21	24	21 $\frac{1}{2}$	20	22 $\frac{1}{2}$	21	20	20	20	20	21	21
1872	23	22 $\frac{1}{2}$	...	27	24	23	26	27	27	27	27	28	25
1873	28	31	30	28	28	26	26	26	26	23	15	15 $\frac{1}{2}$	25

MYMENSING DISTRICT.

1864	...	...	...	...	...	...	...	...	...	24½	24	23	30	...
1865	30	30	24	...	26½	22½	20	20	20	19	18	19	19	22
1866	18	18	...	16	14	11	12	8½	9	11	13	...	13	...
1867	18	14	16	18	20	18	20	18	22	30	30	32	22	22
1868	32	32	32	33	33	32	32	25	25	20	22	22	22	28
1869	21	24½	24½	23	23	20	18	18	18	22	25	21	21	...
1870	26	26	23	24	21	21	21	22½	25	27½	36	26½	24	...
1871	25	24	22½	25	25	24½	25	27	26	23	29	32	25	...
1872	33	33	...	29½	29½	29	32	29	26	27	29	32	30	...
1873	32	32	32	32	32	31	26½	23½	18	17	18	18	27	...

SYLHET DISTRICT.

1865	...	...	...	...	...	...	...	...	...	19	17½	...	
1866	16	16	14	10½	10½	8	10½	11½	9	10½	16	24½	13
1867	29½	21	21	21	29½	28	27	29	30	35	38	38	29
1868	35	42	38	38	35	32	28	33	28	31	28½	22½	32
1869	21	14	16	18	15½	17½	19	21	22½	21	19½	24½	19
1870	29	30	30	27	31	21	21	26	...	32	28	32	28
1871	32	24½	22½	24	21½	21½	22½	26	26	...	26	32	25
1872	35	42	...	32	31	31	33½	38½	34	38	38½	40	35
1873	40	35	35	33	32	32	34	31½	31	...	17½	19½	30

THE Statistical Reporter,

A MONTHLY JOURNAL OF STATISTICAL ENQUIRIES CONCERNING INDIA.

VOL. V.]

CALCUTTA: TUESDAY, 31ST MARCH 1874.

[No. 8.]

RATES OF MORTALITY, BENGAL, AS SHOWN BY THE PENSION LISTS.

PENSIONS AND GRATUITIES.

The 18th December 1873.Letter from the OFFICIATING ACCOUNTANT-GENERAL, Bengal, No. P-311, dated 18th October 1873, to the FINANCIAL SECRETARY.

I HAVE the honour to submit the returns of pensioners prescribed in Section 84 of the Civil Pension Code.

The returns are in four sets, namely—

1. India pensioners paid in Calcutta.
2. Bengal " " " "
3. Bengal " " " Mofussil.
4. Marine " " " Calcutta, many of whom are females.

Headings 2 and 3 are blank in the first year's returns, because they are intended to contain the corrections for age as compared with the previous years, and in this case there are no previous years.

In examining them with reference to the rate of mortality to be expected, I would put down the following as the probable rates on *a priori* grounds, being those given by Mr. Brown as the result of statistics affecting Indian Native Army pensioners:—

Age.	Rate of mortality per cent.
51-60	4.5
60-65	6.5
65-70	8
70-75	10
75-80	12
80-85	12.5
85	14

The following shows the total of the "India" pensioners of all age:—

Age.	Total on Roll on March 31, 1871.	Died in 1871-72.	Died in 1872-73.	Total deaths.	Expected deaths in 2 years.
51	111	6	2	8	9
60	40	1	5	5	5
66	26	1	2	3	4
70	12	3	1	4	2.5
76	9	2	2	4	2
80	5	1	2	3	1
86	1	1	1	2	1
	204			25	24.5

On these no remark appears to be called for and an inspection of the tables shows that the deaths seem to be very fairly distributed among the three classes of pensioners under Rs. 10, under 50, and over 50.

In the next class of pensioners—Bengal pensioners paid in the Mofussil—the separate grades are sufficiently numerous to be examined separately.

The figures of the 1st Grade, those under Rs. 10, are as follows:—

Age.	No. on Roll, 31 st March 1871.	Died in 1871-72.	Died in 1872-73.	Total deaths.	Expected in 2 years.
Under 50	79	4	7	11	5
51	155	16	11	27	14
61	94	5	11	16	13
66	70	7	3	10	11
71	60	3	6	9	12
76	22	3	3	6	6
81	13	2	1	3	3
86	6	3	1	4	2
	500			82	66

The following are the figures of the 2nd Grade pensions not exceeding Rs. 50:—

Age.	No. on Roll, 31 st March 1871.	Died in 1871-72.	Died in 1872-73.	Total deaths.	Expected in 2 years.
Under 50	43	3	3	6	3
51	145	10	2	12	13
61	67	7	3	10	9
66	55	3	2	5	9
71	27	3	2	5	5.5
76	16	1	1	2	4
81	3	1	1	2	1
86	1	1	1	2	1
	357			38	44.5

Of pensions exceeding Rs. 50, the following are the figures of two years:—

Age.	No. on Roll, 31 st March 1871.	Died in 1871-72.	Died in 1872-73.	Total deaths.	Expected in 2 years.
Under 50	8	2	2	4	5
51	41	3	2	5	4
61	22	3	3	6	3
66	19	4	2	6	3
71	9	2	2	4	2
76	4	2	1	3	1
81	1	1	1	2	1
86	2	1	1	2	1
	105			28	14

In all these cases the deaths seem to be very fairly up to expectation, and even exceed it in several. It is possible that this is due to the fact that the numbers include people who have gone off through six months' absence, and are not dead, but I have made such allowance, as was possible for this, by taking as the number of deaths, not the whole number under heading 2, but that number diminished by the entries under heading 3.

I shall direct the Collector's attention to the 16 persons entered under age 76 to 81 in the list of pensioners exceeding Rs. 10. Their mortality falls exceedingly short of expectation, and it may be well to enquire whether the alleged survivors are beyond doubt the original pensioners, and whether the real pensioners are really all alive.

Taking next the Bengal pensioners paid in Calcutta, we get the following statistics :—

Next the Bengal pensioners paid in Calcutta, we get the following									
Not exceeding Rs. 10.									
Age.		No. on Roll, 31st March 1871.		Died in 1871-72.		Died in 1872-73.		Total deaths.	Expected in 2 years.
Under	50	22	1	2	1	2	3	1	1
"	51	22	1	2	2	3	2	2	2
"	61	19	1	1	2	2	2	2	2.5
"	66	4	1	1	1	2	1	2	5
"	71	7	1	1	1	1	1	2	1.5
"	76	5	1	1	1	1	1	1	1
"	81	2	1	1	1	1	1	1	1.5
"	86	2	1	1	1	1	1	1	5
		83	Not exceeding Rs. 50.				9	9.5	
Under	50	25	4	5	9	1.5			
"	51	86	2	3	5	8			
"	61	29	1	1	1	5			
"	66	20	1	1	1	5			
"	71	18	1	1	1	4			
"	76	6	1	1	1	1.5			
"	81	2	1	1	1	5			
"	86	2	1	1	1	5			
		186	Exceeding Rs. 50.				16	24	
Under	50	8	2	4	6	5			
"	51	56	1	1	6	5			
"	61	14	1	1	1	2			
"	66	9	1	1	2	1.5			
"	71	7	1	1	2	1.5			
"	76	5	1	1	1	1			
"	81	2	1	1	1	1			
"	86	2	1	1	1	1			
		99					11	13.5	

There seems to be in all these tables a smaller rate of mortality among the very high ages than should be expected. The pensioners are all people paid in this office, and I shall cause renewed attention to be given to the question of their identification with the original pensioners.

The Marine pensioners are the only ones remaining, and the following are the figures for the three classes combined :—

Under	50	20	.....	1	.....	1	.....	2	1
"	51	28	.....	1	.....	1	.....	2	2.5
"	61	10	.....	1	.....	1	.....	2	1
"	66	4	.....	1	.....	1	.....	2	1.5
"	71	6	.....	2	.....	2	.....	2	1
"	76	2	.....	1	.....	1	.....	1	1
"	81	1	.....	1	.....	1	.....	1	1
"	86	1	.....	1	.....	1	.....	1	1
		69						4	6

No remarks appear to be called for, and the cases are too few to permit any deductions from the divergence from expectation, especially as five persons, who are excluded from the list, as their ages are not known, furnish three cases of death, which being added to the above statistics bring the fact still more near to the expectation.

The following is a summary of the whole of these statistics :—

Description of Pensioners.	Rate of Pension.	Number.	Actual Mortality.	Expected Mortality.
India.....	All	201	25	21.5
Bengal—Mofussil ...	Under 10	500	82	66
"	Under 50	337	38	44.5
"	Over 50	105	28	13
Calcutta ...	Under 10	83	9	9.5
"	Under 50	186	16	24
"	Over 50	99	11	13.5
Marine	All	69	4	6
Total.....		1,603	213	202

It would be wrong rashly to assume that the number of deaths shown in the above figures is the actual number that have taken place, because on the one hand, the figure may be swelled by mere absences for a prolonged period, and on the other, it may be diminished by substitutions of fictitious pensioners. However, the fewness of the renewals of pension argues the fewness of the lapses included in the above figures, and I think the figures contain intrinsic evidence that there has not been much, if any, substitution. I think, therefore, it is a pretty fair conclusion that so far as can be judged by information and calculations, so rough in their nature, the mortality rates, with which we above started, are not far from the average applicable to the case.

It is worthy of remark that the younger pensioners show a tendency to excessive mortality (compared without initial figures), which is easily accounted for by the fact that they are, by the nature of the case, mostly invalids; and that, as we might have expected, the pensioners of the class between 10 and 50 seem to be more healthy than those on higher or on lower pensions.

RESOLUTION.—The Governor-General in Council desires that a copy of the above letter be forwarded to the several Officers of Account concerned as indicating the kind of examination to which statements submitted under Section 81, Civil Pension Code (second edition), should be subjected. The table of mortality used by Mr. Westland should be used by the other Officers of Account until further order.

THE CODAVERY DELTA WORKS.

[MEMO. BY COLONEL F. H. RUNDALL, R.E.]

THE gross revenue of the District from all sources has risen since the year 1845, in which the improvements were commenced, from Rs. 20,49,046 to Rs. 53,84,395 in 1870-71.

The trade at the Ports has in the same interval increased from Rs. 12,96,253 to Rs. 78,22,676, that is—

In Exports from Rs. 9,07,774 to Rs. 59,21,558.

And in Imports from Rs. 3,88,479 to Rs. 19,01,118.

In 1869-70 the trade, it will be seen, was Rs. 1,10,26,565. The fluctuation is owing apparently to the reduction in the current value of the articles exported, especially in that of cotton. The above sums are exclusive of bullion which varies considerably.

The number of vessels and tonnage visiting the Port in 1870-71 were as follows :—

	No.	Tonnage.
British	131	1,07,162
Foreign	47	21,080
Native	385	48,444
Total	563	1,75,694

This prosperity in trade is no doubt owing in large measure to the facility and cheapness of communication afforded by so many lines of navigable canals permeating the Delta. The extent to which they are used will be evident from the statement which shows the number of boats passing through the Head Locks. In the past year these amounted to 13,113 laden boats, measuring 337,117 tons, and 15,862 empty boats, making

a total of 28,965 boats, or a rate of 80 boats per day. In this the intermediate traffic, which does not pass through the Head Locks and of which there is a large quantity, is not included. The number of boats registered in 1871 were—

Cargo boats	...	...	...	...	No. 1,221 average 27.8 tons
Passenger "	...	...	...	...	" 82 " 57 passengers.
Pleasure "	...	...	...	...	" 50 "
Total No. ...					1,353

From which license fees, amounting to Rs. 39,324, were levied.

I am unable to give the return of the timber-rafts, as they were not complete, but, as noticed before, the timber trade is very large.

The outlay on the Godavery Delta works may thus be summarized—

Capital—		Rs.
Ancient	...	12,27,403
Main and distribution channels	...	33,99,761
Tools and plant	...	3,50,039
Compensation for land	...	15,200
		49,92,404
Establishment and contingencies	...	16,21,109
Total		66,73,513

The repairs have amounted to Rs. 23,91,796 in 22 years, being at the rate of Rs. 1,08,718 or 1.7 per cent. per annum.

Last year the repairs amounted to Rs. 1,30,436, and the irrigated area to 497,007 acres. The charge per acre, therefore, was 0.262 of a rupee, or 4.2 annas nearly.

The Conservancy establishments as marginally detailed cost Rs. 40,248 or .081 and the share of Executive establishment is stated to be

For Irrigation ... Rs. 2,023

" Navigation ... " 1,321

" 8,354 per month.

" 12

Total Rs. ... 40,248 per annum.

Rs. 25,000, thus making the total charge Rs. 0.393, or Rs. 0.6-4 per acre.

I am inclined to think that the allowance for repairs has been cast too low, and that for a proper maintenance of the works, the above rate per acre is barely sufficient. If increased to 8 annas, it will still be moderate.

The receipts last year under the three following heads were—

Water-rates	...	Rs. 15,37,425
Boat licenses	...	39,324
Plantations, &c.	...	19,891
		15,95,640
Deduct—		Rs.
Maintenance	...	40,248
Repairs	...	1,30,436
Share of Executive establishment	...	25,000
		2,01,839
Net receipts		13,96,301

To the above has to be added the amount by which the land revenue has annually increased in consequence of the works.

The average collections for five years prior to the commencement of the improvements is shown in the District Engineer's Statement as

Gross collection from land ... Rs. 42,66,508

Deduct water-rates ... 15,37,425

Net land revenue ... 27,29,083

Average collections for five years prior improvements... 17,57,000

Increase ... 9,72,000

Deduct the proportion due to the Settlement operations and additional area transferred from the Masulipatam District in 1861. ... 1,00,000

Net increase ... 8,72,000

Rs. 17,57,000; those for the year 1871-72, after deducting the abovementioned sum for water-rates, were Rs. 27,29,000, showing a net increase of Rs. 8,72,000. If this sum be added to the above net receipts of Rs. 13,95,300, the annual increase of revenue directly due to the works will be Rs. 22,67,300, or over 331 per cent.

A traveller along the Godavery Canals cannot fail to be struck with the number of passenger boats. Not less than 82 of these were registered last year, licensed to carry on an average 57 passengers. Supposing that, on an average, there were only 30 people per boat, the passenger traffic would amount to 2,400 people carried daily. The average distance travelled by each person, probably, being not less than 20 miles, the daily traffic will be represented by 48,000 people, and the yearly traffic by 17,520,000 passengers through one mile. The price at which they are carried is 12 miles for one anna. Similarly, assuming the distance traversed 40 miles, the ton mileage of the goods would be 15,484,680 tons.

There can be no doubt but that these results have fully borne out the far-sightedness of Sir Arthur Cotton in insisting upon the paramount importance for inter-communications of the cheapest character. Sanguinely as he was wont to look forward to the time when the Godavery Canals should be covered with traffic, I doubt whether even he expected that within so short a time traffic could develop to the extent it has done. Certainly the results in that District convey an important lesson in the designing of Irrigation projects which are intended to affect large tracts of country where expensive land carriage has hitherto formed the only means of transport.

Memorandum showing the Quantity of Salt sold, and the Amount of Revenue realized therefrom, in the Godavery District, from 1846 to 1872.

Number of Years.	Year.	Quantity.	Amount.	Number of Years.	Year.	Quantity.	Amount.
		Mds. S. T.	Rs. a. p.			Mds. S. T.	Rs. a. p.
1	1846-47	204,208 20 0	1,90,840 8 0	14	1860-61	328,385 34 2	3,23,915 11 2
2	1847-48	233,429 0 0	1,86,786 0 0	15	1861-62	271,308 33 0	2,76,861 7 0
3	1849-50	252,844 0 0	2,00,134 0 0	16	1862-63	262,683 4 8	3,79,132 9 11
4	1850-51	201,268 0 0	1,78,480 0 0	17	1863-64	291,638 32 0	3,14,765 4 8
5	1851-52	292,161 2 0	2,20,171 11 4	18	1864-65	284,972 5 0	4,16,000 4 5
6	1852-53	267,990 6 0	2,48,422 12 8	19	1865-66	285,810 0 0	3,58,413 8 0
7	1853-54	317,700 81 8	2,25,163 12 9	20	1866-67	304,715 13 0	4,61,037 12 0
8	1854-55	545,195 31 0	2,47,973 14 0	21	1867-68	261,879 35 0	4,97,884 2 6
9	1855-56	398,187 0 12	2,57,767 12 4	22	1868-69	263,688 20 0	4,52,233 1 6
10	1856-57	274,468 38 3	2,31,007 6 8	23	1869-70	286,921 0 0	5,34,496 2 8
11	1857-58	285,439 20 10	2,10,330 7 7	24	1870-71	283,719 2 8	5,65,210 9 9
12	1858-59	252,424 10 4	2,22,048 15 0	25	1871-72	271,894 0 8	5,42,224 4 5
13	1859-66	390,469 21 8	2,78,789 1 9				

Discharge of the Godavery in cubic Yards per Hour on the 6th January 1872.

Dowlaiswaram Branch	Cub. yds.	421,768
Main Canal	"	30,060
Rally River	"	1,1412
Muddoor	"	33,603
Vigaishwaram River	"	266,4
" Main Canal	"	166,4
Bobalunka Canal	"	99,584
Cubic yards per hour		1,719,577
Or cubic feet per second		12,895

Register showing the total Area irrigated by the several

NAMES OF TALUQS.	CANALS.	AREA OF GOVERNMENT LAND IRRIGATED UNDER THE ANICUT.								INAM AND ZEMINDARY LANDS CUT, SUBJECT			
		Cultivated with wet crops.				Dry crops Irrigated.		Total.		Cultivated with wet crops.			
		1st crop.		Dalwa and 2nd crop.						1st crops.		Dalwa and 2nd crop.	
		Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. RAMCHUNDRA-PUR.	1.—Samalcotta Canal ...	11,759	46,966	333	1,342	45	163	12,137	48,471	1,506	5,963	101	416
	2.—Coconada „ ...	16,807	66,997	72	283	60	233	16,939	67,513	9,466	37,848	56	225
	3.—Mundapetah „ ...	13,144	52,692	109	436	663	2,017	13,916	35,146	10,939	43,730	54	211
	4.—Yanam „ ...	2,684	10,652	5	18	3,051	6,969	5,740	17,639	2,909	11,633	40	162
	5.—Injeram „ ...	3,749	14,978	17	70	194	475	3,960	15,523	7,898	31,257	6	22
	6.—Coringa Canal ...	11,748	47,046	31	127	116	315	11,895	47,488	6,377	25,494	7	29
	Total ...	59,891	239,332	567	2,276	4,129	10,172	64,587	251,780	39,035	155,925	264	1,065
2. AMALAPUR	1.—Amalapur Canal ...	8,107	32,415	...	...	251	1,153	8,358	33,568	7,956	31,847	58	231
	2.—Gannavaram „ ...	437	1,763	...	...	427	1,652	864	3,415	1,709	6,875	11	33
	3.—Raly Canal ...	...	...	...	...	5	7	5	7	...	...	...	...
	4.—Bendamurlanka Canal ...	5,465	21,833	...	...	32	98	5,497	21,931	1,639	6,570	...	...
	5.—East Bank Canal ...	10,060	40,240	...	...	140	339	10,200	40,599	5,912	23,627	...	...
	Total ...	24,069	96,251	...	...	855	3,269	24,924	99,520	17,216	68,919	69	264
3. NARASAPUR	1.—Narasapur Canal ...	16,395	65,859	249	1,000	136	385	16,780	67,244	5,046	20,364	106	432
	2.—Mukkamala „ ...	6,046	24,870	761	3,064	633	1,539	7,440	29,473	3,905	16,119	449	1,803
	3.—Gostanady „ ...	749	2,998	14	53	...	...	763	3,051	115	460	3	10
	4.—Nagaram Main Canal. ...	17,712	73,377	292	1,367	111	286	18,116	75,080	11,740	48,169	108	478
	Total ...	40,902	1,67,104	1,316	5,484	880	2,210	43,098	1,74,798	20,806	85,112	666	2,723
4. BHRENAVARAM.	1.—Venkiah & Vaiyeru Canal ...	8,802	35,208	...	...	...	...	8,802	35,208	14,289	5,405	...	...
	2.—Gostanady Canal ...	11,989	47,975	24	75	1	3	12,014	48,053	1,158	4,632	...	...
	3.—Narasapur Canal ...	4,453	17,815	60	237	11	22	4,524	18,074	603	2,417	3	12
	4.—Velpur „ ...	1,874	7,425	15	63	...	...	1,889	7,488	530	212	...	...
	5.—Attili „ ...	1,533	6,121	4	16	...	...	1,537	6,137	841	1,051	...	...
	6.—Ellore „ ...	1	1	...	...	...	...	1	1	2,094	320	...	...
	7.—Gostanady Drainage Channel ...	1,216	4,716	...	...	...	...	1,216	4,716	28	118	...	...
	8.—Undi High Level Channel ...	15,471	61,797	...	...	...	...	15,471	61,797	13,239	13,684	9	34
	Total ...	45,339	1,81,058	103	391	12	25	45,454	1,81,474	32,782	27,834	12	46
	Add cess compounded by the Niddavolu and Baha-												
5. ELLORE	1.—Ellore Canal ...	13,355	53,616	...	...	...	...	13,355	53,616	50	200	...	...
	2.—Kistua „ ...	9,358	37,461	...	...	2	3	9,360	37,464	192	735	...	...
	Total ...	22,713	91,077	...	...	2	3	22,715	91,080	242	935	...	...

Delta Canals in the Godavary District, in the year 1870-71.

IRRIGATED UNDER THE ANTI-WATER TAX.		INAM AND ZEMINDARY LANDS IRRIGATED UNDER THE ANCIET FREE OF WATER TAX.										TOTAL AREA IRRIGATED.							
Dry Crops Irrigated.		Total.		Cultivated with wet crop.				Dry crops irrigated.		Total.		Cultivated with wet crop.				Dry crops irrigated.		Total.	
				1st Crop.		Dalwa and 2nd crop.						1st crop.		Dalwa and 2nd crop.					
Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.	Extent.	Net amount of water tax.
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
24	97	1,631	6,476	2,841	11,366	...	...	...	...	2,841	11,366	16,106	64,295	434	1,758	69	260	16,609	66,313
58	144	9,560	38,217	5,423	21,690	...	...	2	9	5,425	21,699	31,696	1,26,535	128	508	100	386	31,924	1,27,429
1,006	2,840	11,999	46,781	293	1,171	...	...	...	...	293	1,171	24,376	97,594	163	647	1,669	4,857	26,268	1,03,098
3,043	7,285	5,992	19,080	449	1,798	...	...	...	...	449	1,798	6,042	24,083	45	180	6,094	14,254	12,181	38,517
297	558	8,141	31,837	1,920	7,680	...	...	2	7	1,922	7,687	13,507	53,915	23	92	493	1,040	14,023	55,047
29	73	6,413	25,596	2,913	11,656	...	...	3	12	2,916	11,668	21,038	84,196	38	156	148	400	21,224	84,732
4,437	10,997	43,736	1,67,987	13,839	55,361	...	...	7	28	13,846	55,389	1,12,765	4,50,618	831	3,341	8,573	21,197	1,22,169	4,75,156
630	2,318	8,644	34,396	5,334	21,273	...	...	...	...	5,334	21,273	21,397	85,535	58	23	881	3,171	22,336	89,237
942	4,329	2,662	11,237	...	...	...	...	...	...	...	...	2,146	8,638	11	33	1,369	5,981	3,526	14,632
1	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	6	8	6	8
19	75	1,658	6,645	2,304	9,198	...	...	...	...	2,304	9,198	9,408	37,601	...	...	51	173	9,469	37,774
262	601	6,174	24,228	3,924	15,696	...	...	...	...	3,924	15,696	19,896	79,563	...	...	402	960	90,298	8,523
1,854	7,324	19,139	76,507	11,562	46,167	...	...	...	...	11,562	46,167	52,847	2,11,337	69	56	2,709	10,593	55,625	2,22,194
58	157	5,216	20,953	4,179	16,702	...	...	15	63	4,194	16,765	25,620	1,02,925	855	1,432	209	605	20,184	1,04,962
453	1,007	4,807	18,929	88	383	...	...	...	...	88	383	10,039	41,372	1,210	4,867	1,086	2,546	12,335	48,785
...	...	118	470	1,358	5,430	...	...	...	...	1,358	5,430	2,222	8,888	17	63	...	...	2,239	8,951
53	121	11,961	48,768	3,345	13,385	...	...	2	3	3,347	13,388	32,797	1,34,931	400	1,845	166	410	33,363	1,37,186
564	1,285	22,036	89,120	8,970	35,900	...	...	17	66	8,987	35,966	70,678	2,88,116	1,982	8,207	1,461	3,561	74,121	2,99,884
...	...	14,289	5,405	7,485	29,940	...	...	...	...	7,485	29,943	30,576	70,553	...	...	...	...	30,576	70,553
4	8	1,162	4,640	5,448	21,790	12	47	...	...	5,460	21,837	18,595	74,397	36	122	5	11	18,636	71,530
...	...	606	2,429	836	3,346	6	25	...	...	842	3,371	5,892	23,578	69	274	11	22	5,972	23,874
...	...	530	212	796	3,184	...	...	...	...	796	3,184	3,200	10,821	15	63	...	...	3,215	10,884
1	2	842	1,053	568	2,274	...	...	...	...	568	2,274	2,942	9,446	4	16	1	2	2,947	9,464
...	...	2,094	320	953	3,811	...	...	...	...	953	3,811	3,048	4,32	...	...	...	...	3,048	4,132
...	...	28	113	731	2,923	...	...	...	...	731	2,923	1,975	7,752	...	...	...	...	1,975	7,752
11	21	13,259	13,739	2,005	36,022	...	...	...	...	2,005	36,022	37,715	1,11,503	9	34	11	2	37,735	1,11,503
16	31	32,810	27,911	25,822	1,03,290	18	72	...	...	25,840	1,03,362	1,03,943	3,12,182	133	509	28	56	1,04,104	3,12,747
ghally	Zemindarees.	28,488																28,488	
...	...	56,899																56,899	
...	...	50	200	1,730	6,921	...	...	...	...	1,730	6,921	15,135	60,737	...	...	...	...	15,135	60,737
...	...	192	755	3,060	12,240	...	...	...	...	3,060	12,240	12,610	50,456	...	...	2	3	12,612	50,459
...	...	242	955	4,790	19,161	...	...	...	...	4,790	19,161	27,745	1,11,193	...	...	2	3	27,747	1,11,196

Statement showing the Value of Imports and Exports by Sea in the Godavery Districts for 28 years, from 1844 to 1872.

OFFICIAL YEARS.	CORINGA.			COONADA.			NARSAPUR.			TOTAL.			PARTICULARS.					
	Value of British goods.	Value of Foreign goods.	Total.	Value of British goods.	Value of Foreign goods.	Total.	Value of British goods.	Value of Foreign goods.	Total.	Value of British goods.	Value of Foreign goods.	Total.	Paddy, Rice, and other grains, &c.	Pulses.	Gingelly and Lamp oil-seeds.	Sugar.	Gruff goods.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1844-45.....	4,08,481	4,08,481	8,16,962	2,26,076	2,26,076	4,52,152	85,941	85,941	1,71,882	7,30,498	7,30,498	1,02,502	2,66,368	2,66,368	3,001	7,280	9,54,847	2,84,347
1845-46.....	4,27,475	4,27,475	8,54,950	3,85,178	3,85,178	7,70,356	92,393	92,393	1,84,786	9,05,046	9,05,046	8,78,969	2,01,739	2,01,739	22,940	16,414	2,87,712	2,87,712
1846-47.....	7,54,295	7,54,295	15,08,590	3,66,345	3,66,345	7,32,690	1,35,696	1,35,696	2,71,392	13,56,836	13,56,836	4,21,481	2,86,492	2,86,492	37,985	26,281	5,84,997	5,84,997
1847-48.....	6,39,679	6,39,679	12,79,358	3,05,819	3,05,819	6,11,638	91,380	91,380	1,82,760	10,96,878	10,96,878	2,59,705	2,59,705	2,59,705	1,71,754	731	4,42,173	4,42,173
1848-49.....	6,51,914	6,51,914	13,03,828	3,12,050	3,12,050	6,24,100	84,130	84,130	1,68,260	10,48,094	10,48,094	3,962	3,12,863	3,12,863	2,23,004	46,295	3,46,587	3,46,587
1849-50.....	6,27,939	6,27,939	12,55,878	2,69,680	2,69,680	5,39,360	64	64	128	9,64,594	9,64,594	4,183	2,74,414	2,74,414	1,59,417	74,273	3,63,110	3,63,110
1850-51.....	7,52,872	7,52,872	15,05,744	5,40,556	5,40,556	10,81,112	1,03,417	1,03,417	2,06,834	13,96,845	13,96,845	2,222	3,90,851	3,90,851	2,03,338	2,17,695	8,47,110	8,47,110
1851-52.....	6,30,872	6,30,872	12,61,744	5,64,497	5,64,497	11,29,994	1,10,640	1,10,640	2,21,280	13,06,109	13,06,109	505	4,36,266	4,36,266	1,28,870	1,35,289	3,01,552	3,01,552
1852-53.....	5,78,941	5,78,941	11,57,882	5,04,729	5,04,729	10,09,458	1,49,003	1,49,003	2,98,006	16,82,673	16,82,673	306	4,61,244	4,61,244	2,00,965	2,98,734	4,53,648	4,53,648
1853-54.....	6,98,891	6,98,891	13,97,782	9,04,729	9,04,729	18,09,458	1,77,831	1,77,831	3,55,662	18,33,533	18,33,533	3,511	4,63,749	4,63,749	1,00,999	2,85,652	4,18,885	4,18,885
1854-55.....	6,00,345	6,00,345	12,00,690	8,55,800	8,55,800	17,11,600	1,70,662	1,70,662	3,41,324	16,26,807	16,26,807	93	2,79,839	2,79,839	2,29,941	3,98,071	4,38,809	4,38,809
1855-56.....	7,90,000	7,90,000	15,80,000	9,64,212	9,64,212	19,28,424	1,50,229	1,50,229	3,00,458	19,14,341	19,14,341	.....	17,45,296	17,45,296	5,15,944	1,90,165	4,73,635	4,73,635
1856-57.....	8,13,726	8,13,726	16,27,452	8,51,694	8,51,694	17,03,388	73,816	73,816	1,47,632	20,30,007	20,30,007	.....	39,80,007	39,80,007	7,60,833	1,08,245	5,25,096	5,25,096
1857-58.....	11,63,548	11,63,548	23,27,096	15,54,893	15,54,893	31,09,786	2,11,566	2,11,566	4,23,132	37,92,359	37,92,359	.....	18,13,254	18,13,254	4,87,807	1,80,823	5,91,874	5,91,874
1858-59.....	13,80,679	13,80,679	27,61,358	18,17,746	18,17,746	36,35,492	2,58,677	2,58,677	5,17,354	28,47,909	28,47,909	.....	13,45,115	13,45,115	2,43,782	2,93,390	6,47,710	6,47,710
1859-60.....	7,70,486	7,70,486	15,40,972	26,65,451	26,65,451	53,30,902	2,74,219	2,74,219	5,48,438	42,14,745	42,14,745	.....	15,71,510	15,71,510	7,16,762	9,08,086	9,64,842	9,64,842
1860-61.....	12,73,075	12,73,075	25,46,150	18,17,746	18,17,746	36,35,492	1,58,918	1,58,918	3,17,836	31,219,232	31,219,232	.....	5,37,816	5,37,816	5,11,709	5,52,466	8,76,157	8,76,157
1861-62.....	10,43,018	10,43,018	20,86,036	13,27,296	13,27,296	26,54,592	1,41,168	1,41,168	2,82,336	33,51,024	33,51,024	.....	8,1,639	8,1,639	11,88,769	5,74,855	12,98,431	12,98,431
1862-63.....	8,27,697	8,27,697	16,55,394	23,82,159	23,82,159	47,64,318	1,26,486	1,26,486	2,52,972	47,78,780	47,78,780	.....	90,712	90,712	4,40,090	8,16,355	30,58,038	30,58,038
1863-64.....	5,78,243	5,78,243	11,56,486	40,74,051	40,74,051	81,48,102	1,02,071	1,02,071	2,04,142	56,68,944	56,68,944	.....	84,647	84,647	5,11,783	10,11,653	37,81,088	37,81,088
1864-65.....	6,55,695	6,55,695	13,11,390	5,57,853	5,57,853	11,15,706	8,03,091	8,03,091	1,60,618	64,12,041	64,12,041	.....	2,12,350	2,12,350	1,63,722	4,35,394	15,29,047	15,29,047
1865-66.....	5,57,853	5,57,853	11,15,706	8,03,091	8,03,091	1,60,618	1,47,803	1,47,803	2,95,606	48,24,693	48,24,693	.....	2,14,855	2,14,855	12,05,691	8,85,514	24,83,892	24,83,892
1866-67.....	8,30,188	8,30,188	16,60,376	54,34,050	54,34,050	108,68,100	1,94,280	1,94,280	3,88,560	80,57,106	80,57,106	.....	18,40,621	18,40,621	12,05,691	5,87,771	40,83,697	40,83,697
1867-68.....	4,78,543	4,78,543	9,57,086	69,36,386	69,36,386	138,72,772	2,58,720	2,58,720	5,17,440	89,56,078	89,56,078	.....	3,55,647	3,55,647	22,94,010	3,29,393	51,69,136	51,69,136
1868-69.....	8,24,012	8,24,012	16,48,024	81,70,094	81,70,094	163,40,188	36	36	72	59,07,227	59,07,227	.....	14,331	14,331	15,17,487	2,91,073	29,69,068	29,69,068
1869-70.....	4,61,276	4,61,276	9,22,552	52,93,174	52,93,174	105,86,348	12	12	24	86,66,326	86,66,326	.....	7,86,620	7,86,620	17,29,085	1,17,853	58,82,096	58,82,096
1870-71.....	3,70,322	3,70,322	7,40,644	82,49,741	82,49,741	164,99,482	63,665	63,665	1,27,330	8,31,642	8,31,642	.....	841	841	696	.....	1,42,444	1,42,444
1871-72.....	3,40,785	3,40,785	6,81,570	11,898	11,898	23,774	3,80,721	3,80,721	7,61,442	3,88,749	3,88,749	.....	4,764	4,764	1,333	.....	2,19,900	2,19,900
1844-46.....	3,55,943	3,55,943	7,11,886	3,56,382	3,56,382	7,12,764	20,405	20,405	40,810	3,86,213	3,86,213	.....	1,86,916	1,86,916	.....	.....	2,95,976	2,95,976
1845-47.....	3,05,649	3,05,649	6,11,298	55,422	55,422	1,10,844	49,671	49,671	99,342	4,11,965	4,11,965	.....	3,36,366	3,36,366	.....	692	2,00,840	2,00,840
1846-48.....	5,62,263	5,62,263	11,24,526	82,868	82,868	1,65,736	40,133	40,133	80,266	6,36,385	6,36,385	.....	2,34,362	2,34,362	.....	.....	1,87,042	1,87,042
1847-49.....	3,89,491	3,89,491	7,78,982	14,513	14,513	29,026	38,252	38,252	76,504	3,24,200	3,24,200	.....	1,74,085	1,74,085	.....	.....	1,81,154	1,81,154
1848-50.....	2,80,383	2,80,383	5,60,766	27,959	27,959	55,918	15,678	15,678	31,356	3,97,387	3,97,387	.....	3,45,308	3,45,308	.....	139	1,81,154	1,81,154
1849-51.....	2,24,773	2,24,773	4,49,546	21,453	21,453	42,906	51,101	51,101	102,202	2,97,387	2,97,387	.....	3,45,308	3,45,308	.....	.....	1,81,154	1,81,154
1850-52.....	2,68,391	2,68,391	5,36,782	35,124	35,124	70,248	51,253	51,253	102,506	3,45,308	3,45,308	.....	3,45,308	3,45,308	.....	.....	1,81,154	1,81,154
1851-53.....	1,58,395	1,58,395	3,16,790	34,611	34,611	69,222	48,332	48,332	96,664	3,45,308	3,45,308	.....	3,45,308	3,45,308	.....	.....	1,81,154	1,81,154
1852-54.....	3,39,043	3,39,043	6,78,086	6,672	6,672	13,344	38,771	38,771	77,542	2,64,646	2,64,646	.....	3,45,308	3,45,308	.....	.....	1,81,154	1,81,154
1853-55.....	4,67,957	4,67,957	9,35,914	1,03,184	1,03,184	2,06,368	84,832	84,832	1,71,664	5,67,145	5,67,145	.....	3,45,308	3,45,308	.....	.....	1,81,154	1,81,154
1854-56.....	3,75,711	3,75,711	7,51,422	39,912	39,912	79,824	64,384	64,384	128,768	4,45,589	4,45,589	.....	3,45,308	3,45,308	.....	.....	1,81,154	1,81,154
1855-57.....	2,10,130	2,10,130	4,20,260	1,76,406	1,76,406	3,52,812	95,297	95,297	1,90,594	16,896	16,896	.....	3,45,308	3,45,308	.....	.....	1,81,154	1,81,154
1856-58.....	1,80,838	1,80,838	3,61,676	1,81,482	1,81,482	3,62,964	2,16,778	2,16,778	4,33,556	7,71,430</								

Statement showing the Value of Goods exported by Sea from the District of Godavery from the official Years 1835-36 to 1871-72.

ITEMS.	1835-36.	1836-37.	1837-38.	1838-39.	1839-40.	1840-41.	1841-42.	1842-43.	1843-44.	1844-45.	1845-46.	1846-47.	1847-48.
Piece-goods	4,91,502	4,37,451	4,08,819	2,26,768	1,94,515	2,11,353	1,67,212	1,59,312	1,08,119	1,01,100	1,35,456	3,89,006	1,75,185
Sugar	...	...	...	...	...	...	...	...	...	...	...	...	...
Rice	40,004	6,094	46,899	27,706	27,278	1,874	17,237	87,112	1,19,440	1,90,518	16,414	28,281	721
Gingelly seeds	...	...	1,018	12,166	4,583	2,459	7,893	1,509	9,500	786	8,583,950	3,78,422	2,53,826
Lamp oil-seeds	...	...	1,656	2,319	1,390	...	5,067	4,725	5,942	2,205	8,215	27,035	1,54,959
Bengal gram	10,777	14,869	30,650	33,250	3,393	1,181	7,396	53,476	58,001	1,47,131	14,725	10,950	16,795
Paddy	...	...	...	...	...	...	...	...	...	...	...	69,664	1,47,677
Cotton	...	...	...	...	...	...	...	...	...	...	...	...	...
Other articles	1,59,183	2,28,014	1,57,372	1,19,942	1,33,790	90,279	2,56,557	2,58,241	3,32,989	2,81,468	2,77,848	4,54,978	3,48,123
Total	7,03,394	6,86,368	6,46,114	4,22,141	3,64,839	3,06,646	4,59,362	5,64,375	6,33,991	7,30,498	9,07,774	13,56,396	10,97,288

Statement showing the Value of Goods exported by Sea from the District of Godavery from the official Years 1848-49 to 1859-60.

ITEMS.	1848-49.	1849-50.	1850-51.	1851-52.	1852-53.	1853-54.	1854-55.	1855-56.	1856-57.	1857-58.	1858-59.	1859-60.
Piece-goods	1,22,059	1,53,708	1,65,884	1,31,450	1,11,461	1,58,265	1,27,349	1,14,753	1,26,745	1,27,575	1,07,034	72,271
Sugar	...	...	...	...	...	...	...	...	...	...	...	...
Rice	46,295	74,273	2,17,695	1,35,259	2,98,734	2,85,632	3,38,071	1,90,165	1,98,245	3,95,877	2,38,215	2,93,821
Gingelly seeds	2,14,555	1,02,041	2,50,410	3,33,747	4,20,711	3,33,609	2,19,441	5,74,602	3,42,705	3,94,698	8,26,552	8,14,493
Lamp oil-seeds	97,944	1,48,676	2,52,890	1,21,047	1,48,811	2,92,036	2,05,160	5,74,602	6,94,008	3,96,482	3,96,482	2,30,655
Bengal gram	25,923	10,741	4,711	4,038	1,25,911	6,265	34,781	51,503	1,13,989	66,845	91,415	12,077
Paddy	2,34,564	2,25,246	1,06,087	2,23,802	1,07,066	3,02,627	1,15,551	62,868	2,09,725	3,58,151	5,38,037	3,82,865
Cotton	...	...	...	...	...	...	...	...	...	...	9,21,058	4,68,404
Other articles	3,10,216	2,54,037	3,41,390	3,57,232	5,07,695	4,54,779	5,45,547	5,18,203	5,29,286	8,97,905	6,73,516	5,73,823
Total	10,52,055	9,68,717	13,99,067	13,06,614	16,32,979	18,33,533	16,26,900	19,14,341	17,45,296	29,30,007	37,92,359	28,47,900

Statement showing the Value of Goods exported by Sea from the District of Godavery from the official Years 1860-61 to 1871-72.

ITEMS.	1860-61.	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.	1871-72.
Piece-goods	1,60,094	2,90,596	1,74,005	45,233	1,00,582	2,88,823	3,61,545	2,32,466	2,15,240	3,04,751	2,64,109	2,32,608
Sugar	...	...	...	...	...	...	...	...	...	...	...	...
Rice	3,64,842	5,52,466	5,74,856	8,46,955	10,11,635	4,35,394	8,65,514	5,83,393	5,67,771	3,29,332	2,01,373	1,17,823
Gingelly seeds	11,13,677	4,10,898	40,371	71,504	78,863	5,10,265	14,90,131	4,99,886	8,66,466	2,39,432	9,09,109	6,35,194
Lamp oil-seeds	1,46,172	3,83,316	8,60,702	3,43,457	5,07,012	5,29,036	70,860	1,06,976	3,26,899	22,56,133	14,69,015	8,43,393
Bengal gram	1,30,590	1,68,393	2,78,067	96,333	84,771	92,892	92,892	1,38,715	3,32,590	38,877	48,472	8,78,442
Paddy	7,87,029	4,54,018	1,35,694	2,12,327	1,25,999	1,73,351	79,431	1,01,123	1,93,327	1,74,870	10,125	1,09,289
Cotton	4,14,193	93,150	31,695	25,740	5,802	3,25,528	5,46,266	3,65,395	9,15,133	6,78,912	2,86,580	1,28,169
Other articles	6,28,142	7,76,465	4,87,888	23,79,967	29,18,516	55,83,139	13,64,394	12,06,692	28,26,426	35,80,324	16,45,454	42,02,107
Total	42,13,745	31,23,292	33,51,024	47,78,780	56,68,244	88,74,321	64,12,041	48,24,602	80,57,106	89,56,078	59,21,558	86,66,326

PRICES, LOWER PROVINCES, BENGAL, 1861-70.

Provincial Average of the Ten Years, from 1861 to 1870.

Seers per Rupee.				Raw materials from which Spirits are made.			
Paddy	...	...	43-844				Seers per Rupee.
Common rice (husked)	...	...	22-559	Mowah flowers	...	...	68-367
Best rice (husked)	...	...	18-720	Backergooly	...	...	4-737
Wheat	...	...	16-134	Gheera	...	...	17-052
Barley	...	...	27-039	Syrup	...	...	29-671
Bajra	...	...	32-600	Common rice	...	...	33-729
Jowar	...	...	31-426	Kurcha	...	...	23-226
				Goordli	...	...	36-296
Gram.				Molasses.			
Gram	...	...	17-666	Chitta	...	...	19-885
Kabuli	...	...	15-138	Best	...	...	9-951
Patna peas	...	...	27-954				
Bhutia or Jowar	...	...	33-693	Cake.			
				1st quality	...	...	3-616
Lentils.				2nd "	...	...	3-965
Arhur	...	...	14-241	Betel leaves	...	...	6-810
Moong	...	...	11-796	Betel-nut	...	...	7-707
Musoor	...	...	19-177	Coriander seed	...	...	14-181
Khesari	...	...	25-245	Turmeric	...	...	23-746
Gram, prepared dall	...	...	14-576	Garlic	...	...	11-767
Mate kallie	...	...	12-389	Chilli	...	...	7-028
Mottore	...	...	26-050	Ginger	...	...	8-587
Mash kallie	...	...	19-740	Tamarind	...	...	17-954
Bari	...	...	16-958				
Kurthi	...	...	27-525	Fruits.			
Kally kallie	...	...	14-509	Mangoe	...	...	18-794
				Jack	...	...	29-184
Oil-seeds.				Cocoanut	...	...	38-272
Mustard	...	...	12-141	Cucumber	...	...	15-623
Linseed	...	...	12-730	Bangy or futi.	...	...	55-235
Poppy	...	...	10-553	Plaintain	...	...	17-833
Castor	...	...	14-477	Palm	...	...	66-015
Radish	...	...	13-598				
Surguja	...	...	17-154	Vegetables.			
Sesamum	...	...	12-829	Potatoes	...	...	22-497
Jara	...	...	13-482	Pottol	...	...	19-992
				Brinjal	...	...	47-476
Oil.				Radish	...	...	30-037
A. Mustard	...	...	2-808				
B. Coconut	...	...	1-894	Kuchu or Kanda.			
Cleaned cotton	...	...	1-965	A. Pany	...	...	45-200
Indigo, manufactured (medium quality)	...	...	0-365	B. Man	...	...	34-999
Indigo, (fresh plant)	...	...	464-248	Green plaintain	...	...	44-294
Sugar-cane	...	...	70-224	Jhinga	...	...	31-473
				Pumpkin	...	...	57-398
Sugar, raw.				Korowla	...	...	21-658
Common	...	...	11-389	Beans or seem	...	...	42-462
White	...	...	5-405				
From cane	...	...	7-592	Koomara.			
From date juice	...	...	8-490	A. Mitta	...	...	53-725
Sugar, refined	...	...	3-351	B. Chaul	...	...	35-830
Molasses	...	...	10-558	C. Gimi	...	...	80-432
				Yam, ruth-alu	...	...	33-701
Salt.				Murrooa	...	...	47-318
Kurkuch (or black)	...	...	8-630	Turnips	...	...	38-140
Panga or white	...	...	7-390	Onions	...	...	26-132
				Data	...	...	36-885
Ghee.				Other vegetables	...	...	30-582
A. Cows	...	...	1-199	Firewood	...	...	184-489
B. Buffalo	...	...	1-414				
Milk	...	...	15-007	Fish.			
Tobacco	...	...	6-300	Miscellaneous	...	...	8-294
Tobacco leaf	...	...	8-092	Elsha	...	...	15-254
Jute	...	...	16-757	Dried	...	...	4-626
Spirits (below 25 proof)	...	...	2-503				
A. Fulli	...	...	2-798	Wages of unskilled labourers, each per diem.			
B. Daura	...	...	7-464				As. P.
				Man	...	...	3 0
				Woman	...	...	1 8
				Boy	...	...	1 2

PRICE OF RICE—BENGAL.

Price of ordinary common Rice in the Districts of Bengal, in so many seers of 80 tola each per rupee.

CHITTAGONG DIVISION.

CHITTAGONG DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	13	14	15	16	18	16	14	14	10	11	11	12	13
1865	...	...	...	...	...	...	...	...	...	...	19	19	19
1866	18	18	15	17	16	15	14	15	11	13	15	17	15
1867	17	16	17	20	17	19	20	21	22	26	26	34	21
1868	...	30	26	...	24	22	22	22	21	24	22	18	23
1869	20	20	21	20	15	15	14	14	18	18	20	22	18
1870	21	22	22	22	20	19	17	22	22	25	24	25	21
1871	26	22	21	19	20	18	20	25	27	...	27	27	23
1872	27	27	...	22	21	21	23	22	23	23	27	...	23
1873	26	25	23	24	24	24	24	21	20	24	20	20	23

NOAKHALY DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	...	...	...	...	...	...	...	...	30	28	27	25	27
1865	24	17	16	19	18	19	20	20	20	18	19	17	19
1866	16	13	12	13	12	11	10	9	8	9	...	...	11
1867	...	...	...	...	...	...	...	...	24	23	19	21	...
1868	...	...	...	...	...	...	...	...	24	23	19	21	...
1869	23	22	21	21	21	17	15	15	16	...	...	...	18
1870	...	...	...	...	...	...	...	...	...	...	...	...	...
1871	...	...	...	...	...	...	...	...	...	...	...	...	...
1872	...	...	...	26	24	24	27	27	27	24	24	23	25
1873	25	27	27	25	24	24	26	24	23	22	18	17	23

TIPPERAH DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	...	...	...	...	...	...	...	...	21	24	25	27	...
1865	23	22	21	21	21	20	19	18	17	20	22	21	20
1866	18	14	15	16	14	12	12	11	14	18	26	15	...
1867	19	8	22	23	25	25	32	33	32	45	40	45	29
1868	42	42	35	37	...	37	28	26	25	26	26	32	32
1869	25	25	25	26	26	25	20	21	20	21	32	24	...
1870	32	35	34	34	27	24	25	25	26	24	36	36	29
1871	26	26	26	26	25	25	29	29	29	29	35	28	...
1872	35	37	...	34	32	30	32	32	32	32	32	33	...
1873	32	32	32	32	32	29	25	25	25	18	15	27	...

CHITTAGONG HILL TRACTS.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	...	...	...	...	...	...	...	...	13	13	13	14	13
1865	13	14	15	13	12	12	14	16	17	20	20	20	15
1866	20	20	18	17	17	16	15	15	16	...	...	...	...
1867	...	...	...	...	...	...	...	...	...	...	...	...	...
1868	...	...	...	...	...	...	...	...	20	20	20	20	20
1869	19	19	18	18	18	18	18	19	...	...	...	...	18
1870	...	...	...	...	...	...	...	...	...	...	...	...	...
1871	...	...	...	...	...	...	...	...	...	...	...	...	...
1872	...	...	...	...	16	14	16	14	16	16	...	...	15
1873	17	16	16	18	20	16	17	17	16	...	16	13	16

HILL TIPPERAH.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	...	...	...	...	...	...	...	...	20	20	21	24	21
1865	26	26	26	23	23	20	21	22	22	22	21	21	22
1866	21	20	20	17	14	19	9	8	8	...	...	...	...
1867	...	...	...	...	...	...	...	...	...	...	...	...	...
1868	...	...	...	...	...	...	...	...	22	21	22	23	22
1869	23	22	20	17	15	14	14	16	15	17	...	...	17
1870	...	...	...	...	...	...	...	...	...	...	...	...	...
1871	...	...	...	...	...	...	...	...	...	...	...	...	...
1872	...	...	...	42	37	37	40	44	33	...	42	...	39
1873	40	35	40	40	32	30	26	20	24	...	17	20	29

PATNA DIVISION.

PATNA DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	...	...	...	...	...	...	...	...	21	19	17	20	...
1865	20	20	21	19	17	16	14	13	12	11	13	13	16
1866	13	14	13	11	10	9	9	8	11	11	13	20	12
1867	20	19	18	20	18	19	21	22	24	27	26	26	21
1868	28	30	26	24	25	25	24	20	20	20	17	16	23
1869	23	16	16	16	16	16	13	14	15	17	16	21	16
1870	20	21	21	21	20	21	19	19	19	25	24	24	21
1871	24	23	24	23	23	24	23	24	24	21	21	21	23
1872	20	23	...	20	26	17	19	19	21	19	20	25	20
1873	25	23	22	22	18	18	17	17	16	14	14	14	18

GYA DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	...	...	...	...	...	...	...	...	20	19	19	18	...
1865	18	18	17	16	15	15	13	11	10	10	12	15	14
1866	14	13	12	10	10	9	9	11	10	10	14	20	11
1867	20	19	19	18	17	17	18	19	22	25	25	35	21
1868	28	27	27	26	26	28	28	24	22	19	16	16	23
1869	21	13	12	13	13	12	11	10	11	11	19	23	13
1870	21	20	21	19	18	18	17	17	20	22	25	28	20
1871	27	23	24	23	23	24	24	24	24	25	24	24	24
1872	24	24	...	20	19	16	18	18	19	18	20	19	19
1873	19	19	19	18	17	16	15	14	12	11	10	10	15

PATNA DIVISION—continued.

SHAHABAD DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1865	...	...	...	...	...	...	...	...	11	10	12	14	...
1866	12	12	12	9	10	9	9	7	10	15	14	18	11
1867	19	17	18	18	17	18	20	20	23	24	25	29	20
1868	29	27	25	23	24	25	21	22	22	19	18	16	22
1869	17	17	18	17	16	15	14	13	15	18	17	20	16
1870	18	20	20	18	19	20	19	19	19	22	20	25	20
1871	24	23	23	23	24	24	23	22	20	22	22	20	22
1872	20	21	...	18	21	16	17	18	18	16	19	19	18
1873	19	19	20	18	17	16	15	16	14	14	12	14	16

TIRTHOOT DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1865	...	...	...	...	...	...	...	...	...	...	...	14	12
1866	13	12	12	9	9	9	9	8	10	9	10	19	10
1867	19	18	18	17	18	17	16	19	20	21	25	27	19
1868	27	28	27	26	24	23	21	21	21	24	20	22	23
1869	16	16	16	17	14	13	13	13	14	16	15	24	15
1870	22	22	22	21	19	19	18	20	22	24	25	25	21
1871	24	24	23	22	19	20	...	...	...	15	21	22	21
1872	20	21	...	20	...	13	15	15	15	15	18	21	17
1873	22	22	22	21	20	17	18	17	17	15	12	12	18

SARUN DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864	...	...	...	...	...	...	...	...	19	15	15	18	...
1865	17	17	16	15	16	14	14	15	12	11	13	15	15
1866	13	...	13	12	11	11	10	9	12	12	18	18	12
1867	17	18	17	18	18	19	19	20	22	24	25	25	20
1868	26	28	27	26	24	24	22	21	20	19	16	16	22
1869	16	17	16	17	16	15	14	13	15	17	15	19	15
1870	19	20	22	20	21	21	19	20	21	...	20	12	19
1871	21	21	22	23	23	24	24	23	21	19	19	20	21
1872	19	19	...	18	19	17	18	19	20	19	20	22	19
1873	22	22	22	20	17	16	16	16	16	14	12	12	17

CHUMPARUN DISTRICT.

1865	...	...	...	...	...	...	...	...	...	10	11	10	
1866	13	10	11	9	9	9	6	6	11	14	19	23	11
1867	24	22	24	21	24	25	24	25	26	28	29	31	25
1868	32	32	32	28	26	26	26	26	25	23	23	18	26
1869	17	16	14	18	17	14	15	14	16	22	25	25	17
1870	25	23	23	23	22	20	19	21	20	20	23	24	22
1871	27	25	23	22	24	24	24	24	26	24	27	28	25
1872	18	27	...	32	20	19	17	16	19	22	26	27	21
1873	27	27	27	24	20	18	19	20	21	20	13	13	21

BHAUGULPORE DIVISION—continued.

SONTHAL PERGUNNAHS.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1860.....	31	28	21	20	20	18	18	18	20	20	31	31	23
1861.....	30	27	27	27	27	27	29	31	31	31	40	41	30
1862.....	45	42	41	41	41	41	36	33	31	31	31	43	38
1863.....	43	41	41	38	34	33	33	31	29	30	41	41	36
1864.....	41	42	34	32	31	28	25	26	26	31	30	31	31
1865.....	31	27	21	20	21	20	20	19	16	12	12	12	12
1866.....	...	12	11	10	9	10	8	7	10	10	...	...	10
1867.....	...	17	16	16	17	17	18	20	21	22	22	28	19
1868.....	55	40	30	28	28	28	26	26	25	22	22	28	28
1869.....	17	18	17	18	16	17	16	15	15	21	20	24	18
1870.....	25	24	25	21	21	20	19	18	20	22	22	26	22
1871.....	28	30	30	28	28	28	27	27	22	...	25	26	27
1872.....	25	24	...	19	19	18	17	18	18	18	21	19	19
1873.....	24	23	23	23	18	16	16	16	20	18	14	14	19

ORISSA DIVISION.

CUTTACK DISTRICT.

*1858.....	41	45	45	32	33	27	27	42	39	43	39	24	36
*1859.....	21	20	41	27	47	49	49	50	50	47	45	47	41
*1860.....	45	47	50	47	47	40	45	40	40	41	40	37	43
*1861.....	36	35	38	35	33	37	33	27	27	31	37	36	33
*1862.....	35	36	37	33	25	22	22	25	25	25	26	28	28
*1863.....	27	27	28	26	22	20	22	23	26	27	35	33	26
*1864.....	32	32	33	32	32	30	32	37	33	30	30	25	31
*1865.....	30	31	28	27	27	20	23	22	17	18	12	10	22
1866.....	13	11	10	6	7	4	4	5	6	8	15	11	8
1867.....	12	13	...	13	11	9	...	15	19	18	21	31	16
1868.....	31	30	21	28	27	22	28	30	27	26	19	25	27
1869.....	24	27	28	28	27	22	21	22	19	18	36	32	25
1870.....	33	34	30	31	29	25	29	22	22	29	25	28	28
1871.....	26	26	29	28	28	26	28	32	37	26	30	28	28
1872.....	32	32	...	28	26	28	17	21	20	38	34	34	27
1873.....	34	10	30	32	30	29	29	30	31	31	23	23	29

POOREE DISTRICT.

*1861.....	32	32	37	40	45	40	37	35	36	28	30	31	35
*1862.....	31	37	40	40	35	30	25	25	26	26	29	31	29
*1863.....	28	28	28	35	29	27	27	27	28	34	36	39	29
*1864.....	35	35	33	33	35	35	35	30	30	29	28	25	32
*1865.....	31	27	22	21	21	20	18	17	13	13	11	12	19
1866.....	...	9	8	8	7	5	5	7	7	6	15	7	7
1867.....	10	13	14	14	11	11	13	12	17	15	18	14	14
1868.....	32	30	31	32	31	27	28	28	...	28	26	23	29
1869.....	21	26	28	28	31	30	23	23	18	27	28	27	26
1870.....	29	30	30	30	28	27	23	23	24	27	27	31	27
1871.....	31	31	31	31	31	31	31	31	31	...	27	23	30
1872.....	23	27	...	24	29	26	23	23	24	34	32	...	26
1873.....	31	34	38	42	38	34	34	35	35	...	27	24	34

BALASORE DISTRICT.

*1858.....	33	36	34	30	30	22	22	22	22	22	20	13	25
*1859.....	21	28	32	31	30	28	22	22	31	28	26	28	28
*1860.....	29	23	30	24	21	18	19	21	20	22	28	27	24
1861.....	32	32	36	32	32	28	27	28	30	32	32	34	31
1862.....	43	43	43	43	42	42	42	40	36	36	34	34	40
1863.....	42	42	42	42	42	38	38	38	38	36	36	36	36
1864.....	36	36	36	38	38	37	37	37	37	36	36	38	37
1865.....	30	30	28	27	25	23	22	23	22	20	17	17	23
1866.....	12	10	11	9	9	6	6	5	7	9	16	27	10
1867.....	19	16	16	16	18	17	17	17	21	21	28	32	20
1868.....	42	39	39	39	32	24	24	24	32	27	30	32	32
1869.....	27	...	30	29	29	26	26	26	26	26	28	27	27
1870.....	32	33	33	32	33	30	32	28	29	29	32	34	31
1871.....	34	34	34	34	34	32	32	32	32	32	31	33	33
1872.....	32	32	...	26	26	27	24	28	28	...	32	32	28
1873.....	28	38	38	38	38	38	38	38	38	32	17	16	33

CHOTA NAGPORE DIVISION.

SINGBHOOM DISTRICT.

*1862.....	36	39	40	38	40	34	33	32	37	34	34	32	35
*1863.....	32	32	40	32	34	32	31	28	28	32	48	48	34
*1864.....	32	32	32	30	29	28	28	24	28	28	28	28	28
*1865.....	28	28	24	24	24	24	24	20	18	16	16	16	22
1866.....	14	...	18	12	12	8	6	5	6	10	16	16	11
1867.....	16	17	18	16	16	16	17	15	21	22	24	28	19
1868.....	28	20	22	20	20	14	18	16	16	20	32	32	21
1869.....	28	28	28	28	28	28	28	24	24	24	24	40	27
1870.....	38	40	40	40	40	40	36	40	40	40	48	48	40
1871.....	48	48	36	36	36	36	36	40	48	...	36	40	40
1872.....	...	40	...	37	37	37	40	32	36	30	30	30	35
1873.....	30	30	30	30	32	32	24	24	...	20	24	27	27

MANBHOOM DISTRICT.

*1862.....	...	28	28	27	27	27	28	29	29	30	30	28	28
*1863.....	...	15	45	45	45	44	48	40	40	38	36	41	41
*1864.....	...	37	37	37	35	32	32	31	28	25	25	32	32
*1865.....	...	20	20	20	20	19	18	17	18	18	10	11	11
1866.....	...	13	10	8	6	4	6	8	16	16	16	11	11
1867.....	...	11	19	20	21	24	28	32	34	45	25	25	25
1868.....	...	40	40	40	32	32	34	...	40	36	34	37	37
1869.....	...	...	...	28	26	26	26	28	28	30	30	27	27
1870.....	...	32	32	32	32	28	27	28	26	32	32	29	29
1871.....	...	32	32	32	32	30	32	32	...	36	28	32	32
1872.....	...	28	...	24	22	20	19	20	20	26	27	23	23
1873.....	25	24	23	24	24	22	18	18	18	16	17	16	20

* Orissa Famine Commission Report.

CHOTA NAGPORE DIVISION—continued.

HAZAREBAUGH DISTRICT.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.
1864.....	...	...	...	...	...	...	...	...	...	...	...	...	...
1865.....	16	16	18	18	16	16	15	14	12	10	13	14	15
1866.....	12	12	11	11	9	9	8	6	7	7	15	17	10
1867.....	15	17	18	18	17	15	15	17	20	24	28	28	19
1868.....	25	26	25	25	25	24	24	23	23	21	15	17	22
1869.....	18	17	15	18	15	16	16	15	13	18	25	27	18
1870.....	23	20	20	19	18	17	17	16	19	21	27	27	20
1871.....	28	24	25	26	25	24	24	24	25	24	24	24	24
1872.....	24	25	...	22	19	19	18	16	16	18	18	18	19
1873.....	17	18	17	17	17	16	14	14	14	13	18	18	16

LOHARDUGGA DISTRICT.

1865.....	...	...	...	...	...	...	...	...	...	...	...	...	...
1866.....	16	14	13	13	13	11	10	8	8	18	20	24	14
1867.....	20	20	19	18	18	19	19	20	28	37	38	40	24
1868.....	26	30	28	26	27	24	27	23	23	25	30	22	25
1869.....	21	14	17	18	19	19	20	19	19	24	28	26	20
1870.....	23	23	24	21	21	20	20	22	24	32	30	29	24
1871.....	27	27	27	26	25	25	25	32	45	34	30	30	29
1872.....	26	25	...	22	23	21	24	23	24	20	22	24	24
1873.....	20	18	17	17	17	17	18	...	14	14	16	17	17

ASSAM DIVISION.

GOWALPARAH DISTRICT.

1864.....	...	...	...	...	...	...	...	...	...	29	27	29	26	...
1865.....	20	20	17	16	9	9	20	16	10	16	18	13	11	...
1866.....	16	16	12	12	12	9	9	8	10	10	12	12	11	...
1867.....	12	13	14	13	12	11	12	13	15	...	16	16	15	...
1868.....	17	20	19	16	16	17	16	15	16	16	16	16	16	...
1869.....	16	13	13	16	16	15	11	15	16	18	20	20	15	...
1870.....	30	30	30	25	17	15	15	16	16	20	17	17	20	...
1871.....	17	17	16	15	16	16	17	16	...	...	17	15	16	...
1872.....	17	15	...	13	14	18	20	20	...	13	19	20	17	...
1873.....	22	27	60	24	21	22	25	80	...	...	12	18	21	...

HISTORY OF PRICES.—

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

ARTICLES.	BATAIA.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	33 59	33 59	28 92	31 72	28 92	27 99	27 99	27 99	29 85	26 12
Common rice, husked	13 06	12 36	11 66	11 19	10 84	10 26	9 79	9 79	11 19	10 26
Best rice, husked	8 39	8 04	7 46	7 93	7 46	7 93	7 46	6 99	8 39	7 46
Wheat	28 92	40 58	44 78	29 04	27 17	27 06	24 72	20 06	23 32	24 26
Barley (<i>Hordeum coeleste</i>)	42 92	57 85	48 52	35 34	36 15	33 12	33 59	25 19	27 52	30 32
Bajra (<i>Penicillaria spicata</i>)	24 26	23 32	20 52	22 39	24 26	26 12	23 32	25 19	27 99	28 92
Jowar (<i>Sorghum vulgare</i>)	31 72	32 65	29 39	28 92	37 32	27 99	27 52	24 26	24 26	29 39
Gram (<i>Cicer arietinum</i>)	30 79	36 39	48 52	33 10	27 99	27 99	30 32	20 06	21 72	18 66
Lentils, mash (<i>Phaseolus radiatus</i>)	28 92	28 45	23 32	25 66	22 39	19 12	15 39	14 46	22 39	20 52
Cotton, cleaned	3 49	2 68	2 33	2 68	2 33	1 86	2 09	2 33	2 44	2 09
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	223 94	223 94	223 94	223 94	223 94	223 94	223 94	223 94	223 94	223 94
Sugar, raw	15 16	14 92	14 46	13 99	13 18	13 06	12 13	10 49	14 92	11 19
Sugar, refined	2 79	2 56	2 68	2 68	2 79	2 79	2 79	3 03	3 03	2 56
Salt	9 33	8 86	9 21	8 63	8 51	8 63	9 21	9 09	9 09	9 21
Ghee	1 86	1 86	1 86	1 86	1 63	1 63	1 51	1 39	1 39	1 39
Milk	14 92	15 39	15 39	14 92	15 97	15 86	14 92	14 92	15 86	14 92
Tobacco (<i>Nicotiana tabacum</i>)	11 19	10 73	11 19	11 66	12 13	11 66	9 79	8 86	9 33	9 33
Firewood	111 97	111 97	116 63	97 39	96 92	116 63	107 30	102 64	111 97	102 64
Til (<i>Sesamum orientale</i>)	14 92	13 99	11 66	13 06	13 53	13 99	10 49	9 79	11 19	8 39
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	19 59	16 79	22 86	17 26	15 86	15 86	14 46	13 06	11 19	10 26
Turnips (<i>Brassica rapa</i>)	111 97	130 63	158 62	153 96	121 30	144 63	156 29	150 18	135 30	130 63
Radishes (<i>Raphanus sativus</i>)	116 63	144 63	153 96	139 96	121 30	135 30	125 96	125 96	135 30	135 30
Carrots (<i>Daucus carota</i>)	93 31	102 64	116 63	125 96	100 30	97 97	90 97	102 64	93 31	97 97
Molasses	27 99	27 06	26 12	27 06	27 99	26 12	27 06	18 66	25 19	22 39
Keekar Bark (<i>Acacia Arabica</i>)	46 65	55 98	48 52	55 98	55 98	46 65	55 98	65 31	74 64	46 65
Arbi (<i>Arum colocasia</i>)	37 32	57 32	46 65	41 98	51 32	41 98	55 98	37 32	46 65	46 65
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Rath ali (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turnerite	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	3 0 0	4 8 0	4 8 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0
Wages of unskilled labourers { Coolies	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0
per diem. { Kahars	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0
{ Bheesties	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0

Turneric not produced at Batala.

ARTICLES.	PATHANKOT.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	37.32	37.32	37.32	35.45	32.65	32.65	33.59	25.66	37.32	28.92
Common rice, husked	16.79	15.74	17.37	13.99	11.66	13.06	13.06	8.86	11.19	10.26
Best rice, husked	9.33	12.48	13.06	10.73	9.33	9.79	9.33	7.93	8.86	8.39
Wheat	21.46	37.79	43.15	29.27	25.66	24.26	24.26	19.59	17.26	16.79
Barley (<i>Hordeum coeleste</i>)	20.85	52.25	64.96	39.53	41.05	37.79	37.79	27.06	23.32	23.79
Bajra (<i>Penicillaria spicata</i>)	34.52	39.19	48.52	23.32	37.32	37.32	36.39	20.52	23.32	16.79
Jowar (<i>Sorghum vulgare</i>)	33.59	40.58	50.03	37.32	31.72	38.31	37.32	19.12	28.92	28.45
Gram (<i>Cicer arietinum</i>)	19.59	38.90	50.97	36.39	33.59	31.25	28.45	20.52	15.86	14.92
Lentils, mash (<i>Phaseolus radiatus</i>)	19.59	26.24	23.67	19.36	15.86	20.06	19.12	18.19	12.59	15.86
Cotton, cleaned	3.26	3.14	2.09	2.21	2.21	2.33	2.09	2.44	2.33	2.44
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	223.94	223.94	223.94	223.94	223.94	223.94	223.94	223.94	223.94	223.94
Sugar, raw	13.06	14.69	13.53	14.22	14.92	17.26	14.34	14.46	10.26	14.22
Sugar, refined	2.44	2.56	2.33	2.56	2.79	3.03	2.33	2.56	2.21	1.98
Salt	9.33	9.33	9.09	9.09	9.09	8.86	8.86	8.98	8.86	8.09
Ghee	1.86	1.86	1.86	1.98	1.98	1.74	1.63	1.98	1.74	1.39
Milk	19.59	20.06	18.89	17.72	16.79	17.26	15.38	16.79	14.46	13.53
Tobacco (<i>Nicotiana tabacum</i>)	10.26	8.86	8.98	10.26	10.73	11.19	11.66	11.66	10.26	8.86
Firewood	116.63	153.96	138.56	130.63	109.63	125.96	93.31	121.30	121.30	121.30
Til (<i>Sesamum orientale</i>)	20.52	15.04	12.13	15.04	13.53	14.46	15.39	12.13	11.19	11.19
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	18.66	20.52	22.39	21.46	18.66	21.46	19.59	17.72	14.92	14.92
Turnips (<i>Brassica rapa</i>)	75.58	88.64	86.30	87.70	87.94	76.98	76.8	74.64	76.98	76.98
Radishes (<i>Raphanus sativus</i>)	93.31	83.04	81.64	80.24	80.24	80.24	79.11	83.97	76.98	74.64
Carrots (<i>Daucus carota</i>)	83.97	83.51	83.51	86.77	86.77	80.71	80.1	79.31	79.31	99.84
Molasses	27.06	26.12	25.19	26.12	27.06	25.19	26.12	21	94.26	21.46
Reekur Bark (<i>Acacia Arabica</i>)	111.97	111.97	111.97	74.64	74.64	74.64	74.64	74	64	74.64
Arbi (<i>Arum colocasia</i>)	55.98	65.31	55.98	51.32	65.31	55.98	69.38	46	98	55.98
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Rath ali (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turmeric	9.33	10.26	9.33	9.33	9.33	8.63	6.99	7.46	6.06	5.83
Spirits, 25 per cent. below proof, per gallon	3 0 0	4 8 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0
Wages of unskilled labourers { Coolies	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6
per diem { Kahars	0 4 6	0 4 6	0 4 6	0 4 6	0 4 6	0 4 6	0 4 6	0 4 6	0 4 6	0 4 6
{ Bheesties	0 3 6	0 3 6	0 3 6	0 3 6	0 3 6	0 3 6	0 3 6	0 3 6	0 3 6	0 3 6

PROVINCE OF PUNJAB, 1861-70.

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

ARTICLES.	LAHORE.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (Oryza sativa)	20.12	26.30	33.24	23.61	18.67	19.36	21.34	16.44	14.11	16.80
Common rice, husked	12.53	15.22	16.91	13.53	12.88	10.67	12.48	9.27	8.10	9.58
Best rice, husked	8.92	9.62	9.73	7.75	7.46	6.82	7.34	7.28	5.48	5.94
Wheat	16.32	26.71	29.80	23.50	17.32	20.06	17.26	13	10.20	14.46
Barley (Hordeum coeleste)	24.31	46.13	44.78	38.14	32.48	31.60	25.66	19.69	15.23	20.41
Bajra (Penicillaria spicata)	17.78	27	33.70	23.73	22.62	21.75	19.30	14.87	11.37	15.97
Jowar (Sorghum vulgare)	17.20	32.48	36.97	28.69	23.44	24.72	21.75	14.87	12.54	19.18
Gram (Cicer arietinum)	18.48	37.41	44.84	34.81	29.04	30.03	22.16	17.67	10.08	15.97
Lentils, mash (Phaseolus radiatus)	13.87	21.63	23.44	15.74	18.66	18.54	14.52	9.79	9.62	14.17
Cotton, cleaned	3.32	2.74	1.51	1.63	2.56	2.44	2.91	2.50	1.98	2.09
Indigo, manufactured (Indigofera tinctoria)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	158.62	253.27	113.31	93.31	186.62	130.63	140.31	95.17	149.29	111.97
Sugar, raw	10.08	10.26	11.43	10.08	11.31	11.66	9.79	7.87	6.53	8.98
Sugar, refined	2.39	2.39	2.33	2.56	2.56	2.39	2.09	1.98	2.09	2.09
Salt	10.84	9.38	9.21	9.09	9.21	9.15	9.03	9.15	8.80	9.03
Ghee	1.86	1.86	1.98	1.86	1.61	1.39	1.34	1.28	1.34	1.22
Milk	19.82	19.12	18.95	18.25	17.14	15.86	16.03	13.41	12.42	11.72
Tobacco (Nicotiana tabacum)	10.26	8.16	8.39	8.39	8.39	8.39	8.39	8.39	8.39	8.39
Firewood	102.99	89.46	83.51	88.17	86.07	79.68	80.48	80.07	82.05	96.63
Til (Sesamum orientale)	11.72	12.48	10.96	10.84	10.32	10.84	10.08	8.39	6.76	8.10
Mustard, sarson (Sinapis alba or nigra)	16.56	15.86	17.20	17.90	16.85	22.33	17.90	14.75	9.62	12.65
Turnips (Brassica rapa)	74.64	93.31	93.31	55.98	67.22	74.64	71.64	93.31	74.64	74.64
Radishes (Raphanus sativus)	55.98	74.64	74.64	55.98	37.32	55.98	55.98	82.11	74.64	93.31
Carrots (Daucus carota)	55.98	55.98	55.98	74.64	74.64	65.31	65.31	55.98	55.98	55.98
Molasses	23.21	33.70	43.21	42.22	37.20	38.02	35.45	26.75	20.12	20.12
Keekur Bark (Acacia Arabica)	74.64	74.64	65.31	65.31	65.31	55.98	55.98	55.98	46.65	55.98
Arbi (Arum colocasia)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Rath alu (Dioscorea globosa)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (Zea mays)	...	...	...	...	...	...	...	...	...	...
Linseed (Linum usitatissimum)	...	...	...	...	...	...	...	...	...	...
Turneric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0
Wages of unskilled labourers { Coolies	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0
per diem. { Kahars	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0
{ Bheesties	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0

ARTICLES.	KASUR.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (Oryza sativa)	14.92	16.91	15.39	16.44	12.83	11.72	17.20	17.84	19.01	17.14
Common rice, husked	11.19	12.65	11.78	11.83	10.08	9.09	12.59	7.52	7.28	8.22
Best rice, husked	7.93	8.68	8.22	8.74	8.28	7.69	9.68	5.89	6.12	6.70
Wheat	19.69	27.52	32.25	24.25	23.73	23.09	9.09	13.53	15.86	15.62
Barley (Hordeum coeleste)	26.69	47.58	41.52	46.77	33.70	39.19	24.96	19.59	13.53	21.63
Bajra (Penicillaria spicata)	19.77	24.37	29.85	33.65	23.44	24.37	22.51	21.75	20.64	19.82
Jowar (Sorghum vulgare)	24.43	33	38.55	29.16	31.08	26.53	21.28	26.41	18.89	20.64
Gram (Cicer arietinum)	21.46	52.25	49.45	40.70	33.70	35.45	24.49	19.24	11.83	17.43
Lentils, mash (Phaseolus radiatus)	16.79	23.03	24.72	17.43	22.33	22.39	16.91	10.73	10.55	14.92
Cotton, cleaned	2.91	3.14	2.44	2.27	2.56	2.15	2.27	2.62	2.39	2.39
Indigo, manufactured (Indigofera tinctoria)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	...	...	...	...	...	...	...	...	...	...
Sugar, raw	11.31	9.91	10.49	10.20	11.95	10.08	10.32	7.93	6.47	8.86
Sugar, refined	2.21	2.39	2.39	2.56	2.79	2.91	2.09	2.33	2.09	2.15
Salt	10.90	10.83	9.03	8.86	8.86	8.92	8.86	8.51	8.63	8.39
Ghee	1.80	1.98	2.09	2.04	1.51	1.39	1.39	1.22	1.34	1.34
Milk	19.94	20.52	22.62	19.65	19.01	20.64	14.05	14.98	13.64	11.19
Tobacco (Nicotiana tabacum)	9.33	10.49	10.78	10.38	10.08	10.14	8.63	8.04	7.17	8.04
Firewood	149.29	149.29	139.96	121.30	135.30	139.96	130.63	167.95	156.76	158.62
Til (Sesamum orientale)	12.65	12.13	11.48	12.83	11.25	11.25	10.73	10.03	8.68	7.93
Mustard, sarson (Sinapis alba or nigra)	15.45	15.51	17.96	20.64	17.72	19.71	20.52	16.56	10.84	8.63
Turnips (Brassica rapa)	149.29	169.82	158.62	139.96	167.95	153.96	141.83	143.69	93.31	98.60
Radishes (Raphanus sativus)	130.63	139.96	149.29	111.97	149.29	149.29	111.97	121.30	102.64	93.31
Carrots (Daucus carota)	60.65	69.98	46.65	93.31	111.97	74.64	60.65	93.31	83.97	65.31
Molasses	33.94	29.16	31.25	30.44	36.04	30.26	30.96	23.79	20.52	23.82
Keekur Bark (Acacia Arabica)	55.98	60.65	60.65	69.98	65.31	65.31	74.64	69.04	65.31	69.98
Arbi (Arum colocasia)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Rath alu (Dioscorea globosa)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (Zea mays)	...	...	...	...	...	...	...	...	...	...
Linseed (Linum usitatissimum)	...	...	...	...	...	...	...	...	...	...
Turneric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0
Wages of unskilled labourers { Coolies	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0
per diem. { Kahars	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0	0 5 0
{ Bheesties	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0	0 3 0

Sugar-cane not produced at Kasur.

		GUGRAWALA.									
ARTICLES.		1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)		22 39	32 01	39 19	27 35	20 99	10 59	21 22	15 22	16 32	18 19
Common rice, husked		12 13	17 72	21 92	12 13	12 13	8 86	10 26	7 34	7 83	10 25
Best rice, husked		8 63	9 33	12 59	9 79	9 33	6 99	7 23	6 06	6 53	7 46
Wheat		22 39	31 72	21 92	27 87	23 67	21 63	19 24	13 76	11 89	17 02
Barley (<i>Hordeum coeleste</i>)		36 39	46 65	48 52	50 15	39 19	35 98	33 12	18 66	19 77	36 15
Bajra (<i>Penicillaria spicata</i>)		26 59	36 39	33 53	30 79	28 22	24 61	17 84	12 59	14 22	18 80
Jowar (<i>Sorghum vulgare</i>)		36 85	39 19	35 92	32 65	27 81	27 17	18 60	14 92	11 89	20 76
Gram (<i>Cicer arietinum</i>)		27	41 98	41 98	38 08	35 45	28 57	20 81	13 76	13 83	18 13
Lentils, mash (<i>Phaseolus radiatus</i>)		18 19	20 99	20 64	18 54	17 26	14 51	11 19	9 21	13 70	14 69
Cotton, cleaned		3 73	2 79	2 79	1 39	1 34	3 49	2 70	2 79	2 68	3 03
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...	...
Sugar-cane	261 26	223 94	223 94	205 28	223 94	186 62	205 28	177 28	186 62	167 35	
Sugar, raw	12 59	11 66	13 99	12 04	12 13	13 58	8 92	8 04	6 18	9 56	
Sugar, refined	3 61	3 26	3 44	3 73	3 49	3 49	3 55	2 21	3 44	3 49	
Salt	10 63	9 91	9 91	9 33	9 33	9 33	9 33	8 63	9 09	8 63	
Ghee	2 09	2 21	2 15	1 80	1 63	1 45	1 57	1 45	1 45	1 39	
Milk	17 26	18 66	18 42	14 92	15 04	14 92	15 86	13 06	13 29	13 06	
Tobacco (<i>Nicotiana tabacum</i>)	8 86	9 33	8 86	8 86	7 46	5 89	3 20	6 53	7 59	10 73	
Firewood	121 30	107 30	77 44	80 24	110 10	83 97	83 97	83 97	81 18	88 64	
Til (<i>Sesamum orientale</i>)	12 13	11 19	11 19	10 20	11 19	11 43	13 99	9 27	10 49	10 25	
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	16 56	18 54	17 26	18 42	17 37	14 42	8 86	14 05	14 46	18 06	
Turnips (<i>Brassica rapa</i>)	130 63	149 29	186 62	130 63	111 97	111 97	130 63	111 97	130 63	149 29	
Radishes (<i>Raphanus sativus</i>)	111 97	139 96	167 95	116 63	107 30	93 31	107 30	107 30	107 30	139 96	
Carrots (<i>Daucus carota</i>)	93 31	111 97	149 29	130 63	111 97	111 97	111 97	102 64	107 30	135 30	
Molasses	...	...	...	...	...	...	...	...	...	...	
Keekar Bark (<i>Acacia Arabica</i>)	74 64	74 64	74 64	74 64	74 64	74 64	74 64	74 64	74 64	74 64	
Arbi (<i>Arum colocasia</i>)	...	...	...	...	...	...	...	...	...	...	
Potatoes	...	...	...	...	...	...	...	...	...	...	
Yam, Rath alu (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...	
Maize, Makhi (<i>Zea mays</i>)	30 79	41 98	32 65	25 77	24 14	22 39	23 79				

		WAZIRABAD.									
ARTICLES.		1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)		22.39	26.12	27.06	26.12	23.32	20.52	17.72	15.86	13.99	18.66
Common rice, husked		12.59	10.26	15.39	13.99	11.19	11.19	9.79	8.86	7.93	10.26
Best rice, huskad		8.74	10.26	10.26	9.33	8.39	7.46	6.53	6.53	6.53	7.46
Wheat		23.79	23.50	33.12	27.99	24.26	23.56	17.72	12.13	13.06	18.19
Barley (<i>Hordeum coeleste</i>)		34.05	47.12	48.98	41.98	35.45	34.52	27.06	17.70	18.66	28.92
Bajra (<i>Penicillaria spicata</i>)		27.99	37.32	37.32	32.65	28.92	26.12	19.50	13.06	14.92	21.45
Jowar (<i>Sorghum vulgare</i>)		31.25	41.98	39.65	34.99	31.72	27.06	19.12	13.06	14.92	22.39
Gram (<i>Cicer arietinum</i>)		25.66	38.78	40.12	35.45	31.72	26.12	18.66	13.06	12.59	16.32
Lentils, mash (<i>Phaseolus radiatus</i>)		18.66	23.32	22.39	20.52	18.66	16.79	12.13	9.33	10.26	13.06
Cotton, cleaned		2.79	2.68	2.79	2.56	2.33	2.68	2.91	2.56	2.56	3.14
Indigo, manufactured (<i>Indigofera tinctoria</i>)		...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant		...	...	...	...	...	...	...	...	...	...
Sugar-cane		130.63	149.29	167.95	121.30	139.96	158.62	186.62	167.95	139.96	121.30
Sugar, raw		11.43	12.59	13.06	13.06	13.29	11.89	6.59	7.46	7.23	8.63
Sugar, refined		3.73	3.49	3.38	3.25	3.14	3.03	3.06	3.20	3.32	2.91
Salt		9.33	9.44	9.33	9.21	9.56	9.33	9.33	9.56	9.56	9.33
Ghee		2.33	2.21	2.44	1.74	1.69	1.63	1.74	1.74	1.51	1.51
Milk		14.92	16.79	15.86	14.92	13.99	14.92	13.06	13.06	13.06	15.86
Tobacco (<i>Nicotiana tabacum</i>)		11.66	10.26	9.79	8.39	7.93	6.99	5.59	6.53	8.39	7.46
Firewood		149.29	149.29	149.29	130.63	135.30	125.96	110.10	97.97	93.51	79.31
Til (<i>Sesamum orientale</i>)		13.06	12.13	13.06	11.19	8.39	11.66	10.26	13.06	9.33	9.79
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)		18.66	20.52	17.72	18.66	16.79	14.92	15.86	13.99	14.92	13.06
Turnips (<i>Brassica rapa</i>)		130.63	139.96	149.29	130.63	121.30	111.79	126.76	135.30	148.36	149.29
Radishes (<i>Raphanus sativus</i>)		111.97	83.97	121.30	121.30	125.96	83.97	116.63	128.76	119.43	115.70
Carrots (<i>Daucus carota</i>)		130.63	139.97	149.29	130.63	121.30	111.97	128.76	135.30	145.56	149.29
Molasses		...	...	...	...	...	...	...	...	...	...
Keekar Bark (<i>Acacia Arabica</i>)		74.64	74.64	74.64	74.64	74.64	74.64	74.64	74.64	74.64	74.64
Arbi (<i>Arum colocasia</i>)		...	...	...	...	...	...	...	...	...	...
Potatoes		...	...	...	...	...	...	...	...	...	...
Yara, Rath alu (<i>Dioscorea globosa</i>)		...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)		27.99	29.85	31.72	26.12	27.99	23.32	25.19	22.39	20.52	18.66
Linseed (<i>Linum usitatissimum</i>)		...	...	...	...	...	...	...	...	...	...
Turneric		...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon		6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0
Wages of unskilled labourers	Coolies	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0
	Kahars	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0
per diem	Bhesties	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6	0 2 6

Statement of prices of Agricultural Produce and of Provisions in the Districts of the Punjab in the new Imperial Weights under Act XXXI. of 1871, and calculated on the average selling prices in the 12 months of each year from 1861-62 to 1870-71—continued.

ARTICLES.	RAWALPINDI.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	...	...	...	...	...	...	...	...	...	...
Common rice, husked	9.38	7.69	8.68	9.38	8.39	7.69	7.58	7.17	6.41	5.89
Best rice, husked	8.10	6.59	6.82	8.45	7.46	6.82	6.56	6.18	5.54	4.95
Wheat	29.04	26.59	29.74	25.42	23.38	22.86	19.36	12.65	13.29	15.09
Barley (<i>Hordeum coeleste</i>)	36.50	67.11	50.21	39.42	35.86	34.64	33.88	18.37	23.26	21.92
Bajra (<i>Penicillaria spicata</i>)	37.38	35.67	38.95	33.99	29.85	27.99	23.42	13.35	13.12	22.39
Jowar (<i>Sorghum vulgare</i>)	27.99	30.55	37.84	37.44	38.37	23.96	33.59	15.04	14.17	25.31
Gram (<i>Cicer arietinum</i>)	26.47	36.04	33.88	30.15	23.85	17.84	17.20	11.37	8.33	11.48
Lentils, mash (<i>Phaseolus radiatus</i>)	15.16	16.03	14.28	13.41	14.81	13.41	12.83	7.23	6.82	10.26
Cotton, cleaned	2.85	2.56	1.51	1.34	2.27	1.98	2.39	2.09	1.69	1.93
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	37.32	39.19	37.32	37.32	60.65	51.32	27.99	37.32	27.99	36.39
Sugar, raw	10.49	8.22	9.97	8.86	9.03	8.51	8.28	6.29	6.29	7.46
Sugar, refined	8.14	2.62	2.56	2.68	2.91	2.62	2.33	2.15	2.15	2.15
Salt	13.52	10.20	9.97	9.62	9.91	9.09	9.50	9.68	9.68	9.91
Ghee	2.39	2.21	2.09	2.33	2.33	1.57	1.57	1.57	1.57	1.63
Milk	15.33	13.82	13.99	14.34	13.99	13.12	11.48	9.27	9.27	10.20
Tobacco (<i>Nicotiana tabacum</i>)	10.26	10.26	11.19	11.19	11.19	7.46	7.46	7.46	7.46	5.59
Firewood	198.22	186.15	186.62	171.25	181.02	109.63	102.64	104.97	104.97	93.31
Oil (<i>Sesamum orientale</i>)	5.83	9.21	13.06	11.19	9.09	9.03	10.78	7.58	5.54	7.69
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	15.68	22.86	17.96	16.27	18.54	22.04	17.49	13.52	9.50	14.02
Turnips (<i>Brassica rapa</i>)	26.88	24.61	78.38	85.96	98.20	60.65	41.05	33.59	33.59	97.74
Radishes (<i>Raphanus sativus</i>)	57.85	46.94	90.91	113.83	86.31	71.96	55.98	31.25	31.25	92.61
Carrots (<i>Daucus carota</i>)	22.97	26.88	3.32	97.04	92.37	51.32	60.65	34.81	84.09	76.74
Molasses	...	...	...	...	...	...	...	...	...	...
Keekar Bark (<i>Acacia Arabica</i>)	37.32	37.32	37.32	37.32	37.32	37.32	37.32	37.32	37.32	37.32
Arbi (<i>Arum colocasia</i>)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Bath ali (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turneric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	6.00	10.80	10.80	10.80	10.80	10.80	10.80	10.80	10.80	10.80
Wages of unskilled labourers { Coolies	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
per diem. { Kahars	0.50	0.50	0.50	0.50	0.50	0.50	0.60	0.60	0.60	0.60
per diem. { Bheesties	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30

Paddy not produced.

ARTICLES.	ATTOK.									
	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
Paddy (<i>Oryza sativa</i>)	...	...	...	...	...	...	...	...	...	...
Common rice, husked	8.39	9.33	8.86	11.66	8.63	8.74	7.93	7.46	6.76	7.46
Best rice, husked	6.99	7.46	7.23	10.03	6.99	6.53	6.53	6.06	5.59	5.59
Wheat	19.12	19.36	22.16	23.15	24.26	24.78	25.19	19.12	15.04	15.86
Barley (<i>Hordeum coeleste</i>)	23.32	24.02	27.06	33.59	38.31	38.31	39.77	23.61	20.46	24.90
Bajra (<i>Penicillaria spicata</i>)	21.46	22.62	22.56	24.26	28.92	25.60	23.56	20.87	18.19	18.66
Jowar (<i>Sorghum vulgare</i>)	12.83	26.12	27.29	33.12	31.49	27.99	28.22	23.91	15.04	23.32
Gram (<i>Cicer arietinum</i>)	19.12	21.46	20.99	28.92	22.44	17.96	18.19	16.91	11.72	12.71
Lentils, mash (<i>Phaseolus radiatus</i>)	9.33	11.25	12.42	12.36	12.18	13.18	13.06	11.60	7.28	9.56
Cotton, cleaned	2.04	1.92	2.21	2.21	2.27	2.09	2.33	2.15	1.98	1.69
Indigo, manufactured (<i>Indigofera tinctoria</i>)	...	...	...	...	...	...	...	...	...	...
Indigo, fresh plant	...	...	...	...	...	...	...	...	...	...
Sugar-cane	135.30	102.67	119.43	108.24	130.63	121.30	97.97	102.64	111.97	93.31
Sugar, raw	8.86	9.33	9.33	9.33	9.18	7.93	7.98	7.05	6.93	6.12
Sugar, refined	1.86	2.39	2.33	2.79	2.79	2.56	2.50	2.33	1.95	1.95
Salt	9.33	9.33	9.33	8.86	9.09	8.86	8.98	8.39	8.68	8.63
Ghee	1.86	1.86	1.92	1.92	1.92	1.69	1.69	1.45	1.45	1.45
Milk	18.66	18.66	18.66	18.66	18.42	18.66	18.66	18.66	14.46	15.22
Tobacco (<i>Nicotiana tabacum</i>)	7.46	7.46	7.46	7.46	6.99	5.59	7.46	7.46	6.53	7.46
Firewood	149.29	149.29	167.95	160.49	146.49	144.63	147.43	149.29	149.29	130.63
Oil (<i>Sesamum orientale</i>)	8.39	6.53	7.63	6.99	8.39	8.16	7.34	6.99	6.18	7.46
Mustard, sarson (<i>Sinapis alba</i> or <i>nigra</i>)	10.26	18.66	15.86	14.92	19.59	22.62	26.12	18.66	16.79	15.27
Turnips (<i>Brassica rapa</i>)	26.12	37.32	29.85	35.45	46.65	29.85	26.12	27.99	37.32	26.12
Radishes (<i>Raphanus sativus</i>)	27.99	29.85	37.32	29.85	46.65	29.85	27.99	29.85	35.45	37.32
Carrots (<i>Daucus carota</i>)	24.26	27.99	29.85	37.32	37.32	32.65	29.85	37.32	29.85	27.99
Molasses	...	...	...	...	...	...	...	...	...	...
Keekar Bark (<i>Acacia Arabica</i>)	23.32	23.32	18.66	18.66	18.66	18.66	18.66	18.66	18.66	18.66
Arbi (<i>Arum colocasia</i>)	...	...	...	...	...	...	...	...	...	...
Potatoes	...	...	...	...	...	...	...	...	...	...
Yam, Bath ali (<i>Dioscorea globosa</i>)	...	...	...	...	...	...	...	...	...	...
Maize, Makhi (<i>Zea mays</i>)	...	...	...	...	...	...	...	...	...	...
Linseed (<i>Linum usitatissimum</i>)	...	...	...	...	...	...	...	...	...	...
Turneric	...	...	...	...	...	...	...	...	...	...
Spirits, 25 per cent. below proof, per gallon	...	...	...	...	7.80	7.80	7.80	7.80	7.80	7.80
Wages of unskilled labourers { Coolies	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
per diem. { Kahars	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
per diem. { Bheesties	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40

Salt distillery at Attok not established till 1865-66.

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[No. 9.]

THE PEARL OYSTER FISHERIES OF TINNEVELLY.

(From the Journal of the Acclimatization Society, Paris.)

THE use of pearls as an ornament dates from great antiquity, and notwithstanding the numerous documents we possess on pearl oysters and their fisheries, we are still in the dark as to certain points of their history. Although we no longer share the belief entertained by Pliny and Dioscorides, that pearls are the production of the dew, we have scarcely an opinion that is not contradicted as to the nucleus of the pearl. The recent researches of Messrs. Kelaart and Jeffreys have, however, thrown some light on points which hitherto have not been elucidated, and the former, in his "Introductory Report on the Natural History of the Pearl Oysters of Ceylon," is of opinion that the pearl oyster may be carried away from its original bank and transported to a more suitable locality. Mr. Kelaart has observed that the pearl oysters detached themselves spontaneously from their point of adhesion in an aquarium where he had placed them, and that they fixed themselves to another part, not only once, but many times, at short intervals, so as thus to have changed places as often as twelve times in one month. He was able to keep his oysters in a glass aquarium for two or three days, and then throw them into the sea without their ceasing to live. He even succeeded in forming a colony of pearl oysters near Fort Frederick, in the open sea at different depths. The moment that a pearl oyster is introduced into an aquarium it collapses, but a few hours after it returns to life; after three or four days that portion of the byssus which remained fastened to the foot of the animal detaches itself; the animal then produces another byssus which fixes it to the spot where it is, or by means of a movement analogous to that of the snail seeks a more suitable spot, and fixes itself there by means of a new byssus, to which it spontaneously gives birth. The animal cannot detach its byssus from the rock, but it has the power of detaching it from its own body, and of reproducing another. Mr. Kelaart has observed that some oysters which had been thrown into the sea had adhered after a certain time to the surface of the rocks, and developed themselves in a normal manner at four or five feet from the bottom of the sea. According to Mr. Kelaart there is then no reason why pearl oysters should not like mussels and common oysters, live and develop themselves on artificial banks, and become a source of great revenue to the State, or be of great profit to those who would undertake to make new banks. The English Government has installed at Tuticorin an establishment for the artificial culture of pearl oysters, with a view of improving the fisheries of Tinnevelly. These fisheries are so little known in Australia that we think it necessary to give some account of them, which we have borrowed from a pamphlet read by Mr. Markham at the meeting of the Society of Arts, in 1867, being the result of an inspection of this fishery made by him in the spring of 1866:—From time immemorial the pearl oyster fishery of the strait which separates the island of Ceylon from the peninsula of India has been renowned throughout the old world, and has rivalled the well-known fishery of Bahrein in the Persian Gulf. Opinions differ as to the respective worth of the pearls of these fisheries. Tavernier, writing in 1651, gives the preference to those of Ceylon, but relates that a single pearl from the Bahrein banks sold for £11,000 of our money. Latterly, the banks of Rio de la Hacha, of Margarita, of Cubagua, and of Panama, in America, have afforded good harvests of pearls, but the banks of the Persian Gulf and the Gulf of Manar have always been, and still are, the principal sources of supply of the old world. In the thirteenth century the pearl oyster fishery of Tinnevelly paid a considerable tribute to the Kings of Madras. The merchants and divers assembled at Betalar in April and May and the divers performed incantations to be preserved from the attacks of large fish whilst they were at the bottom of the sea. The so-called sorcerer is still paid by the Government of Ceylon to be present at these fisheries. In the time of Marco Polo the Sovereigns received a tenth and the divers a twentieth part of the product of the fishery. The great abundance of pearls obtained from Tinnevelly and the coast of Ceylon has excited the astonishment of all travellers who in olden times made the dangerous voyage from Europe to India. Captain Hamilton, who travelled in the East from 1688 to 1723, when the Dutch were masters of Tuticorin, says that a pearl fishery in that neighbourhood yielded an annual tribute of £20,000 to the Dutch East India Company. The Dutch appear to have fished too frequently, and without caring for the future. At Arippe, near Ceylon, they fished from 1667 to 1768 at short intervals. After their last fishing which took place in 1768, the oyster banks were left untouched until the first fishing of the English in 1796. After Tuticorin was occupied by the English there was, in 1822, a fishery which yielded the sum of £13,000 to the Indian Government. Between 1830 and 1856 there were thirteen inspections of the banks, and in each it was proved that the number of pearl oysters which had obtained a suitable development was not sufficient to make a profitable fishery; consequently no fishing was attempted. During the same lapse of time the condition of the fisheries near Ceylon was much more satisfactory. From 1796, when the English first fished at Arippe, until 1809 the product was £517,842; from 1828 to 1837 it was £227,131, and from 1855 to 1860 it was £117,153. In 1859-60 one of the two principal banks of Ceylon (the "Modrigen") furnished twelve millions and the "Horde bridge" sixty millions of shells! The unsatisfactory state of the oyster banks of Tinnevelly from 1830 to 1856 has been attributed to various causes. Captain Robertson, the last overseer appointed to inspect Tuticorin thought that the widening of the "Paumben Pass," which caused a strong current to flow on the pearl oysters prevented them from adhering to the rock, and that the boats employed to fish the large oysters called "chanks" had injured the pearl oysters by casting their anchors on the banks; whilst the native divers attributed the state of the banks to the pernicious influence of two other bivalves called Soorum (Modiolo) and Bullikoz (Avicula). However it may be an inspection made in 1856, by Captain Robertson, shows that these banks were in the most satisfactory condition, and that four other banks near Tuticorin were covered with young oysters, which in 1860-61 would have been sufficiently developed to be fished. The Government of Madras decided that all necessary precautions should be taken to prevent any damage being done to the banks during the interval. Vessels were sent to protect them from marauders, and the "chank" fishing stopped. Captain Phipps succeeded Captain Robertson, and under his auspices the fishery of 1860 was commenced, the first attempted since 1830. The fishery of 1860 commenced 7th March, and the sale of that portion of the oysters coming to the Government took place by public auction; the price rose gradually from 15 to 40 rupees per thousand. 15,874,500 shells were sold, giving to the Government a clear profit of more than £20,000 after defraying all expenses, as also the share allotted to the divers. In 1861 the results were equally satisfactory; but in 1862 the inspection of the banks led to a cessation of the fishery, which was not revived until 1866.

The production of pearls is a point upon which "savans" have long disagreed, and various explanations have been given to account for the nucleus round which the pearl is found. Mr. Kelaart, who has given the greatest attention to this subject, suggested the idea that the eggs which escape from the distended parts of a too strongly developed ovary, might fix themselves in the interstices of the fish, and thus become the nucleus of the pearls. But Mr. Jeffreys, in his "Report to the Secretary of State for India," says that by sacrificing a few pearls and dividing them into sections, and by examining each section with a microscope, he discovered that the nucleus was formed by an animal, although this is a difficult matter to prove when animals are so diminutive, particularly as the division of the pearl into sections must necessarily entail the loss of some of its parts. According to Mr. Jeffreys, pearls are produced by the presence of small crustaceous parasites, which adhere strongly to the oyster and cause an irritation. The pearl oyster wishing to disencumber itself of this, stifles it under a partly matter of the same nature as that which lines the interior of the shell; the gradual superposition of one layer on the other in concentric order determines the foundation of the pearl. The shape of the pearl naturally depends upon that of the nucleus. The parasites are of different species; some are spherical, others oval; they may be found approaching sufficiently near to each other to form a double or irregular pearl. Pearls are sometimes found in the partly covering inside the shell, but with few exceptions they are of a very bad shape.

Banks of pearl oysters are found in the open sea near Tuticorin and Tricheendoor; they are about 6 to 8 miles from the coast, and at a depth of from 54 to 8 fathoms below the surface. Each bank bears a name by which it is known to the divers. The banks are composed of rocky masses rising in places from a sandy bottom, and are probably exposed to the current of the ocean which in carrying with it the sand from the interstices of the rocks often destroys the oysters to a considerable distance. A dead fish exercises a pernicious influence upon all that surrounds it, and more than this, the pearl oysters share the banks with other inhabitants, some of which are undoubtedly injurious to their well-being. Amongst the bivalves which are most commonly met with is a large "Paine" (called by the natives Arkoe) and the Soorum and Bullikoz before mentioned. The divers think that the two latter are really dangerous enemies to the pearl oyster. Mr. Jeffreys is not of this opinion; he admits only that when these shell-fish are in too great numbers they can stifle the pearl oyster, acting the same part as weeds do in a garden. Their food is the same as that of the pearl oyster, and is composed of microscopic animals, of which a great number exist within their reach. The pearl oysters appear also to have a great enemy in the large "chank" (*Turbinella rapa*), which is used as a trumpet in the worship of idols, and which, cut into circular segments, forms bracelets, which the women wear on their wrists. When the opportunity offers, the chanks, by means of their tongue, bore small holes in the shell of the oyster and eat the fish. Starfish of a white colour, spotted and fringed with crimson, are sometimes found on the pearl oyster banks, and, as they are believed to be injurious to the oyster, are removed by dragging.

The precarious and uncertain state of the Tinnevely fisheries must be attributed to carelessness and want of foresight, and the absence of any organised system upon a scientific basis. Here we have a valuable natural product which, under certain conditions, might be the source of considerable wealth, were it not that a system of destruction has been inaugurated with the aim of an immediate gain. This is exactly what occurred in the case of the cinchona bark, in South America, and the teak forests of Malabar. The same general principles appear to be applicable to the preservation of forests and the management of a pearl oyster fishery. As a nursery of young trees forms an essential part of the forester's system, so in the opinion of Captain Phipps, a park of young pearl oysters would serve to fill the vacant spaces in the pearl oyster banks; and the method which has been adopted for the oyster banks on the coasts of France and England serves to confirm this opinion. The principal external difference between the catfish and the pearl oyster, is that the former fasten themselves to the rocks and stones by means of a byssus, whilst the latter remain flat on the earth on their convex side.

Under the auspices of the Government of India, Captain Phipps has established a nursery of pearl oysters in a suitable spot in the bay of Tuticorin on a bank of from 3 to 7 feet deep, entirely sheltered from the surf, from current, and the flow of water. A portion of this bank, 450 in length by 8 feet in breadth, has been enclosed within walls composed of blocks of coral, strengthened with rows of piles. In the centre of the eastern wall an opening has been left of 8 feet in width, which can be closed by wooden doors. The construction of this park or nursery was commenced in November 1864, and finished towards the end of 1865. In due time a supply of spawn was collected and placed therein, until the oysters attained sufficient size to be transported to the open sea. Transporting into the open sea is necessary, because it is impossible to form an enclosed park sufficiently large to contain the number of shells that would be required for a remunerative fishery; and also because it is generally believed that the quality of the pearls depends on the depth and clearness of the water in which they are found. A single pearl oyster of 5 or 6 years of age does not contain less than twelve millions of eggs, and in the fishery of 1861 the total number of shells fished rose to sixteen millions, so that the number of young shells obtained annually in this park appears sufficiently abundant to provide for any scarcity in one or many other banks. It is during the period of its first development that the pearl oyster is most exposed to danger on the original banks; however, the artificial culture has this advantage, that the oyster will be exposed to these dangers during a much shorter time.

THE FOOD-SUPPLIES OF CEYLON.

(From the Ceylon Observer.)

WE have been favoured by a mercantile friend with the following compilation of the Food Statistics of Ceylon—so far as the imports and exports are concerned,—for the past ten years. The return cannot fail to be of interest at the present time of famine in Northern India:—

Ceylon Rice Statistics, 1864 to 1873.

Year.	Imported.	Entered for Home Consumption.	Exported.
	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>
1864	3,943,395½	3,857,484½	135,968½
1865	4,851,413½	4,694,119	133,000½
1866	3,777,320½	3,765,716	14,203½
1867	4,443,327	4,542,514	17,787½
1868	4,555,314½	4,349,553½	8,989½
1869	4,406,215½	4,425,719½	5,698½
1870	4,735,822½	4,665,103½	15,044½
1871	4,278,708 21/32	4,383,227½	6,962½
1872	5,867,302 5/32	5,519,482 1/16	20,579½
1873	5,303,502 9/16	5,813,521 1/32	35,244½

Note.—In 1871, of the export, 1,392 bushels were of Ceylon growth. No other export of Ceylon rice is reported in the ten years. The figure for 1873, are only for Colombo and Galle.

In the first place it may be a matter for surprise that Ceylon should re-export any portion of the rice conveyed from India to so good a market as is generally found in this island, and the surprise will not be lessened when it is learned that by far the larger portion, especially in the earlier years, was simply returned to "British India" itself. This we suppose is one of the mysteries of "Chetty" business which we need not trouble our brains to enquire about, save that speculation among this class may have to do with their re-shipments. Latterly, however, it will be seen that our exports of rice have comparatively been very trifling. Mauritius has occasionally taken a small supply from our Ceylon stores: from 8,000 to 10,000 and even 20,000 bushels being sent to the Sugar Island in certain years and the "Maldivé Islands" seem to be dependent for a regular supply on Ceylon. In 1872, as much as 19,000 of the 20,500 bushels re-exported, were sent to the Maldives.

Turning to the far more important consideration of our imports for Home consumption, we find, that with the exception of the two years 1864 and 1866 the quantity entered annually remained steady at an average of about 4,500,000 bushels up till 1872, when a sudden spring of over 20 per cent. or nearly a million bushels additional consumption of imported rice took place, which addition was fully maintained during the past year. The consumption of grain per head of a graminivorous (if that is the correct word,) population," says our mercantile correspondent, "is interesting: the estimate usually taken is under the general idea: I believe an Estate cooly gets one bushel per month, but is not supposed to eat it all." He adds:—"The Census of 1871 made the population of Ceylon, 2,406,262 souls, all rice consumers except about 200,000, say 2,200,000 whose chief food is rice. Taking consumption at half a bushel per head per month (about 1lb. 10oz. a day), gives 11,000,000 bushels, so the locally grown rice must be about 8,000,000 bushels. This however is about double the quantity according to the revenue returns." We put no faith whatever in the Blue Book estimates of grain locally grown, and although our correspondent's allowance of half-a-bushel per head per month for each man, woman and child is perhaps rather too liberal, yet his figures are certainly nearer the mark than those which would show the quantity locally produced to be little, if any, in excess of the imports. We think, however, our correspondent is rather too liberal in striking off 200,000 as in no degree rice-consumers, no doubt for infants, among others. But this will make up for any over-liberality in his estimate of consumption per head. In fact, from twelve to thirteen million bushels has been our own estimate of late years of the total quantity consumed in the island. The much larger import during 1872 and 1873 must be chiefly accounted for by the increased requirements of such rapidly-extending coffee districts as Dimboola, Dickoya, and Maskeliya; by increasing wealth among the urban and suburban Singhalese and Tamil population leading them to live more comfortably and consume more food than in previous years; and possibly to a certain extent, by a diminution of the quantity of locally grown grain sent into the market. We refuse to accept the Blue Book figures which show a falling-off of production in the face of increasing attention to irrigation works of recent years. There have been one or two years when persistent drought has interfered with the paddy cultivators' returns, as has been the case this year in a part of the North-Western and North-Central Provinces; but it requires only a very cursory examination and comparison of the returns from which the Blue Book's food statistics are compiled to see that no dependence can be placed on statements which would show that the yearly production of rice in this island since 1860 has never exceeded 4,500,000 bushels and in 1869 fell as low as 2,800,000. We fancy there are no official statistical returns in which the people and their head-men are more interested in keeping below the mark than those referring to grain production.

There is undoubtedly great room for improvement, and we trust the good effect of the numerous irrigation works restored or constructed of recent years may be soon realized in a gradual diminution of the rice imports. Our consumption will no doubt go on increasing, and perhaps it may be as much as we can expect if the increased local production keeps pace with the excess in local consumption, so steadying the rate of importation at a little over five million bushels. We are glad to hear that His Excellency the Governor is about to take a step which cannot fail to have a beneficial effect on local production. Instructions are to be given to extend the operation of the Gansabawa Ordinance to the grain-cultivators of the Wann and other districts in the North-Central Province, so as to have it decided by a majority of the residents in each village, whether any proposed irrigation improvements should be undertaken, or not. If the decision is in the affirmative, the Government, while providing a sluice and any needful iron-work as well as the engineering supervision free of cost, will insist on the people interested turning out en masse and forming the earth-work for themselves. This return to a modified system of Rajakaria in the case referred to has our hearty approval, as it will have in a still greater measure that of our contemporary of the *Examiner* who is never tired of singing the praises of the Kandian Kings and their "Rajakaria" mode of constructing tanks. There will be no "water-rate" or Irrigation tank contribution to levy when the people do the work for themselves, and however frightful may have been the evils, owing to the abuse of the system of forced labour abolished by the British Government in 1833, yet there can be no doubt that the entire abolition went a little too far with reference to the good of the more child-like and ignorant of the people themselves in the remoter districts. This is well illustrated by our contemporary of the *Times* (who will therefore no doubt add his word of approval to Mr Gregory's Wann experiment) in a short paper he recently prepared on the island Food Statistics. He said:—"In reply to a question put to an old Kandyan Arachy by the writer, whilst engaged on the Cattle Disease Commission, the former said that he preferred the rule of the Kandyan Sovereigns to that of the British Government, for that whatever their tyranny may have been they took care that the people were always well supplied with food." Without endorsing this opinion we can quite understand how, under the system of Rajakaria, greater attention was secured from the Singhalese to the irrigation tanks and to cultivation than has latterly been the case; and it will be interesting to watch the result of the important experiment now about to be made in the North-Central province.

MINERAL RESOURCES.—INDIA.

THE KHEWRA SALT MINE.

(From the *Friend of India*.)

ABOUT thirty miles due west of the battlefield of Chillianwalla lies a square mile or so of subterranean State property, the most precious square mile in the Empire. Its value cannot be calculated, but its annual yield to the revenues is about £500,000. It is a vast mass of the purest crystal salt: and was known as the Khewra Salt Mine, until Lord Mayo's visit to it some four years ago, since which time it has borne his name. At that time there were two mines which had been worked by the Sikhs, and then by the British Government. One was called the Baggi—or white mine, the other the Soojival mine. This name is probably a rude word coined from a corruption of the Sanscrit "shachi" or pure, and the common affix "wala": so that the one mine was supposed to be of white salt and the other of pure salt (the Sanscrit name for "crystal" is shuchimani). As a matter of fact, however, the salt in both is as nearly as possible pure chloride of sodium, free not only from chemical impurities but from mechanical admixture of grit or earth. The officers in charge offer any one who can carry it away, one block of pure crystal salt, 600 feet long—120 feet high, and 400 or 500 feet thick: and they can guarantee that in this mass there shall not be one ton of foreign matter.

The value of the enormous deposit, from which such a block would be a mere fragment, has recently been much enhanced by the scientific arrangements for improved working made by the present Deputy Collector in charge, Dr. Warth, Ph. D., a trained mining engineer and chemist. On his arrival he found that each mine had but one outlet. Ventilation was dangerously scanty, and in case of an accident to the tunnel, the imprisoned miners and traders must have suffered a miserable and lingering death. He first broke down the dividing wall, and so joined the mines, and also provided two new inlets, so that now there is but one mine with four free roads in or out, each only secured by a gate which could be instantly opened or broken down in case of need. Unlike our deep English pits this mine is almost all on a level, no part of it being more than about 100 feet above or 20 feet below the roads leading into it. Formerly the workmen were cramped for space, and the passages were choked with carts and camels which used to enter the mine. Now the main entrance is provided with an iron tramway and railway cars; and all the salt is carried out at Government expense and is sold in an outer square where it is packed in bags of which each is weighed, recorded by the Government staff, and then delivered to the traders. No money is taken at the mine, but certain adjoining treasuries receive cash and grant orders for salt on the Deputy Collector to a corresponding amount. The present price charged is Rs. 5-2 a maund. Some portion of the salt is, however, not placed in bags but is cut out from the mass inside the mine, in roundish lumps, about the size of a 13-inch shell, which weigh from 50 to 60 seers, and each forms a load for the coolies who come for it from Kashmir territory. About 6,000 maunds are sold per diem in the busy season, a quantity which requires the daily attendance of some 1,250 camels or else of a larger number of pack oxen, mules, or ponies. This enormous visitation of animals necessitates special conservancy arrangements which are admirably managed by the officers in charge. The total annual out-turn, however, does not exceed a million maunds, nearly all of which is taken first to the adjoining town of Pind Dadun Khan in the Jhelum district, and thence it is carried on boats, carts or camels in something like the following proportions:—

	Maunds.
To Lahore by the Miani and Jadirabad road	400,000
To Lahore and the Eastern Punjab by Dinga and Lala Mura	150,000
To Jhelum by boats	75,000
To the North-West, Punjab, and Kashmir	75,000
To Mooltan in boats	150,000

To return to the interior of this mine. The temperature under the excellent plans now adopted remains pretty steady all the year, ranging only between 72 deg. and 75 deg. Fahr. There is a little water in some of the lower workings, but the supply of salt is so inexhaustible that nobody troubles himself to work in the wet when he has a limitless quantity for his labour overhead. The excavation is performed principally by gunpowder, and country powder is preferred as its comparatively slow rate of ignition renders it more destructive to the rock than better powder would be. It was found that English powder left extensive cracks rendering the roof dangerous, while country powder brings down all that it affects. One blast of 3 maunds of powder brought down 35,000 maunds or 1,272 tons, of pure salt. Dr. Warth's care has been to lay bare wide surfaces for the men to work upon, and in course of the execution of this design he has opened some silent halls of the most profound majesty. Two of them that are shown are each about 120 feet high and broad, by some 600 feet long. When these superb expanses are lit up by blue lights, the effect is irresistible, and one thinks what Virgil would have made of them had he seen them before writing his description of caverns deep and vast which formed the mansion of Rhadamanthus and of Pluto. The grand dignity of their neatly chiselled perpendicular walls, their square cut corners, and lofty vaults, make the visitor hold his pony self very cheap. There is not so much colour to be seen as one might expect: though here and there the exquisite crystals are as transparent as glass, and as magnificently regular as any art could make them. In some places, too, the Epsom salts, and other chemical compounds that have oozed through chinks, hang down in fantastic stalactites, welcomed from below by their answering stalagmites in a ravishing delicacy and whiteness. But the general colour of the salt is a light pink, and it is not until a lamp is placed behind a thin wall of it that the tinge of ruddy glow becomes striking to the eye. Unfortunately for pictorial effect too, the smoke of the oil lamps and flambeaux has oft times blackened wall and roof. But one forgets and forgives all this in fond remembrance of those wonderful, those glorious, halls.

The strata of the salt are in some places horizontal, or nearly so; and anon, a very few yards off you will find them tilted up on edge. To Dr. Warth belongs the credit of having compelled nature to tell her secret guarded through long cycles of silence, that these apparently irreconcilable strata could be worked from one opening, and on the same principles. The best geologists can only come to the conclusion that even these massive beds have been formed by evaporation from the ocean. It is a pity that Sir Charles Lyell had not seen a good account of these mines before penning the two pages in his book which treat of the subject. So far as it goes, however, his theory may be accepted as true, that once on a time, a stagnant hollow formed in an uplifted part of the ocean bed in which the water being exposed to great heat, rapidly evaporated under conditions which forbade the arrival there of dust or detritus: that this hollow then sunk owing to some fresh convulsion, and more brine rushed in from the neighbouring sea, which was again dried up—and so on till these vast deposits of pure salt were formed. It is to be noted that in these salt-beds, as in those of Europe, which Sir C. Lyell mentions, gypsum is found hard by the salt: and when the range of low hills where the latter lies, first comes into view, the crimson colour of the rocks formed by the oxide of iron, which he mentions in Cheshire, is also conspicuous at Pind Dadun Khan.

Mention has been made of the difficulties now experienced owing to inferiority of carriage. To meet this, there has been just constructed under the superintendence of Lieutenant De Wolski, R.E., a wire tramway for conveying the salt from the hills to the left bank of the Jhelum, a distance of 11 miles. Before describing this it should be stated that its western terminus is not at the pit mouth, but in a wild desolate gorge a mile off: and since the cost of carrying salt even that distance is Rs. 15 per 1,000 maunds, or Rs. 30 a day, Dr. Warth is building a light tramway over excessively awkward ground, to connect the pit mouth with the wire tramway.

This latter arrangement consists of stout upright standards from 20 to 45 feet in height and 150 feet apart. Over the edges of each projects on each side a wheel, and on this runs an everlasting steel rope. The rope is pulled round and round its endless course by steam. Each of the three engines works about eight miles of rope. Loosely placed upon this rope are small iron saddles, under each of which hangs half a beer-barrel. These tubs carry the salt, and their weight being hung to the saddle above, keeps it by mere pressure firm in its own place on the rope—though it is easy for a man standing on any standard to push a tub either back or forward along the rope. Each saddle is also furnished with four little wheels, and at the spots where the standards are crossed, as the saddle comes swinging lastly along at its maximum speed of five miles an hour, it suddenly finds itself taken off the rope by a couple of miniature rails on which the wheels run along till the obstruction being passed, the saddle again settles down on the rope which has been meanwhile running over the wheel below the rails, and the two pursue their closely attached course as before. This is a very simple but ingenious application of the well-known principle of momentum—that although the motive power is removed from the tubs and saddles the instant the latter part company from the rope which bears them along, the momentum which they have acquired is enough to carry them over the short intervening space of railway till they fall again gently on to the ever advancing rope.

The present length of this line is about 11 miles. It is carried skilfully across the Jhelum at a point where the river is but 1,200 feet wide in the cold season to the village of Chak Nizam—and the customs authorities have sanctioned a charge of 2 annas a maund being levied on the salt for the cost of this transport. When the two lakhs of rupees spent on constructing the tramway shall have been paid off from these receipts, the rate will be very greatly reduced; but even this rate is eagerly paid by the purchasers to save the toll on the bridge of boats and other outlay entailed by the circuitous land carriage round by Pind Dadun Khan. There was also a survey made for a light railway from Chak Nizam to Lalla Musa in the Goojat district: at which point it would join the Punjab Northern State Railway, passing by the classic scene of Alexander's battle with Porus and over the dreary field of Chillianwalla. This railway is, however, at present in abeyance, but it would go far towards the equalisation of the salt duties which we have long advocated.

The mention of Alexander reminds us that across that Hydaspes which he traversed in disgust and disappointment, there now run a railway bridge, two telegraphic lines, and a wire tramway. The ancient and the modern eras seem here to rise in vision and in fact together. Another link in their mutual chain is to be observed in the fact that his battle with Porus was fought it not upon the very field of Chillianwalla, yet within three miles of it. In truth General A. Cunningham would make out that the son of Porus was killed defending his father's camp B.C. 329, within a few hundred yards of the spot where A.D. 1849 there fell upon his father's corpse, the gallant youth of 17, young Pennycuik.

There are in the same range of low hills as we have mentioned, two other mines at Sardi and Warcha. But their united out-turn does not exceed one-third of the Mayo mine alone. The three together yielded in 1872-73 about 13,65,500 maunds or 50,000 tons. At Kalabagh on the Indus the salt lies on the surface, and at eight other places on the range there are mines, which are kept out of use to avoid smuggling. The Khewra villagers are allowed to have their salt gratis. They are paid for their mining labour by measurement and find that they can earn in nine months sufficient to keep them comfortably the whole year—so that in the rainy months, when under the old nascent method of working the roof of the mines was apt to fall in, they indulge, like many of their social superiors, in a trip to the adjoining hill villages, where they pass the wet and sultry season in enjoyment of the fresh air and idleness.

NERBUDDA COAL MINES.

CAPTAIN FLOWDEN, the Deputy Commissioner of Narsinghpur, in which District the Mohpani mines are situated, reports at some length on the subject, and it appears to the Chief Commissioner desirable to quote his report in extenso. He writes thus on the 15th January last:—

"From my personal observation and knowledge of the state of affairs last year, I am enabled to judge that the operations of the Company have, during the past year, been prosecuted not only with vigour and method, but in a manner which indicates and gives guarantee that a proper system of working has been followed, inasmuch as the present operations show that they have the two-fold purpose of ensuring a steady and regular out-turn of coal, and at the same time proving the existence of other workable areas, so that the latter may be ready for immediate working as the present seams are exhausted. And so far as I can understand this would appear to be the view taken by the practical men of the Great Indian Peninsula Railway Company, inasmuch as the Nerbudda Coal and Iron Company is so far relied on that Gadawarra, the terminus of the Mohpani Mineral Line, has been now for some months past made a Coaling Station, the Company supplying the Railway alone with an average quantity of 1,200 tons per month, and although this quantity, I am given to understand, is not equal to the Railway demand, yet the steady and regular supply gives indication of improvement on this head. Statement A with which I have been favoured by the Resident Agent of the Coal Company, shows the quantity of coal thus supplied during the past year, but of course the quantities therein shown do not exhibit the actual out-turn of coal from the mines during that period. If the small and unscreened coal be taken into account it would, I am informed, equal in amount the quantity sold as exhibited in the statement. I have myself seen a large stock of this small coal at the mines."

"Having premised thus much, I now beg to state the (1) progress during the year as explained to me by the Coal Company's Agent, Mr. Maynard, and in doing so I would wish it to be observed that I quote the Agent's own words:—

"Since last year two stone-drifts have been driven across a 32 feet north rise dyke thereby developing 76,000 tons of coal formerly supposed not to exist, and actually shown in the Company's plans as non-existent; that is to say it was supposed that north of the dyke above noted, no coal existed. Company's Agent has by the drifts above stated crossed the dyke and proved the coal (i.e. its existence), and it is at present in working operation, and the Agent is of opinion that further areas of coal are still to be proved by the continuation of the above workings and the passing through of another dyke, the dimensions of which are at present unknown. In addition to the above large development of coal a shaft, called No. 2 in the Company's plan, which was sunk some time back to coal level on No. 1 seam in the Mine Survey, is being supplied with an engine for working purposes together with an improved pump. Masonry for setting up this engine and machinery is now being completed, and when completed will, the Agent hopes, open out a new and extended area of coal. Further an entirely new shaft was commenced on the 1st January 1874 on the Mulpi plain south of the mines, having for its object the development of the coal lying below the said plain and which is variously estimated as lying from 500 to 1,000 feet below the surface."

"In Machinery, two new engines have been obtained, one a very powerful engine of 60 horse-power, the other a semi-portable engine of 30 horse-power. The large one is intended for pumping and coal drawing purposes; the other solely for the new shaft now being sunk on the Mulpi plain. For the shaft itself, double cast iron cribs for sinking the shaft and building on have been obtained and are on the ground, and to further facilitate the work at this new shaft a tramway from the mines to the plain has been laid down."

"The present state of the work is as stated above. The mines are in active working order, giving a regular supply of coal to the Railway; Coal trains running from the mines twice and oftener each week. There is considerable difficulty, the Agent states, in obtaining a sufficiency of labour. Statement B. of this Report supplied me by the Agent, shows the number of labourers and workmen employed as 694 daily, but notwithstanding this difficulty of labour the workings to prove the coal, i.e. to ascertain the existence of extended areas, are being prosecuted with all possible energy."

"The results hoped for are developments of such an increased area of coal as possibly to suffice for all the requirements of the Great Indian Peninsula Railway."

"There can be no doubt, I think, that the Company are pursuing the proper course; that is to say, their operations are tending to keep the mines in active, present and prospective operation, because by the present plan of operations and the methodical system of working, the present requirements of the Railway are to some extent met, and at the same time additional resources are being developed, so that in a short time the future of these mines will be known and the extent of their resources demonstrated to an almost certainty. The Agent is a thoroughly practical man, and appears impressed with the feeling that large areas of coal do exist and will be proved. There is an ample European staff at the mines, consisting of (1) the Agent, Mr. Maynard—himself a thoroughly practical man, (2) a Mechanical Engineer, (3) a professional Mine Captain; (4) and (5) two Assistant Miners: and besides the above there is the usual office establishment."

"As regards the want of labour mentioned by the Agent and adverted to above, the Agent was unable to assign any reason for the existence of this difficulty, and I am inclined to think that it is more imaginary than real. Of course, there is this to be said that the ordinary labourer always accustomed to the open air does not like the work of the mines, and it is as regards those who actually work in the mines that the difficulty is said to exist principally. I am inclined to think that the mode of payment has a great deal to do with this alleged difficulty. Coolies, I find, are paid at the mines at the usual rates for ordinary daily labour; but the miners who work inside with the pick are paid by the tram, getting 4 annas per tram load—that is for the quantity of coal picked, out sufficient to load the tram, (the actual loading, &c., being done by coolies). Now although 2 men can and do pick sufficient to load 3 trams, (thus earning 6 annas each per day), this can only be done by the practised miner: thus the labourers view it as task labour and dislike it accordingly. Again new men will always object to go into the mines at once, and considerable method is required to accustom them to the mines by degrees, and, I believe, this is done; but still the end is the same, the men are put on what they consider is task labour. I am told, however, that no other arrangements would suit, because the coal picker soon finds when he has picked sufficient to fill a tram, and he is accordingly interested in making the coolie or coolies remove the coal at once to fill the train: thus both the coal picker and the coolie do their full work, and without necessity of actual supervision in the mines; but on the other hand, I am told, if paid by daily wages both the coolie and the coal picker would not work without direct overlookers, and this could not well be carried out in the dark mine where the miners are working in scattered places in the pit, and further the expense it would entail would be considerable. This system of payment is then, I conceive, the principal difficulty; there may be others in the fact, that neither the Agent, the Mine Captain, or the Assistant Miners speak the language of the country, so that instead of being cheered and getting confidence from the European's voice they go into the mines with fear and dislike. In July 1873, the Agent, I am informed, brought some 200 men from Jabalpur; they were paid diet money until regularly employed; it was explained to them what they could earn, and arrangements were made to gradually accustom them to the mines, but in less than a month they had nearly all deserted, and of the entire number there is now but one man left, but he has, I am informed, turned out not only a contented miner but a good workman. The accident that occurred in the mines on the 18th May 1873 by the falling in of the Alice Monde Pit which was reported in this Office letter No. 1109, dated 27th May 1873, had no doubt a great deal to do with establishing a dread in the minds of the labouring class, and the matter is still spoken of with horror and superstitious dread by the adjacent village people. Save for this deplorable accident the casualties at the mines have been very few, vide Statement C herewith appended."

The Chief Commissioner concurs with the Deputy Commissioner in thinking that the present Agent of the Company, Mr. Maynard, is working in a judicious manner.

As regards the coal boring operations at Gadawarra, I am to submit that on the suggestion of Mr. Medlicott of the Geological Survey, two borings were undertaken near Gadawarra with the purpose of proving the existence of a coal bearing strata in the open valley. These borings were commenced at the end of last cold season by Mr. Collin, Coal Viewer, acting under the orders of Mr. Medlicott, but were handed over to the Executive Engineer of the Sagar Road Division in May 1873—the arrangement being that Mr. Medlicott should select the positions of the borings, &c.

In No. 1 boring considerable trouble was experienced in getting the pipes through the running sand. The pipes stuck at about 30 feet and again at 132 feet from the surface. Work at boring No. 2 went on well, and in the middle of November had reached a depth of 290 feet without striking rock. Specimens from this bore-hole were forwarded to Mr. Medlicott, who on the 12th November wrote thus:—

"The last sample * * * I did not like. It was chiefly the marly iron grained clay of the alluvials, but there was one good sized fragment in it and perfectly angular of a metamorphic quartz rock as if these were the rocks close at hand. If we do find these rocks at Sakakheri I would not recommend the Gadawarra boring to be resumed or indeed any further attempt for the present in the open valley. Operations may then be taken up in the Dudhi region where, I hope, piping will not be needed."

A.—Statement showing the end of Coal by the Nerbudda Coal and Iron Company, Limited, during the year ending 31st December 1873.

1873.			T.	Cwt.	Q.	lb.	Rs.	A.	P.	
February	...	G. I. P. Railway	495	4	2	13	4,457	1	2	Round Coal.
March	...	Do.	1,491	8	3	0	13,422	15	0	Do.
April	...	Do.	1,127	13	3	17	10,149	4	1	Do.
Do.	...	P. W. D. Department	165	19	2	16	497	15	0	Small Coal.
May	...	G. I. P. Railway	844	3	3	9	7,597	15	0	Round Coal.
June	...	Do.	658	2	2	15	5,923	2	11	Do.
July	...	Do.	861	19	2	23	7,757	13	9	Do.
August	...	Do.	859	17	1	23	7,738	13	8	Do.
September	...	Do.	792	6	1	0	7,130	13	0	Do.
Do.	...	Do.	278	7	3	16	1,769	2	5	Small Coal.
October	...	Do.	968	6	0	18	8,714	12	4	Round Coal.
Do.	...	Do.	31	4	0	4	187	3	6	Small Coal.
November	...	Do.	1,138	5	2	24	10,199	8	11	Round Coal.
Do.	...	P. W. Department	15	0	0	21	105	5	1	Small Coal.
December	...	G. I. P. Railway	1,230	1	1	23	11,070	10	5	Round Coal.
	...	P. W. Department	213	17	3	12	1,496	7	1	Small Coal.
Total...			11,167	0	0	10	98,218	11	6	

ABSTRACT.

Sold to	Total Quantity.				Value.			Description of Coal.	Quantity.				Value.		
	T.	Cwt.	Q.	Lb.					T.	Cwt.	Q.	Lb.			
G. I. P. Railway ...	10,772	2	1	17	96,119	0	4	Round Coal ...	13,162	10	1	25	94,162	10	5
P. W. Department ...	394	17	2	21	2,099	11	2	Small Coal ...	704	9	2	13	4,056	1	1
Total...	11,167	0	0	10	98,218	11	6	Total...	11,167	0	0	10	98,218	11	6

B.—Statement of Labourers employed by the Nerbudda Coal and Iron Company, Limited, taken from the Labourer Book for the week ending 31st December 1873.

90 Contract Miners; 68 Day Miners; 257 Labourers and Chapparrases, &c.; 116 Women; 7 Flatlayers; 57 Boys; 64 Blacksmiths; 4 Fitters; 30 Carpenters and Sawyers; 12 Engine-men and Assistant; 19 Masons—Total—694 Labourers.

C.—Accidents.

On Wednesday, the 15th January 1873—One man killed by the fall of coal while working contrary to instructions in the No. 2 seam.
On Friday, the 9th May 1873—Two boys killed and one lamed by the accidental fall of stone from the roof of No. 3 seam, the fall entirely accidental and could not possibly have been foreseen.

Sunday, 22nd May 1873—Date of accident at Alice Monde pit. This pit was commenced 31st October 1872.

THE NORTH-WEST CENSUS REPORT.

(From the Pioneer.)

THE three huge volumes of Mr. Plowden's report are certainly terrifying to an ordinary reader, but two of them may be looked upon as appendices of which the importance is very local, and mainly administrative; and as they are no less exclusively filled with figures than the *Nautical Almanac*, or the *Indian Ready Reckoner*, we can hardly recommend them for light reading in the ensuing hot weather. But the first volume, including a hundred pages of preliminary report, and not much more than 500 pages of densely packed figures, contains a mass of useful matter; and from this we propose to extract a few facts and deductions, referring to subjects of tolerably general interest.

The present is undoubtedly the most accurate census which has been taken in these Provinces, but Indian censuses have not yet attained such a pitch of accuracy as to justify us in drawing conclusions from the comparison of successive censuses. When, therefore, we find it stated that the population has increased at the rate of '052 per annum since the last census, we feel that such a conclusion is premature, more especially as the increase is almost entirely in the Hindoo portion of the community. Slight errors in the former census may have largely vitiated the comparison. In time, as the instruments improve and the principles of the enumeration become more widely understood, the possibilities of error will of course diminish; and we may say, once for all, that considering the vastness of the work, the amount of error in this present census is probably singularly small.

The total population of the N.-W. P. was 30,781,294, giving a population of nearly nine hundred thousand to each district. The 67 millions of Bengal furnish a million and a quarter per district, or, excluding Assam, nearly a million and a half. The most populous district in the North-West—Goruckpore—has not half the population of Tirhoot, and is exceeded by eight other Bengal districts. The next, Azimgurh, with a little above a million and a half, is exceeded by nineteen Bengal districts. But the most striking contrast between the N.-W. P. and Bengal is afforded by the Mahomedan population. The Mahomedans of the N.-W. P. are a little above four millions; the Mahomedans of Bengal are about twenty millions; and each of the divisions of Rajshahye and Dacca contain more Mussulmans than the whole of the North-West. The wholesale conversion of almost the whole of the peasant population in parts of Bengal has no parallel in these Provinces. In the Rajshahye district 77 per cent. of the whole inhabitants are Mussulmans, in Bogra 80 per cent. In the N.-W. P., even the Afghan settlements in Rohilkund raise the proportion only to 23 per cent., and in individual districts it nowhere exceeds a third of the population; while it sinks in Etawah and Mynpooree to only 54 per cent. The total percentage is 13½ for the N.-W. P.; 31½ for Bengal; or, dividing the heterogeneous assemblage of provinces under the Bengal Government into its main constituents, we find that in Orissa the Mahomedans form only 1·7 of the population, in Chota Nagpore 4·4, in Assam 2·3, in Behar (which very closely resembles the N.-W. P. in the character of its population) 13·4, or almost an identical figure, while in Bengal proper the number is 48·8, or nearly one-half. One other feature, which comes out very clearly in relation to this subject, is that the Mussulman population of the N.-W. P. is more urban than rural; in Bengal the reverse is the case, except in the city of Patna. Saharunpore district has a percentage of 31·6 Mussulmans on the total population; the town of Saharunpore has 55; and adding the population of all the towns in the district, we find that Mussulmans furnish a little more than half; so in Mozuffernuggur they are 43 per cent. in the towns, and only 72 per cent. in the total population. This is very much what we might expect! The Mussulman came into Northern India as conqueror of a civilized country; he entered Eastern Bengal as conqueror and civilizer also; he there came upon a half-wild population without the common bond furnished by an organized religion, who adopted him not only as master but as teacher.

Mr. Plowden has gone very fully into the subject of density of population, and his command of general statistical information, which distinguishes him from most Indian reporters who confine their view to their own province, and see only the sides of the box in which they are enclosed, enables him to bring out many very interesting facts. The density of population in the N.-W. P. is 378 per square mile; excluding the Himalayan districts it is 434 per square mile, or greater than any European country except Belgium, which amounts to 447. England and Wales have 380 persons on each square mile, Italy 237, Germany 193, France 159, Spain only 99. The Punjab shows 173, or between Germany and France; Madras 221, or rather less than Italy. Oudh alone is more closely packed than the North-West, or even than Belgium, giving as much as 474 persons to the square mile, and Oudh suffered till recently from a very considerable amount of rapine and oppression. Taking district by district, we find that Benares supports nearly 800 persons on the square mile, Jounpore and Ghazepore more than 600, and ten other districts from five to six hundred. The suburban districts of Hooghly and 24 Pergunnahs exceed these figures, and there are altogether 17 districts in Bengal with more than 600 to the square mile—a number exceeded by only eight counties in England, all of which are the seats of some special industry or contain some large town. Indeed nothing more distinguishes India from Europe than the greater density of the rural, as distinguished, from the urban population. In Goruckpore with its two million inhabitants, only 60,000, or three per cent. live in towns of a population of 5,000 or more.

The attempt to distinguish the agricultural from the non-agricultural population is not very successful, owing probably to the vagueness of the returns, which seldom distinguish between agricultural and other labourers; and the proportion of 56 per cent. shown as the relation of the agricultural classes to the total population is perhaps a good deal below the mark. In point of fact nearly every one who does not live in a town is more or less an agriculturist; and in the village community the accountant, the watchman, and the smith, have each their little allotment of lands, though in an occupation statement they would not figure as cultivators.

The statistics of infirmities form a new and very interesting feature in the present census, but one on which we have not space to dwell. Blindness is, as we should expect, common in a country of intense sunlight, and patches of bare soil or rock. There are more blind in the N.-W. P. than in Europe; nearly three times as many as in Lower Bengal with its cloudy skies and profuse verdure; more in Agra and the North than in the division adjacent to Bengal. Insanity, on the other hand, is far less frequent than in Europe, where the emotions are both stronger and subject to a greater number of disturbing influences, not to speak of the effects of intemperance.

Mr. Plowden does not make so much of the subject of caste as Mr. Beverley and his coadjutors. It happens not to interest him, and he hopes that in future censuses no attempt will be made to obtain information on this head. We are surprised at this. We do not think the question in any way foreign to an enumeration, and we are glad to perceive that the Government disagrees with Mr. Plowden. Why should a distinction, affecting social life so deeply, be ignored? Mr. Plowden does not attempt to classify the castes, and they are given only by name without any indication as to what is their social status, whether they are purely Arvan or not, to what general group of castes they belong. Without such information it is of little use to tell us that there are six Negls in Budaon, 97 Niargas in Butee, and 148 Nakurs in Kamaon. Mr. Groves has supplied an excellent paper on caste relationships, and if he had been allowed to supervise the whole subject, we may be sure that he would have brought to bear upon it a thoroughly scientific spirit. He would altogether ignore the four-fold division; and he believes that Vaisyas and Sudras never existed as distinct classes. His view is that the Hindoo invaders consisted of priests and warriors; that they utilized aboriginal slaves for the purposes of obtaining food, and that these formed the nucleus of the Sudra castes, the difference of occupation as herdsmen, agriculturists, hunters, together with the various circumstances of mixed marriages, leading to the diversity of castes; last of all, when population grew and towns were built, the Vaisyas as traders came into being. Against this view, so far as the principal Sudra castes are concerned, we have nothing to say; but we think the account of the origin of the Vaisyas imperfect, and opposed to the facts of early history. So far from the original invaders being exclusively either priests or warriors, and dependent necessarily on others for their subsistence, it seems that each householder was certainly a warrior, probably also a priest, but he was something more; he was also, and essentially, a herdsman, and derived his sustenance from keeping cows. The nation was a nation of cow-keepers; and the language itself (*dahiti*), or daughter, means the milkmaid of the family; *pa* or father, is the protector of the herd, as well as the earliest religious literature, is full of allusions which cannot be otherwise explained. Vaisya, from *vis* a house, is simply the name of a householder, and as such common to the whole society; it was only when the functions of the priest and ruler disintegrated themselves from the functions of the simple householder (one of the first steps of advancing civilization) that the remainder, those who belonged to no special caste, grouped together as ordinary householders, and in course of time came to form a caste under that name. It is not correct to say that their existence commenced with the existence of trade; it would be more correct to say the secession of two distinct castes necessitated the conception of a third caste to include the balance, and that in that view they are coeval with, in another view, as representing the primordial Arvan, antecedent to the Kshatriya and the Brahman.

We have no space for discussing the occupation statistics, but we must remark, as a relief to the dry discussions which have hitherto occupied us, that "there are no flatterers for gain or sturdy beggars recorded on this occasion, and the vagabond who announced his calling as such in the Agra district, has disappeared; but there are still 3,677 alms-takers, 1 gambler, and 39 bad characters, who, it is gratifying to find, are considerably reduced in number since 1865. The pimps, on the other hand, have increased their numbers to 558." We also find that "the only instances where difficulties have been openly thrown in the way of the enumerators occurred amongst our own countrymen," and "one young civilian has had the good taste to write himself down a Fenian in the nationality column."

RENT RATES, BENGAL, 1873.

(Prepared by Mr. Edgar.)

My aim in getting these statements compiled was to show the differences in the rates given for lands of similar kinds in neighbouring districts. This could be done very imperfectly, as different officers classified these lands on different principles, and I am not satisfied that in every case I have correctly identified the class of land meant to be described. For the maximum of each class in each district I took the maximum paid in any one pergunnah, and got my minimum in a similar way. In some districts the measure was not the standard beegah. In such cases the local measure is shown; but when one or two pergunnahs in a district were returned with a different measure from the rest of the district, such pergunnahs were left out for the statement.

BURDWAN DIVISION.

Rates paid by the actual cultivators for the ordinary descriptions of land on which the commonest crops are grown in the Burdwan Division.

Description of Land.	Districts.									
	Burdwan.		Bankoorah.		Beerhoom.		Midnapoor.		Hooghly.	
	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.
Early rice land on which an after crop of pulses, vegetables, oil-seeds, &c., is grown.....	Rs. a. 7 8 to 5 0	Rs. a. 4 8 to 15 0	Rs. a. 0 12 to 9 0	Rs. a. 2 4 to 27 0	Rs. a. 0 12 to 9 0	Rs. a. 2 4 to 27 0	Rs. a. 0 12 to 9 0	Rs. a. 2 4 to 27 0	Rs. a. 0 12 to 9 0	Rs. a. 2 4 to 27 0
Late rice, generally single crop	Rs. a. 0 12 to 3 0	Rs. a. 2 4 to 9 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0
Cotton.....	Rs. a. 2 0 to 5 0	Rs. a. 6 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 2 0 to 5 0	Rs. a. 6 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 2 0 to 5 0	Rs. a. 6 0 to 15 0
Potatoes.....	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0
Mulberry	Rs. a. 4 0 to 8 0	Rs. a. 12 0 to 24 0	Rs. a. 1 8 to 3 0	Rs. a. 4 8 to 9 0	Rs. a. 1 8 to 3 0	Rs. a. 4 8 to 9 0	Rs. a. 1 8 to 3 0	Rs. a. 4 8 to 9 0	Rs. a. 1 8 to 3 0	Rs. a. 4 8 to 9 0
Jute.....	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0
Hemp.....	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0	Rs. a. 0 8 to 3 0	Rs. a. 1 8 to 9 0
Indigo.....	Rs. a. 10 0 to 12 0	Rs. a. 30 0 to 36 0	Rs. a. 12 0 to 18 0	Rs. a. 36 0 to 48 0	Rs. a. 12 0 to 18 0	Rs. a. 36 0 to 48 0	Rs. a. 12 0 to 18 0	Rs. a. 36 0 to 48 0	Rs. a. 12 0 to 18 0	Rs. a. 36 0 to 48 0
Orchard lands	Rs. a. 0 12 to 2 0	Rs. a. 2 4 to 6 0	Rs. a. 0 6 to 12 0	Rs. a. 12 0 to 24 0	Rs. a. 0 6 to 12 0	Rs. a. 12 0 to 24 0	Rs. a. 0 6 to 12 0	Rs. a. 12 0 to 24 0	Rs. a. 0 6 to 12 0	Rs. a. 12 0 to 24 0
Grass	Rs. a. 0 4 to 8 0	Rs. a. 12 0 to 1 8	Rs. a. 0 4 to 8 0	Rs. a. 12 0 to 1 8	Rs. a. 0 4 to 8 0	Rs. a. 12 0 to 1 8	Rs. a. 0 4 to 8 0	Rs. a. 12 0 to 1 8	Rs. a. 0 4 to 8 0	Rs. a. 12 0 to 1 8
Sugar-cane.....	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0
Lands on which pulses are grown	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0
Raised sugar-cane lands, succeeded by other crops	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0
Garden lands.....	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0
Beet, Kullai, Mutter, Urhar, Mooring, &c.	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0
Jowrah, and similar crops	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0
Mustard, linseed, and mustard oil	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0	Rs. a. 3 0 to 5 0	Rs. a. 9 0 to 15 0

N.B.—The Hooghly statement gives, besides the maximum and minimum rates, an ordinary rate for the beegah and acre, which is not shown in the abstract. The beegah given for the greater part of the Midnapore district is 18,225 square feet. In one pergunnah it is 22,500 square feet. The rates in that pergunnah (Salespore) are not shown in the abstract.

RAJSHAHYE DIVISION.

Prevailing rates paid by the actual cultivators for ordinary descriptions of land on which the commonest crops are grown in the Rajshahye Division.

DESCRIPTION OF LAND.	DISTRICTS.											
	Moorshedabad.		Dinapore.		Maldah.		Rajshahye.		Rungpore.		Begrah.	
	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.
Early rice lands on which an after crop of pulses, vegetables, oil-seed, &c., is grown.	R. a. R. a. R. a.	R. a. R. a. R. a.	R. a. R. a. R. a.	R. a. R. a. R. a.	R. a. R. a. R. a.	R. a. R. a. R. a.	R. a. R. a. R. a.	R. a. R. a. R. a.	R. a. R. a. R. a.	R. a. R. a. R. a.	R. a. R. a. R. a.	R. a. R. a. R. a.
Born rice	0 4 to 3 0	0 12 to 9 0	0 4 to 2 8	0 8 to 5 0	0 6 to 3 12	1 2 to 11 4	0 8 to 1 8	1 8 to 4 8	0 15 to 2 8	0 23 to 7 8	0 3 to 2 0	0 9 to 6 0
Late rice, generally single crop.	0 6 to 2 0	1 2 to 6 0	0 4 to 1 8	0 8 to 3 0	0 2 to 8 0	0 6 to 1 8	0 8 to 1 4	1 8 to 3 12	0 4 to 2 0	0 12 to 6 0	0 3 to 2 0	0 9 to 6 0
Food-grains, viz. wheat, mutter, musoor, &c.	0 8 to 1 4	1 8 to 3 12										
Jute	0 8 to 1 4	1 8 to 3 12										
Sugar-cane	2 8 to 3 12	6 9 to 11 4										
Indigo	0 3 to 1 4	0 9 to 3 12										
Orchard land	1 0 to 8 8	3 0 to 25 8										
Betel	2 8 to 8 4	7 0 to 24 12										
Mulberry	1 0 to 2 0	3 0 to 6 0										
Vegetables	1 0 to 1 2	3 0 to 3 6										
Plantain												
Bamboo												
Hemp and tobacco												
Grass land												
Turnip												
Gliser												
Linseed												
Ganja												
Date												
Mustard												
Malda												

N. B.—The size of the beegah for the greater part of the Dinapore district is 21,609 square feet. Two pergunahs only (Jehangirpore and Doara) have the standard beegah, one (Bijangpur) has a beegah of 20,716 square feet, and one (Usail) a beegah of 18,225 square feet. These four have been omitted from the abstract.

CHOTA NAGPORE DIVISION.

Rates paid for the ordinary descriptions of land on which the commonest crops are grown in the Chota Nagpore Division.

DESCRIPTION OF LAND.	DISTRICTS.									
	Hazareebaugh.		Loharduggah.		Singbhoom.		Maubhoom.			
	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.
Early rice land on which an after crop of pulses, vegetables, oil-seeds, &c., is grown.....	Rs. a. p. 0 1 0 to 0 14 0	Rs. a. p. 0 3 0 to 2 10 0	Rs. a. p. 0 1 9 to 0 7 1	Rs. a. p. 0 5 3 to 1 5 3	Rs. a. p. 0 4 0 to 0 9 0	Rs. a. p. 0 12 0 to 1 11 0	Rs. a. p. 0 2 0 to 1 0 0	Rs. a. p. 0 6 0 to 3 0 0	Rs. a. p. 0 5 0 to 2 8 0	Rs. a. p. 0 15 0 to 7 8 0
Late rice, generally single crop.....	0 11 0 to 1 7 0	2 1 0 to 4 5 0	0 4 0 to 2 3 6	0 12 0 to 6 10 6	0 12 0	2 4 0	0 5 0 to 2 8 0	0 6 0 to 3 0 0	0 5 0 to 2 8 0	0 15 0 to 7 8 0
Lands on which pulses are grown.....	0 3 0 to 1 1 0	0 9 0 to 1 10 0	0 1 9 to 0 7 1	0 5 3 to 1 5 3	.....	.....	.....	.....	.....	.....
Sugar-cane.....	0 11 0 to 1 7 0	2 1 0 to 4 5 0	Grown on garden land.	.....	.....	.....	.....	.....	.....	.....
Opium.....	0 11 0 to 1 7 0	2 1 0 to 4 5 0	Ditto.	.....	.....	.....	.....	.....	.....	.....
Food-grains.....	1 7 0 to 2 8 0	4 5 0 to 7 8 0	0 0 10 to 0 1 9	0 2 6 to 0 5 3	.....	.....	.....	.....	.....	.....
Garden land.....	.....	.....	0 7 1 to 2 3 6	1 5 3 to 6 10 6	.....	.....	.....	.....	.....	.....
Kulna.....	.....	.....	.....	.....	0 3 0	0 9 0	.....	.....	.....	.....

N. B.—In the Singbhoom district, except in pergunnah Dhalbhoom, the same rate of rent prevails for both early and late rice.

ASSAM DIVISION.

Rates paid by the actual cultivators for the ordinary descriptions of the land on which the commonest crops are grown in the Assam Division.

DESCRIPTION OF LAND.	DISTRICTS.											
	Gowalpara.		Kamroop.		Durrung.		Nowgong.		Sibsagar.		Lackimpore.	
	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.
Early rice land on which an after crop of pulses, vegetables, oil-seeds, &c., is grown.....	Rs. a. p. 0 2 4 to 0 9 7	Rs. a. p. 0 7 0 to 1 12 9	Rs. a. 1 8	0 8	Rs. a. 0 8	1 8	Rs. a. 1 8	0 8	Rs. a. 1 8	0 8	Rs. a. 1 8	0 8
Late rice generally single crop.....	0 4 9 to 0 10 0	0 14 3 to 1 14 0	0 10	.....	0 10	1 14	0 10	1 14	0 10	1 14	0 10	1 14
Cotton*.....	0 10 0	2 0 9	.....	.....	Grown on early rice land.	.....	.....	.....	.....	.....	.....	.....
Sugar-cane*.....	1 4 0	4 1 0	.....	.....	Ditto.	.....	.....	.....	.....	.....	.....	.....
Jute.....	0 7 0	1 5 0	.....	.....	With fruits, to 1 0	3 0	.....	.....	.....	.....	.....	.....
Vegetables.....	0 5 0	1 15 0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

* In the Gowalpara district cotton and sugar-cane are grown in one pergunnah only (Metchepore), where the beegah is slightly below the standard, being only 14,280 square feet.

PATNA DIVISION.

Rates paid by the actual cultivators for the ordinary descriptions of land on which the commonest crops are grown in the Patna Division.

DESCRIPTION OF LAND.	Panna.				Gya.				Singhatbad.				Tirhoot.				Saron.				Chumpran.			
	Per beegah.		Per acre.		Per beegah.		Per acre.		Per beegah.		Per acre.		Per beegah.		Per acre.		Per beegah.		Per acre.		Per beegah.		Per acre.	
	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	
Early rice land on which an after crop of pulses, vegetables, oil-seeds, &c., is grown.	2 8 to 4 0	4 0 to 6 6	1 4 to 6 0	2 0 to 9 9	0 8 to 5 0	0 12 to 8 0 0	0 12 to 9 to 8 0 0	0 12 to 9 to 8 0 0	1 0 to 4 0	1 2 8 to 5 0 0	3 8 9	4 12 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6
Late rice, generally single crop.	3 0 to 6 0	4 12 to 9 9	Same as early rice.	2 0 to 9 9	1 0 to 5 0	0 12 to 8 0 0	0 12 to 9 to 8 0 0	0 12 to 9 to 8 0 0	1 0 to 4 0	1 2 8 to 5 0 0	3 8 9	4 12 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6
Food-grains, viz. wheat, muttur, mussoor, &c.	2 0 to 8 0	3 3 to 12 12	1 0 to 6 0	1 9 to 9 9	0 12 to 10 0	1 3 0 to 16 0 0	1 3 0 to 16 0 0	1 3 0 to 16 0 0	1 0 to 4 0	1 2 8 to 5 0 0	3 8 9	4 12 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6
Garden land	2 0 to 8 0	3 3 to 12 12	1 0 to 6 0	1 9 to 9 9	0 12 to 10 0	1 3 0 to 16 0 0	1 3 0 to 16 0 0	1 3 0 to 16 0 0	1 0 to 4 0	1 2 8 to 5 0 0	3 8 9	4 12 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6
Jute	5 0 to 8 0	8 0 to 12 12	1 8 to 5 0	2 6 to 8 0	0 8 to 3 0	0 12 to 4 12 0	0 12 to 4 12 0	0 12 to 4 12 0	1 0 to 4 0	1 2 8 to 5 0 0	3 8 9	4 12 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6
Indigo	5 0 to 8 0	8 0 to 12 12	1 8 to 5 0	2 6 to 8 0	0 8 to 3 0	0 12 to 4 12 0	0 12 to 4 12 0	0 12 to 4 12 0	1 0 to 4 0	1 2 8 to 5 0 0	3 8 9	4 12 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6
Castor-oil seeds, cotton, burray, mustard, and ry	2 0 to 6 0	6 6 to 12 12	1 0 to 4 0	1 9 to 6 6	0 8 to 3 0	0 12 to 4 12 0	0 12 to 4 12 0	0 12 to 4 12 0	1 0 to 4 0	1 2 8 to 5 0 0	3 8 9	4 12 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6
Cotton	5 0 to 10 0	8 0 to 16 0	1 12 to 5 0	2 12 to 8 0	0 8 to 3 0	0 12 to 4 12 0	0 12 to 4 12 0	0 12 to 4 12 0	1 0 to 4 0	1 2 8 to 5 0 0	3 8 9	4 12 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6
Tobacco, sugar-cane, and poppy	1 0 to 6 0	1 2 to 9 9	0 8 to 3 0	1 9 to 6 6	0 8 to 3 0	0 12 to 4 12 0	0 12 to 4 12 0	0 12 to 4 12 0	1 0 to 4 0	1 2 8 to 5 0 0	3 8 9	4 12 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6
Orchard land	1 8 to 6 0	2 6 to 9 9	0 8 to 3 0	1 9 to 6 6	0 8 to 3 0	0 12 to 4 12 0	0 12 to 4 12 0	0 12 to 4 12 0	1 0 to 4 0	1 2 8 to 5 0 0	3 8 9	4 12 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6	2 0 to 4 8	1 8 0 to 3 6	2 0 to 6 0	4 0 to 10 5	1 0 to 4 8	0 12 0 to 3 6
Lands on which pulses are grown.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sugar-cane	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Opium	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
					</																			

N.B.—Patna district, size of begah 27, 225 square feet, or $\frac{1}{4}$ th of an acre.

except in the sub-division of Bhubanab, where the beegah is only 10,888 square feet.

8 bathas to the Ingree = 1 acre 1 rood 11 poles = 4 standard beggabs.

BHAUGULPORE DIVISION.

Rates paid by the actual cultivators for ordinary descriptions of land on which the commonest crops are grown in the Bhaugulpore Division.

[illegible]

N.B.—In the Bhaugulpore district opium and indigo are grown chiefly on the waste ground as pulses and food-grains. The size of the bazaar varies also, but for the greater part of the district it is 3,025 square yards = 0.625 of an acre. No acre rate has been given for the Furness district, and the rate per bazaar, which varies considerably, is the average for the whole district.

DACCA DIVISION.

Rates paid by the actual cultivators for the ordinary descriptions of land on which the commonest crops are grown in the *Dacca Division*.

DESCRIPTION OF LAND.	DISTRICTS.									
	Dacca.		Furreedpore.		Backergunge.		Mymensing.		Sylhet.	
	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.
Early rice land on which an after crop of pulses, vegetables, oil-seeds, &c., is grown.	Rs. a. Rs. a. p.	Rs. a. p.	Rs. a. Rs. a. p.	Rs. a. p.	Rs. a. Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. Rs. a. p.	Rs. a. Rs. a. p.
Late rice, generally single crop.	0 2 to 2 0	0 6 to 6 0	0 3 to 1 4	0 9 to 8 12	0 4 to 2 8 11	0 12 to 7 10 9	0 4 0 to 1 8 0	0 12 0 to 4 8 0	0 3 3 to 2 11 4	0 9 9 to 8 2 0
Sugar-cane	0 4 to 1 11	0 12 to 5 1	Same as early rice.	0 6 to 5 0 0	0 6 to 5 0 0	1 2 to 9 0 0	0 4 0 to 1 8 0	0 12 0 to 4 8 0	0 2 2 to 1 1 6	0 6 6 to 3 4 6
Orchard land	0 4 to 2 8	0 12 to 7 8	0 4 to 2 8	0 12 to 7 8	0 4 to 2 8 0	4 2 to 4 8 0	1 8 0 to 3 8 0	4 8 0 to 10 8 0	0 8 8 to 2 0 0	0 10 to 1 4 4
Garden	0 2 to 3 0	0 6 to 9 0	0 3 to 1 11	0 9 to 5 1	.....	.....	0 5 0 to 1 8 0	0 15 0 to 4 8 0	0 2 2 to 2 3 0	0 6 to 2 0 0
Pin	.....	.....	.....	.....	With coconut.	.....	.....	.....	0 2 2 to 1 14 4	0 6 6 to 5 11 0
Turneric, ginger, &c.	.....	.....	0 8 to 2 13	1 8 to 8 7	1 15 to 2 14 5	5 13 to 8 11 6	2 4 0 to 5 8 0	6 12 0 to 16 8 0	0 13 0 to 2 2 8	2 7 0 to 6 8 0
Land on which pulses, &c., is grown	.....	.....	0 7 to 2 5	1 6 to 6 15	.....	.....	0 2 0 to 0 12 0	0 6 0 to 2 4 0	.....	.....
Jute	.....	.....	.....	.....	Grown on early rice land.	.....	0 4 0 to 1 8 0	0 12 0 to 4 8 0	.....	.....
Grass land	.....	.....	.....	.....	.....	.....	0 3 0 to 1 2 0	0 9 0 to 3 6 0	.....	.....
Mustard, linseed, kollai and muba, moong, potatoes, chilies, and sesamum.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dato	1 8 to 2 8	4 8 to 7 8	.....	.....	.....	.....	.....	.....	0 2 2 to 1 2 5	0 6 6 to 3 7 3

N.B.—In several pergunnahs of the Backergunge districts early and late rice are grown on the same land and pay the same rates. The local measure in the Cachar district is the "kheyr" = 17,485-4196 sq. ft., or $2\frac{1}{2}$ kheyr to an acre.

CHITTAGONG DIVISION.

Rates paid for the ordinary descriptions of land on which the commonest crops are grown in the *Chittagong Division*.

DESCRIPTION OF LAND.	DISTRICTS.									
	Chittagong.		Noakhally.		Tipperah.		Hill Tracts.		Hill Tipperah.	
	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.	Per beegah.	Per acre.
Early rice land on which an after crop of pulses, vegetables, oil-seeds, &c., is grown.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Late rice, generally single crop.	2 0 0 to 7 0 0	6 0 0 to 21 0 0	0 7 3 to 1 14 5	1 5 9 to 5 11 3	0 8 5 to 1 14 6	1 9 3 to 5 11 6	1 8 0 to 1 12 0	4 8 0 to 5 4 0	0 3 4 to 1 7 4	0 10 0 to 4 6 0
Kollai	1 0 0 to 5 0 0	3 0 0 to 15 0 0	Same as early rice.	.....	0 7 11 to 2 8 4	1 7 9 to 7 9 0	0 5 0 to 1 8 0	0 15 0 to 4 8 0	Same as early rice.	.....
Sugar-cane	2 0 0 to 8 0 0	6 0 0 to 24 0 0	.....	.....	.....	.....	0 10 0 to 0 13 4	1 14 0 to 2 8 0	.....	.....
Pin	3 0 0 to 10 0 0	9 0 0 to 30 0 0	.....	.....	.....	.....	0 11 8 to 1 8 0	2 3 0 to 4 8 0	.....	.....
Garden land	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jute*	.....	.....	2 2 9 to 2 11 6	6 8 3 to 8 2 6	.....	.....	0 10 0 to 0 13 4	1 14 0 to 2 8 0	.....	.....
Tobacco	.....	.....	.....	.....	1 5 11 to 1 15 10	4 1 9 to 5 15 6	0 10 0 to 1 0 8	1 14 0 to 3 2 0	.....	.....

N.B.—In the Tipperah district land is rented by the "kani," which however varies greatly in size, ranging from 9,720 square feet to 69,120 square feet. The rates for that district have been converted into standard beegah rates. * Jute is also grown on early rice land in the Brahmanbaria sub-division of the Tipperah district.

PRESIDENCY DIVISION.

Prevailing rates paid by the actual cultivators for ordinary descriptions of land in the Presidency Division.

DESCRIPTION OF LAND.	DISTRICTS.											
	24-Pergunnahs.				Nuddea.				Jessore.			
	Per beegah.		Per acre.		Per beegah.		Per acre.		Per beegah.		Per acre.	
	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
Early rice lands on which an after crop of pulses, vegetables, oil-seeds, &c., is grown.	0 12 to 2 8		2 4 to 7 8		0 6 to 2 8		1 2 to 7 8		0 15 to 1 8		2 13 to 4 8	
Late rice, generally single crop.	0 12 to 8 0		2 4 to 24 0		0 4 to 12 0		0 12 to 2 4		Same as early rice.			
Cotton					Grown on garden land.							
Potatoes					Ditto ditto.							
Mulberry					Ditto ditto.				1 4		3 12	
Jute	1 0 to 8 4		3 0 to 9 12		Grown on early rice land.				0 14 to 1 8		2 10 to 4 8	
Hemp												
Indigo					Grown on early rice land.				1 0 to 2 0		3 0 to 6 0	
Pan	3 0 to 12 0		9 0 to 36 0		Grown on garden land.				1 8 to 4 0		4 8 to 12 0	
Orchard lands					2 0 to 6 4		6 0 to 18 12		1 14 to 3 0		5 10 to 9 0	
Grass					1 0 to 6 0		3 0 to 18 0					
Sugar-cane	1 0 to 3 4		3 0 to 9 12		Grown on early rice land.				1 0 to 2 4		3 0 to 6 12	
Lands on which pulses are grown												
Raised sugar-cane lands succeeded by other crops												
Garden lands	1 0 to 4 0		3 0 to 12 0		1 0 to 4 0		3 0 to 12 0		1 4 to 3 6		3 12 to 9 6	
Tobacco	1 8 to 4 0		4 8 to 12 0		Grown on garden land.				0 12 to 2 0		2 4 to 6 0	
Date	0 12 to 1 4		2 4 to 3 12		Grown on orchard land.				0 7 to 3 8		1 5 to 10 8	
Chillies									1 8 to 3 0		4 8 to 9 0	
Barley									0 12 to 1 0		2 4 to 3 0	
Bamboo									1 8 to 2 0		4 8 to 6 0	
Cocoanut									2 0 to 4 0		6 0 to 12 0	

COOCH BEHAR DIVISION.

Rates paid by the actual cultivators for ordinary descriptions of land in the Cooch Behar Division.

DESCRIPTION OF LAND.	DISTRICTS.											
	Darjeeling.				Julpigoree.				Cooch Behar.			
	Per beegah.		Per acre.		Per beegah.		Per acre.		Per beegah.		Per acre.	
	Rs. a. p.	Rs. a.	Rs. a. p.	Rs. a.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a.	Rs. a. p.	Rs. a.	Rs. a. p.	Rs. a.
Early rice land on which an after crop of pulses, vegetables, oil-seeds, &c., is grown.	0 4	0 to 1 0	0 12	0 to 3 0	0 2 8	to 0 13 4	0 8	0 to 2 8				
Late rice generally single crop.		Same as early rice.			0 8	0 to 1 0	0 0	1 8	0 to 3 0			
Jute					0 13 4	to 1 8	0	2 8	0 to 4 8			
Jotedars									0 4	0 to 0 10	0 12	0 to 1 14
Chukanidars									0 8	0 to 1 3	1 8	0 to 3 9

N.B.—The rates given in the Darjeeling district are for the Terai only. In the Hills rent is paid by the house, and on the east side of the Teesta by the man.

The rate of rent in the Cooch Behar district does not depend on the crop, but on the nature of the tenure.

ORISSA DIVISION.

Rates paid by the actual cultivators for ordinary descriptions of land in the Orissa Division.

DESCRIPTION OF LAND.	CUTTACK.		POORIE.				BALASORE.			
	Per beegah.		Per beegah.		Per acre.		Per beegah.		Per acre.	
			Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a.	Rs. a.	Rs. a. p.	Rs. a.	Rs. a.
Early rice land on which an after crop of pulses, vegetables, oil-seeds, &c., is grown.			0 4	2 to 1 9	0	0 12	6 to 4 11	0 7	to 1 14	1 5 to 3 4
Late rice, generally single crop.			0 5	8 to 1 9	0	1 1	3 to 4 11	0 3	to 0 14	0 15 to 2 12
Land on which pulses are grown.			0 4	1 to 0 12	0	0 12	4 to 2 4	0 4	to 0 9	0 12 to 1 13
Mustard			0 9	11 to 0 15	8	1 13	9 to 2 15	0 4	to 0 8	0 12 to 1 9
Castor-oil seed			0 8	3 to 0 12	4	1 8	9 to 2 5			
Garden land			0 10	5 to 1 0	8	1 15	3 to 3 2			
Cotton			0 10	5 to 1 0	8	1 15	3 to 3 2			
Turmeric			0 6	3 to 0 8	4	1 2	9 to 1 9			
Pan leaves			4 2	8 to 5 3	4	12	0 8 to 15 10			
Suga-cane			1 9	0 to 2 3	8	4 11	0 to 6 4			
Tobacco			2 5	6 to 3 2	0	7 0	6 to 9 6			

AGRICULTURE.—AMERICA.

Table showing the average yield per acre and price of the principal crops of the United States for 1871, and the area and condition of winter grain.

States.	CORN.		WHEAT.		RYE.		OATS.		BARLEY.		BUCKWHEAT.		POTATOES (Solanum tuberosum.)	
	Average yield per acre in 1871, stated in bushels.	Average price per bushel January 1, 1872.	Average yield per acre in 1871, stated in bushels.	Average price per bushel January 1, 1872.	Average yield per acre in 1871, stated in bushels.	Average price per bushel January 1, 1872.	Average yield per acre in 1871, stated in bushels.	Average price per bushel January 1, 1872.	Average yield per acre in 1871, stated in bushels.	Average price per bushel January 1, 1872.	Average yield per acre in 1871, stated in bushels.	Average price per bushel January 1, 1872.	Average yield per acre in 1871, stated in bushels.	Average price per bushel January 1, 1872.
Maine	27.2	\$0 98	13	\$1 80	17.2	\$1 19	25	\$0 66	21.5	\$0 87	21	\$0 91	142	\$0 46
New Hampshire	35.7	95	15.2	1 72	18.5	1 13	37	63	29.4	98	18.7	71	140	49
Vermont	35.6	99	16.6	1 62	16	1 11	35.5	53	22.8	1 22	21	70	160	87
Massachusetts	34.3	98	18.2	1 68	18	1 12	31.4	70	24.2	1 07	15	1 07	126	68
Rhode Island	27.3	99	.....	.....	19.6	1 05	33.3	60	23	1 00	.....	.....	90	73
Connecticut	31.4	1 07	17	1 55	14.2	1 17	31.6	65	.....	.....	24	1 00	106	68
New York	33	82	17.2	1 51	16.6	88	39.1	51	25.9	78	24.1	78	107	48
New Jersey	36	75	18	1 54	15	94	33.3	52	.....	.....	16	92	96	66
Pennsylvania	35.5	77	16.2	1 45	14.6	86	31	49	18.6	90	21.1	93	112	55
Delaware	22	60	11.5	1 52	5	75	20	41	.....	.....	12.5	77	120	50
Maryland	23.6	64	12	1 52	11.5	85	17.7	48	.....	.....	14.2	97	71	71
Virginia	22.6	67	8	1 39	13.6	71	16.4	49	.....	.....	14.4	82	71	71
North Carolina	14	71	6	1 42	6.6	86	10.6	63	.....	.....	11.6	61	105	71
South Carolina	10	92	5	2 08	7.1	1 55	8.9	87	.....	.....	.....	.....	95	1 38
Georgia	10.3	93	5	1 66	7.3	1 56	10.7	80	14.6	1 77	.....	.....	96	1 42
Florida	10.7	1 09	.....	.....	11.5	1 50	13	1 01	.....	.....	.....	.....	73	1 93
Alabama	14.5	92	6.3	1 56	9.2	1 80	13.4	87	.....	.....	.....	.....	85	1 06
Mississippi	14	98	10	1 59	9.2	1 70	13.8	96	.....	.....	.....	.....	88	1 36
Louisiana	14.4	1 12	.....	.....	.....	.....	20	1 12	.....	.....	.....	.....	60	1 37
Texas	19	1 11	11.5	1 97	12.1	1 65	25.1	1 04	.....	.....	.....	.....	105	1 85
Arkansas	26.7	66	8.4	1 55	12	1 75	25	73	.....	.....	.....	.....	82	1 11
Tennessee	23	51	5	1 28	8.4	92	15.2	46	17.8	72	8.2	90	80	68
West Virginia	27.6	63	10	1 31	13	87	25.1	44	11	70	14.1	92	73	66
Kentucky	27.3	47	6.1	1 29	9.4	81	24.3	41	22	84	25	1 25	69	78
Missouri	38	31	13.4	1 16	17.1	59	28.3	30	27.5	62	22.1	71	78	64
Illinois	38.3	32	12.3	1 18	17.8	56	33.1	28	25.5	52	14.1	74	61	85
Indiana	35.7	37	12	1 26	13.9	72	28.8	33	27.4	72	13.5	75	64	82
Ohio	38.5	45	13.9	1 26	14.5	77	34.7	35	26.1	74	14.5	96	96	63
Michigan	32.4	59	14	1 32	14.4	76	34.2	41	23.2	93	15	79	68	83
Wisconsin	37.7	48	12.2	1 11	16.1	60	38.6	35	29.9	56	18.3	62	105	55
Minnesota	37.3	44	11	1 00	16.8	63	33.8	34	25.4	46	20.7	84	123	39
Iowa	42.5	23	10.8	96	19.9	51	41.1	21	29.6	46	26.7	72	131	38
Kansas	40	29	15.9	1 13	19	67	31.8	30	21.8	70	15.2	93	97	69
Nebraska	41.5	25	10.3	90	18	55	31.8	25	29.6	46	16	94	124	32
California	38	1 16	17.5	1 41	27	1 40	40	70	28.4	1 08	26	1 36	152	91
Oregon	26.6	1 00	19.2	1 04	25	95	29.7	77	29	84	20	1 40	76	1 03

States.	POTATOES (Batatas quilis, sweet.)		LEAF-TOBACCO.		HAY.		SORGHUM MOLASSES.		WINTER-WHEAT.		WINTER-RYE.		WINTER-BARLEY.	
	Average yield per acre in 1871, stated in bushels.	Average price per bushel January 1, 1872.	Average yield per acre in 1871, stated in pounds.	Average price per pound January 1, 1872.	Average yield per acre in 1871, stated in tons.	Average price per ton January 1, 1872.	Average yield per acre in 1871, stated in gallons.	Average price per gallon January 1, 1872.	Average amt sown compared with 1870.	Condition of the crop compared with an average.	Average amt sown compared with 1870.	Condition of the crop compared with an average.	Average amt sown compared with 1870.	Condition of the crop compared with an average.
Maine	.....	.....	.....	.....	.46	\$26 00	.....	.....	125	.....	95	97	.....	.....
New Hampshire	.....	.....	.....	.....	.97	23 00	.....	.....	98	.....	98	98	.....	.....
Vermont	.....	.....	.....	.....	1.02	17 50	.....	.....	.....	.....	.....	.....	.....	.....
Massachusetts	.....	.....	1,450	\$0 20.5	.96	29 60	.....	.....	55	150	80	94	106	.....
Rhode Island	.....	.....	.....	.....	.91	33 33	.....	.....	.....	.....	100	100	.....	.....
Connecticut	.....	.....	1,700	27.6	1.11	31 20	.....	.....	.....	.....	100	100	.....	.....
New York	.....	.....	657	12.6	1.22	19 42	.....	.....	98	94	99	98	91	92
New Jersey	75	\$0 90	.....	.....	1.30	26 70	.....	.....	100	97	98	109	.....	.....
Pennsylvania	100	88	1,200	15.2	.93	20 76	.....	\$0 60	101	92	101	95	92	110
Delaware	112	87	.....	.....	1.25	17 50	60	50	100	90	100	100	.....	97
Maryland	112	94	650	8.2	1.00	25 71	100	62	101	95	96	98	.....	.....
Virginia	92	80	708	10.8	1.21	17 82	85	62	94	102	93	90	.....	.....
North Carolina	101	62	599	10.3	1.13	12 30	73	52	100	95	101	98	103	96
South Carolina	79	71	.....	.....	.60	21 60	59	56	95	100	98	100	.....	.....
Georgia	99	62	350	21.4	1.50	23 06	92	56	101	95	100	97	110	102
Florida	127	70	.....	.....	.....	.....	150	45	.....	.....	100	103	.....	.....
Alabama	103	67	.....	.....	1.33	19 50	76	62	115	109	100	112	.....	.....
Mississippi	85	73	.....	.....	1.45	21 66	78	76	91	91	100	96	.....	.....
Louisiana	108	82	.....	.....	1.50	25 00	.....	.....	.....	.....	.....	.....	.....	.....
Texas	118	91	600	24	1.07	24 33	72	83	115	107	105	112	.....	.....
Arkansas	120	93	833	14.5	1.67	20 87	133	57	101	87	89	94	.....	104
Tennessee	100	77	741	11	1.48	16 58	81	58	96	99	97	99	107	104
West Virginia	91	1 27	605	14.4	.97	14 58	71	67	97	93	97	111	95	92
Kentucky	78	1 06	724	7.7	1.20	14 27	81	56	88	101	90	97	103	92
Missouri	95	1 02	822	8.3	1.55	10 66	98	51	97	80	95	90	91	85
Illinois	80	1 22	731	6.6	1.31	10 05	96	58	101	89	89	89	100	91
Indiana	90	1 25	702	8.5	1.19	12 78	82	54	97	84	95	88	100	91
Ohio	135	1 30	828	9.1	1.22	11 91	101	59	93	82	94	85	85	86
Michigan	.....	.....	.....	.....	1.12	17 33	70	81	92	78	93	85	101	90
Wisconsin	.....	.....	1,200	11	1.45	10 68	60	55	107	93	99	99	103	100
Minnesota	.....	.....	.....	.....	1.55	6 27	73	71	162	99	105	70	.....	.....
Iowa	110	91	.....	.....	1.64	6 09	121	57	120	98	88	91	.....	.....
Kansas	128	1 15	.....	.....	1.90	4 91	110	58	105	80	97	92	100	103
Nebraska	100	2 12	.....	.....	1.80	4 76	105	61	134	113	116	.....	.....	.....
California		1 10			1.29	21 85			132	100			115	100
Oregon					1.62	19 40			117	98				

April 30, 1874.

THE STATISTICAL REPORTER.

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Comparison of the Prices of Ordinary Common Rice in Bengal Month by Month in 1866 and 1874—concluded.

[illegible]

PRICE OF COMMON RICE IN LOWER BENGAL, 1866 AND 1874.

(Figures for 1866 compiled from the Famine Commissioners' Report.)

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Remarks.
1. Pooree [town], 1866 ...	12½	12½	9½	7½	6½	6½	6½	5½	7½	7½	6½	15½	
1874 ...	22½	23½	27½	27½									
2. Cuttack 1866 ...	13	11	9	7	6	4	4	5	6	7	15	11	
1874 ...	22½	26½	26½	20									
3. Balasore 1866 ...	11 to 14½	10 to 12	8 to 11	8 to 9	6 to 9	5 to 7	6 to 7	3 to 6	6½ to 8	8 to 21	14 to 22	22 to 32	
1874 ...	24	25	24	24									
4. Maunbhoom ... 1866 ...	13	13	13	13	10	8½	5½	5	5½ to 6	8	16	26	
1874 ...	16	14½	14½	14½									
5. Singhbhoom ... 1866 ...	14	12	12	12	9	6	5½	5	7	16	16	16	
1874 ...	22	20	20	20									
6. Bankoora 1866 ...	15	13	12½	11½	10	7½	6 9/10	6	5½	15½	17	...	
1874 ...	14½	13½	13½	13½									
7. Burdwan 1866 ...	12 5/16	11½	10½	10½	10	9 7/16	8	7 9/16	8	8 9/16	8½	18½	
1874 ...	14½	13	13½	14½									
8. Hooghly [Seram pore]. 1866 ...	12	12	12½	12½	9½	9½	9	8½	8½	8½	14½	17½	
1874 ...	12½	10½	12½	12½									
9. Howrah [town] 1866 ...	12	10½	10½	10½	10	10	7 15/16	7 6/8	8½	8 9/16	10 11/16	17	
1874 ...	13	11½	14	14									
10. Naraingunge ... 1866 ...	16	16	14	14	12	12	8	6	6	10	20	30	
1874 ...	17	16	14	17									
11. Nuddeah [Kooshtea]. 1866 ...	17	15	15	15½	10	10½	10	11	11½	13	15	18	
1874 ...	12½	11½	11½	11½									
12. 24-Pergunnahs [Mittergunge]. 1866 ...	9	9	8	8	7½	7	7	7½	7½	7½	13	13	
1874 ...	15½	11½	13	12½									
Midnapore [town]. 1866 ...	12	11	11½	10½	9½	9	8	6½	7½	13	24	22	
1874 ...	18½	16	18	18									
[Kespoor mart]. 1866 ...	15	15	15	12½	10	8½	6	5	5	10	19	20	
1874 ...													
Average 1866 ...	13 5/16	12 5/16	11 1/2	11	9½	8½	7 1/7	6 9/14	7 3/14	10	15½	19½	

THE Statistical Reporter,

A MONTHLY JOURNAL OF STATISTICAL ENQUIRIES CONCERNING INDIA.

VOL. V.]

CALCUTTA: SATURDAY, 30TH MAY 1874.

[No. 10.]

INDIGO CULTIVATION: BY RYOTS ON THE CO-OPERATIVE SYSTEM IN BENGAL.

From LORD H. ULICK BROWNE, Commissioner of the Presidency Division, to THE SECRETARY TO THE GOVERNMENT OF BENGAL, General Department (Miscellaneous), dated Calcutta, April 6th 1874.

SIR,—I have the honour to submit herewith copies of a letter No. 2320G, dated February 25th 1874, from the Collector of Nuddea, and of two reports, with enclosures, from the native gentlemen, Roy Jodunath Roy Bahadoor and Baboo Prosono Chunder Roy, describing two co-operative systems of turning out indigo in the District of Nuddea.

2. In examining the papers, it is, I think, better to exclude for purposes of comparison the work in connection with the Ramnuggur Factory on account of the exceptional circumstances of the manufacturer and zemindar not being the same person, and the manufacturer carrying off so much profit.

3. It will be observed that there is much difference in the arrangements between the zemindar manufacturer on the one hand, and the ryot on the other, under the two systems practised by the gentlemen referred to: and the manner in which the calculations are drawn out are so different that comparison in detail is not very easy. Baboo Prosono Chunder Roy does not give the cost of cultivation and delivery of the plant at the factory at all, but adopting Baboo Jodunath Roy's calculation of Rs. 4 a beegah on that account, and deducting it from the ryot's profit of Rs. 5-12-4 in statement C of factory Sree Hury Gunge, it gives an average profit of Rs. 1-12-4 a beegah to the ryot, or about 12 annas more than the average profit in Baboo Jodunath Roy's case. In both cases the profit seems very small, but then Baboo Jodunath Roy points out in his para. 3 that no good profits are looked for in the case of the rain crop, and if it pays the rent of the land for the year, as it does in the Baboo's accounts, and a small profit besides, the result is tolerably satisfactory.

4. With a view to aid comparison and ascertain if the figures given are reliable, I asked the Baboo Prosono Chunder Roy to be good enough to let me know the size, i.e. girth of the bundles in his factory, and also whether he could account for the extraordinary difference in the out-turn of indigo from 1,000 bundles in the two factories, viz. 11 maunds 15 seers, and 6 maunds 30 seers and 2 chittacks. I enclose a copy of his reply, dated March 28th 1874. No one but an indigo-manufacturer could effect useful comparison between the Baboo's bundles and those of other factories, and then the length of the chain used at different factories varies. With regard to the second point, I am not sure that I quite understand the first reason given in the Baboo's para. 6, but if it means that the sizes of the bundles are different, the reason is a good one for a difference in the out-turn of Indigo from 1,000 bundles as is undoubtedly the second reason, viz. a difference in the two seasons.

5. The co-operative system will probably extend itself further as these mutually satisfactory, though not largely, profitable results become known, and it will be a great gain if the production of the dye can be secured on a basis of satisfactory profit to all parties concerned in its production.—I have, &c.,

H. ULICK BROWNE,
Commissioner.

From C. C. STEVENS, Esq., Collector of Nuddea, to THE COMMISSIONER OF THE PRESIDENCY DIVISION, General Department, dated Kishnaghur, 25th February 1874.

SIR,—In reply to your No. 148 J G, dated 7th November 1873, I have the honour to forward for your information copies of the reports with which I have been favoured by Baboo Prosono Chunder Roy, and Jodunath Roy, Roy Bahadoor.

2. The reports speak for themselves; it is clear that, though the cultivation is and must be precarious, it will be sufficiently profitable under either of the systems to induce a ryot to risk a small part of his land and labour.

3. I have lately heard of two other zemindars who have adopted this plan, and I feel myself sure that before many years it will be more prevalent than the old system.—I have, &c.,

C. C. STEVENS,
Collector.

From PROSONO CHUNDER ROY, Chundipore, to C. C. STEVENS, Esq., Collector of Nuddea, dated the 31st December 1873.

SIR,—I have the honour to acknowledge the receipt of your memo. No. 1634G, dated the 17th November 1873, calling for a report on the working of the "co-operative system" of indigo cultivation referred to in para. 4 of His Honour the Lieutenant-Governor's Resolution of 22nd October 1873.

As my indigo accounts were not made up until the 21st instant, the sending of the report was necessarily delayed for which I hope you will be kind enough to excuse me.

Having made up my mind to do some business in the way of manufacturing and cultivating indigo, I sowed as an experiment in two of my villages about 440 beegahs with indigo partly Nijahad and partly through my ryots in the season 1871-72, and as I had no factory of my own, instead of incurring the heavy expense of building one, I entered into an arrangement with Mr. Glascott of Lokenathpore to get my indigo manufactured in one of his factories (Ramnuggur) giving him one-fourth of the gross produce for allowing me to use his vats, &c.

The arrangement I made with my ryots was that they should get at least half of what profits I might make by the indigo business, and the sums they were to get would be in proportion to the number of bundles they would supply, irrespective of the quantity obtained from each ryot. According to this arrangement, a ryot supplying even one bundle of indigo was to get advantage of the arrangement in question in the same manner as one supplying 100 bundles, unlike the system followed in some places, according to which, a ryot unless he supplies one vat full of indigo (i.e. about 75 bundles) is not allowed to get a share of the profits, but is paid at the rate of 4 bundles per rupee.

I could have offered to the ryots a larger share of the profits, but considering that the generality of the indigo planters of the District paid for their indigo at the rate of 4 bundles, and some even at the rate of 6 bundles per rupee, I thought it more prudent to remain on the safe side by not offering at the outset more than what I could ultimately give them for their indigo, leaving to me a reasonable share of the profits.

The ryots of the two villages referred to above were at first extremely unwilling to sow indigo, they were in fact so much afraid of it, that they would have more gladly agreed to pay me a large sum of money to escape from what they considered a great danger to them. Ultimately however I succeeded in prevailing over them to sow indigo for me, though in small quantities.

The indigo that was grown in those two villages was taken to Mr. Glascott's factory of Ramnuggur and was manufactured under his supervision. According to the arrangement made with him, I had to pay the whole of the manufacturing expenses over and above what I had to pay to him, Mr. Glascott, for the use of his vats, &c.

Statement No. 1 shows the proportions in which the profits were divided among the several parties concerned. The columns headed B and C would show the profits derived from each beegah and each bundle respectively, and also the mode of division of the same.

In the indigo-season that has just closed (i.e. 1872-73), instead of giving one-fourth of the gross produce to Mr. Glascott, I considered it desirable to build a factory for myself and accordingly built one in the neighbourhood of my village, called Sree Hurry Gunj.

The arrangement with the ryot was as follows:—

That whatever indigo plants they would bring to the factory, a note thereof would be kept in the factory accounts and a receipt for the same given to them then and there,—that after the sale of the indigo, the manufacturing expenses should be deducted from the gross proceeds of the sale, and the profit on each bundle calculated by dividing the total amount of the profit thus left, by the number of bundles supplied to the factory, and that of this the ryot should get one-half and the remaining half would fall to my share, that if the price per bundle according to this calculation fell short of eight annas, I should make up the deficiency, so that under all circumstances they would get at least 8 annas per bundle for the indigo they would supply, that they would have nothing to do with the capital used in building the factory and maintaining the permanent establishment thereof.

This time I felt much less difficulty in inducing the ryots to sow indigo for my factory.

After the sale of my indigo, I sent for the principal ryots from each village on the 21st instant, and showed to them all the accounts of the sale proceeds and of the manufacturing expenses, and although with the exception of one or two, they did not examine them, the general features thereof were explained to them. They were at the same time informed that they would get at the rate of 12 annas per bundle for the indigo they had supplied this season.

Statement No. 2 shows in detail the proportions in which the profits of the season have been divided between the ryots and myself. It will be seen from the said statement that although according to the original offer the ryots could not claim more than 9 annas a bundle (one-half of the profit on each bundle), at the time of the distribution of the profits, I gave them 3 annas more so that they got about two-thirds of the profits.

I am very glad to find that the arrangement referred to above and the payment for the last season at the rate of 12 annas a bundle, have given the ryots very great satisfaction and many of them expressed their willingness to sow much larger quantities of land with indigo than they did last year, and I trust that this year I shall not feel any trouble at all to get indigo sown through my ryots.

Another indication that the system adopted is liked by the ryots is to be found in the fact, that many persons over whom I cannot have any influence at all, are freely coming forward to sow indigo on account of my factory, and so large a quantity of land is likely to be sown with indigo this season that in the place of three vats, built last year, I am going to build five more.

I need hardly say that I do not require the ryots to execute any agreement or contract at all.

This season too, the arrangement made with the ryots is exactly the same as it was in the season that has just expired. As I have not had much experience in indigo matters and as a large outlay is required in building the factory, &c., with which the ryots have no concern, I have not ventured yet to promise to pay more than half of the profits. At the time of the distribution of the money, however, next year, I may probably give them a little more, but it would not be prudent, I think, to make any promise to that effect just now.

After the factory is worked according to this system for a few years, and a portion of the capital sunk got back, I shall very likely be in a position to offer much more advantageous terms to the ryots.

The term *bundle* being a very vague one, and its size varying almost in every factory, I should beg to let you know that the size of my bundle is about two-thirds (2/3) of what it is in the generality of the factories in the neighbourhood (for instance, Lokenathpore, Khalboabah and Nischindipore concerns). Thus when I pay the ryots at the rate of 12 annas a bundle, you will be pleased to notice, that it is equivalent to paying them at the rate of Re. 1-2 per bundle, as measured in the factories referred to above.

The size of the bundle of each factory may be best determined by comparing the cubic contents of the vats, and the number of bundles which each is said to contain.—I have, &c.,

(Signed) PROSONO CHUNDER ROY.

Ramnuggur Factory in Nuddea, One of the Factories belonging to the Lokenathpore Concern.

INDIGO SEASON, 1871-72.

Statement No. I.

A.—Showing the quantity of indigo manufactured on account of P. C. Roy, and the proportions in which the profits arising therefrom have been divided among the ryots, Mr. Glascott and the said P. C. Roy:—

Quantity of land sown with indigo.	Total number of bundles grown.	Average produce of indigo per 1,000 bundles.	Total quantity of indigo manufactured.	Average price of the indigo per maund.	Total amount of price obtained for the indigo.	Deduct Mr. Glascott's shares for allowing to use his vats, &c.	Balance left.	Deduct Manufacturing Expenses.	Total amount of profit.	Ryot's share thereof.	Amount obtained by P. C. Roy.	Remarks.
440	1,735	M. s. 11 15	M. s. ch. 19 29 8	Rs. a. 179 9½	Rs. a. 3,544 10	Rs. a. 886 2	Rs. a. 2,658 8	Rs. a. 357 8	Rs. 2,301	Rs. a. 1,301 4	Rs. a. 999 12*	

* Out of the profit left, P. C. Roy has got to pay for the establishment charges.

B.—Showing the quantity of indigo manufactured from each bundle of indigo plants and the proportions in which the profits derived from the same have been divided among the several parties concerned:—

Quantity of indigo manufactured from each bundle of indigo plants.	Price obtained for the same.	Deduct Mr. Glascott's share on each bundle.	Balance left.	Deduct manufacturing expenses on each bundle.	Profit from each bundle of indigo.	Ryot's share thereof.	P. C. Roy's share of the same.	Remarks.
Chittacks. 7½	Rs. a. p. 2 0 8	Rs. a. p. 0 8 2	Rs. a. p. 1 8 6	Rs. a. p. 0 3 4	Rs. a. p. 1 5 2	Rs. a. p. 0 12 0	Rs. a. p. 0 9 2	

C.—Showing the average quantity of indigo manufactured from each beegah, and the proportions in which the profits thereof have been divided among the several parties concerned:—

Average number of bundles per beegah.	Produce per each bundle.	Total amount of the produce of indigo per beegah.	Price thereof.	Deduct Mr. Glascott's share for allowing to use his vats, &c.	Balance left.	Deduct manufacturing expenses on each beegah.	Profit on each beegah.	Ryot's share thereof.	P. C. Roy's share of the same.	Remarks.
8-2	Chittacks. 7½	M. s. ch. 0 1 13	Rs. a. p. 8 9 11	Rs. a. p. 2 0 3	Rs. a. p. 6 0 8	Rs. a. p. 0 13 0	Rs. a. p. 5 3 8	Rs. a. p. 2 15 4	Rs. a. p. 2 4 4	

Free Hary Gany Factory in Nuddea.

INDIGO SEASON 1872-73.

Statement No. II.

A.—Showing the quantity of indigo manufactured this season, and the mode in which the profits arising therefrom have been divided between the ryots and P. C. Roy :—

Quantity of land sown with indigo.	Total number of bundles grown.	Average produce of indigo per 1,000 bundles.	Total quantity of indigo manufactured.	Average price per maund after deducting brokerage, &c.	Total amount of price obtained for the indigo.	Deduct manufacturing expenses.	Total amount of profit.	Portion given out of the above to the ryots.	Amount obtained by P. C. Roy.	Remarks.
Beegahs. 1,000	7,707	M. s. ch. 6 50 2	M. s. 52 2	Rs. a. 202 6	Rs. a. 10,533 6	Rs. a. 1,876 6	Rs. 8,657	Rs. 5,780	Rs. 2,877*	

* Out of this sum P. C. Roy has got to pay for the establishment charges of the factory, and the interest on the capital used in building the same.

B.—Showing the quantity of indigo manufactured from each bundle of indigo plants and the proportions in which the profits thereof have been divided between the ryots and P. C. Roy :—

Quantity of indigo manufactured from each bundle of indigo plants.	Price obtained for the same.	Deduct the cost of manufacturing each bundle of indigo.	Profit left.	Ryot's share of the profit from each bundle.	P. C. Roy's share of the same.	Remarks.
Chittacks. 4.32	Rs. a. 1 5 $\frac{1}{2}$	Rs. a. 0 3 $\frac{1}{2}$	Rs. a. 1 2	Rs. a. 0 12	Rs. a. 0 6	

C.—Showing the profit derived from the indigo of each beegah and the proportions in which it has been divided between the ryots and P. C. Roy :—

Average number of bundles per beegah.	Quantity of manufactured indigo per beegah.	Price thereof.	Deduct manufacturing expenses on such beegah.	Profit on each beegah.	Ryot's share thereof.	P. C. Roy's share of the same.	Remarks.
7.7	S. ch. 2 1.3	Rs. a. p. 10 8 6	Rs. a. p. 1 14 0	Rs. a. p. 8 10 6	Rs. a. p. 5 12 4	Rs. a. p. 2 14 2	

(True Copy.)

JODUB CHUNDER BONERJEE,

Head Clerk, Judicial Department.

No. II.

A Report on the working of the Co-operative System of Indigo Cultivation introduced by Jodunoth Roy, dated 3rd February 1874.

I regret this Report has been delayed on account of my wish to give the actual receipts of the several cultivators after the sale of their indigo-cakes that was postponed until lately. The total quantity of land actually under the cultivation of indigo-plants during the last indigo-season was 802 beegahs and the cost of the cultivators, besides paying to the manufacturer, was Rs. 3,194, being nearly at the rate of Rs. 4 per beegah, and the total out-turn on the proceeds of the sale of indigo-cakes Rs. 4,025, or, in the other words, the cultivators have received one rupee per beegah after paying themselves for what they spent on the cultivation of the plant, but this amount is so very indiscriminately distributed that one cultivator has obtained more than Rs. 9 per beegah as profit, whereas another has not been able to indemnify himself for half of the cost of production. For instance, cultivator No. 45, named Sobhan Sirdar, cultivated 8 beegahs of land at a cost of Rs. 34, and obtained Rs. 109 by the sale of his indigo, giving him a clear profit Rs. 75 or more than Rs. 9 per beegah, whereas cultivator No. 25, named Shera Mondul, cultivated 42 beegahs of land with indigo at a cost of Rs. 15-9 and received Rs. 76-11 only a sum not even half of what he laid out for the production.

2. This state of affairs is owing chiefly to the precarious nature of the crop itself, and the state of the weather during the time of the manufacturing. Although capable of bearing heat to a considerable extent, the indigo-plant is comparatively a delicate thing, a single shower of heavy rain would sometimes wash off a great portion of the colouring matter from the leaves and put off the manufacturing works for days to the great loss of the manufacturer: a gust of easterly wind would sometimes destroy a great portion of the mature leaves and nearly undo the cultivator. In the case of the cultivator, Sobhan Sirdar, 8 beegahs of indigo filled one vat and yielded 25 seers of nice indigo that sold at the rate of Rs. 23 $\frac{1}{2}$ per maund, whereas in the case of Shiraj Mondul, although he obtained 5 vats of plants, the bad state of the weather during the manufacturing of his vats, operated so injuriously that the total out-turn of those vats did not exceed 25 seers and that even of a far inferior quality.

3. Yet in spite of all this risk and the consequent unequal and indiscriminate distribution of the profits, the cultivators in this present case were pretty well satisfied with the result, had it not been for the subsequent loss they have had to suffer for the want of rain, and the non-production of their winter-crops. It is deserving of notice in this place that the cultivator of Onsdhan, indigo-plant, jute, flax, and black kelle, feels quite satisfied with the result if he can obtain only so much as he spends on those crops because he undertakes to cultivate his lands with these crops simply with an intention of preparing his lands for the cold-weather crops, and keeping his ploughs employed on his own works instead of working as a day labourer for others. If he can make any profit out of these crops, so much the better; if not, he is never disappointed. The statement therefore will satisfy you that the result upon the whole is not unfair, as most of the cultivators have obtained more than what they spent on their lands.

4. I shall now endeavour to give you a short history of the terms of contract on which this system of indigo-plantation is carried on. Three years since, when I purchased the putnee tenure of 16 villages situated in the Bongong Sub-division I deputed my brother, Babu Kumar Nanth Roy to inspect the mehals and report if there were anything worthy knowing. He informed me after he had seen the villages that there were to be found in two of those villages remnants of two old indigo manufactories in which the former zemindars used some 50 years back to manufacture indigo, and that the ryots were not prejudiced against the cultivation of indigo. Further that if I could manage to supply capital he could induce the ryots to cultivate indigo of their own accord, and carry on manufacturing business on a new system somewhat co-operative in its nature. He learnt from the ryots that they were in the habit of combining at times to prepare indigo-cakes in a primitive way—giving the manufacturers only one-fourth of the produce, and that it was only for the want of capital necessary for manufacture that they were obliged to abstain from the undertaking.

5. Understanding that the introduction of the cultivation of a valuable and more profitable crop is likely to improve my property by bettering the status of my ryots, and knowing that the manufacturing of indigo produced by my ryots would at least enable me to realize my rents

easily, I at once adopted my brother's suggestion, and asked him to frame a set of rules in consultation with the principal ryots of my zemindary for conduct of business in connection with the introduction of indigo cultivation, and the following rules were framed :—

1. That a factory with a sufficient number of vats and capable of manufacturing all the indigo that was proposed to be produced by the cultivators, should be kept ready by me before the indigo season.
 2. That in consideration of one-fourth of the prepared indigo-cakes, I should bear all the manufacturing expenses inclusive of the permanent establishment.
 3. That the cultivator should bear all and every sort of cost in connection with the production of the plants and bringing the same to the factory yard, for which he will get the three-fourths of the yield.
 4. That whenever necessary the manufacturer should advance money for the purchase of seed, and will be re-paid in the month of July with interest.
 5. That the cultivator should bring to the factory at least one vat-ful of plants, failing which he must sell them at the rate of four bundles, for one rupee.
 6. That after the manufacturing process is over, the cultivator should have the option of either taking away his share of three-fourths of the produce, or keeping it with me to be sold with my indigo to his best advantage.
 7. That all extra expenses and conveying charges in connection with sending the proceeds to Calcutta, and disposing them off, will be borne by all proportionately to their stock.
 8. That such persons, as borrow money of the manufacturer either in the shape of advance for his indigo business or for any other purpose, should not be allowed to take away his share of indigo without paying the same in full with interest.
 9. That such cultivators as can afford time to superintend during the manufacturing works, will have power to do so and bring to the notice of the manufacturer if anything be going wrong.
 10. That every cultivator shall have access to his account whenever he would like to see it.
6. It would appear from a careful consideration of the rules set forth above, that the terms are rather more advantageous to the cultivator than to the manufacturer, for although the little profit of the manufacturer after defraying the actual expenses of the work is less liable to risk and his collateral advantages in the shape of easy realisation of rent is not trifling the large amount of capital he has to sink in reproductive works and the want of security for a long continuation of his business outweigh those advantages. His little profit again does not enjoy perfect immunity from risk; for an unfavourable day he rather loses than gains anything: for instance in the case of the unfortunate cultivator, Shiraj Mondul, he had to incur the cost of manufacturing 5 vats that amounted to near Rs. 55 or Rs. 60, and received only 6½ seers of indigo worth about Rs. 24 at the rate of Rs. 162½ per maund. On the other hand, the cultivator although liable at times to run the risk of losing all that he spends on his lands is sure to cultivate his lands for the cold-weather crops and when the season is favourable makes a much better profit out of it than is expected from the cultivation of *Ous dhan*. One beegah of indigo will sometimes yield to the cultivator Rs. 20 at a cost of Rs. 4½ only, whereas one beegah of *Ous dhan* at best would yield Rs. 10 at a cost of more than six rupees.
7. It would further appear from a perusal of the rules laid above, that there is not a single condition binding either the cultivator or the manufacturer to continue the working of this transaction for any period of time save so long as he may like to do so. The cultivator might give up sowing indigo whenever he chooses to do so, and the manufacturer is also at liberty to stop his works if he likes. But the cultivator's desire of making larger profit and the manufacturer's wish not to lose the use of so much capital sunk in the erection of the factory, are sufficient guarantee in my opinion for the continuance of the working of this system of indigo plantation for some time to come. Besides in this particular case, the confidence I have, in my ability to secure the good-will of the ryot by always paying attention to his wants has been a sufficient security for laying out capital in this undertaking, and, I think, I was justified in coming to this conclusion as is evident from the result of the last three years working under this system. The number of acres under indigo cultivation is increasing every year, and the cultivators seem to be impressed with the importance of this profitable cultivation.
8. Since the introduction of this co-operative system in my zemindary, another neighbouring zemindar has adopted it at the request of his ryots, and, if I mistake not, it is likely to spread still further.

6th February 1874.

JODUNATH ROY.

From PROSONO CHUNDER ROY, to LORD H. ULICK BROWNE, Commissioner, Presidency Division, Kishunghur, 26th March 1874.

SIR,—I have the honour to acknowledge receipt of your favour, No. 9 J. G., dated 12th instant, desiring me to let you know what the girth of a bundle is in my factory, and beg most respectfully to inform you in reply that the method I have introduced in ascertaining the number of bundles of indigo supplied by each ryot does not require a chain, and am accordingly unable to say exactly what the girth of the bundle is. Nevertheless the following facts will enable you to form an idea about its size :—

2. The measurement by chain having been found objectionable on the grounds :
 1. That the degree of force used in compressing the indigo when both the ends of the chain, passed round the bundle, are made to meet makes a great deal of difference in the result: for instance, the more forcibly are the plants compressed at the time, the less the number of bundles the ryots get credit for.
 2. That the mode in which the plants are arranged at the time of measurement also makes a difference.
3. I have made a rectangular frame, which being filled with indigo makes up half a bundle, the plants not being subjected to any pressure as is the case with the measurement by chain. The cubic contents of the frame in question are about 22½ cubic feet, so that 25 cubic feet of loosely arranged indigo makes up a bundle in my factory. In the factories in my neighbourhood, they have a chain 6 feet in length for the measurement of the indigo; but it is rarely used. The number of bundles is generally ascertained by guess. Even had the indigo been generally measured by the chain, the relative size of the bundle thus measured and my bundle could not be determined by a reference to the cubic contents of the two, inasmuch as in the former mode the indigo is pressed at the time of measurement, whereas in the mode that is introduced in my factory it is not subjected to any pressure at all.
4. The comparison between the bundles of different factories may be best effected, however, by comparing the cubic contents of the vats and the number of bundles allowed to the same. Thus the size of my vat holding 75 bundles is 20 by 18 feet, and when the indigo is put into it and pressed by the beams as usual, it attains a height of 3 feet. It will be seen from this, that 14½ cubic feet of pressed indigo, make up a bundle in my factory. If the number of cubic feet of pressed indigo that would make up a bundle in other factories, be calculated in the way indicated above, a comparison can safely be made between the different bundles. It should be, kept in mind that the pressure to which the indigo is subjected in the vats is pretty nearly the same in all the factories.
5. I am not in a position to say exactly what the cubic contents of the bundle in other factories would be, calculated in the manner indicated in the last para.; as the cubic contents of the vats and the number of bundles allowed to the same are not generally known, but as far as I have been able to make enquiries into the subject, it would exceed 14½ cubic feet, though I am not sure what the exact difference would be. What I said on the subject in my report of the 31st December last was principally based on the data supplied to me by a factory-servant of more than 25 years' standing, and I naturally considered the information to be correct; but I have had occasion to measure subsequently one or two vats, and it did not tally exactly with what he said at the time.
6. With reference to the "extraordinary difference between the out-turn of indigo from 1,000 bundles in the two factories, viz. 11 maunds 15 seers and 6 maunds 30 seers and 2 chittacks" referred to in your letter, I have the honour to submit that owing to a defective arrangement in my vats, the quantity of indigo that I could put in them was less than what the vats of the Ramnugger factory could hold, although the number of bundles allowed to both is the same. This would partly account for the larger out-turn of that factory. The season (1871-72), however, in which I got my indigo manufactured at Ramnugger was exceptionally a good one and that circumstance also would mainly account for the extraordinary difference. I have gone over the figures carefully, and am sure that both the calculations of the out-turn from 1,000 bundles are correct.—I have, &c.,

PROSONO CHUNDER ROY.

THE BUDGET, -1874-75.

Resolution No. 2666, dated 29th April 1874, by the Government of India, Financial Department.

THE Governor-General in Council regrets that the Hon'ble Sir Richard Temple has been unable to prepare the financial statement himself; but the Government of India have had the advantage of his valuable advice and assistance in arriving at their conclusions upon the financial measures of the year.

The accounts of the year 1872-73 show a surplus of income over ordinary expenditure of £1,763,578. The particulars in which the accounts vary from the regular estimates are described in the statement, and call for no special notice.

The regular estimates for the year 1873-74, notwithstanding the loss of half a million sterling to the revenues caused by the expiry of the Income Tax Act, show a surplus of income over ordinary expenditure of £1,818,700. This result is apart from the expenditure caused by the famine, which will be subsequently mentioned.

Explanations of the various items of revenue and expenditure are given in the statement. The analysis affords every reason for satisfaction. The excess of income over expenditure has been maintained. The ordinary sources of income have been fully sustained. The civil expenditure has been estimated with remarkable accuracy. The net expenditure upon the Army is expected to be £11,300,000, on account of the guaranteed railways shows a substantial diminution. The accounts of 'extraordinary' public works in the year 1873-74 is estimated to amount to £530,300.

The Government of India are guided in regard to the provision to be made for works of improvement. In the year 1869 it was determined to draw for the future a stricter line between public works to be paid for out of income and by borrowing, and that only such irrigation works as were expected, after careful examination, to yield a fair direct cash return to the treasury, and State railways within certain limits, should be classed as 'extraordinary' and, if necessary, provided for by loan. The Government authorised Government to make loans to Corporate Bodies and Municipalities for certain purposes on the security of income. In the financial years 1869-70, 1870-71, and 1871-72 funds were borrowed by the Government for these two purposes. At the end of the year 1872-73 the whole net sum borrowed was £10,872,651, to which is to be added recoveries from Municipalities, &c., amounting to £601,799, so that the total receipts amounted to £11,234,350. Up to the end of the year 1872-73 there had been expended upon 'extraordinary' public works £7,580,433, and lent to Municipalities, &c., £3,699,748, making a total expenditure of £11,280,181. Thus the sums disbursed by Government upon those subjects from the year 1869-70 to the end of the year 1872-73 exceeded the sums received by £45,831.

Therefore, if the condition of the finances had made it necessary, the sum required for 'extraordinary' public works and loans during the year 1873-74 might with perfect propriety have been borrowed during that year, but (as explained by Sir Richard Temple in his financial statement of last year) the condition of the finances was such that it was not necessary to have recourse to borrowing.

The cash balances at the end of the year 1873-74 would have stood at 20½ millions sterling, or about 3 millions more than the budget estimate, had not the famine thrown a serious and unexpected charge upon the resources of the year.

The Government of India became aware, at the end of last October, that the failure of the rains had destroyed the food-supplies of large and populous tracts of country, and they at once determined (to quote the words of the Viceroy's despatch to the Duke of Argyll of the 7th of November) not to shrink "from using every available means, at whatever cost, to prevent, so far as they could, any loss of the lives of Her Majesty's subjects in consequence of the calamity." In carrying this determination into effect, they have received the cordial support of Her Majesty's late and present Governments.

The best estimate that can be formed of the net expenditure for famine relief will be found in the statement, and amounts, in all, to £6,500,000. A large part of the original outlay will consist in the purchase and transport of grain, and it has been a matter of some difficulty to determine how this should appear in the estimates and accounts. On the whole, it has been considered most convenient to include the expenditure consequent on the famine among the ordinary charges of the year in which it may be incurred, under a distinct heading in the accounts. As a great part of the expenditure for the purchase and transport of grain has been met during the year 1873-74, while there have been few, if any, recoveries during that year, the net expenditure on account of the famine must be distributed between the two years, for the purpose of the estimates and accounts, into £3,920,000 for 1873-74 and £2,580,000 for 1874-75. It must be remembered, however, that, in fact, the principal part of the actual relief operations will be carried on in the latter year, and therefore, in order to present an accurate view of the whole transactions, the finance of the two years must be taken together.

After the expenditure on account of the famine has been added to the ordinary expenditure of the year, there will be a deficit of £2,101,300.

The total cash outlay during the year 1873-74 on account of the famine, adding advances for loans to the net expenditure, is estimated at £4,107,000. This sum has been provided out of the surplus of the year and the cash balances, with the assistance of £300,000 derived from the sale of certain securities, in which part of the surplus cash balances were temporarily invested at the beginning of the year 1872. Notwithstanding this large and unexpected outlay on account of the famine, the cash balances are expected to amount, at the end of the year 1873-74, to £16,143,808, or only £920,730 less than was anticipated by the budget estimate.

It was stated in the resolution of the Government of India in the Financial Department of the 28th of March 1873 "that the estimates for the year 1873-74 had been framed with caution; that the state of the cash balances prevented any risk of financial difficulty during the year; and that the general condition of the finances was satisfactory." The regular estimates show that these anticipations have been fully realised under circumstances of no common difficulty.

The budget estimates for the year 1874-75 have been framed, as usual, with great care. Apart from the famine expenditure, they exhibit a surplus of income over ordinary expenditure of £1,192,000.

The explanations of the several items of revenue and expenditure given in the statement are, on the whole, satisfactory. The opinion estimate has again been cautiously made, and the total revenue has been estimated at half a million sterling less than the regular estimate of 1873-74. Although attention has been paid to the necessity of checking all increases of expenditure at a time when a large extra charge has to be met on account of the famine, provision has been made for the constitution of the Chief Commissionership of Assam, and for strengthening the administration in the Punjab and British Burmah; an addition has also been made to the grant for irrigation works (ordinary), in order that profitable expenditure upon many works, which cannot properly be classed as 'extraordinary', may not be deferred. The loan operations of the year will considerably diminish the item "loss by exchange;" but this relief is only temporary.

After making all due allowances, however, there remains, apart from the famine, a considerable surplus of income over ordinary expenditure, based upon cautious estimates.

This bears out the opinion expressed in the Financial resolution of 18th March 1873, that no additional taxation was required for the purpose of maintaining the finances of India in a sound and satisfactory condition.

After the expenditure on account of the famine has been added to the ordinary expenditure of the year, there will be deficit of £1,388,000.

It was explained in the resolution in the Public Works Department of the 18th of July last that the Government of India were prepared to proceed with 'extraordinary' public works, at the rate of 4½ millions sterling a year for the five years ending with 1877-78, out of funds to be raised, if necessary, by loan; and that, according to the best estimate that could be formed, this might be done without imposing any additional annual charge upon the revenues of India on account of guaranteed railways, State railways, and extraordinary public works. In accordance with this programme, provision has been made for the expenditure of £1,500,000 upon 'extraordinary' public works during the year 1874-75.

The cash balances at the beginning of the year 1874-75 are estimated at £16,143,808. A sum of 4½ millions sterling has to be provided for reproductive public works, and half a million is required to meet loans to Municipalities and other loans under Acts of the Legislature. There

will, therefore, be, in the year 1874-75, a sum of 5 millions sterling, which, according to the principle explained in a preceding paragraph of this Resolution, can legitimately be raised by loan. To this must be added a sum of 1½ millions, in order to meet the withdrawals during the year of part of the capital standing in the Government books to the credit of the guaranteed railway companies, and 2 millions for the purpose of meeting the deficit caused by expenditure and advances on account of the famine, and of making a slight increase in the cash balances. Thus the total sum to be raised by loan during the year 1874-75 is, according to the information now in the possession of the Government, estimated at 8½ millions sterling.

Her Majesty's Government have obtained authority from Parliament to raise a sum not exceeding £10,000,000 in England on behalf of the Government of India. £5,000,000 of that sum have been called up, and this will provide for the requirements during the early part of the year. A sum of £800,000 will be received on loan under the arrangements entered into with the Maharajas of Gwalior and Indore for the construction of railways through their Highnesses' territories. The remaining sum of about 2½ millions sterling, or such portion of it as may, as the year proceeds, be found necessary, will be raised hereafter in England or India as may be most advisable in the condition of the money market.

The drafts of the Secretary of State upon the Indian treasuries have been reduced in May to 1 lakhs of rupees at each periodical drawing. They will be still further reduced to 20 lakhs on and after the first notice. The Government regret that circumstances have prevented an earlier announcement of the measure and the drafts upon the Indian treasuries.

The cash balance at the end of the year 1874-75 is estimated at £16,541,338.

From a review of the estimates of the years 1873-74 and 1874-75 taken together, it has been seen that in round numbers the ordinary expenditure is expected to be 3 millions sterling; the extraordinary public works and upon loans to Municipalities, &c., 9 millions; and that it is intended to raise by loan 8½ millions. The sum to be borrowed does not equal the sum which will be spent in the two years 1873-74 and 1874-75 upon ordinary public works and loans to Municipalities, for which purposes the Government of India were justified in borrowing money if necessary. The condition of the finances has been so strong that an expenditure of 8½ millions sterling on account of the famine will be borne out of the surplus of income over ordinary expenditure, and out of the cash balances, which stood very high, in the three preceding years.

His Excellency in Council regrets that the necessities of the State in obliging the Government largely and rapidly to reduce their balances in the Presidency Banks have tended to produce considerable tightness in the money market, which was increased by the great demand for silver to meet the transactions of Government and of the trade for the purchase of grain. The general condition of trade has, however, been sound, and the Government are gratified to believe that nothing more than a temporary inconvenience has been occasioned by the large and exceptional financial transactions of the State during the last six months.

The Government of India are anxious to avoid the imposition of fresh taxes and any disturbance of the present financial arrangements of the country, and it is with particular satisfaction that they arrive at the conclusion that, notwithstanding the large and unexpected demand upon the resources of the State, no increase of taxation is necessary.

The large amount of the estimated expenditure on account of the famine, and the principles which have guided the Government of India in dealing with the calamity make it necessary to examine whether, although upon the present occasion the charge can legitimately be met without fresh taxation, it will be safe to rely upon the present resources of India for the purpose of meeting future demands of the same kind.

If the occurrence of serious deficiencies in the food-supplies of the people in parts of British India depended upon causes so rare as the potato-disease which produced the Irish famine of 1846-47, it would be sufficient to say that the expense of meeting such visitations should not be borne by one generation, but, in accordance with the course adopted by the Imperial Government in dealing with the Irish famine, the necessary funds might legitimately be raised by loan if the ordinary resources of the State should prove insufficient.

Unfortunately, however, drought, which is the cause of all serious and extensive famines in India, cannot be regarded as an extraordinary visitation. Within the last ten years there have occurred, in the year 1866, a drought very similar to that of last year, which occasioned what is termed the Orissa famine; in the years 1868 and 1869 a failure of rain in the North-Western Provinces and Rajpootana, which occasioned great distress over a considerable tract of country, and severe famine in Ajmere and Marwar; and, lastly, in the year 1873, a failure of the autumn rains in Behar and parts of Bengal, which has produced the present famine.

Such being the facts with which the Government of India have to deal, it would not be safe to depend upon loans for the purpose of meeting future charges on account of famines. Although means have been taken and will be taken to obviate or mitigate those calamities, some such charges, whenever a time at least, be looked upon as contingencies to be expected to recur with more or less regularity.

It is necessary, therefore, that besides a fair surplus of income over ordinary expenditure, such a margin should be provided in addition in ordinary times as shall constitute a reasonable provision for meeting occasional expenditure upon famines. If the surplus be employed in the reduction of debt, in the construction of reproductive public works, or remain in the cash balances, the expense caused by future droughts may fairly be met by appropriations from cash balances, or by loan, to the full extent of the accumulations of surplus.

This condition of things has existed in India during the last four years and the Government of India are resolved to use their best endeavours to maintain for the future a considerable surplus of income over ordinary expenditure, and thus to make provision beforehand for any calls which are likely to arise on account of famines.

But there remains the further and more important consideration whether the disastrous effect of periodical failures of rain may not be mitigated, and to a great extent obviated, by the extension of irrigation works and of railways, or other means of communication.

This subject has constantly received the attention of the Government of India. Already a vast area of country has been rendered secure from the effects of a failure of rain by the irrigation works which have been originated or renewed by the British Government. Had it not been for the large expenditure upon the construction of the guaranteed railways, it would have been physically impossible to have taken adequate precautions to preserve the lives of the people in Behar.

In the forecast of expenditure upon reproductive public works published in July last, it was announced that 2,700 miles of railway and irrigation works calculated to secure from liability to drought 50,000 square miles of country would be constructed during the five years ending with 1877-78 at a cost of 22½ millions sterling. This programme is sufficient to show that before the occurrence of the drought of last year the Government of India were fully alive to the necessity of a vigorous prosecution of such works.

A general review is now being made of the position of the whole of Her Majesty's Dominions in India as regards liability to famine from the want either of works of irrigation or of means of communication. It will be the duty of the Government to consider how far it may be desirable to accelerate the construction of reproductive public works, and if so, how the necessary funds shall be provided. It is sufficient now to observe that a scheme of irrigation has been commenced which will give security to some of the portions of North Behar which are most liable to suffer from a failure of rain, and that surveys are being made of the tract of country which extends between the Gunduck and the Kosi rivers with the view of ascertaining the best lines of railway communication.

There will be found in the statement (not printed) some interesting statistics and observations relating to the system of provincial services, and to provincial, municipal, and local taxation, receipts, and expenditure. The Government of India propose to take a separate opportunity of reviewing the information which has been collected upon these important subjects.

It has for a second time occurred that no legislative measure will be introduced in connection with the budget, and, as explained last year, it would, therefore, be in contravention of the Indian Councils Act, 1861, that a financial statement should be made in the Council of the Governor-General for the purpose of making laws and regulations.

By order of His Excellency the Viceroy and Governor-General in Council.

April 23rd 1874.

R. B. CHAPMAN,
Secretary to the Government of India.

INDIAN FORESTS.

BUDGET ESTIMATES, 1874-75.

The "Actuals," 1872-73.

The following table shows the results of a comparison between the sanctioned estimate, the revised or regular estimate, and the actual receipts of the year 1872-73:—

	RECEIPTS.		Actuals.
	Original Estimates.	Revised Estimates.	
	Rs.	Rs.	Rs.
Bengal	1,25,000	1,35,000	1,49,851
North-Western Provinces	15,53,134	13,96,590	16,42,856
Punjab	10,67,500	7,87,500	8,52,994
Oudh	1,20,000	2,22,200	2,96,258
Central Provinces	4,50,000	4,61,677	4,81,678
Burmah	7,50,000	7,15,400	8,27,469
Coorg	82,400	81,990	81,421
Working Plan and Survey Branch ... ..	.....	.....	.....
Ajmere ... ..	.....	.....	.....
Total	39,27,834	58,60,236	41,35,535

Thus it will be seen that in all cases, with the exception of the Punjab, the estimates were realized. In this province the estimates were framed on the supposition that the whole of the timber bought on the Indus would be disposed of, and that large deliveries of wood and sleepers on the State railway works would produce the specified income. Various circumstances, prevented the accomplishment of these expectations. The question about the Indus timber had not been settled; orders were issued delaying the despatch of the Sulej and Beas sleepers, and thus the receipts were diminished. The very large increase of the North-Western Provinces is mainly due to the sleeper works; and as it is an excess on the right side of the account, does not call for remark. The *Expenditure* figures show the following result:—

	Original Estimates.		Actuals.
	Rs.	Rs.	Rs.
Bengal	59,000	41,524	28,526
North-Western Provinces	9,54,200	10,83,291	8,57,314
Punjab	7,52,045	5,18,521	5,45,068
Oudh	65,000	1,51,210	87,201
Central Provinces	2,80,000	2,78,655	1,33,666
Burmah	2,54,000	2,49,000	2,63,929
Coorg	19,600	19,600	18,324
Working Plans	42,100	54,827	Not given.
Ajmere	4,956	4,956	Ditto.
Total A	24,30,901	23,61,687	18,84,028
Bengal	78,000	80,532	71,090
North-Western Provinces	1,56,800	1,65,683	1,51,698
Punjab	2,33,886	2,48,048	2,50,874
Oudh	45,000	42,579	56,219
Central Provinces	1,20,000	1,21,345	1,14,171
Burmah	1,41,368	1,41,568	1,32,095
Coorg	11,200	11,200	11,340
Working Plans ... ..	.....	11,366	Not given.
Ajmere	8,338	8,338	Ditto.
Total B	7,34,592	8,30,459	7,87,187
Grand Total A and B	32,25,493	31,92,146	26,71,515

The actuals were thus with only one trifling exception, within the estimates. There was a surplus in the year as follows:—

	Rs.
Total Receipts	41,35,535
Total Expenditure	26,71,515
Surplus	14,64,010

The surplus of 1870-71 was Rs. 5,45,022; that of 1871-72, Rs. 11,01,009; so that the 1872-73 surplus exceeded that of the previous year by upwards of $3\frac{1}{2}$ lakhs of rupees.

The "Revised or Regular Estimate," 1873-74.

Taking the provinces together, the "regular estimate" exhibits—

	Rs.
Receipts	41,06,299
Charges { A Rs. 22,10,437 }	30,52,574
{ B " 8,42,137 }	
Surplus	10,53,725
against—	
Receipts	41,46,500
Charges { A Rs. 22,13,870 }	30,61,368
{ B " 8,47,498 }	
Surplus	10,85,132

of the "original estimate."

The Estimate for 1874-75.

The following table shows the Budget figures:—

	Rs.
Bengal	2,55,000
North-Western Provinces	11,50,000
Punjab	8,77,575
Oudh	5,18,200
Central Provinces	5,50,000
Burmah	9,86,000
Coorg	1,00,000
Ajmere	3,000
Survey and Working Plan Branch ... ..	.....
Total	42,40,075

EXPENDITURE.

The heads of A—"conservancy and working" may be considered first, as follows :—

	AI. Timber Ex- penses.	II. Stock.	III. Feed of ditto.	IV. Rent.	V. Cost of col- lecting Re- venue.	VI. Planting.	VII. Forest Work.	VIII. Survey.	IX. Experi- ments.	X. Buildings, &c.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bengal	15,100	5,900	7,560	...	9,600	20,100	1,900	1,150	210	3,730
North-Western Provinces...	6,59,290	3,780	8,590	10,600	26,550	12,750	10,800	1,200	655	54,080
Punjab	2,84,750	7,450	200	38,300	550	67,500	7,100	...	50	30,750
Oudh... ..	1,30,000	5,000	26,200	...	3,500	8,000	4,000	...	200	13,000
Central Provinces	95,000	4,500	13,000	24,000	56,000	5,500	14,000	...	...	12,000
Burmah	2,20,000	28,000	16,700	...	...	30,800	6,000	...	500	6,000
Coorg	33,000	...	200	...	1,100	3,000	1,000	800	100	2,000
Ajmere	1,125	600	490	1,500	100	9,057	1,000	100	...	6,800
Working Plans Branch ... ..	.....	4,500	3,500	...	...	.....	.....	31,180	...	.....
Total	14,38,175	59,730	76,650	74,400	97,400	1,56,707	45,800	34,730	1,715	1,30,360

AI.—Timber Expenses.

These figures are carefully checked in each budget on its own basis; each province has to justify its figures by a detail of the account of wood it proposes to fell and bring down, whether by road or river, to the market. Most provinces justified their figures with the exception of the North-Western Provinces, which showed a very large expenditure without sufficient explanation.

AII.—Purchase of Stock.

This head includes both plant and cattle for timber work which is in some provinces dependent on elephants and buffaloes as the only agency available for timber-dragging. The most considerable expenditure is in Burmah; where it is necessary to increase the stock of timber-dragging elephants, partly on account of the mass of timber which has to be worked out of the forest resumed from the Burmah Company, and partly because the cessation (to a great extent) of the permit system, which led to the extensive illegalities recently brought to light, will necessitate the working of most of the forests by direct agency and with Government elephants.

AIII.—Feed and Keep of Cattle.

In Bengal and the North-Western Provinces, elephants are necessary for carriage, and in the Central Provinces and Burmah for timber work. In Oudh, the work is done by a large staff of Government buffaloes and timber carts.

AIV.—Rent of Leased Forests.

These charges are fixed in most cases; but in the Punjab they depend, in a few instances, on the number of trees cut or floated; this is the case with the leases of the Sutlej forests, the payment of 50 per cent. of proceeds to the Hazara zemindars, and the settlement of accounts with the Maharajas of Cashmere for Jhelum waif timber.

AV.—Cost of collecting Revenue, &c.

This is a head which represents the cost of collecting the grazing revenue, and all that large income which is derived from the systems known as "khari tehsil" or "nalla system," by which permits are issued verbally or in writing, and the produce removed pursuant to them is taxed at certain toll-houses or stations, which it must necessarily pass in the course of its export route.

AVI.—Plantations.

The large charges for plantation works in Bengal and the Punjab being made under efficient supervision, are passed without question. A portion of the Punjab expenditure is according to a sanctioned working plan, and the rest is proposed on a detailed statement, showing details which will be found in the enclosures of the Punjab budget, and on estimates for planting in the hills. Considering the exhausted state of the Punjab hill forests and the necessity for creating artificial forests in the plains, no head of expenditure should be more readily allowed than this, provided there is systematic work and efficient supervision.

AVII.—Forest Conservancy and Improvement.

The figures call for no special remark. Much more could and ought to be spent under this head in preference to some other heads, were more data available and working plans completed. As it is, the principle has been followed to allow the expenditure wherever it is shown the work is likely to be conducted in a systematic manner, and disallowed when this did not appear to be the case. A considerable portion of the total represents expenditure on the preservation of the forest from fire, which is, in most provinces in India and Burmah, the first and most necessary step towards conservancy and efficient management.

AVIII.—Survey and Working Plans.

The main expenditure is concentrated under the special branch of the forest service, which superintends the work. A few small sums have been allowed for provinces where it is indispensably necessary for certain local valuation surveys, plantation surveys, and other minor operations, which could not be omitted while the general work of surveying the forest area *en masse* was progressing province by province under the superintendence of a special branch.

AIX.—Experiments.

The small sum proposed under this head calls for no remark.

AX.—Buildings, Communications, &c.

It is an admitted fact that well-arranged works coming under this head tend to produce a larger revenue in two ways—*first*, by opening out inaccessible forests; and *secondly*, by facilitating their protection. The maintenance of existing works also comes under this head. Expenditure on forest rest-houses and huts tends to secure economy, by saving the health of forest officers and facilitating inspection at all seasons. The expenditure under B is as follows :—

BI.—Office Establishment. BII.—Allowances. BIII.—Contingencies.

	Rs.	Rs.	Rs.
Bengal	97,816	18,540	2,694
North-Western Provinces	1,21,700	24,880	9,849
Punjab	2,09,272	49,150	14,295
Oudh	49,100	7,000	3,100
Central Provinces	89,900	5,100	5,000
Burmah	1,37,308	11,700	7,250
Coorg	7,740	3,500	1,500
Ajmere	14,784	2,208	998
Surveys and Working Plan Branch	20,880	3,500	3,640
Total	7,39,500	1,20,778	48,326

In last year's note the detail of the superior staff (Conservators, Deputy and Assistant Conservators, and Sub-Assistant Conservators) was given, and need not here be repeated. Of the present proposed total of Rs. 7,39,500 for establishments, the distinction between the classes may thus be shown :—

	Officers. Rs.	Establishments. Rs.	Deputation Allowances. Rs.
Bengal	61,200	36,516	199
North-Western Provinces	78,800	38,100	4,800
Punjab	1,08,600	1,00,672	...
Oudh	26,800	14,300	...
Central Provinces	51,000	38,900	...
Burmah	81,600	46,708	6,000
Coorg	3,000	3,912	828
Ajmere	6,600	8,184	...
Surveys and Working Plan	20,400	480	...
Total	4,40,000	2,87,772	11,728

The charge for officers is therefore less than that passed last year, and needs no remark. Similarly, the heads of minor establishment—travelling allowance and contingencies—are all within the figures as passed last year. All establishments have been checked by the sanctioned scales, except in one or two instances, where such scales not having been finally sanctioned, a special justification of the figures proposed was entered in the local budget note of the province concerned. The following figures have been recommended for sanction:—

Receipts	...	...	...	...	...	...	...	...	...	...	Rs.
Charges	{ A 21,15,667 }	...	...	...	...	...	...	...	...	...	42,60,075
	{ B 9,08,604 }	...	...	...	...	...	...	...	...	...	30,21,971
										Surplus	12,15,804

For the purposes of comparison, the actuals for three years are given:—

		1870-71.	1871-72.	1872-73.
Receipts	...	Rs. 35,57,479	Rs. 39,12,662	Rs. 41,35,525
Expenditure	...	30,12,467	28,11,653	26,74,515
Surplus	...	5,45,022	11,01,009	14,64,510

THE POVINDAH TRADE.

(From the Ocean Highways.)

THE trade of the Lohani merchants (called Povindahs or runners), who are the channels of communication between India and Central Asia, is a very old one. Only militant merchants of this description could ever have made a profit out of a commerce which had to traverse difficult mountain ranges through tribes of savage robbers, and the countries between them seamed with the customs-lines of greedy, shortsighted chiefs. Starting from Bokhara with his merchandise, the Lohani would be called upon first at Karahi for the dues claimed by the Tora or Prince governing there, then for customs dues on the Oxus, octroi at Balkh, customs at Khulm, at Duab, at Kamuri, at Bamian, at Gardan Dewar,* at Kabool, at Ghaznah, at Kutawaz, at Tawk, at Dera Ismail Khan, at Mooltan, and so on till the point, wherever it might be, that he reached the British frontier. Besides these demands of the Governments he traversed, there would be the exactions of the officials and petty chiefs at every stage on the road, and the black mail of the various tribes through which he passed; the Lub-i-abi Turkmen on the Oxus, the Uzbek robbers of Muzar Shurif, the Tatars of the Dashi Saffid the Hazaras of Syghan and Bisht, the Wurdaks between Kabool and Ghaznah, the Hotaks, between Ghaznah and Kutawaz, the Sulaiman Khyl of Kutawaz, and the Wuziris between them and the plains of Tawk.

But the Povindahs banded together in large caravans to resist exactions that would render their trade impossible. They defied the robber tribes here, compounded with them there, avoided or slipped past in the night some customs posts of weaker chiefs, whose pursuing emissaries they could defy, and bribed the officials at others to shut their eyes to the value of the richer bales. And so sorely harassed at every step, losing men, horses, camels, bales of merchandise here and there on their way, bribing, cajoling, bullying, defying, fighting, twice every year did caravans of these hardy traders, seeking their precarious gains, battle their desperate way through the deserts of Bokhara, the defiles of the Paropamisus, the Ghilgi plateaux, and the passes of the Sulaiman Range, and across the rivers of the Punjab.

Much of this is changed now for the better, with the natural result of a vast development of the trade. From the Oxus to the Trans-Indus Plains there exists, for the first time since 1780 (at which date the Durani hold of the Paropamisus and Balkh had materially relaxed in the weak hands of Timur Shah), a single firm Government. For it must always be remembered that the compact and consolidated kingdom of Dost Mahamud-Khan is merely one of those fallacies established by iteration. In fact, up to 1850, the Dost only governed the Kabool province and Jalalabad; and it was during the next ten years that he annexed, gradually, Ghaznah, Kandahar, Girisikh (1855), Balkh and Khulm (1856), the Charvilayats of Akchik, Shibberghan, Anckho, and Maimuna, and also Sistan (1858), Kunduz and Badakhshan (1861), and, finally, Herat in 1863, a few days only before his death. At the same time the plains of Hindoostan had all come under one Government, and, once across the first British river, the Indus, the merchant finds himself in a state of security the most absolute, and surrounded by all the resources and facilities of an advanced civilization. Instead of marching painfully down hundreds of miles to his markets, we find him leaving his camels to graze in the arid plains of the Punjab and conveying his merchandise by rail, or by steamer or country boat, on the Indus, to all towns right down to Calcutta, or to Kurrachee and Bombay. He extends his wanderings farther. He is to be seen in Assam and Burmah, prominent among the miserable natives by his stature, by his lofty air, his matted locks, and filthy clothes. That voice which has roared defiance in Pushtu gutturals to howling savages on gusty mountain tops is attuned, under the wholesome fear of British police regulations, to a ludicrously incongruous wheedling whine, addressed to the dogs and women (so he regards the effeminate races of the East) with whom he is bargaining. That stalwart form, no longer bristling with weapons (all such have to be deposited at the Indus) has lost its martial swagger, and winds its deprecating way through the crowds which he feels he could crush like insects under his feet. He and his brethren swarm throughout the winter months in the Presidency cities and in all the greater commercial towns throughout Hindoostan, and are to be found scattered about everywhere. In the Looshai raids there were Povindahs aiding in the defence of stockades in Cachar. In the Mutiny, Povindahs received rewards for services performed in isolated garrisons. There is nowhere they will not penetrate in the pursuit of profit. Their principal commodities of trade will be found mentioned in the following extract from a native report.

"The following is a detail of the goods imported from foreign territories into Bokhara:—

"From Hindoostan, cotton cloth of every kind, (English) crockery and metal goods (English), indigo, brocades, broad-cloth, saccharine produce, spices, tea, cochineal, salammoneiac, horses, camels, madder carpet, lungis, chintz, gold coins, drugs, copper, pearls, gold lace, wire, &c. Cloth of every kind, except muslin and cotton cloth, is imported from the Russian territories; the above two articles, as also indigo, are not manufactured in Russia. Imports from China *via* Yarkand and Kashgar are at present, on account of disturbances, altogether stopped. Before the interference of the Russians, English cloth, tea, and opium were exported from Bokhara to Samarkand, Khokand, Kashgar, Tashkand and other distant countries; but now the Russians have levied a heavy charge on these articles, in addition to the former tolls collected by the King, in order to stop such imports, with the view of introducing articles manufactured in the Russian territories; the import of opium produced in the Punjab is totally prohibited. Notwithstanding all these restrictions, an immense quantity of these articles is secretly carried by the merchants by desert routes from Bokhara to Khokand and other countries; and although several cases of smuggling have been brought to trial, and the commodities confiscated and burnt, yet the merchants do not abstain from evading the duties and carrying articles to the above countries. The last year's supply of tea from Russia was of a very inferior quality, and the people therefore prefer the English tea to that of the Russians. A small supply of tea of a very superior quality was also brought from Russia."

The value of the Povindah trade by the Gomul Pass (Gwaleyri route) was estimated at considerably over 50 lakhs in 1861 (*Ann. xvi. Punjab Trade Report*), and at nearly 40 lakhs in 1867 (*Dera Ismail Khan District Report on Railway Extensions*). Registers of trade established in the latter year at the Indus Ferries, only show—

											Lakhs.
1867-68	...	...	...	...	...	...	...	...	...	...	25
1868-69	...	...	...	...	...	...	...	...	...	...	29½
1869-70	...	...	...	...	...	...	...	...	...	...	33

The increase in the above each year does not show a developing trade—for the trade was, on the contrary, rather falling off from causes fully reported by the frontier authorities,—but improving accuracy. The information is mainly derived from the Povindahs themselves and their Hindoo brokers, who understate their traffic, dreading a tax; and it is very difficult to correct their estimate, as they do not open out their camel loads till after they have passed the Indus, and then they disperse in all directions. The Deputy Commissioner of Dera Ismail Khan reported, in 1870, that 20 per cent. at least must be added for evasions to the returns of 1869-70, bringing the trade for that year up to 40 lakhs. The Commissioner of the Derajat in his memorandum on Captain Grey's propositions to Government for the development of this trade, estimated its value at 50 lakhs, or half a million of money† (not 60,000, as given by the clerical error at p. 94 of the *Blue Book on the Moral and Material Progress of India in 1871-72*).

The whole Povindah trade by the Khaibar (and Tatra), Kharam, Gwaleyri and Bolan routes, was estimated, in 1861, at 1,000,000, when that portion which traverses the Gomul Pass was put down at over 50 lakhs. Supposing the traffic by the other routes to have increased in a greater proportion than that by the Gwaleyri or Gomul (which has rather retrograded of late years), one and a half million is probably now a moderate estimate of the total value of the trade; a value which may be indefinitely expanded for two of the routes at least, by certain measures fully in our power, and far from expensive, considering the results to be expected. For the Khaibar route, no doubt any thorough measures would be excessively expensive; and, as regards the Bolan route, political considerations intervene. But, for the Kharam and Gwaleyri routes (comprising the various

* The duties levied by all these petty chiefs, though greatly lowered, are not foregone by Sult 'Ally who maintain the customs posts at the old places up to the present date.

† An estimate confirmed by the Government of the Punjab.

"The results would be beneficial not only in improving the routes themselves, and greatly reducing raids. It would much facilitate the forwarding of succours or material at any authority and influence in those mountain tracts, and thereby rendering the forwarding of succours or material at any time to Khaboo, and the repulse of hostile movements by those routes."

(This was written from Chizami in October, 1869. Already, however, this had been suggested to the Government, and by Lord Mayo's orders, a scheme had been drafted to this end. This scheme was developed a few months later, in consultation with the frontier authorities and the chiefs of the Lobana traders into a number of definite propositions which were being taken up by Sir Henry Durand, then Lieutenant-Governor of the Punjab, at the time of the unhappy accident by which he met his death at Pooni, in January of 1871. The question did not come up again till long afterwards—after Lord Mayo was also dead; and the proposals, not meeting the full approval of the present Lieutenant-Governor of the Punjab, they did not go to the Government of India. The proposed arrangements had, however, been meanwhile communicated to the Amir of Afghanistan by the traders themselves, and had met his approval. Indeed, at the time of the negotiations held at Umbal, in April, 1869, between him and Lord Mayo, the matter had been generally brought forward, and he had undertaken to do his utmost for the protection of trade by the Gomal and other such a line of action, and it was in pursuance of the understanding then arrived at, that Captain Grey, later in the same year, proposed the arrangement above referred to.)

[illegible]

It is these very precautions, irksome and expensive as they are, which prevent this trade being entered upon by other than Lohams, or merchants under their protection, for which they must pay." The above is as far as it goes. It is these intricate and dangerous opportunities of plunder, along the rail-ways and in the trading towns, which make it impossible for separate parties to pass by this dangerous route. But losses and hindrances en route are not all that this struggling trade has to contend against. In our ally, the Amir of Kabul's territories and in ours, matters, though much improved, are far from being as they should be. In the former, the Peshawars are held on various texts by greedy officials for their own advantage—their horses and camels impressed for State purposes—their customs and tolls mindfully enforced (vide p. 91 of the *Blue Book on the Progress of India* in 1871-72). In British territory there are none of these things. Here, trusting in protection, they give up their precautions the moment they emerge from the passes, and, while the merchants proceed to Hindustan, the night robbers; and our frontier defence arrangements are insufficient for their protection. This subject has received anxious consideration; and measures such as lay in the power of the local authorities, have been adopted for its remedy: and doubtless the necessary steps will eventually be taken for the removal of the evil. To this end the status of the frontier chiefs within our border must be very greatly elevated, their powers largely increased, and their responsibility strictly enforced. Under our levelling system, we have from the first per-

MINERAL RESOURCES.

Iron-smelting in the Raneeunge Field, by T. W. H. HUGHES, A.R.S.M., F.G.S., Geological Survey of India.

Iron-smelting in the Kanungunge Field, by T. W. H. HUGHES, A.R.S.M., F.G.S., Geological Survey of India.

1. The Kharan of Rawar route from Kohat. 2. A deccanizing an outcry of only 20000 a year on the part of Government, to protect and develop a traffic now worth half a million. This 20000, a year was to be paid out of the taxes now levied on the Pothohar. The Pothohars agreed on their part to pay neither less dues (to be fixed by the British Government) to the tribes in the Pothohar on their part; but without which, of course it would have been impossible to secure the route at such small cost to the State. A second consideration in the establishment of the route was, as assumed, on the part of the Amir of Kabul. The posts to be established on our part were proposed to be composed of 1. The same number of troops, regarding the trade, that its value had not been over-estimated, and that it appeared certain that it had considerably increased. The reason being, however, 2. The opposition of traders in Kharan, the insecurity of the route, the plunder of caravans in British territory and the (consequently) impoverishment of the Pothohars.

to say that I have already received offers of assistance, and the loan of a cupola, from the Honorable T. M. Robinson, of the Bengal Coal Company and Colonel H. Hyde, R.E., to the latter of whom I am already indebted for facilities afforded me during my preliminary survey. Although my more serious attention was directed to the subject of fluxes, I was in addition instructed to point out the most favourable position for erecting furnaces, to institute enquiries about furnace materials, to make some sort of estimate as to the quantity of iron ore available, and to confirm or modify the opinion entertained of certain coals in the western part of the field. For the sake of convenient reference I propose to head each section of my enquiry under different heads; and first as to coal. I presume it is unnecessary to adduce evidence in proof of the enormous amount of coal which exists in the Raneeungee field. There is perhaps no area of similar size in the whole world which can compare with it for actual thickness of seams. The coal, however, is not so good in quality as it might be, but I believe better will be discovered as the field becomes progressively developed. The weak point of our Indian coal is the amount of inorganic matter that it possesses as compared to good English and Welsh coal; but lately two samples have been received at the Geological Survey Office, one from Sanpur near Niraha, and the other from Bahmandiha near Nismampur, which contain only 8.9 and 8.7 per cent. of ash respectively. The average per-centage is 15. Nothing more than an ordinary analysis of these coals has been made, and their position is—

	Sanpur.	Bahmandiha.
Carbon	64.3	67.8
Volatile matter (inclusive of water)	26.8	32.5
Ash	8.9	8.7
Total	100.0	100.0

Both are said to cake, and as they are remarkably clean, they ought to be brought more into use. At present I believe they are scarcely worked. The Sanpur coal is burdened with a cartage freight of 6 miles, and a toll; but the Bahmandiha seam has no serious drawback to contend against. It lies in the general strike of the Sanktoria seam, which is well-known to be one of the finest properties in the field, and it may be the continuation of that bed to the north-east. A very complete series of analyses of 50 different coals has lately been made by Mr. Tween under Dr. Oldham's direction, and I find that these samples furnished by the Dumarkunda, Banali, Sanktoria, Mangalpur, and Raneeungee collieries combined the greatest freedom from ash with high per-centage of carbon.

Name of Colliery.	Carbon.	Hydrogen.	Oxygen and Nitrogen.	Sulphur.	Ash.	Per-centage of Coke in unried Coal.
Dumarkunda	71.85	4.67	8.78	.69	14.6	76.8
Sanktoria	68.89	4.52	12.27	.72	13.5	74.6
Raneeungee	69.45	4.82	10.08	.35	14.4	72.2
Banali	69.98	4.79	10.06	.37	14.8	69.1
Mangalpur	68.81	4.8	12.11	.88	13.3	67.8

The loss of water in the Dumarkunda, Sanktoria, and Raneeungee coal was 2 per cent.; in the Banali coal, 4 per cent.; and in the Mangalpur coal, 5.8 per cent. The amount of sulphur is in each instance considerably under one per cent.—a fact which will not readily be credited by those who think that Indian coals are always saturated with iron pyrites.

Reverting to the Raneeungee coals, the following is the result of the analysis of their ashes:—

	Silica.	Alumina.	Oxide of Iron.	Lime.	Magnesia.	Sulphuric Acid.	Phosphoric Acid.
Dumarkunda	60.54	31.0	6.52	1.21	.94	.35	.54
Sanktoria	58.7	29.03	7.49	3.26	.....	1.11	1.46
Banali	62.77	30.48	3.32	3.18	.....	.47	1.2
Raneeungee	61.41	28.84	5.31	3.18	.....	.52	.35
Mangalpur	59.66	26.72	8.08	2.92	.....	1.2	1.18

For the sake of illustration I subjoin a selection of a few Welsh and Scotch ashes* :—

	Dowlais.	Dowlais.	Dowlais.	Dowlais.	Pontpool Rockywell Coal.	Eldew Vale Four Feet Steam Coal.	Fifeshire Fordel Splint Coal.
Silica	35.73	21.18	37.61	39.64	49.00	53.00	57.60
Alumina	41.11	20.82	38.48	39.20	44.78	55.01	52.00
Sesqui-oxide of Iron	11.15	26.00	14.78	11.84	12.00	9.94	9.73
Lime	2.75	9.38	2.53	1.81	Trace	2.20	1.10
Magnesia	2.65	9.74	2.71	2.68	2.22	4.80	4.11
Sulphuric Acid	4.45	8.37	0.29	Traces.	0.75	0.88	0.88
Phosphoric Acid	0.99	0.21	2.00	3.01			

It will be seen that the proportion of phosphoric acid in a hundred grains of the ashes of some of our Indian coals compares favourably with English; but we must bear in mind that Indian coal is burdened, as a rule, with three to four times the amount of ash that English coal is, and consequently for equal weights of coal the comparison is not so favourable. Only one of the five selected coals—Sanktoria—is truly coking; the rest yield nothing better than bastard coke. Analysis shows that the Dumarkunda coal is a first-class Indian fuel, and I believe that it would produce a very fair description of coke, provided the coke ovens were charged with freshly-raised material. I cannot find any reference to the coal from the Belrai colliery; but it deserves mention, as it cakes well, and looks bright and clean. The Belrai seam, like the Bahmandiha, is on the same strike, and is possibly on the same horizon as the Sanktoria seam. In our present state of knowledge, one can only conjecture that such is the case; but an air of probability is lent to this opinion by the circumstances that the Belrai coal possesses nearly the same qualities as the Sanktoria coal.

I have particularized the coals from eight different localities, because analysis shows that they are best adapted for smelting purposes. They are the coals freest from ash, and this is a point that must be borne in mind in connection with the amount of flux that will be required. For raising steam and for smelting works there are twenty other coals in the Raneeungee field, that would answer nearly as well, and there is always the prospect that many of the collieries from which moderate or inferior coal is at present being raised may some day meet with better seams as their workings become deeper and new ground is opened out. The portion of the field which is the most promising coals east of the Barakur is decidedly that part of it limited in a north-west direction by the outcrop of the Belrai seam, and in a south-west direction by the Panchet formation marked on the geological map. Within this area is included, in addition to the collieries belonging to the Bengal and New Beerbloom Companies, those owned by Messrs. Apcar and two or three quarries possessed by natives. Some of the land is, I am informed, held by Rancee Sarna Mout, a Hindoo lady whose religious principles are opposed to coal-mining.

IRON ORE.

The deposits of iron ore are of two distinct geological ages. The older are associated with coal measures as a group in the series, while the more recent constitute what is termed the laterite formation. Laterite, as a rule, is not rich in iron; and it does not occur in any form west of the meridian of the town of Raneeungee. I directed my attention principally to the ore of the coal measures. I did not restrict my observations to any one special locality. I visited the lands east of Basera and Madapur, and the entire tract from Lalganj to Bagunia. I thought it possible that the Singaram valley might be a good locality for iron-works, but it does not offer the same advantages as the western part of the field, where the iron ores of the measures are in close proximity to the superior coals of Sanktoria, Belrai, Dumarkunda, Bahmandiha, &c. The only samples of ore that I considered it necessary to collect were from the lands of Aitara, Malakola, Chulbalpur, Kuri, Sibpur, Jaisaidih, Beldi, and Notanghat. They are fair representative specimens, picked mostly from heaps which had conveniently for me been collected by the contractors who supply ballast for the repairs of the Grand Trunk Road.

* Percy's "Metallurgy," 1861, Vol. I., page 106.

† Laterite usually contains from 12 to 25 per cent. of iron. Some of it, however, is nothing more than clay with iron stains.

Mr. Tween has up to the present time only been able to complete the analysis of one sample. It came from Kulti, and contains—

Insoluble matter (silica 16.4)	...	...	...	...	...	...	...	...	19.6
Sesqui-oxide of Iron (metallic iron 42 per cent)	...	...	...	...	...	...	...	...	60.4
Alumina	...	...	...	...	...	...	...	...	5.8
Lime	...	...	...	...	...	...	...	...	2.9
Magnesia	...	...	...	...	...	...	...	...	.6
Phosphoric Acid	...	...	...	...	...	...	...	...	2.2
Water	...	...	...	...	...	...	...	...	9.2
									100.7

There is no sulphuric acid, but there is an appreciable quantity of phosphoric acid. I was rather surprised at the absence of carbonic acid, being under the impression that the above specimen was a carbonate of iron. It appears, however, to be a sesqui-oxide. The amount of iron it contains is 42 per cent, which makes it a valuable ore. The iron-stones occur over an area of several square miles in their beds, varying in thickness from 2 to 8 inches, through a mass of carbonaceous shales known geologically as the iron-stone shale group. Mr. Blanford* estimates that they form about 1-17th of the whole group, and Mr. David Smith† considers that 6,400,000 tons per square mile will be the yield. My own measurements showed that the iron-stones occurred in the proportion of 1 foot to 10 or 12 of shale; and taking the group as 1,000 feet (it is more than this), we have, roughly speaking, 200 millions of tons in every square mile. Assuming 5 feet only as workable, I think the figures will be assuring enough to set at rest all misgivings about quantity. The dip of the strata with which the iron-stones are associated is everywhere small in the neighbourhood of the Burakur, and the contour of the surface is such that the conditions for mining by open work are all highly favourable. No difficulty can be experienced in winning the ore at a reasonable price. The advantage to be derived from mixing different varieties of ore is well-known. Some very rich deposits of magnetic iron ore are described by Mr. Blanford‡ as associated with metamorphic quartzites just beyond the south boundary of the field, near the village of Tituri, about two miles west of Beharinath Hill. The ore occurs interlaminated with the quartzite and gneiss in lands varying in thickness from 3 inches to 2 feet. They are very pure, and contain from 60 to 70 per cent. of iron. Research may bring to light other similar deposits; but there is little probability of such a thing happening, as the native agars are usually aware of the iron ores that occur in their own district; and if any had existed, information about them would have been given to the officers of the survey. The main dependence of any iron-works must be upon the iron ores of the coal measures.

FLUX.

As I have not been called upon to compile a treatise upon the manufacture of iron, I need not explain why the necessity for a flux exists. Many minerals might be used as fluxes, but in practice we are limited to a few, namely, limestone, clay, and silica. For such ores as occur in the Raneegunge field, limestone is most required; and limestone that is nearly pure has hitherto been considered as indispensable. In some instances, however, as in the case of the Kulti ore, the analysis of which has been given above, a limestone containing some clay would be preferable. Impure limestone, indeed, is often advantageous, but its applicability depends upon the suitability of its own impurities to combine with those of the iron ore. In kunkur we have an impure limestone containing from 70 per cent. downwards of carbonate of lime, and a varying proportion of free silica, clay, magnesia, iron, and water. It would make, in some instances, a most economical flux, if the amount of carbonate of lime in it were somewhat greater than it is. Kunkur, as a rule, however, rarely contains more than 60 to 65 per cent., which leaves a large amount of impurity, out of which some is probably not required, and therefore it subtracts from the working value of the kunkur.

Some specimens which I obtained in the Raneegunge field contain the following quantities of carbonate of lime:—

Sanktoria	...	...	...	...	...	...	...	...	60.12 per cent.
Ramnuggur	...	...	...	...	...	...	...	...	64.98 "
Barnuri	...	...	...	...	...	...	...	...	61.90 "

Mr. Tween has not been able to make a full analysis as yet of all the samples that have been sent in for examination, and without such analysis it is impossible to estimate what proportion theoretically the kunkur should bear to fuel and ore in order to produce a suitable slag. I have however carried out some assays at the Mint, and the result is that, with equal quantities of kunkur and ore, and using wood, charcoal, or coke, I obtained a well-fused slag and a moderately clean button of iron. I have not made the number and variety of assays that I should like to, owing to the necessity of sending in a report at an early date; but the possibility has been demonstrated of using kunkur as a flux on a small scale. The assays were performed in unlined plumbago crucibles. My first experiment was unsuccessful, as I could not get up heat enough in the small table gas furnace which Colonel Hyde placed at my disposal. My after attempts with the use of coke in a wind furnace were more fortunate.

No. 1.—Ore ... 100 grains (Kulti iron-stone, containing by wet assay 42 per cent. iron).
Kunkur ... 100 " (Ramnuggur kunkur, containing 65 per cent. carbonate of lime).
Charcoal ... 30 " (wood charcoal).
Per-centage of iron 45.0; slag perfectly fused, grey. Button of iron dark-grey, crystalline; broke rather readily under hammer. Two or three shots of metal embedded in the slag.
From the appearance of the iron, the ore will probably reduce easily.
No. 2.—Ore ... 150 grains.
Kunkur ... 150 "
Charcoal ... 40 "
Per-centage of iron 44.7. Like all dry assays, the per-centage of iron is shown to be greater than it actually is. Slag greyish green, a few beads of iron adhering to outer surface. Button dark-grey, unfractured face; does not split at first blow, but flattens somewhat.
No. 3.—Ore ... 100 grains.
Kunkur ... 100 "
Coke ... 30 " (coke from Calcutta gas-works).
This was put into a smith's fire, and the slag was not perfectly fused. It had a light-green colour. Numberless shots of iron at bottom of slag. Fractured surface of button white.
No. 4.—Ore ... 100 grains.
Kunkur ... 100 "
Coke ... 30 " (coke from Calcutta gas-works).
Slag light-grey, semi-translucent; button unfractured face, white, compact.
No. 5.—Ore ... 150 grains.
Kunkur ... 150 "
Coke ... 40 " (coke from unwashed Sanktoria coal dust).
Slag light amethyst colour, clear, translucent; button unfractured face, dark-grey, coarsely crystalline. The amethystine colour of the slag may be due to manganese.
No. 6.—Ore ... 150 grains.
Kunkur ... 150 "
Coke ... 30 " (coke, picked piece of Sanktoria coke).
Per-centage of iron 44.0. Slag slight amethyst colour, translucent. Button unfractured surface, not quite so dark as No. 5; coarsely crystalline.

I made several other assays which I need not refer to. My object was to see whether kunkur would do the work that was required of it. The less quantity, 150 grains in No. 6 answered quite as well as 150 grains in No. 5; but I would recommend equal quantities of kunkur and ore. Pure limestone is not known to occur in any quantity in or near to the Raneegunge field. My colleague, Mr. Mallet, however, has discovered a bed of it in the vicinity of the Madapur branch railway, and it is quite possible that before his investigations in that neighbourhood are brought to a close, he may happily discover more. The limestone is very pure, and is only 10 miles from the station, so that if railway rates for carriage were only cheaper, it might be employed to supplement the kunkur of the Raneegunge field. A large quantity might easily be removed. I have been informed of another bed south of Damuda, and near to Raneegunge, the Raneegunge field. A large quantity might easily be removed. I have been the sample sent to me for examination, I scarcely fancy that I have not yet had an opportunity of visiting it. From the appearance of we can look for a supply of flux, and Rotas stone is so near comparatively to kunkur, that I think we must depend upon the latter material.

AMOUNT OF KUNKUR.

On the question of quantity of kunkur available within the field, I have consulted with Mr. Dejoux, Executive Engineer, who is at the head of the special department devoted to lime, kunkur, and limestones, and he assures me that there is an unlimited quantity. In this assurance, Mr. Joll, who was for some time executive Engineer at Burakur, unites. Mr. Dejoux's experience and special knowledge is so much greater than my own that I prefer quoting his conviction to offering a decisive opinion of my own. I examined several of the localities where lime was being made, and, judging by what I saw, I am inclined to think that there is a very large deposit in the vicinity of Burakur; both banks of the river are full of kunkur, and the quality of the material appears to improve some depth below the surface.

One advantage that would be derived probably from the use of Rotas limestone is, that its average composition might be depended upon. As regards kunkur, I am not sure whether this would be the case. Again, quoting Mr. Dejoux, however, he says that out of the numerous samples which he has analysed, he has found that its composition is much more constant than might be anticipated from the nature of its origin, and that 55 to 65 per cent. is the usual amount of carbonate of lime that it contains. If this be so—and the analyses now being made in our office will confirm or disprove this point—we shall be able to regulate the amount required for fluxing; but if the per-centage of carbonate of lime be inconstant, the working of a furnace is likely to be variable, and the out-turn of iron irregular both in quality and quantity. I trust I have made

* Memoirs of the Geological Survey of India, 1861, Vol. III, Art. I, page 76.
† Memoirs of the Geological Survey of India, 1861, Vol. III, Art. I, page 193.

‡ Mr. David Smith's report on the coal and iron districts of Bengal, 1856, page 6.

clear the case regarding kukkur—first, that there is a large quantity available; second, that it can be used as a flux; but that unless its composition be pretty constant, there are difficulties in the way of its employment that might make the use of a dearer, but a more reliable, limestone advantageous. Until full analyses of many specimens have been made, however, we cannot pass judgment. Should they prove the composition of kukkur constant between certain limits, then I think we may shut off actual experiments on the large scale and declare it to be an appropriate flux.

The tendency throughout this report has been to show that the country in the vicinity of the Burakur is best adapted for a site. No locality offers the same advantages. It is nearer to the foreign sources of limestone at Rotas and in the Hazarogah district than any other part of the field. The best quality coals occur there; easily workable ores may be got; an abundance of kunkur can be procured; sandstone quarries are in actual existence; the Grand Trunk Road, and the Burakur branch and Chord Line of the East Indian Railway, are in the immediate vicinity of all requisite raw materials; and the land necessary for buildings, tipping-room, &c., belongs in great part, I believe, to native builders, who would probably dispose of it at more favourable rates than British holders.

Any definite selection of a site must of course be postponed for the judgment of the manager who may be appointed, but the choice ought to be limited between the meridians of the Sitarampur and Barakur railway stations, and a short distance north or south of the Grand Trunk Road.

FURNACE BUILDING MATERIALS.

It is difficult to say off-hand whether certain stones will have the property of sustaining the temperature which the chemical process carried on in the furnace requires. In the selection of native stones, as also of artificially manufactured stones, we must be guided chiefly by experience. There are extensive quarries near the Burakur bridge from which the sandstones of the lower coal measures are obtained, and if those that are *fine-grained* are selected, they will probably be found to withstand heat and the action of fluxes. Soapstone occurs in the Manbhanjan district, and dishes made from it used formerly to be sold at Taldanga. The source of supply is rather distant; scarcely any attempt has hitherto been made to turn the fire-clay, which is found with many of the seams to account. Messrs. Burn and Co., who possess pottery-works at Kanaganah, have lately made a few bricks from the clay in the Rancegunge colliery of the Bengal Coal Company, and the manager, Mr. Cowham, informed me that they were tested at Jamalpore, and were found to withstand the treatment they were subjected to much better than English bricks. I believe fire-clay occurs at the Basera colliery of the Rancegunge Coal Association, but it has not yet been tested.

This is required for mixing with other materials. It can be obtained from the Rivers Burakur and Damuda. This, like the above, may also be wanted for mixing. Large quantities are procurable a short distance up the Chord Line, about Jantarah. Some moulding sand of very pure quality is obtained near Raneegunge from the Damuda. I know of no other place where it occurs; but equally good sand may possibly be found in the Burakur.

CONCLUDING REMARKS.

Having shown that the materials essential for the manufacture of iron exist, I will now point out what the probable cost of coal, iron, and kunkur per ton will be. A very fair estimate is Rs. 2-8 to Rs. 3 a ton. The price of ore delivered at the works will probably be Re. 1 a ton. The rates at present paid by the contractors, who obtain ore from the Kulti estates of the New Beerbhoom Coal Company, is only 5 annas a ton, or Re. 1-8 per hundred cubic feet loosely heaped; but as the ore is close to the surface, I have trebled the rate, in order to cover extra expense when deeper workings are opened out. Any information about the rate paid for assistance, although imparted to me by a contractor's clerk, may not be correct, as natives sometimes make misstatements. Whether this be so or not, however, Re. 1 a ton is a liberal estimate. This material ought to be procurable at Re. 1-8 a ton or Rs. 5 a hundred cubic feet. Mr. Joll, Executive Engineer, roughly values unwashed kunkur at Re. 1-6 a ton. In order to be on the safe side, however, let the rate in all calculations be Re. 2. I find that Rotas limestone, taking the very lowest estimate, will for equal quantities be exactly ten times the cost of kunkur when delivered at Sitarampore.

	Rs.
Thus, 100 cubic feet of limestone conveyed from Rotas to Luckeesarai by water the whole way	18
Railway freight from Luckeesarai to Sitarampore	47
Unloading and landing charges, and so on	5
Total Rs.	70

or Rs. 20 a ton,* as compared to Rs. 2; but as Rotas limestone will probably do three times the amount of duty that kunkur will, the comparison is as Rs. 6 to Rs. 20. Considerable advantage would be derived from the use of Rotas or any other comparatively purer limestone, because, in the employment of kunkur, there is an increase in the weight of material to be passed through the furnace for the same produce of metal. Occasionally, as I pointed out before, an impure limestone may be more suitable for a flux than a pure one; but in kunkur the impurities are somewhat too great not to make it advisable, bearing in mind relative cost, to substitute a better material.

The simple cost of the manufacture of pig iron per ton, leaving out of consideration the interest on cost of furnaces, management, and so on, will, accordingly to my figures, be—

	Rs.	a.	p.
Ore, $3\frac{1}{2}$ tons, at Re. 1—say, however	3	8	0
Kunkur, $3\frac{1}{2}$ tons, at Rs. 2	7	0	0
Coal (large), $3\frac{1}{2}$ tons, at Rs. 3	10	8	0
Coal (small)	0	8	0
Wages	2	8	0
Total Rs.	24	0	0

I have allowed liberally both in the amount of material and in the matter of cost. Mr. David Smith, who made very careful calculations in 1856, showed that with the price of home-manufactured iron as it then ruled, and with the estimated cost of pig iron at Rs. 28-8 per ton,⁷ there would be a considerable profit. I think there can be but little doubt that if there is demand enough in Indian markets, iron may be manufactured in this country, and sold at a much cheaper rate than imported English iron can be bought for.

There are always difficulties inherent in the starting of new undertakings; but we have the beacons of past failures in other parts of India to steer our way by. If any of the companies at Raneeagunge, who possess their own coal, iron ore, and kankar, were to take up the project of iron-smelting, they would gain immense advantages over Government in respect of cost of raw materials. Should, therefore, the present attempt be in the least degree successful, it will be a guarantee to all companies of the value of their own resources.

THE RICE TRADE OF THE WORLD.

(From the Calcutta Review.)

[BY H. J. S. COTTON.]

IN an article which was published in the January number of this *Review*, the writer brought together a few facts, which had been collected chiefly from official sources, regarding the internal traffic and distribution of rice within the Bengal Provinces. It was then suggested to him that it would be especially interesting to extend those inquiries and, if possible, place within a convenient compass such general information as could be acquired regarding the rice trade *not* of Bengal only, but of the world. The present article is accordingly an attempt to comply with that suggestion. The attempt is an extremely imperfect one, owing partly to the difficulty of procuring accurate figures and facts in Calcutta which would be easily accessible in London, and partly owing to the writer's not having had the leisure to give to such an interesting and important subject full justice. This article has no pretensions to completeness, and can only be offered as a statistical contribution which may perhaps introduce a more thorough and exhaustive treatment at another time. It is indeed a circumstance of surprise that an authoritative manual on a topic of such consequence as the rice trade should not already have been published, but the writer is not aware of the existence of any work of such a nature.

Distribution of rice cultivation in the world and out-turn per acre.—"The cultivation of rice," writes Dr. Balfour, "prevails in all the river valleys and on all the coasts of Eastern and Southern Asia; it is a common article of subsistence in various countries bordering on the Mediterranean; it is grown in the Japan islands, on all the sea coasts of China, the Philippine, and other large islands of the Indian Archipelago, in Ceylon, Siam, India, on both shores of the Red Sea, in Egypt, on the shores of the Mozambique Channel, in Madagascar, in some parts of Western Africa, South Carolina, and Central America."

The cultivation of rice is not indigenous to America. It was first introduced in South Carolina from seeds brought from Madagascar near the end of the seventeenth century, but, from the careful cultivation to which it was subjected, it soon very far surpassed in quality and yield the produce of the mother-country. The yield per acre of Carolina rice has been estimated to vary from twenty to sixty bushels, each bushel weighing about 45 lbs. when cleaned. Each acre, therefore, yields an average of about 1,800 lbs. of cleaned rice or more than 2,500 lbs. of paddy. Under favourable circumstances, as much as ninety bushels have been raised from an acre or about 6,000 lbs. of paddy. Carolina rice is sown in the spring and reaped in September.

* The ton is calculated as	27 "mans."	
Iron-ore, 100 cubic feet =	135 "	= 5 tons.
Kunkur, 100 " " =	94 "	= 3½ "
Limestone, 100 " " =	94 "	= 3½ "

† Mr. David Smith's report on iron districts of Bengal, 1856, page 19. His figures are for simple cost of manufacture as mine are.

A statement which is published later on in this article will show the exports, from the United States into the United Kingdom, of Carolina rice from 1854 to 1871. The total exports of rice by sea from the United States from 1866 to 1869 are as follows:—

Year	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2																								

	From Great Britain.	From China.	From other places.	TOTAL.
	Tons.	Tons.	Tons.	Tons.
1866	9,653	15,371	7,473	32,507
1867	4,925	5,861	7,183	17,909
1868	8,515	8,155	8,648	25,318
1869	5,667	12,233	5,888	23,788

Italian rice.—In Europe there is necessarily not much rice cultivation, but the crop is grown along the shores of the Mediterranean and especially in the plains of Italy. The Italian exports are very considerable indeed, as will be seen from the subjoined statement:—

		France.	Austria.	Turkey.	S. America.	Other places.	TOTAL.
		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1866	...	14,711	3,651	17,001	2,883	13,233	51,529
1867	...	23,978	19,778	19,478	5,558	16,399	85,191
1868	...	22,433	23,006	15,457	4,577	15,928	82,401

	Cuba.	To other places.	TOTAL.
	Tons.	Tons.	Tons.
1865	5,567	360	5,927
1866	8,694	281	8,975

† All calculations in weight have throughout this article been reduced to tons. The tierce which is used in the United States has been taken at 650 lbs. the maund in India at 82 2/7 lbs., and the picul in use in the Eastern Archipelago at 133 lbs. The figures of the official English and Indian returns have in like manner been reduced from cwt. to tons.

India. The following is a comparative statement analysed from the figures issued by the Financial Department of the Government of India showing the total exports from the presidencies and provinces of India to both Foreign ports and to Indian ports from 1861-62 to 1872-73 :-

Years.	Quantities of Rice (not in the husk) exported from British India.					Years.	Bengal, Bombay & Sindh, Madras, British Burmah.				
	Bengal.	Bombay & Sindh.	Madras.	British Burmah.	TOTAL.		Bengal.	Bombay & Sindh.	Madras.	British Burmah.	TOTAL.
	Tons.	Tons.	Tons.	Tons.	Tons.		Tons.	Tons.	Tons.	Tons.	Tons.
1861-62...	410,271	14,453	75,152	273,984	773,861	1867-68...	852,466	79,192	80,673	494,861	1,507,192
1862-63...	482,057	15,451	62,463	279,245	839,217	1868-69...	886,614	38,545	88,119	443,252	1,456,530
1863-64...	576,067	33,212	76,561	367,839	1,053,679	1869-70...	373,044	27,321	74,962	536,968	1,012,295
1864-65...	535,341	39,234	73,349	384,516	1,032,440	1870-71...	439,358	44,547	102,434	423,548	1,010,287
1865-66...	886,212	29,055	72,144	334,154	1,321,565	1871-72...	341,864	44,043	119,654	482,561	1,077,587
1866-67...	222,660	12,242	75,502	210,430	520,834	1872-73...	511,261	38,119	105,057	654,898	1,309,235

Up to 1866-67 there was an export duty on rice exported to foreign parts of two annas a maund (82 2/7 lbs.) and since that year the duty has been raised to three annas. In 1863-64, 1864-65, 1865-66, there was an exceptional demand on India in consequence of the failure of the crops in Siam and China, and of the prohibition of exports from Siam in 1865. In 1865-66 and 1866-67 there was a general diminution in exports, partly because of the Orissa famine of 1865, and partly because the Siamese markets were again thrown open and rice ceased to find its way from India to China. But lately the increase in exports has been progressive from all parts of India, especially from Burmah, and in 1872-73 the largest quantities ever known were exported, amounting to more than one million three hundred thousand tons. The declared value in pounds sterling of the rice and paddy exported from British India amounted last year to £5,761,928; of this amount the Burmah produce was valued at £2,834,254, the Bengal at £1,959,342, the Madras at £749,518 and the Bombay at £197,914 pounds sterling. The average declared value per ton of rice exported was £8-7-0 for Bombay, £7-13-0 for Madras, £5-12-0 for Bengal, and £4-4-0 for Burmah. In all cases these values were lower than the averages of earlier years which amount to about £9-10-0 for Bombay, £8-0-0 for Madras, £7-0-0 for Bengal, and £4-15-0 for Burmah. The total amount of duty collected on the exports of rice and paddy in the year 1872-73 was £617,497.

Exports from Bengal.—The annexed table which has been very carefully prepared from the Financial Department statements shows the detailed exports of rice (excluding paddy) from Bengal to all ports from 1861-62 to 1872-73 inclusive :-

Statement showing the Exports of Rice from Bengal, from 1861-62 to 1872-73 inclusive, in tons.

	TO FOREIGN PORTS.											TO LITHIAN PORTS.										GRAND TOTAL.
	United Kingdom.	France.	Germany.	North and South America.	West Indies.	Mauritius.	Bourbon.	Other countries in Africa.	Arabian and Persian Gulf.	Ceylon, Laccadives, Nicobars, &c.	Straits Settlement.	China.	Other countries in Asia.	Australia.	Total.	Bombay.	Sindh.	Madras.	British Burmah.	Indian Ports not British.	Total.	
1861-62.	82,209	15,550	6,056	18,626	6,309	57,421	40,814	5,413	24,052	52,558	3,115	18,915	9	9,148	341,199	26,323	510	39,739	296	1,864	69,982	410,271
1862-63.	46,456	4,854	4,919	10,639	5,333	69,195	31,583	4,304	16,765	75,269	8,455	114,850	8,156	11,646	407,793	24,228	...	48,256	326	1,451	74,764	482,057
1863-64.	36,301	2,735	1,377	8,248	4,491	65,115	37,849	236	22,060	67,554	9,948	108,176	3	12,021	388,814	159,079	862	35,266	9,415	2,352	137,235	576,067
1864-65.	9,946	1,049	464	7,456	7,444	54,752	32,109	2,736	28,390	77,320	14,578	146,766	...	9,972	408,432	225,441	5,270	59,327	1,184	727	291,599	1,032,440
1865-66.	21,431	373	...	1,205	9,552	66,426	22,754	2,115	32,237	49,358	6,432	32,520	...	9,755	255,167	52,015	486	28,032	112	469	81,643	1,321,565
1866-67.	12,659	481	...	...	11,558	37,150	16,464	3,126	23,704	47,723	1,336	24	...	6,056	166,357	49,437	...	12,489	371	14	62,992	520,834
1867-68.	37,630	2,166	2,418	71	78,520	48,508	12,253	2,337	26,884	38,937	2,788	508	...	6,368	268,892	61,262	...	72,077	46	190	85,374	1,507,192
1868-69.	42,149	1,435	...	1,846	12,069	64,407	15,323	3,082	35,551	73,095	2,745	48	125	4,974	264,244	105,565	...	25,881	117	176	132,399	1,456,530
1869-70.	20,310	2,649	...	3,203	14,196	42,907	9,757	1,577	25,087	76,760	886	818	18	1,035	196,091	141,796	...	41,136	42	...	182,992	1,012,295
1870-71.	45,154	1,593	451	...	18,414	63,151	26,396	2,926	38,330	44,936	2,129	5,189	1	9,207	244,916	146,116	...	38,522	802	...	183,442	1,010,287
1871-72.	39,459	1,125	422	1,388	20,726	65,340	12,219	2,090	46,513	55,987	2,745	14,430	35	6,494	252,812	144,287	...	34,734	31	...	179,652	1,077,587
1872-73.	55,414	90	...	5,292	23,888	121,146	7,209	5,560	35,092	70,762	2,110	10,073	8,668	4,350	365,004	166,738	1,175	47,970	825	...	166,206	1,309,235

The figures for 1866-67 in this statement are for 11 months only.

The Calcutta trade.—Of this trade nearly the whole is from Calcutta. The entire exports to the United Kingdom, to Foreign Europe, to America, to China, to Java and the Straits, and to Australia proceed from Calcutta. Almost the entire exports to Indian Ports are from Calcutta. The total exports from Calcutta in 1872-73 amounted to 401,799 tons. In 1864-65, the year preceding the Orissa famine, they amounted to 690,000 tons, and upon an average they amount to rather more than 350,000 tons, or about ten millions of maunds annually.*

Export from Bengal for Indian ports.—It will be seen that the proportion of rice that leaves Bengal for Indian ports is enormous. It amounts annually to between 150,000 and 200,000 tons. In 1864-65, it amounted to 290,000 tons, but immediately after the Orissa famine it fell off in an equally extreme proportion. At least three-quarters of this amount goes to Bombay, and some 30,000 or 40,000 tons goes to Madras. The Bengal exports in this respect form a very remarkable contrast to those of British Burmah, which province, as we shall see, does not export altogether more than eight or ten thousand tons to Indian ports during the year.

To Europe.—The English and European exports on the contrary are very small, not exceeding 50,000 tons in the year, as against 100,000 or 500,000 tons from Burmah.

To China.—Famine in China, 1863-64.—To the Gulf.—To Mauritius, &c.—The export to China is very indifferent in ordinary years, though it was stimulated in an extraordinary manner during the years 1862 to 1865 when there was generally a scarcity in the rice-producing countries of the East and especially in China.† There are few facts in the history of the rice trade more worthy of observation, than that when there was famine in China, exactly ten years ago, the ordinary course of trade threw half-a-million tons of rice into the country from localities beyond sea which do not usually export to China, in order to relieve the distress. Even the large imports with which Government is now supplying Bengal are small compared with those spontaneously poured into China during a similar crisis. It may be added that the difficulty of distribution is not apparently complained of in China, in great portions of which country there are no carts, and where the merchants have no railways, but send the rice in the canals and no men's heads. The exports to China will be again alluded to in treating of the trade from British Burmah. The port of Calcutta exports very little to the Straits Settlements which are naturally supplied from more neighbouring countries. It exports largely to the Persian and Arabian Gulfs, some 30 or 40,000 tons. Calcutta and Chittagong, combined, supply the Mauritius, Bourbon, and the West Indies with all their rice. Bengal also, upon an average, supplies about half the rice imported into Ceylon and the neighbouring islands. The following statement shows whence these importing places have derived their supplies of rice during the year 1872-73 :-

Statement of Exports of Rice into Ceylon, Mauritius, Bourbon, West Indies, and the Gulf during 1872-73.

	Ceylon, &c.	Mauritius.	Bourbon.	West Indies.	Gulf.
	Tons.	Tons.	Tons.	Tons.	Tons.
From Calcutta.....	28,479	103,420	5,593	24,928	55,592
" Chittagong	41,402	17,726	1,616	3,960	.....
" Orissa	871	.....	.....	.....	.....
" Madras	81,120	605	202	129	2,385
" Bombay	22	.....	.....	.....	16,409
" Sindh .....	.....	.....	.....	.....	1,520
" Burmah	558	.....	.....	571	2,315
Total.....	152,452	121,851	7,411	29,588	58,181

* There is a little work published at Calcutta every year, formerly as a private speculation, but now by the Collector of Customs, entitled, The Commercial Annual or a "Tabular Statement of the External Commerce of Bengal" during each particular year.

† It is necessary, however, to explain, for the convenience of those who may refer, or are in the habit of referring, to that work, that, although it purports to give the commerce of Bengal, it confines itself to the trade from Calcutta, and that the year of which it treats, 1871-72 or 1872-73, as the case may be, is not the ordinary official year of India from the 1st of April to the 31st March, but the mercantile year from the 1st May to the 30th April. The present writer, in ignorance of these facts which it is impossible to elicit from the book itself, has passed many ineffectual hours in trying to reconcile the figures of the "Commercial Annual" with those submitted by the Custom House to the Government of India and published in the Trade and Navigation statements, and does not scruple, as the result of his experiment, to advise those who really wish to understand the statistics of Bengal trade, to turn only to the annual volumes of Trade and Navigation. Even after making every adjustment possible,—after allowing for the discrepancy between the 30,000 tons below what they actually were for that year. In the details of export some of the inconsistencies are of a most serious nature, and in the writer's opinion, at least as far as the rice trade is concerned, the "Annual" although a handy little volume, is for statistical purposes quite useless.

† The scarcity of 1863-64 in China had also been aggravated by the disturbances throughout the central provinces on the sea board, occasioned by the Taiping struggle of previous years.

Bengal rice finds its way wherever Bengal coolies emigrate, and no other rice seems able to compete with it in the market. If the exports of Bengal had been stopped this year we may see from this statement to what a tremendous extent the trade would temporarily, at all events, have been diverted. It is easy to say that the emigrant colonies might have imported from Burmah, but the solution of the importation problem is not so simple when we know that in ordinary years, Burmah does not export one single ton of rice to the Mauritius.

Qualities of Bengal rice and their destination.—The rice exported from Calcutta is divided broadly into three qualities: Table rice, ballam, and moonghy; of these table rice is of course the best quality. All parts of Bengal, and Behar also, supply their quota though it is believed that the district of Dinagepore, now one of the distressed tracts, ordinarily supplies the largest proportion. Ballam is mostly Backergunge and Eastern Bengal rice; the name may be supposed to be derived from the Chittagong boats of peculiar construction in which the rice is carried, called ballam boats. The moonghy is common or inferior rice. To the United Kingdom the exports in the largest proportion are of table rice; and similarly to Bombay, and Australia, where the rice is intended in the first instance as food for Europeans, the rice exported from Calcutta is table rice. To the Mauritius, however, the exports are ballam and moonghy, being in the proportion of 150 tons of ballam and 75 of moonghy to 15 tons of table rice, and the same to Bombay and the West Indies. To the Straits, to Java, to the Maldives and Laccadives, to Ceylon, to Madras and the Coromandel Coast and to the Gulf the export is almost entirely in ballam rice.

Exports from minor Bengal ports.—The principal minor Bengal ports are, Chittagong, and sundry small ports, such as False Point, Balasore, Chandballee, &c., along the coast of Orissa. There is also a small port in the Sunderbuns of Jessore, called Morrelgunge, the exports of which are included in the customs returns of the port of Calcutta. Morrelgunge was established as a port, in 1870, and is only open from the 1st October of each year to the 20th April, in the succeeding one, 4,082 tons of rice were exported during the season of 1872-73, from Morrelgunge, for the Mauritius and Ceylon. In the annexed table are shown the detailed exports of rice, by sea, from Chittagong and Orissa, during the past year:—

Statement showing Export of Rice from Chittagong and Orissa to Foreign Ports during 1872-73.

FROM CHITTAGONG.					1872-73.	FROM ORISSA.					1872-73.
					Tons.						Tons.
I.—To Europe.	...	...	...	...	...	I.—To Europe.	...	...	...	...	...
II.—To America.	...	...	...	...	...	II.—To America.	...	...	...	...	...
West Indies	...	...	...	...	3,060						
III.—To Africa.	...	...	...	...	...	III.—To Africa.	...	...	...	...	...
Mauritius	...	...	...	...	17,726						
Bourbon	...	...	...	...	1,616						
					19,342						
IV.—To Asia.	...	...	...	...	...	IV.—To Asia.	...	...	...	...	...
Aden	...	...	...	...	213	Ceylon	...	...	...	...	554
Ceylon	...	...	...	...	40,079	Maldiva and Lacadives	...	...	...	...	317
Maldives	...	...	...	...	1,923						
					41,615						
Total to Foreign Ports	...	...	...	...	64,917	Total to Foreign Ports	...	...	...	...	871

Statement showing Export of Rice from Chittagong and Orissa to Indian Ports during 1872-73.

FROM CHITTAGONG.					1872-73.	FROM ORISSA.					1872-73.
					Tons.						Tons.
Total to Indian Ports*	...	...	...	...	28,774	Total to Indian Ports†	...	...	...	...	15,178
Grand Total of Exports from Chittagong	...	...	...	...	93,691	Grand Total of Exports from Orissa	...	...	...	...	16,406

No rice goes from Chittagong to Europe, and it has been pointed out that that port cannot compete with Calcutta as regards freight, nor with Burmah as regards cost of rice. The trade of Chittagong is, however, rapidly increasing, and almost double as much rice was exported thence in 1872-73 as in the previous year. From Orissa the entire export to the Maldives and Laccadives in 1872-73 was from Balasore, to Ceylon from Cuttack (320 tons), and Pooree (234 tons). The coasting trade between Orissa and Calcutta and the Madras ports has already been described by the writer and does not fall within the scope of this article.

Monthly exports from Bengal.—The writer has prepared one other statement which will conclude these remarks on the rice export trade of Bengal. That statement will show month by month the exports to foreign countries, the figures of the total exports unfortunately not being available. It will be noticed that the largest exports are always in December, January and February, the months that immediately succeed the harvest; and that the smallest exports are during the hot season when the prospects of the harvest are of course uncertain:—

Statement showing the quantity of Rice Exported from the Presidency of Bengal to Foreign Countries, in each month of the years 1869-70-71-72 and 1873—Figures supplied by the Financial Department.

	1869.	1870.	1871.	1872.	1873.
	Tons.	Tons.	Tons.	Tons.	Tons.
January.....	34,544	42,026	42,568	44,056	51,040
February.....	18,179	29,173	25,822	38,127	40,390
March.....	18,203	19,637	49,252	23,005	23,494
April.....	16,625	13,286	13,760	28,706	15,014
May.....	9,845	15,284	11,898	27,974	15,652
June.....	10,409	13,642	14,670	18,239	10,847
July.....	7,816	17,450	14,894	13,964	15,273
August.....	8,960	19,159	15,251	27,332	14,349
September.....	9,278	16,958	16,963	33,317	17,521
October.....	6,751	13,166	11,486	22,882	12,412
November.....	10,550	19,828	16,050	29,719	13,042
December.....	19,010	26,152	35,617	37,396	34,345
TOTAL.....	170,170	245,761	267,041	345,317	263,380

Exports from Madras.—From Bombay.—From Sind.—The total exports from Madras to Foreign ports in 1872-73 were 91,885 tons, and from Bombay 17,857 tons; to Indian ports from Madras 13,186 tons, of Bombay 1,283 tons. Almost the entire export from Madras—81,120 tons—goes to Ceylon and the Laccadives, Maldives, Andamans and Nicobars, but nearly entirely to Ceylon; and 6,840 tons to Indian ports, not British, in the presidency of Madras. About 7,500 tons leave Madras annually for the United Kingdom. Twenty years ago the average exports from Madras amounted to 124,000 tons; they then fell off very largely, averaging for the ten years from 1860 to 1870 about 75,000 tons, but during the last three years they have recovered themselves to some extent and now exceed 100,000 tons. The Board of Revenue at Madras have expressed their opinion, which is contrary to that of the Revenue authorities of other local Governments, that the export duty on rice cannot be maintained without seriously affecting the agriculture of the province. From Bombay, as might be expected, the larger proportion of the exports—16,408 tons—go to the Persian and Arabian Gulfs, but this is nearly entirely a re-export of Bengal rice. The Sind exports, 18,978 tons, go almost wholly—14,961 tons—to the presidency port at Bombay; 2,385 tons went last year from Sind to the Gulfs.

(To be continued.)

* Total to Indian Ports: i.e., to Presidency.

† Indian Ports not within the Bengal.

THE Statistical Reporter,

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VOL. V.]

CALCUTTA: TUESDAY, 30TH JUNE 1874.

[No. 11.]

EFFECTS OF THE FAMINE ON EXCHANGE.

(By Messrs. Norman Brothers.)

THE supply of rice from beyond sea to meet the requirements of Behar and adjoining provinces have been chiefly drawn from the East and West Coasts of the Bay of Bengal and Saigon. The supplies from Saigon were financed through the trade and the rest by the Government either through their treasuries or by imported metal. The total import between the 1st October 1873 and the 30th April 1874 was 226,500 tons at a cost of £1,764,000, of which from Saigon 27,670 tons costing £230,000; from the East Coast of the Bay of Bengal 157,350 tons costing £1,216,000; from the West Coast of the Bay of Bengal and all other places 41,480 tons costing £318,000. The freight on this has been paid in Calcutta, and the chief portion of it been remitted home. Messrs. Norman Brothers estimate the freight at about £340,000 and perhaps £226,000 has been sent away and must appear as a set-off against exports on the import side of the trade account.

The Calcutta exports of rice during the seven months were 136,500 tons costing £1,236,100, of which there were 27,600 tons of table sorts costing £268,012. The exports from the four principal ports of the East Coast of the Bay of Bengal, viz., Rangoon, Akyab, Bassein, and Maulmein amounted to 602,000 tons in 1873; the present total estimated quantity available for export this year is 750,000 tons, leaving, subsequent to the 9th April, 308,000 to be shipped: the cost of last year's crop was about £3,064,000 free on board, the cost of this year's, assuming that prices keep much as they have been, will be about £5,062,500 for 750,000 tons. This shows a sum of £2,000,000 more than last year as requisite for financing the rice exports.

The requirements of Government to meet the Bengal drought, manifest by the large reduction of its balances with the presidency banks and their own treasuries, has greatly increased the value of accommodation to the commercial public, and has been the cause of the inflow of the precious metals during the past four months. The Bank of Bengal raised its rate on 30 days' sight private paper to 7 per cent. on the 2nd January, to 8 per cent. on the 7th, to 9½ per cent. on the 15th, to 10½ per cent. on the 7th February, to 11½ per cent. on the 10th March, to 12½ per cent. on 17th and reduced it to 11½ per cent. on the 16th April. The pressure at one time was very great, almost amounting to danger, but by the rapid movement of metal by the Government to the points where it was wanted, and by the diversion of silver on its way to China, to India, combined with the general judicious management of the banks, nothing worse than the high value of money has been the result; this to capitalists is a great boon after the considerable period of low value that has ruled here: the prevalent opinion held by the trading community is that commerce would be healthier if it was more dependent on its own resources, and had less indirect competition with Government in loaning money. The value of money in London during the four months has remained low, it was raised from 3½ per cent. to 4 per cent. on the 8th January, reduced to 3½ per cent. on the 15th of the same month; and was raised to 4 per cent. on the 30th April at the Bank of England; three changes, presenting a strong contrast to the ten changes in the previous four months, and realising so far the general expectation, that the value of money in London this year would be much more even than during the few past years.

The value of silver in London during the four months has been uneven, owing to the uncertainty of the action of the German Government with the stock they must have for disposal sooner or later; the latest intelligence on this head is that for the present they do not hold any great quantity and are in a position to make the most of what they have: the general feeling here is that nothing less than 59½d. per oz. standard will draw any quantity from them, a price which has been quoted five times of the 95 telegraph quotations received from Renter during the past four months and is equal with 4 per cent. interest for eight weeks, to a cost of 22-97d. per rupee. The quotations received during the four months have varied from 57½d. or 22-34 per rupee, to 59-50d. per oz., a fluctuation of 2 18/16 per cent., and the average of the quotations is 58-795 per oz. or 22-71d. per rupee.

The movement of metal to the East coast of the Bay of Bengal in payment for rice has amounted during the five months to Rs. 2,98,81,000, of which Rs. 97,39,000 from Calcutta and Rs. 45,00,000 from Madras were forwarded by Government, leaving Rs. 1,56,22,000 sent by the trade: the amount ordinarily requisite for financing the rice crop from that coast may be taken at ½ to one crore; the average net requirements per annum of the five years ending 31st December 1873 was 60 lacs and 62 thousand rupees, the average outgoings being 83 lacs 70 thousand rupees, and the average incomings 23 lacs and eight thousand rupees per annum, but in 1872 and 1873 the transmissions were abnormally large, Rs. 1,05,64,000 in 1872 and Rs. 1,15,04,000 in 1873, and the returns in 1872 only Rs. 6,45,000, but rose in 1873 to Rs. 31,48,000, leaving an excess export on the two years of Rs. 1,82,85,000 or an average of Rs. 91,42,500 per annum.

We have pointed for some time past to an expected felt want of silver currency in India, and in our last circular we said that we thought that the policy in connection with the Bengal drought would manifest it, doubtless it has; but in some respects a full currency might have shown almost the same results for a time: the actual silver currency now permeating India Proper is considerably larger than it was this time last year notwithstanding the heavy shipments to British Burmah, &c. The amount released from the Currency Department of Government is £1,780,000 the Indian foreign trade silver metal movement, by the Government return, for the 11 months ending 28th February 1874 gives an excess import of silver to the extent of £1,342,000: we may fairly take the March and April excess import of silver at £1,000,000, Calcutta alone shows about half of it; making an additional circulation £4,072,000: by deducting £2,986,100 sent to Burmah, £1,085,900 remain as additional silver circulation in India.

The amount of Government Paper encased at the three presidencies between January 2nd and April 30th was forty-nine lacs and ninety-eight thousand rupees, and the amount re-transferred fifty-two lacs, fifty-five thousand rupees. The figures in lacs and thousands of rupees.

	Total.
Encased from Calcutta	Rs. 34-56
" " Bombay and Madras	" 15-42
Re-transferred to India	" 52-55

During the four months, four crores and thirty lacs have been drawn by the Secretary of State on the three presidencies. The following are the amounts:—

	Total.
On Calcutta	Rs. 3,21,40,000
On Bombay and Madras	" 1,98,60,000
	Rs. 4,30,00,000

£10,000,000 are budgetted to be drawn in the year 1874-75, and the rate of exchange has been taken at a fraction worse than 1s. 10½d. per rupee: at present and until further notice, the drafts are to be for 20 lacs a fortnight: if this programme is carried out we shall be curious to see the effect on our market of having larger drawings during our busiest seasons; the move is in the right direction and should be beneficial.

THE BUDGET.

The budget of the finances of India, dealing with the accounts of 1872-73 and the estimates of 1873-74 and 1874-75, was in the hands of the Calcutta public on the 24th April. Since as in last year there are no new measures, the deliberative wisdom of the Legislative Council of the Supreme Government has not been brought to bear upon it: the general commercial opinion is, that it is sound in principle, and if the estimates of 1874-75 should prove correct, satisfactory. The part which deals with the manner in which this present and future droughts are to be met almost approaches grandeur in the face of the suggestions of assistance which have been made in the mother-country. It is devoutly to be hoped that the present failure of crops in parts of Bengal will not cost the country more than 6½ millions sterling, and that all future famines can be provided for out of past accumulations, until judicious irrigation works in the areas of the country subject to famine shall place the security of the food-crops beyond a doubt. If this visitation should hasten that period, the present expenditure and suffering will not have been in vain.

The important feature of the budget, besides the enunciation of the principle that famines in India are to be met by surplus revenue, is the general satisfactory state of the revenue as compared with the expenditure, showing a surplus of £1,763,878 in 1872-73, and estimated surpluses of £1,818,700 in 1873-74 and £1,192,000 in 1874-75, but for extraordinary and famine expenditure, these two items, extraordinary and famine expenditure are put down on the three years at £16,788,570, of which £10,288,570 is for extraordinary expenditure, and £6,500,000 as the cost of the famine of 1873-74. To meet these the cash balances will have been reduced by £8,277,469 in the three years, and the public debt is to be increased by 8½ millions. The cash balances are estimated to stand at £16,143,838 on the 31st March 1875. Of the 8½ millions loans to be raised in 1874-75 £5,000,000, of the £10,000,000 authorised to be raised in England, will be taken there, and a further sum of £2,750,000 as the year progresses will either be raised there or here, dependent upon the then states of the money markets.

TRADE WITH YARKAND.

(From Bengal Chamber's Report.)

THE Mission to Yarkand referred to in the Chamber's last Report, has been conducted with the greatest success; and the result is evidenced by the Treaty which has been recently concluded between the Ameer of Kashgar and Yarkand and the British Government. As the Treaty is contained within a small compass, and for convenience of reference, your Committee have recorded it *in extenso*.

The Committee regard the accomplishment of the Mission's main object as a matter of congratulation and as reflecting the greatest credit on the Envoy and all who have had part in the work: and they trust it may lead to results of the highest political interest to the State and of encouragement to the extension of British commerce into the remote provinces which the Treaty opens out to its enterprise.

FOREIGN DEPARTMENT.

Notification.—Political.

Fort William, 17th April 1874.

No. 896 P.—The following Commercial Treaty, concluded with His Highness the Ameer of Kashgar and Yarkand is published for general information:—

Treaty between the British Government and His Highness the Ameer Mahomed Yakoub Khan, Ruler of the territory of Kashgar and Yarkand, his heirs and successors executed on the one part by Thomas Douglas Forsyth, C.B., in virtue of full powers conferred on him in that behalf by His Excellency the Right Hon'ble Thomas George Baring Baron Northbrook of Stratton and a Baronet, Member of the Privy Council of Her Most Gracious Majesty the Queen of Great Britain and Ireland, Grand Master of the Most Exalted Order of the Star of India, Viceroy and Governor-General of India in Council, and on the other part by Syud Mahomed Khan Toorah, Member of the 1st class of the Order of Medjedie, &c., in virtue of full powers conferred on him by His Highness.

WHEREAS it is deemed desirable to confirm and strengthen the good understanding which now subsists between the high contracting parties, and to promote commercial intercourse between their respective subjects, the following Articles have been agreed upon:—

ARTICLE I.

The high contracting parties engage that the subjects of each shall be at liberty to enter, reside in, trade with, and pass with their merchandize and property into and through all parts of the dominions of the other, and shall enjoy in such dominions all the privileges and advantages with respect to commerce, protection, or otherwise, which are or may be accorded to the subjects of such dominions, or to the subjects or citizens of the most favoured nation.

ARTICLE II.

Merchants of whatever nationality shall be at liberty to pass from the territories of the one contracting party to the territories of the other with their merchandize and property at all times and by any route they please; no restriction shall be placed by either contracting party upon such freedom of transit unless for urgent political reasons to be previously communicated to the other; and such restriction shall be withdrawn as soon as the necessity for it is over.

ARTICLE III.

European British subjects entering the dominions of His Highness the Ameer for purposes of trade or otherwise must be provided with passports certifying to their nationality. Unless provided with such pass-ports they shall not be deemed entitled to the benefit of this Treaty.

ARTICLE IV.

On goods imported into British India from territories of His Highness the Ameer by any route over the Himalayan passes which lie to the south of His Highness' dominions, the British Government engages to levy no import duties. On goods imported from India into the territories of His Highness the Ameer no import duty exceeding 2½ per cent. *ad valorem* shall be levied. Goods imported as above into the dominions of the contracting parties may, subject only to such excise regulations and duties and to such municipal or town regulations and duties as may be applicable to such classes of goods generally, be freely sold by wholesale or retail and transported from one place to another within British India and within the dominions of His Highness the Ameer respectively.

ARTICLE V.

Merchandise imported from India into the territories of His Highness the Ameer will not be opened for examination till arrival at the place of consignment. If any disputes should arise as to the value of such goods the Customs Officer or other Officer acting on the part of His Highness the Ameer shall be entitled to demand part of the goods at the rate of one in forty in lieu of the payment of duty. If the aforesaid Officer should object to levy the duty by taking a portion of the goods, or if the goods should not admit of being so divided, then the point in dispute shall be referred to two competent persons, one chosen by the aforesaid Officer and the other by the importer, and a valuation of the goods shall be made, and if the referees shall differ in opinion they shall appoint an arbitrator whose decision shall be final, and the duty shall be levied according to the value thus established.

ARTICLE VI.

The British Government shall be at liberty to appoint a Representative at the Court of His Highness the Ameer and to appoint Commercial Agents subordinate to him in any towns or places considered suitable within His Highness' territories. His Highness the Ameer shall be at liberty to appoint a Representative with the Viceroy and Governor-General of India, and to station Commercial Agents at any places in British India considered suitable. Such Representatives shall be entitled to the rank and privileges accorded to Ambassadors by the law of nations, and the Agents shall be entitled to the privileges of Consuls of the most favoured nation.

ARTICLE VII.

British subjects shall be at liberty to purchase, sell, or hire land or houses or depôts for merchandize in the dominions of His Highness the Ameer, and the houses, depôts, or other premises of British subjects shall not be forcibly entered or searched without the consent of the occupier, unless with the cognizance of the British Representative or Agent and in presence of a person deputed by him.

ARTICLE VIII.

The following arrangements are agreed to for the decision of civil suits and criminal cases within the territories of His Highness the Ameer in which British subjects are concerned:—

(a.)—Civil suits in which both plaintiff and defendant are British subjects, and criminal cases in which both prosecutor and accused are British subjects, or in which the accused is a European British subject mentioned in the 3rd Article of this Treaty, shall be tried by the British Representative or one of his Agents in the presence of an Agent appointed by His Highness the Ameer;

(b.)—Civil suits in which one party is a subject of His Highness the Ameer and the other party a British subject, shall be tried by the Courts of His Highness in the presence of the British Representative or one of his Agents, or of a person appointed in that behalf by such Representative or Agent;

(c.)—Criminal cases in which either prosecutor or accused is a subject of His Highness the Ameer shall, except as above otherwise provided, be tried by the Courts of His Highness in presence of the British Representative or of one of his Agents, or of a person deputed by the British Representative or by one of his Agents;

(d.)—Except as above otherwise provided, civil and criminal cases in which one party is a British subject, and the other the subject of a foreign power, shall, if either of the parties is a Mahomedan, be tried in the Courts of His Highness; if neither party is a Mahomedan, the case may, with consent of the parties, be tried by the British Representative or one of his Agents; in the absence of such consent by the Courts of His Highness;

(e.)—In any case disposed of by the Courts of His Highness the Ameer to which a British subject is party, it shall be competent to the British Representative, if he considers that justice has not been done, to represent the matter to His Highness the Ameer, who may cause the case to be re-tried in some other Court in the presence of the British Representative or of one of his Agents, or of a person appointed in that behalf by such Representative or Agent.

ARTICLE IX.

The rights and privileges enjoyed within the dominions of His Highness the Ameer by British subjects under this Treaty shall extend to the subjects of all Princes and States in India in alliance with Her Majesty the Queen; and if, with respect to any such Prince or State, any other provisions relating to this Treaty or to other matters should be considered desirable, they shall be negotiated through the British Government.

ARTICLE X.

Every affidavit and other legal document filed or deposited in any Court established in the respective dominions of the high contracting parties or in the Court of the Joint Commissioners in Ladakh, may be proved by an authenticated copy, purporting either to be sealed with the seal of the Court to which the original document belongs, or in the event of such Court having no seal, to be signed by the Judge or by one of the Judges of the said Court.

ARTICLE XI.

When a British subject dies in the territory of His Highness the Ameer, his moveable and immoveable property situate therein shall be vested in his heir, executor, administrator, or other representative in interest or (in the absence of such representative) in the Representative of the British Government in the aforesaid territory. The person in whom such charge shall be so vested shall satisfy the claims outstanding against the deceased, and shall hold the surplus (if any) for distribution among those interested. The above provisions *mutatis mutandis* shall apply to the subjects of His Highness the Ameer who may die in British India.

ARTICLE XII.

If a British subject residing in the territories of His Highness the Ameer becomes unable to pay his debts, or fails to pay any debt, within a reasonable time after being ordered to do so by any Court of Justice, the creditors of such insolvent shall be paid out of his goods and effects; but

the British Representative shall not refuse his good offices, if needs be, to ascertain if the insolvent has not left in India disposable property which might serve to satisfy the said creditors. The friendly stipulations in the present Article shall be reciprocally observed with regard to His Highness' subjects, who trade in India under the protection of the laws.

This Treaty having this day been executed in duplicate and confirmed by His Highness the Ameer, one copy shall, for the present, be left in the possession of His Highness, and the other, after confirmation by the Viceroy and Governor-General of India, shall be delivered to His Highness within twelve months in exchange for the copy now retained by His Highness.

Signed and sealed at Kashgar on the second day of February in the year of our Lord 1874, corresponding with the fifteenth day of Zilbijj 1290 Hijri.

(Signed) T. DOUGLAS FORSYTH,
Envoy and Plenipotentiary.

THE RICE TRADE OF THE WORLD.

(From the Calcutta Review.)

[BY H. J. S. COTTON, C.S.]

(Continued from last Statistical Reporter.)

Exports from British Burmah.—The annexed statement shows, in exactly the same form as has already been shown for Bengal, the exports of rice (excluding paddy) from British Burmah from 1861-62 to 1872-73:

Statement showing the Exports of Rice from British Burmah from 1861-62 to 1872-73 inclusive, in tons.

	TO FOREIGN PORTS.																		TO INDIAN PORTS.					Grand Total.
	United Kingdom.	France.	Germany.	Mediterranean Ports.	Other countries in Europe.	North and South America.	West Indies.	Mauritius.	Bourbon.	Other countries in Africa.	Arabian and Persian Gulfs.	Ceylon, Laccadives, Nicobars, &c.	Straits Settlement.	China.	Japan.	Other countries in Asia.	Australasia.	Total.	Bengal.	Bombay.	Madras.	Indian Ports, not British.	Total.	
1861-62	233,298	7,985	1,488	..	3,122	..	..	9	..	2	..	131	29,843	4,100	..	748	..	270,722	23	37	3,202	..	2,262	273,984
1862-63	195,187	1,684	2,736	..	7,233	939	..	155	1	..	..	1,534	60,011	3,415	..	3,616	306	276,767	51	21	2,407	..	2,479	279,246
1863-64	213,277	6,645	1,742	..	3,442	..	..	261	..	..	..	788	104,070	16,721	..	2,334	219	340,999	24	10,292	7,524	..	17,308	357,839
1864-65	149,030	2,269	..	..	4,838	4,553	341	92	..	345	..	1,041	126,315	76,716	..	2,910	300	369,352	114	11,185	5,617	248	17,164	386,616
1865-66	231,736	529	1,529	..	3,400	860	1,006	251	..	278	..	463	88,053	53,574	..	3,117	..	379,785	68	5,997	8,304	..	14,399	394,164
1866-67	142,337	440	385	..	1,942	1,150	..	4,445	..	..	..	4,050	18,293	2,335	..	3,598	..	179,420	13,603	2,441	7,966	..	18,010	210,430
1867-68	221,642	5,010	3,615	..	1,702	1,148	..	471	..	..	..	5,434	15,157	..	..	707	..	254,886	57,895	20,168	71,711	..	144,714	404,600
1868-69	264,560	8,103	8,651	..	1,568	1,292	..	..	..	..	..	3,569	12,558	..	..	916	..	401,227	874	6,223	26,998	..	44,025	445,252
1869-70	244,045	1,469	5,540	..	721	1,683	..	1,022	..	..	..	3,206	12,384	..	..	343	..	271,013	3,887	21,576	23,613	..	65,073	336,088
1870-71	345,805	5,436	10,550	4,678	1,953	..	..	..	..	..	..	1,288	36,794	3,293	1,725	2,633	..	412,155	406	7,471	3,426	..	11,393	423,548
1871-72	343,144	3,262	10,632	1,492	6,546	..	..	224	..	..	..	1,782	87,361	4,098	..	4,042	..	461,583	216	7,327	13,006	..	20,543	482,126
1872-73	532,717	..	5,892	19,125	3,760	1,154	372	..	..	4	2,315	568	85,447	12,345	..	11,294	91	630,964	106	4,320	4,608	..	8,934	639,899

The figures for 1868-67 in this statement are for 11 months only; and those for 1867-68, 1868-69, 1869-70 are for grain and pulse of all kinds, rice not being shown separately, under each country, for these years, in the Local Returns.

Comparative statement between Bengal and Burmah exports.—For convenience of comparison the following statement has also been prepared and may be inserted in this connexion showing in a comparative form the detailed exports from Bengal and Burmah during the past two years. Bengal and Burmah are the two greatest rice-producing countries of the world, and we can gain no better idea of the relative importance of their trade than by contrasting them at a glance:—

Statement showing Export of Rice from Bengal to Foreign Ports during 1871-72 and 1872-73.

	1871-72.	1872-73.
	Tons.	Tons.
I.—To Europe—		
United Kingdom...	53,459	55,413
France	1,199	89
Germany	421	.....
Mediterranean Ports .....	.....	3
Total to Europe	55,079	55,505
II.—To America—		
North and South America ...	1,338	5,291
West Indies	20,726	28,887
Total to America	22,064	34,178
III.—To Africa—		
Mauritius	55,240	121,146
Bourbon	12,219	7,209
Other countries in Africa ...	2,009	5,560
Total to Africa	69,468	133,915
IV.—To Asia—		
Arabian and Persian Gulfs...	46,512	35,502
Ceylon, Laccadives and Maldives, Andaman and Nicobars, chiefly Ceylon	35,987	70,751
Straits Settlements	2,745	2,109
China	14,430	10,073
Other countries in Asia	34	8,668
Total to Asia	99,708	127,103
V.—To Australasia	6,464	4,350
Total to Foreign Ports	252,783	355,051

Statement showing Exports of Rice from Bengal to Indian Ports during 1871-72, and 1872-73.

	1871-72.	1872-73.
	Tons.	Tons.
I.—Bombay	144,286	106,738
II.—Madras	.....	1,174
III.—British Burmah	34,733	47,970
	31	323
Total to Indian Ports	179,050	156,205
Grand Total of Exports from Bengal	431,833	511,256

Statement showing Export of Rice from British Burmah to Foreign Ports during 1871-72 and 1872-73.

					1871-72.	1872-73.
					Tons.	Tons.
I.—To Europe—						
United Kingdom	...	...	...	...	342,144	532,717
France	...	...	...	...	3,262	...
Germany	...	...	...	...	16,632	5,592
Mediterranean Ports	...	...	...	...	1,492	12,125
Other countries in Europe	...	...	...	...	6,546	9,799
Total to Europe					364,076	567,184
II.—To America—						
North and South America	...	...	...	...	...	1,154
West Indies	...	...	...	...	...	572
Total to America					...	1,726
III.—To Africa—						
Mauritius	...	...	...	...	224	...
Bourbon...	...	...	...	...	...	...
Other countries in Africa	...	...	...	...	...	4
Total to Africa					224	4
IV.—To Asia—						
Arabian and Persian Gulfs...	...	...	...	...	...	2,315
Ceylon, Laccadives and Maldives, Andaman and Nicobars	...	...	...	...	1,782	558
Straits Settlements	...	...	...	...	87,361	83,447
China	...	...	...	...	4,098	12,345
Other countries in Asia	...	...	...	...	4,042	11,294
Total to Asia					97,283	111,959
V.—To Australasia—					...	91
Total to Foreign Ports...					461,583	680,064

Statement showing Export of Rice from British Burmah to Indian Ports during 1871-72 and 1872-73.

					1871-72.	1872-73.
					Tons.	Tons.
I.—Bengal ...					210	106
II.—Bombay ...					7,327	4,229
III.—Madras ...					13,006	4,608
Total to Indian Ports ...					20,543	8,934
Grand Total of Exports from Burmah					482,126	689,998

Great increase of Burmah exports.—The Burmah trade in rice has gradually outstripped the trade from Bengal and now far surpasses it. In spite of the enhancement of duty from two annas to three annas a maund in 1867, the exports have increased to an extent unprecedented and extraordinary. And while the whole exports from Burmah have increased from 210,430 tons in 1866-67, to 689,998 tons in 1872-73, it is observable that this increase is almost entirely in duty paying cargoes, or cargoes to foreign ports, which have increased from 172,420 tons to 680,964. The value of the rice exported from Burmah is now close upon three millions sterling.

Exports to the United Kingdom enormous.—A prodigious export is now annually made to the United Kingdom, amounting on the average to about 300,000 tons, and steadily increasing. During the last year it exceeded half-a-million tons. This export of rice to Europe is the most remarkable feature of Burmah trade. We have seen that the exports from Bengal are only one-tenth as compared with Burmah.

The rice of Siam and Bangkok does not compete with that of Burmah, and with the present scarcity of ships at low rates of freight it seems impossible that it should do so. There is every reason, remarks the Chief Commissioner of British Burmah, to anticipate the maintenance of the Burmah exports; the amount of land under rice cultivation is increasing, and vast tracts have lately been reclaimed from waste by the Government embankments of the Irrawaddy; the population is increasing rapidly, and the demand for rice for export is of progressive growth. The consumption of rice appears to be extending on the Continent and in America, and as long as Burmah can manage to supply rice at a profit at rates not much above those now existing, there seems little ground for apprehending any falling off in the demand. Mr. Eden adds that if only ships are forthcoming, 1873-74 will show as large an export of rice as 1872-73. The scarcity of sailing ships of moderate size is one of the great difficulties which the trade has at present to contend with.

Canal Traffic.—Canal steamers are largely resorted to for carrying, and no fewer than 80,000 tons of rice were sent Home by the canal route in 1872. The Suez Canal Transport fell off, however, in a very marked degree during 1873, the higher freight required as compared with sailing vessels being, in very few instances, compensated for by an equivalent in price obtained, and speculators generally gave the preference to cargoes shipped via the Cape. The total quantity exported by Canal steamers from the Burmah rice ports into Europe last year amounted to 48,618 tons only. It is especially noteworthy that several of the steamer cargoes were directed to Genoa and Venice, Burmah rice having been found to compete successfully with Italian rice at the comparatively low price at which the former can be imported. No less than ninety Italian ships entered the port of Rangoon between the 1st of January and the 1st October 1873.

Continental destination of the exports.—The bulk of the rice exported from British Burmah is, however, as has been pointed out, not really destined for the United Kingdom, but finds its way from Burmah to the Continent in vessels which clear nominally for the United Kingdom, but call at Channel Ports, Cork, Falmouth, &c., "for orders," on receipt of which they proceed to their foreign destinations, Antwerp, Bremen, Hamburg, or elsewhere. If foreign prices are higher or more remunerative than those ruling in the United Kingdom, the rice is despatched accordingly to one or other of the Continental or American ports. In the meantime the vessel is entered among the shipping arrivals with its destination as "Awaits." It is estimated that at least 60 or 70 per cent. of the rice exported from British Burmah to the United Kingdom in reality finds its way to the Continent and America.

Pegu.—Arracan.—Tenasserim.—Of the three administrative divisions of British Burmah—Arracan, Pegu, and Tenasserim,—the exports of rice are naturally largest from Pegu, which contains Rangoon the capital and principal port of Burmah as well as the lesser ports of Bassein and Thayetmyo. Four hundred and fifteen thousand tons alone were exported in 1872-73 from Rangoon; of this large export the quantity shipped for the United Kingdom was 320,247 tons, for the Straits Settlements 55,404; for other foreign ports 31,467 tons; for India 7,349 tons; and for provincial ports 561 tons. The shipments to Europe nearly doubled those in the preceding year. The total exports from Bassein amounted to 71,927 tons, of which 72,762 tons found their way to Europe. No rice was exported from Thayetmyo. The Arracan division comes next with the important port of Akyab whence all the grain exported from the Arracan division is shipped. In 1872-73 the exports were 173,252 tons, of which 136,998 tons were cleared for the United Kingdom and 24,871 for Foreign Europe. "Necranisic" is the grain generally grown throughout this division, and there is a good deal of an inferior grain called Laroong also cultivated. The local quotations for good Necranisic are only a little over 4s. per cwt., and attempts have been made with considerable success, says Mr. Eden, to induce the people of Akyab to plant a better kind of rice, the Ngatsain of Pegu, which fetches at least a shilling a cwt. better price in the market. The bulk of the Tenasserim rice exports are from Moulmein. The shipments from this division are chiefly made to the Straits and Chinese ports a fact which will be alluded to again in connexion with the Siam and Cochin-China Trade. Moulmein in 1872-73 exported only 19,618 tons to Europe, 2,087 tons to India and the Provincial ports, but it despatched 35,488 tons to China and the Straits. The Moulmein rice, moreover, bore last year a more favourable position in the home markets than it had hitherto borne. There is a small local trade carried on by Mergui and Tavoy, the minor ports of Tenasserim. From Tavoy the exports amounted to 4,500 tons, and a brisk trade was carried on with Penang and the Siamese port of Tonka.

Exports to the Mauritius, &c., very small.—It will have been observed from the tabular statement, as well as gathered from the above remarks, that while the rice trade between British Burmah and Europe is enormous, the traffic, on the other hand, between Burmah and the West-Indies the Mauritius and Bourbon, the Gulf, Ceylon and the neighbouring islands—where the Bengal exports all go—is of the most insignificant dimensions. To the Gulfs there are no exports and were none even during the famine in Persia in 1870-71. To the West-Indies there are ordinarily no exports. To the Mauritius there were no exports in 1872-73, when the total exportation from the province amounted to nearly 700,000 tons. The average exports from Burmah into Ceylon scarcely exceed a thousand tons annually.

Explanation.—Inferior quality of Burmah rice.—The explanation we have to suggest of this infinitesimal export into the rice-eating countries of the world is a simple one. The Burmese rice is consumed in enormous quantities, but it is not, it is apprehended, largely in demands as an article of food. Burmese rice sells in the home markets at from 8 shillings to 11 shillings per cwt. The highest prices reached do not exceed 12 shillings. Good Bengal rice, however, commands 14 to 18 shillings in the market, and good Carolina, which is the finest quality of rice, has sold at 35 to 40 shillings per cwt. The quality of good Burmese rice is beyond question much inferior to the quality of good Bengal rice, and in comparison is usually considered unpalatable and rejected as food by rice-eating communities. The enormous European imports from Burmah, which now exceed half-a-million tons, are, it is believed, consumed for the most part in the manufacture of starch and spirits, and in the numerous other manufactures in the composition of which rice forms an ingredient.

Burmese rice is in fact comparatively a soft-grained rice of bad colour and deteriorates in quality during a long sea journey. Even the best quality of rice exported to Europe from Burmah is soft-grained when compared with Bengal rice and is less in demand for the table in England.

The ordinary qualities will not apparently stand shipment to the Gulf, or to the Mauritius, or the West Indies. Ceylon can procure Burmah rice for its own consumption as easily as it can Bengal rice, but it invariably imports Bengal rice in preference. From their geographical vicinity on the other hand the Straits Settlements are naturally dependent on Burmah, Java, Siam, or Cochin-China, and do not draw on Bengal. From similar considerations China, as will presently be shown, draws on the more Eastern ports. But excluding China and the Straits it may be safely said that, as a general rule, the rice-eating communities of the world are dependent on the rice exports from Bengal for their sustenance, and that the enormous surplus of British Burmah is usually converted to other uses than food.

Export to the Straits Settlements and China.—The exports from Burmah to the Straits Settlements and China present some very remarkable and instructive variations. From 1862 to 1866 large supplies were shipped to these places varying from 60,000 to 200,000 tons. A great scarcity prevailed in the Eastern provinces of China in 1863, 1864 and 1865, and the crops in Siam were so short in these years that the Government prohibited the export of grain, and in consequence there was a very large and abnormal demand for rice from Burmah. Attention has already been drawn to the way in which the exports from Bengal to China were stimulated by the same cause. During the three years 1862-63, 1863-64 and 1864-65 no less than 369,801 tons of rice from Bengal, and 96,852 tons from Burmah were thrown into China by private enterprise to assist in supplying with food the distressed millions of the Eastern portions of that Empire. In 1865-66 Burmah continued to supply 53,574 tons. About 40,000 tons of rice for China were added from Bombay in these years. To meet the scarcity which then prevailed in China more than half-a-million tons of rice were spontaneously exported by the natural action of trade into China from British Indian ports. At the same time, to supply the deficiencies of importation into Singapore and the Straits Settlements, which ordinarily draw their supplies from Siam, Cochin-China, and Java, but which at this crisis from the short crops in those tracts were unsupplied, Burmah exported thither in these four years no less than 373,449 tons.

From 1866 to 1870 the exports to the Straits fell off to what there is reason to believe is their normal quantity. The exports oscillated from between 12 to 18,000 tons, to the Straits Settlements and to China they were absolutely nil during three years, and in other years they did not exceed two or three thousand tons—a very small import to that vast country, and an import which is as nothing compared to the hundreds of thousands of tons which are annually imported into China from the Eastern Archipelago. Again, however, in 1871 and 1872, when there was another scarcity in the Eastern markets, the exports from Burmah to the Straits rose to above 80,000 tons; and in 1872-73 Burmah exported 12,345 tons to China. To other countries in Asia also it exported in that year 11,294 tons: the detail of the "other countries" is not specified in the returns, but it includes Java, and it is known that in 1872 there was famine in that island, and it is pointed out more than once in this paper that very large exports of rice were consigned from other exporting countries to Java, during the past season.

No doubt it remains to be seen, and it is a matter of much interest, whether in consequence of the coasting steamers that are now available at Rangoon the recent increased exports to the Straits are not more than temporary, and whether the Burmah trade to the Settlements will not be able to supersede the trade from the old exporting countries of Java and the East. It must not be forgotten, however, that these countries have of late years been unfortunate in their crops, while the harvests in Burmah have been unusually large, and, under all the circumstances, the writer ventures to prophesy that the course of trade will not vary much from what it lately has relapsed into during ordinary seasons of produce.

Export to Indian Ports.—The supply of rice from Burmah to ports within British India is not large as a rule. The year 1867-68, 1868-69, 1869-70 may be noticed as exceptional. In the first of those years the exports amounted to 149,000 tons, of which 57,895 tons were to Bengal, and 71,711 to Madras, thrown into those Presidencies in consequence of the demand for rice which arose after the famines in Orissa and Ganjam. In 1866-67 the exports were 31,000 tons, which very much exceeds the average, and in the two years succeeding 1867-68 they amounted to 44,000 and 65,000 tons respectively. The rice harvest all over the East was very good in those years and exporters were driven into ports which they would not ordinarily have frequented. The normal export of rice from Burmah into British Indian ports does not exceed ten or fifteen thousand tons in the year.

Rice mills in Burmah.—"There is," writes Mr. Eden, as he fittingly concludes his observations on the rice trade of the province, "probably no better indication of the opinions of those most competent to form an opinion on the stability and prospects of the rice trade, than the extent to which mercantile houses are prepared to risk their capital in erecting expensive mills with all the best steam machinery for cleaning rice." In 1867 there were three such mills in Burmah; in 1869 there were thirteen, and in 1872 twenty-six mills. In 1873 two additional mills were set to work at Akyab, and the construction of another had commenced; a second mill was started in Bassein and it was contemplated to erect a third; whilst six new mills were being put up in Rangoon. "When it is remembered," says the official report, "that a first class mill will cost something like £30,000, an idea of the amount of capital which is now being sunk in the trade can be formed."

Exports of rice from Saigon.—The writer has found difficulty in procuring information regarding the rice trade of the Indian Archipelago. The exports of rice from Saigon, as shown in the following statement, have been derived from Mr. Eden's Report on the Trade and Commerce of British Burmah for 1871-72, which has already afforded us so much assistance in compiling this article:—

Statement of Exports of Rice from Saigon.

Year.	Europe.	Mauritius and Bourbon.	Singapore and Straits.	China.	Japan.	Other places.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1868	37,804	17,139	17,593	52,292	2,625	5,960	133,383
1869	31,260	20,592	17,496	29,165	59,918	526	158,957
1870	8,326	7,587	9,913	76,722	122,193	833	225,574
1871	2,384	2,854	12,816	242,259	29,793	3,594	298,645

A detailed statement of the exports of rice from Saigon has also recently been obtained from the British Consul at that place which the courtesy of the Financial Department enables us to publish for the information of our readers:—

Statement of Exports of Rice from Saigon during 1873.

Countries.	Ports.	Quantities.	Total.
		Tons.	Tons.
China	Hong-Kong	142,881	159,078
	Amoy	9,316	
	Swatou	6,107	
	Macao	774	
Singapore .....	.....	.....	84,280
Java	Batavia	9,587	56,073
	Sourabaya	28,443	
	Samaraung	17,593	
Mauritius .....	.....	.....	4,042
Philippines	Manila	3,486	8,182
	Cebu	4,696	
Calcutta .....	.....	.....	5,644
Europe .....	.....	.....	5,023
America	Valparaiso	262	4,249
	Havana	1,331	
	Monte Video	1,232	
	Rio de Janeiro	1,424	
Australia .....	.....	.....	1,289
Total .....	.....	.....	275,860

Exports of rice from Siam.—The annexed statement of exports from Siam, which it will be convenient to consider with that of the exports from Saigon, is also extracted from Mr. Eden's Report:—

Exports of Rice from Siam.

Year.	Europe and Australia.	America.	Singapore, India, and Java.	China.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.
1869	53,639	1,459	48,206	58,327	661,931
1870	8,481	.....	31,873	114,615	154,469
1871	1,538	485	9,412	106,362	111,797

The writer has also ascertained that in 1864, the year before the famine, the exports from Siam were 143,487 tons, and that in 1865, the year of the famine, when exports were stopped by Government, they fell to 2,186 tons. It is known that they recovered themselves in 1866 to almost their usual amount, a result which at once very remarkably affected the trade from British Burmah, but the exact particulars are not available.

It is, perhaps, worth while also to add that the British Consul at Siam has furnished the Government of India with the following statement of exports from Bangkok (the port of Siam) during the month of December 1873. Unfortunately, his report does not give the exports for the whole year, and it is explained that, under exceptional circumstances, the exports which took place in this particular month exceeded the average.

Statement of Rice exported from Bangkok during December 1873.

	Tons.
For Hong-Kong	2,209
" Singapore	5,056
" Java	1,452
" Australia	403
	9,100

The principal exports from the Archipelago are, however, apparently in the spring, and not, as might be assumed from our Bengal experience, in the cold weather.

Siam and Saigon export Eastward not Westward.—From these statements it may be inferred generally that the average exports of rice from Saigon or Cochinchina amount to about 250,000 tons annually, and that those from Siam or Bangkok amount to about 150,000 tons. The whole of the normal exports from these ports are into China, Japan, and the China Seas, to Java and to the Straits Settlements. The rice does not find its way Westward or to European countries.

Mr. Eden's analysis of the trade of Burmah, Saigon, and Siam.—"It has been said," writes Mr. Eden, "that British Burmah could never compete weighted as it is, with Saigon and Bangkok, the rice of which ports is subjected to no duties. The results on the contrary show that these ports are quite unable to compete with us, and that they have been beaten altogether out of the European market." * * * * * Indeed, the rice of Cochinchina and Siam would never have entered the European market had it not been that there was in 1858 a very large harvest in China, and the home supply of that country was such as to make the foreign rice a drag in the market. Under these circumstances Saigon and Bangkok had no other course but to ship to Europe; this they did and were supposed to have become dangerous competitors to Burmah; though, after all, the quantity they shipped to Europe was very insignificant, Bangkok sending in 1869, 15,000 tons, and Saigon 31,260, a very small export compared with the 550,000 tons which Burmah is sending this season (1872-73). The experimental export from Saigon and Bangkok, however, was a failure; that rice did not suit the European market and fetched (one to two shilling per cwt.) less than Burmah rice; and as a natural consequence as soon as the rice market in China resumed its normal condition, the exports from Saigon and Bangkok to Europe ceased, and the whole trade fell again into the hands of Burmah."

"It must be prominently kept in view," continues the Chief Commissioner, "that the natural ports of supply for China are Saigon and Bangkok; the natural ports of exports to Europe are the Burmah ports. It is not only that the Saigon and Bangkok rice suits the Chinese markets best and always commands a higher price there than the Burmah rice, but the situation of these ports is such that Burmah could never compete with them if only they were in a position to supply the whole of the China demand. The difference in freight as against the ports of Burmah is as seven to five. The Chinese junks and small French barques are able to carry the crop in conveniently small cargoes and at low rates. In the previous discussions which have occurred, two great mistakes were committed: first, in omitting to see that a heavy demand on Burmah for rice for the China markets was due to failure of the crops in China and Formosa, and short crops in Siam, which led to prohibition of export for a time from Bangkok; and next in omitting to see that the export to Europe from Cochinchina and Siam in 1868 and 1869, was an exceptional state of things resulting from over-supply in China, and the necessity of sending the rice anywhere where it would fetch any price at all, rice being an article which will not bear keeping over from season to season. It may be taken as an undeniable fact that so long as the rice supply of Siam and Cochinchina is not capable of meeting the wants of China, we shall be called upon to make good the deficiency; but that, whenever they are capable of meeting the demand, no rice will go from Burmah to the East."

"On the other hand, so long as Siam and Cochinchina can obtain a market in the East, they will not endeavour to compete with Burmah in the European market. At present the balance is in favour of Burmah; for the last two seasons we have been sending large quantities of rice to China to supplement the export of Saigon and Bangkok, while they have not in any way interfered with us in the European market."

During 1873 only 5,023 tons of Saigon rice were imported into Europe, and that principally to France. Only one cargo was discharged in England and the quality of that proved very indifferent, the grain being much mixed with broken rice and deficient in colour. From Siam no shipments were made to any of the European markets during the past year.

Inferior quality of Siam and Saigon rice.—The qualities of rice exported to the East are comparatively soft-grained, and although they will bear export to China, they deteriorate rapidly in transit and will not bear shipment to Europe, or to any distant ports, a fact which explains the low rates fetched by Bangkok and Saigon rice in Europe.

It has already been remarked that the Burmese rice which goes to China is almost entirely sown in the Division of Tenasserim and is of much the same quality and nature as the Siam rice, commanding a lower price in the European markets than the rice exported from Rangoon.

The Island of Java.—Cochinchina and Siam, besides supplying China and the China seas, Japan and the Philippines, exported during 1873 very largely into the island of Java and into Singapore. Saigon alone sent 56,000 tons into Java and 34,000 tons to Singapore.

Rice exports from Java.—Java is, however, ordinarily a very large rice-producing tract, so large as to have long since earned for itself the title of the granary of plenty for all the Eastern Archipelago. Rice used to be the staple product of Java though the extent of its cultivation is now far surpassed by that of the sugar-cane and occasionally equalled by that of coffee. The great bulk of the foreign trade is carried on through the ports of Batavia, Samarang, and Soerabaya by the Dutch and Chinese. More than half the trade of the island centres in the important Dutch Settlement of Batavia. The rice exports from Java and Madura (a little island to the north of Java belonging also to the Dutch), according to the following trade returns vary considerably, but it will be seen that they cannot be said to evidence a progressive increase in the traffic:—

Statement of Exports of Rice from Java and Madura.

	Tons.		Tons.		Tons.
1830	21,730	1840	83,592	1863	55,435
1835	41,106	1841	40,251	1865	27,661
1836	53,196	1848	42,621	1866	43,282
1839	65,677	1849	40,480	1867	29,957

The detailed exports of rice from Java during the year 1863, 1865, 1866, 1867, were as follows:—

	Holland.	Palembang, Rhio, and Banka (Sumatra ports) and Borneo.	China.	Other places (almost entirely Singapore and the Straits).	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.
1863	16,194	15,178	6,481	17,582	55,435
1865	2,817	5,013	8,653	11,179	27,661
1866	8,004	5,445	5,102	24,731	43,282
1867	11,109	5,638	115	13,095	29,957

The trade in rice from Java is now free of duty, as it is from Siam and Cochinchina, but till within the last ten years a Customs duty was levied of 10 cents per picul.*

Imports of rice into Java.—The average exports may be put down at about 40,000 tons, of which the larger portion is distributed among neighbouring ports, and particularly Dutch ports in the Archipelago. The prospects of the island crops are, however, excessively precarious, and nearly every year there are imports of rice into Java as well as exports from it. The imports of rice into Java during 1865, 1866, and 1867 are thus given:—

Imports of Rice into Java.

	Bali.	Sumatra.	Other places.	Total.
	Tons.	Tons.	Tons.	Tons.
1865	3,163	3,394	2,140	13,697
1866	3,168	2,621	865	6,652
1867	2,396	127	473	2,996

Famine in Java, 1872.—These imports are small, but coupled with the fact that the exports from the island do not increase but rather diminish, they would seem to show, what has been alleged, that the cultivation of rice in Java is on the decline, and certain it is that the sugar exports from Java have increased from 6,000 to 100,000 tons during the last forty years, while the exports of rice have remained stationary. In 1872 when the rice crops in Java partially failed, and the island was dependent on importation, Cochinchina supplied 56,000 tons to meet the emergency, Siam about 10,000 tons, Burmah about 10,000, and Bengal 8,668 tons. Bengal rice to Java is a very new destination and remarkable, as Java can supply herself more cheaply from neighbouring ports; but the export illustrates favourably the vigour of Calcutta trade, and proves also the fact that Bengal rice always finds its way wherever rice is really wanted for food.

Quality of Java table rice excellent.—The quality of Java table rice exported to Holland is always excellent and commands high prices at home. In 1873, the shipments from Java to Europe amounted to 3,992 tons against 2,346 tons in 1872, a falling off attributable of course to the famine of the earlier year. The average European exports of Java rice are not less than 10,000 tons in the year.

* Picul.—A measure of weight 133 lbs.; in Malacca 14 cwt. (140 lbs.); in general use in the East: in ordinary in China 133½ lbs.; Batavia, it is 135 lbs. 10 oz.

China exports.—*Philippine Island exports.*—*Japan export of rice.*—Leaving the Indian Archipelago and proceeding north we still find rice largely cultivated but not in sufficient quantities for export. On the contrary the enormously populous countries of Eastern Asia are obliged, as we have seen, to trust generally to importation. China exports certain quantities, 10 or 12,000 tons a year, to the United States, but these are apparently re-exports and not native produce. From the Philippine Islands alone there appears to be a genuine export of native rice of some 12,000 tons or so annually which finds its way to China. Japan supports itself to a great extent though it imports also, and particularly from Cochin-China. Until 1873 any exportation from this country was strictly prohibited, but, being now permitted, the rice traders in England expect a considerable addition to their supplies from this quarter. The grain, being somewhat similar to Java rice, will probably prove a formidable rival if it can be imported at a moderate price. The shipments of 1873 (including those *via* Hong-Kong) amounted to nearly 6,000 tons with prices ranging from 13s. to 15s. 3d. The exports from Japan are expected to be more than doubled during the present year, when there is a scarcity of Bengal rice, and several cargoes are reported to have been already sold to the trade at 16s. per cwt.

Imports.—*The United Kingdom.*—England is the principal rice-consuming and rice-importing country of the world. Within the last forty years the imports have increased enormously, more than ten-fold. The following statement is collated from the second edition of Mr. McCulloch's Commercial Dictionary published in 1845. The average imports, it will be seen, do not exceed twenty thousand tons:—

Imports into Great Britain from 1835 to 1841, from Mr. McCulloch's Commercial Dictionary.

	British India.	Sumatra and Java.	United States.	Other Countries.	TOTAL.
	Tons.	Tons.	Tons.	Tons.	Tons.
1835...	11,652	565	114	144	12,476
1836...	7,259	1,379	148	564	9,341
1837...	17,641	1,512	59	40	19,254
1838...	10,194	1,596	25	102	11,918
1839...	20,965	7,252	33	600	28,852
1840...	16,037	5,678	42	437	22,195
1841...	19,876	4,279	7	272	24,335

of which as nearly as possible one-half was each year retained for consumption and the rest re-exported.

The following statement will illustrate the import trade into Great Britain from the year 1854 to 1871. Columns are also added showing each year the average prices of Carolina rice and other rice in the London markets. This information is derived from the Calcutta Chamber of Commerce who supplied it officially to the Bengal Government. The average consumption per head in lbs. in each year according to an adjusted rate of population is also shown. The figures are entirely official and have been extracted from the Abstract of the Bengal Chamber which was derived from the Trade Returns and partly from reference to the Trade Returns themselves:—

Comparative Statement showing the Imports of Rice into the United Kingdom from 1854 to 1871, the average Prices of Rice per cwt, and the Consumption of Rice per head of the population per lb.

	From United States.	Average price per cwt.	From Bengal and Burmah.	From other places.	Average price per cwt.	Total Imports.	Consumption per head.
	Tons.	s. d.	Tons.	Tons.	s. d.	Tons.	
1854	1,019	Not known.	63,269	Not known.	Not known.	Not known.	Not known.
1855	692	Ditto.	107,852	Ditto.	Ditto.	Ditto.	Ditto.
1856	3,043	25 6	177,210	4,857	10 6	184,600	10.40
1857	2,898	24 6	157,971	10,798	11 3	171,607	8.65
1858	2,438	21 6	178,937	3,226	8 10	184,601	9.83
1859	2,580	21 1	62,219	7,705	10 9	72,504	1.16
1860	3,496	23 4	65,740	7,545	13 0	76,781	1.41
1861	Not known.	21 9	Not known.	Not known.	12 8	165,281	2.25
1862	1,921	36 0	190,633	3,405	11 10	195,959	10.15
1863	94	36 1	147,911	5,519	11 11	153,514	5.58
1864	None.	32 6	135,350	24,134	11 2	159,484	5.72
1865	2,126	34 0	65,314	29,639	12 4	97,079	2.05
1866	170	32 4	91,780	21,709	13 1	113,659	2.40
1867	475	39 6	116,794	21,952	14 3	139,221	5.85
1868	None.	32 3	179,128	57,066	12 2	236,794	9.84
1869	892	29 0	150,479	114,992	10 8	266,363	12.75
1870	232	Not known.	153,038	50,607	Not known.	203,877	6.74
1871	None.	Ditto.	184,505	Not known.	Ditto.	Not known.	Not known.

The Comparative Statement below shows the detailed imports and the detailed re-exports from the United Kingdom for 1870, the last year of which detailed official figures are available to the writer in Calcutta:—

Imports of Rice (not in the husk) into the United Kingdom, 1870.

	Tons.
I.—EUROPE—	
France	703
Belgium	651
Holland	1,252
Total from Europe.....	2,606
II.—AMERICA—	
United States { North Atlantic Ports	46
{ South do. do.	186
Total from America.....	232
III.—AFRICA—	
British Possessions, South Africa	1,549
IV.—ASIA—	
British India:—	
Bengal and Burmah	153,038
Bombay and Scinde	13,824
Madras	5,425
Siam	17,259
Straits Settlements	8,839
Other Countries	1,098
Total from Asia.....	193,484
Grand Total of Imports into the United Kingdom.....	203,378

Re-exports of Rice (not in the husk) from the United Kingdom, 1870.

	Tons.
I.—EUROPE—	
Russia.....	1,389
Sweden	781
Prussia	1,249
Hamburg	1,979
Bremen	901
Holland	3,678
Belgium	6,794
France.....	20,780
Portugal, Azores, and Madeira.....	6,059
Turkey Proper	1,333
Malta	849
Total into Europe.....	45,792
II.—AMERICA—	
United States { North Atlantic Ports	11,003
{ South do. do.	325
{ Pacific Ports.....	7
British North America	1,960
British West India Islands.....	6,246
Cuba and Porto Rico	27,869
Brazil	3,372
Uruguay.....	1,141
Argentine Confederation.....	2,254
Total into America.....	54,177
III.—AFRICA—	
Egypt	1,553
Morocco	785
West Coast of Africa (British)	1,165
Ditto ditto. (Foreign).....	816
Total into Africa.....	4,319
IV.—ASIA—	
Syria and Palestine	1,109
Other countries.....	5,679
Grand Total of Re-exports from the United Kingdom.....	111,076

Discrepancy between the Indian and English trade returns and its explanation.—This statement is derived from the returns of the English Board of Trade, and it will not fail to strike any one who may examine the figures, that there is a considerable discrepancy between the imports from British India as shown herein, and the exports from British India to the United Kingdom as already shown in this paper from figures supplied by Indian official sources. The imports from Bengal and Burmah during 1870 are shown at 151,638 tons; we have already seen that the combined exports from Bengal and Burmah during 1870-71 to the United Kingdom amounted, according to the Indian returns, to 332,422 tons. This discrepancy, moreover, has existed year by year as the following figures will show:—

	1867-68.	1868-69.	1869-70.	1870-71.
Total quantities of rice exported from India to the United Kingdom as per India volume	Tons. 328,405	Tons. 418,585	Tons. 250,818	Tons. 397,021
Total quantities of rice imported into the United Kingdom from India as per English volume	Tons. 131,051	Tons. 206,626	Tons. 193,124	Tons. 172,283

Prices current of rice in London.—These results have attracted the attention both of the Home and Indian Governments, and in India a satisfactory reply has been given to those who would impugn the accuracy of the local figures. Indeed the substantial accuracy of the Indian figures which, during recent years, have been compiled with great care, is undoubted. Some excess under any circumstances would be expected in view of the numerous casualties, shipwrecks, &c., to which such a trade as the Indian export trade in rice must be subjected. But the real explanation of the difference is to be found in the circumstance already pointed out in this article, while dealing with the export trade from British Burmah, that the rice-exporting vessels only clear nominally from India for the United Kingdom, but "await orders" for their real destination on arrival, which may be to any quarter of the world, and that the exports, which are accordingly registered in India for the United Kingdom, are, in fact, not imported into England, and do not therefore enter into the home returns. Similar discrepancies to those which exist between the Customs Returns of India and Great Britain will be found to exist in the returns of all other countries that trade with one another. Even between such neighbourly countries as England and France there is a discrepancy between the Annual Trade Returns amounting in value to ten millions or twenty millions sterling yearly, on the side of excess of exports from France. It is indeed quite certain that we have no reason to distrust the accuracy of our Indian Statistics of Trade. The subject of the rice import trade into Great Britain will be supplemented by the subjoined statement which shows the ordinary prices current of cleaned rice in London as they averaged in 1873, and opened in the January of the present year. The prices are those of cleaned rice per cwt. according to the Weekly Rice Circular issued by the London Rice Brokers' Association, January 2nd, 1874.

	1873.	1874.		1873.	1874.
	s. d. to s. d.	s. d. to s. d.		s. d. to s. d.	s. d. to s. d.
Bengal—			Bassein—		
Good to fine white, per cwt.....	13 0 " 13 6	15 0 " 16 6	Good to fine.....	9 6 " 9 9	11 0 " 11 9
Middling to good middling.....	11 6 " 12 6	13 6 " 14 6	Ordinary to good middling.....	9 0 " 9 3	10 3 " 10 9
Ordinary.....	10 0 " 11 0	11 0 " 12 0	Moulmein—		
Broken.....	10 0 " 10 6	10 6 " 11 0	Good to fine.....	9 8 " 9 6	11 3 " 11 6
Askoolie.....	10 0 " 10 6	11 6 " 12 0	Ordinary to good middling.....	9 0 " 9 3	10 9 " 11 0
Dacca and Burdwan.....	9 3 " 10 0	10 6 " 11 0	Java—		
Ballam and Moonghy—			Good to fine.....	14 0 " 19 0	No stocks.
Good to fine.....	9 6 " 10 0	12 0 " 12 6	Ordinary to good middling.....	11 0 " 13 0	ditto.
Ordinary to good middling.....	9 0 " 9 3	11 0 " 11 6	Siam—		
Casla.....	8 0 " 8 3	10 0 " 10 6	Garden.....	3 6 " 10 0	ditto.
Madras—			Field.....	7 6 " 8 0	ditto.
Ordinary to good.....	11 6 " 11 6	11 6 " 12 0	Saigon—		
Burmah—			Round.....	9 0 " 9 3	ditto.
Arracan—			Long.....	7 6 " 8 0	ditto.
Nacranis, ordinary to good.....	8 9 " 9 0	10 9 " 11 3	Japan—		
Rangoon—			.....		14 6 to 15 6
Good to fine.....	9 6 " 9 9	11 0 " 11 6	Madagascar—		
Ordinary to middling.....	9 0 " 9 3	10 3 " 10 9	Madagascar.....	11 0 " 13 0	No stocks.

Conclusion.—In conclusion the writer has tabulated for convenience sake the summarized results that have been arrived at in the course of this article regarding the exports and imports of rice. In the left-hand column of the table below are shown the approximate average total export produce of the rice-producing countries excluding re-exports, and in the right-hand column appear the average total imports of the rice-consuming and importing countries:—

Abstract general Statement showing the Sea Exports and Sea Imports of Rice in the World.

Exports from	Tons.	Imports into	Tons.
Bengal, about.....	500,000	United Kingdom, Europe, Australia, and America, about.....	300,000
Madras.....	100,000	China, &c.....	320,000
Burmah.....	700,000	Straits, &c.....	100,000
Saigon.....	250,000	Ceylon, &c.....	150,000
Siam.....	150,000	Mauritius.....	125,000
Java.....	40,000	Bourbon.....	7,500
Italy.....	70,000	West Indies.....	40,000
Spain.....	8,000	Arabian and Persian Gulfs.....	60,000
Miscellaneous.....	22,000	British India (chiefly Bombay).....	200,000
		Miscellaneous.....	57,500
Total of Sea Exports.....	1,840,000	Total of Sea Imports.....	1,840,000

COTTON GROWN IN THE DEHRA DOON.

From Commissioner of Cotton and Commerce, to the Chamber of Commerce, Bengal.

Allahabad, 13th January 1874.

I HAVE the honour to advise you of the despatch per Bangy Post of a sample of cotton grown by Colonel Showers in the Dehra Doon together with a memorandum by that officer on the circumstances attending the experiment.

2. I shall be much obliged if you will kindly favour me with a report on the quality and value of the cotton together with any further remarks which our Chamber may be inclined to make.

ROUGH MEMORANDUM ON EXPERIMENTAL COTTON CULTIVATION IN THE VALLEY OF DEHRA DOON.

Mr. Rivett-Carnac, the Cotton Commissioner, in acknowledging under date the 11th December the receipt of a sample of the produce of my cotton fields, having requested some details of the cultivation and results, together with further samples in larger quantity for transmission to the Chambers of Commerce, I write the following *ad interim* memorandum for this purpose, in anticipation of a more elaborate note which will be submitted on the conclusion of the present season's operation, the fields being still (2nd January 1874) under daily picking and the cotton stored being as yet for the greater part unginned and unvalued.

The proposed note will be illustrated with plates, life-size, of the various insects which attack the cotton plant and a description of their forms of appearance, mode of propagation and the means which I have found effectual in arresting their ravages. Occasion will be taken to advert incidentally to the report on the experimental cultivation of cotton in the several model farms in the North-Western Provinces published in the North-Western Provinces' *Government Gazette* of the 23rd August 1873, and remarks submitted on the comparative results exhibited in the experiments in question, and my own in view to assisting the arriving at practical conclusions in regard to the best method of cultivating within the means and resources of the native cultivator, to attain the three-fold object of improving the quality and length of the staple, increasing the per acre quantity and securing the largest margin of net profit. For the present the following brief memorandum detailing the conditions under which my present experiments were undertaken and their progress up to date may suffice for the Cotton Commissioner's purpose in forwarding samples to the Chambers of Commerce and other parties interested.

Desiring to test the suitability of the climate of Dehra Doon for cotton, a point on which there existed considerable doubt, I applied in March last to the District authorities for a grant of land under the waste lands reclamation rules, the site indicated combining virgin soil with an upland slope affording natural drainage. Again in pursuance of my long published view that the proper method of improving the quality of cotton produced in India was to operate with the indigenous plant, I applied about the same time to the Cotton Department for a supply of selected indigenous seed.

The grant not having been allotted, however, before the cotton sowing season had arrived, and was passing by (the month of June) I took up on rent 50 beegahs (a little less than 10 statute acres) of the Dehra Doon Tea Company's land lying contiguous to the canal and which the Company had sold last spring. Time for the preparation of the soil was thus extremely limited. I had it watered once, then ploughed four times with the common native plough manured with 120 cart loads, that is 12 cart loads (about 96 maunds per acre) of crude unassimilated refuse from the neighbouring town (the only sort procurable at the instant) then carefully prepared for sowing.

The Cotton Department through the officer in charge of the model farm at Nagpore stating under date 20th May, in reply to my requisition, that the farm could not supply any selected seed, I sent into the neighbouring Saharunpore district for such country seed as could be picked up so late in the season and planted it, the first field being sown on the 19th June and the last on the 20th idem. Among the former was about one beegah sown with selected seed which I had received from Mr. Bell, Manager, Dehra Doon Tea Company, the remains of a small stock sent to him by Mr. Login with selected seed which I had received from the Cotton Department failing me, I applied to Mr. Login at Umballa and to Dr. Jameison, Superintendent, Botanical Gardens, Saharunpore, but was equally unsuccessful in both quarters.

The land again which I had taken up on report on account of its being under canal irrigation and of rouslah soil (a grey friable loam well suited to cotton) I found on examination to be for the greater part of inferior quality in respect of depth and admixture of hajru (shale). One piece indeed of seven beegahs was excluded altogether from the experimental plot as totally unfit for cotton and was planted with churree (a coarse jowar), of the remaining 8½ acres about ½ produced merely poor stunted plant yielding only about ¼ of the out-turn of the better parts of the fields. The cause was apparent when I learnt what I did not know at first that the land had been cropped for years past with rice, one of the most exhausting crops. It was curious and instructive to observe the distinct indication of the rice cultivation by the low stunted plants growing on the late saturated beds, divided by fine rows of plants marking the lines of the dividing ridge, rows (dols).

The experiment, therefore, it will be observed, has been conducted under very unfavourable conditions equally in respect of soil and unavoidably hurried preparation of the land. Still as the accompanying samples will, I venture to think, be recognized as of superior quality in comparison with the produce of indigenous seed cultivated under the ordinary native method and the out-turn will be, I calculate, considerably larger, my proposed note detailing the method I have pursued and the processes of handling the plants at different stages of growth together with the economic results, may, I hope, prove of general use. For the present I will add only a word on the suitability of the climate of the Doon for cotton culture as illustrated by the progress of my experiments.

The seed being sown as above mentioned between the 19th and 28th June, germinated well and showed a row of tiny leaflets above ground in about a week. The process of chopping out to a stand will be described hereafter. The rains set in heavily on the 1st July and continued with considerable severity, but by my constant personal attention to the cultivation the plants suffered no injury but thrived apace. Within two months they blossomed and in about 8½ months the ground balls began to show, the upper portion of the same plants being at the same time in blossom. On the 14th October the regular picking commenced and with a day or two's interval during the first week there has not been one single day's intermission in the picking from that date to the present (1st January 1874) from a succession of daily expanding balls. The quantity opening daily has kept five fields' hands in constant work with occasional extra hands to keep down the exuberance of the flushes.

There has been no artificial irrigation except the first watering early in June to soften the soil for ploughing, although since the cessation of the rains about the middle of September not a drop of rain has fallen all through the autumn. A slight shower fell on the 17th December. In respect of this long unclouded autumn so suitable for the maturing of the balls, the climate of the Doon contrasts favourably with that of the American States where the autumnal rains spoil a great deal of cotton. Again in the best part of the American cotton belt the first killing frost comes from 1st to 15th November, and whereas here our first frost was on the 6th December and that of a mild character which did not affect the plants injuriously. This may be attributed to the sheltered position and damp atmosphere of this valley. I will conclude this memorandum with a brief notice of my experience of the cotton worm.

On the 11th September when the plants were in blossom I observed one or two moths flitting over the fields, and passing between the rows I espied a leaf presenting the appearance which I recognised as indicating the presence of the cotton worm. On picking and examining the leaf, sure enough I found the living worm. On going then carefully over the fields I found a good many of the plants similarly attacked. Being aware from the experience of the American cotton fields that the first generation of the cotton worm which comes in such paucity and seeming insignificance as often to be unlooked for, if not eradicated, the parent of countless myriads in the second generation within but a fortnight's interval whose ravages are then irresistible, I lost no time in taking the necessary steps to destroy the enemy and fortunately succeeded. The worm was effectually eradicated throughout the fields. I have had no return of it in a second generation. As this is the most dangerous enemy which the cotton planter has to contend against, sometimes destroying as it does thousands of acres in two or three days without the possibility of arresting its ravages when once fully developed, I propose describing at length in my proposed note the means I adopted for its extermination on first appearance, and further submitted what I believe to be the origin of the worm in view to the discovery of some sure preventive measure against its first occurrence in cotton fields for the future. From my examination of very many damaged (kinky) balls and seeds I think I have arrived at a reasonable solution of the cause. That it is a point at present involved in obscurity may be gathered from all the published American treatises on cotton culture. Mr. Parson's opinion expressed in his interesting report under date the 15th April 1873 (one of the series above referred to) that the worm is engendered by the plants coming into flower some time before the rains cease, on the analogy of blight in England cannot, I venture to think, be sustained. From a series of scientific experiments made some years ago and which I had occasion to cite in a former paper, it was found that blight was caused by fungi in the air which, though a living substance, was so minute as only to be visible through a microscope; whereas the insects that attack the cotton plant are big enough and voracious enough to make their presence both seen and felt by ravages of inimitable destructiveness when once fully developed. The importance then to the future progress of cotton cultivation in India of discovering the origin of the cotton-worm in as much as rendering possible the adoption of some certain and efficacious preventive to its recurrence, can hardly be over-estimated, and to this end the second of my observations which will be submitted to the public at an early day may, I hope, in some degree conduce.

From Chamber of Commerce, to Commissioner of Cotton and Commerce.

Calcutta, 20th January 1874.

I am directed to acknowledge the receipt of your letter No. 87 of the 13th instant forwarding a sample of cotton grown by Colonel Showers in the Dehra Doon, and in reply, to annex for your information copy of report upon it from Mr. F. Eisenlohr of Messrs Ernsthausen and Oesterley.

Report on a Sample of Cotton from Dehra Doon.

The sample of cotton from Dehra Doon does not represent cotton in the state in which cotton is generally offered to the trade. It is picked and cleaned with extreme care, ginned and looks beaten, and I doubt, whether larger quantities of such cotton could be produced in a similar state, without enhancing the cost of the article in a high proportion to its intrinsic value.

The colour of this cotton is extremely good, the staple of very uneven length but of fair strength and rather silky. I should classify the cotton on the same scale as saw-ginned Dharwar and fix its value cleaned as it is at Rs. 22 per maund laid down in Calcutta. At this price it would be eagerly purchased by local consumers and might prove very useful.

From Colonel Showers, to Chamber of Commerce.

Dehra Doon, 5th February 1874.

Having received from Mr. Rivett-Carnac, the Cotton Commissioner, copy of your letter to his address acknowledging receipt of a sample of my cotton transmitted through his office, and in reply forwarding a report on the same from Mr. Eisenlohr of Messrs Ernsthausen and Oesterley, I beg to offer for submission to the consideration of the Chamber the following observations that occur to me with regard to his remark, while valuing the sample at Rs. 22 per maund, that the extreme care in preparation which it exhibits in respect of picking and cleaning, does not represent cotton in the state in which cotton is generally offered to the trade and further in reference to the doubt Mr. Eisenlohr expresses "whether larger quantities of such cotton could be produced in a similar state without enhancing the cost of the article in a high proportion to its intrinsic value." At the price fixed however, Rs. 22, Mr. Eisenlohr adds, "it would be eagerly purchased by local consumers."

Assuming then, as I may do, that Mr. Eisenlohr's report in the above terms has reference to the local market, I would observe that the circumstance of cotton in the same carefully prepared state as my sample not being generally offered to the trade may be accounted for by reference to the comparatively inferior manufactures of the mills as yet started in India, (so far as my knowledge and information goes.) It would not of course pay to buy carefully grown and finely prepared cotton at a necessarily enhanced rate for the manufacture of tent cloth and the inferior articles of native Mr. Cheetham, Sir Thomas Bazley and others, I can state that differential prices to any extent are readily given for superior qualities for the manufacture of the finer numbers of yarn varying from 3s. 4d. for refuse Surats (Indian) to 2s. 2d. for American Sea Island and up to 8s. 6d. per lb. which has been given for Queensland cotton.

I would only add, in reference to Mr. Eisenlohr's expressed doubt whether larger quantities of cotton in a similar state of preparation as mine could be produced without enhancing the cost of production in a high proportion to its intrinsic value, that the condition of cotton for the manufacture of the finest cloths constitutes an essential element on its market value. For if the minute fragments of leaf and stems which are almost unavoidable picked with the balls, be not carefully trashed out they become hopelessly mixed with the fibres so as never to be entirely removed, and cause the small black specks that abound in the coarser varieties of Lowells and Asnaburgs of America, and in the inferior class of goods from Lancashire which perhaps may have created the impression that the latter were mildewed. With fair differential prices corresponding to quality the producer need not fear that the extra expense bestowed on the cultivation and preparation of his cotton for the market, will not be fully recouped by the prices realized.

The value of my sample fixed by your broker at Rs. 22 per maund, being less cost of transport to Calcutta, still higher than the highest quotations I have observed in the recent cotton circulars, is so far encouraging, more especially when taking into consideration the unfavourable conditions instance and of which he will doubtless have sent you a copy together with the sample. Such produce then out of partially exhausted rice fields from common indigenous seed, may lead us to judge of what decided results may be expected from the same method of cultivation, operating on virgin soil and with selected seed.

Should the Chamber consider that any public advantage might accrue from giving publicity to this correspondence in encouraging others to try cotton growing on the same system, you are quite at liberty to publish my views.

From Chamber of Commerce, to Colonel C. L. Shewers, Camp Dehra Doon.

Calcutta, 16th March 1874.

The Committee of the Chamber of Commerce desire me to acknowledge the receipt of your letter of 5th ultimo and to thank you for the remarks you have been good enough to submit on the report furnished by them on the sample of cotton transmitted by Mr. Rivett-Carnac. The Committee are of opinion that your efforts in the cause of cotton cultivation should not fail to be duly recognised by Government, and that your memorandum is of sufficient importance and interest to be published in the *Gazette of India*.

COTTON GROWN AT THE NICOBARS.

From Government of India, to Chamber of Commerce, Bengal.

Calcutta, 14th March 1874.

I AM directed to forward herewith two samples of cotton grown in the Nicobars, and to request that the Chamber will be good enough to favour the Government of India with its opinion as to their quality and market value.

From Chamber of Commerce, to Government of India.

Calcutta, 11th March 1874.

I have the honour to acknowledge the receipt of your letter No. 52 of the 4th instant forwarding two samples of cotton grown at the Nicobars, and in reply, I beg to forward for the information of Government the annexed copy of report upon them from Mr. F. Eisenlohr of Messrs. Ernthausen and Oesterley.

Calcutta, 11th March 1874.

I have examined the two samples of Nicobar cotton handed to me to-day, and called—

1. New Orleans.

2. Hingunghaut.

New Orleans—Shows rather discoloured and stained of irregular staple and slightly leafy; staple weak, value about Rs. 15 per bazaar maund landed in loose condition in Calcutta.

Hingunghaut.—Slightly fresher in colour, stained of good staple and fair strength, value about Rs. 15 to Rs. 16-8 per bazaar maund landed in Calcutta.

F. EISENLOHR.

COTTON CROP OF THE NORTH-WESTERN PROVINCES FOR 1873-74.

From the Secretary to the Board of Revenue of the N.-W. P., to the Secretary to the Government of the N.-W. P.

Allahabad, 6th January 1874.

I AM directed by the Board of Revenue to submit a detailed statement showing the estimated area under cotton and the estimated yield of the crop for each District in the North-Western Provinces for the year 1873-74 as compared with the actuals of 1872-73.

2nd.—The following is an abstract of the statement :—

DIVISION.	AREA AND OUTTURN IN MAUNDS OF 40 SEEDS OR 80 LBS.										Percentage.	
	1872-73.		Outturn per acre.			1873-74.		Outturn per acre.				
	Actuals.					Estimate.					Increase.	Decrease.
	Acres.	Mds.	Mds.	Srs.	Chl.	Acres.	Mds.	Mds.	Srs.	Chl.		
Meerut	2,78,846	3,48,571	1	10	0	2,17,504	2,00,755	0	36	15	.....	26-12
Kumaon	3,598	2,178	0	24	3	5,812	5,999	0	39	4	38-97	.....
Rohilkund	1,74,800	1,04,023	0	23	13	1,71,985	1,17,785	0	27	6	13-01	.....
Agra	4,36,431	5,93,374	1	14	6	2,32,238	1,97,817	0	34	1	.....	37-35
Jhansi	76,670	41,044	0	21	6	62,689	27,939	0	17	13	.....	16-66
Allahabad	2,74,247	1,22,189	0	17	13	2,46,506	92,285	0	15	0	.....	15-76
Benares	21,524	7,335	0	15	3	16,279	5,256	0	12	15	.....	14-81
Total	12,66,116	12,18,664	0	38	8	9,59,013	6,47,536	0	27	3		

3rd.—The season has been very unfavourable. The area sown with cotton in the present year is 3,13,103 acres less than the area actually under cotton in 1872-73 and the anticipated yield is 5,71,128 maunds less than the actuals of that year.

4th.—The falling off is as follows :—

1. Decrease in estimated area of 1873-74 compared with actual reported area of 1872-73, 24-73 per cent.

2. Decrease in estimated outturn per acre of 1873-74, compared with actual reported outturn of 1872-73, 29-38 per cent.

5th.—The decrease in area is chiefly owing to the lateness of the setting in of the rains. This is specially noted in nearly every report while the low figure of the estimate of outturn is attributed to the heaviness of the rains when they did set in.

6th.—The comparative estimated outturn of 1873-74 with that of the actuals of the eight preceding years is as follows :—

	lbs.		lbs.		lbs.
1865-66 ..	62,668,280	1868-69 ..	44,137,840	1871-72 ..	65,794,000
1866-67 ..	85,684,920	1869-70 ..	37,104,160	1872-73 ..	97,493,120
1867-68 ..	57,875,120	1870-71 ..	76,387,600	1873-74 ..	51,802,880

7th.—It is useless to attempt any correction of the figures now submitted by the Collectors, but as special orders were issued before the commencement of the cold weather that Collectors and their assistants should make special enquiries during their cold weather tours of this year as to the actual outturn of cotton in their districts, the Board trust to obtain such information as shall enable them to submit more accurate estimates in future.

8th.—Meantime the present estimates may be accepted as a general indication that the cotton produce of this year will be considerably below par and not much more than half the crop of last year.

9th.—The quantity available for export will be reduced in a much larger ratio.

10th.—The reports of District officers only give bare details and none are of sufficient interest for submission to Government in original.

11th.—The statement of prices during the year at the principal marts of each District is incomplete. It will follow as soon as the returns still wanting are received.

12th.—A copy of this report will, as usual be submitted direct to the Chamber of Commerce.

From Chamber of Commerce, to the Board of Revenue, N.-W. Provinces.

Calcutta, 4th February 1874.

The Committee of the Chamber of Commerce direct me to thank you for a copy of your communication No. 8 of 6th ultimo to the Government North-Western Provinces, relative to the estimated yield of the cotton crop for the year 1873-74.

Comparing the actuals and estimates for the year 1872-73, the Committee notice that while the Ascertained acreage. 1,266,116

contrasted favourably with the estimated acreage 1,233,759

the quantity of produce was proportionately smaller—the actual amount being maunds 1,218,664

against an estimate of 1,221,123

Looking to the Board's estimates for the year 1873-74, the Committee regret to be advised of so large a falling off in the quantity of land under cultivation and in the anticipated yield of the crop as compared with the respective acreage and outturn for the previous year: the per-centage of decrease in both cases is considerable, and if the Board's figures are verified by actual results there will probably be a high range of prices even with restricted exports.

KHUREEF HARVEST OF 1872.—N.-W. PROVINCES.

Statement showing the Outturn of the Khureef Harvest of 1872 in the N.-W. Provinces.

Districts.	Joar.	Bajra.	Rice.	Mukka.	Cotton.	Indigo.	Pulses.
Dehra	Not grown	Not grown	Above average	Average	Average	Not grown	Ord remarkably good.
Saharunpore	Good, but in Ganges and Jumna khadirs suffered from too much rain.	As under Joar.	As under Joar	As under Joar	As under Joar	As under Joar	Injured by insects.
Moozuffurnugger	About 25 per cent. above average.	Above average	Good everywhere	Above average	Below average, due to untimely rain.	No mention	Above average.
Meerut	...	...	...	...	low land of the Ganges	Valley.	...
Boohindshuhur	One-third or 4th below average; partially destroyed by locusts.	Same as Joar	No mention	Fair, but suffered from rain.	Average crop expected	No mention	Ord unusually good. Moong and Mote good.
Allypore	About 3rd below average.	Below average	An average crop where grown	Generally above average.	Average crop	Below average	Below average.
Bijnour	Crops generally injured by rain.	.....	Outturn about 20 or 25 per cent. below average.	per cent. below average.	.....	Much injured by rain	Much injured by rain.
Moradabad	Half crop; suffered from rain and locusts.	Half crop	Below average (14 annas in the rupee).	Half crop	Above average	No mention	Below average slightly (12 or 13 annas in the rupee).
Bareilly	Below average	Below average	(Barely average crop).	Below average	Below average	Good	Below average.
Budaon	Below average; damaged by rain and locusts.	Same as Joar	12 per cent. below average.	18 per cent. below average.	14 per cent. below average.	17 per cent. below average.	Below average.
Shahjehanpore	Below average; due to heavy rain.	Better than Joar, but a bad average crop	Good in two Tehsils. Average elsewhere.	Below average	Below average	Good	Ord above average. Moong fair, and Mote below average.
Muttra	Fair average crop	Ditto	Ditto	Ditto	Good	Fair average	Fair average.
Agra	Average crop in some Tehsils, below average in others.	Average crop	Not grown	Not grown	Fair crop	Average crop	Below average.
Mynpoory	A short crop, grain light	Same as Joar	Good and plentiful	Good average crop	Above average	Good and plentiful	Under average outturn.
Farruckabad	One-fourth below usual crop; injured by rain.	Rather less than Joar	Generally good	Below average; injured by rain.	A full crop, though somewhat below average in the east of district.	Indifferent crop, much washed out by rain.	Good average crop.
Etawah	Crops generally fair	Crops generally fair	Crops generally fair	Crops generally fair	Above average	Above average	Little above average.
Etah	Promised well, but injured by continuous rain.	Same as Joar	Above average	Above average	Ditto	Below average	Below average.
Cawnpore	An increase of from 30 to 50 per cent. on last year.	Decrease in some pergunahs, but generally above average.	Below last year on the whole.	Below average	Ditto	Increase in two pergunahs, but decrease of 30 per cent. in three others	Considerably above average.

	Above average in half the Tehsils, below in other.	Above average in two Tehsils, below in four.	Average crop	Average crop	Average crop	Ditto	Average crop	Average crop.
Puttipore	...	...	Average crop	...	Average crop where grown	...	...	...
Allahabad	...	...	Average crop	...	Average crop where grown	...	...	...
Bandah	...	...	Above the average where grown.	...	Hardly grown at all	...	...	...
Humeerpore	...	...	Little cultivated	...	Little cultivated	...	...	...
Jounpore	...	...	Only a half crop, owing to want of rain.	...	Full crop	...	...	...
Mirzapore	...	...	Below average	...	Good, but not largely grown.	...	...	...
Azimgurgh	...	...	Fairly good where grown.	...	A full average crop	...	...	...
Bonares	...	...	Little cultivated	...	Above average	...	...	...
Goruckpore	...	...	Above average	...	Ditto	...	...	...
Bastee	...	...	Scarcely cultivated at all	...	Above average	...	...	...
Ghazepore	...	...	Same as Joar	...	Average crop.	...	...	...
Lullitpore	...	...	Generally average	...	Good	...	...	...
Joanun	...	...	All the crops are above the general average.	...	No mention	...	...	...
Jhansie	...	...	25 per cent. below average, save in pergunnah Guerotha, where it is 50 per cent. below.	...	No mention	...	...	...
Kanau	...	...	Average crop	...	No mention	...	...	...
Gorbwal	...	...	Joar and Bajra not grown, yielded well.	...	Ditto	...	...	...
Terrai	...	...	Suffered from heavy rain.	...	Suffered from rain	...	...	...

NOTE.—The general result seems to be that in Kanau the crops were good; in Rohilkund and Terai considerably below average; in the Upper, Middle, and Lower Doab fair average crops; in the Trans Jannas districts of the Allahabad Division a poor crop but fair average in the Jhansie Division; in the Benares Division a good average, and in Goruckpore and Bastee decidedly good.

Joar and Bajra and Pulses had on the whole been short crops in the north-west, and full crops in the south-east districts. Rice had been good everywhere; cotton various, but, on the whole, perhaps rather above average; indigo a failure in the north-west and central districts, but good in the Benares province.

MR. HARRIS'S ANALYSIS OF INDIAN FOOD-GRAINS.

TO THE HONOURABLE A. ROGERS, Member of Council, President of the Bombay Exhibition Committee.

SIR,—In compliance with the request of the Jurors, Division III, of which Mr. Ormiston was Chairman, I beg to hand you my report upon the food-grains, &c., which I was requested to examine.

The grains I selected for examination were, as far as the eye could judge, obtained from both the best and worst samples exhibited. We may fairly suppose after reading the following analyses that as a rule the food-grains of India contain a larger proportion of nitrogenous compounds than grain grown in colder climates.

Through the kindness of Mr. Terry, Honorary Secretary of the Exhibition, I was supplied with a list of the various seeds exhibited by the different States and Collectorates, by which I was able from personal examination to select those samples which I thought advisable to submit to chemical examination.

Ahmedabad—Exhibits in all twenty-five samples, comprising rice, wheat, grain, ooreed, toor, &c. The sample of toor, a species of dall, and largely used for human consumption, was the finest of its kind exhibited. On analysis it was found to hold 22.93 per cent. of nitrogenous compounds; and containing, as it does, a large proportion of starch matter, its value both as a human muscle-forming food, and also as a food for horses and other working cattle, necessitates its ranking very high indeed in the scale of flesh-forming aliment.

Baroda—Exhibited rice, both with and without husk, making with other grains, in all forty-three samples, with white and black wool, and two samples of cotton, a very fine collection. Some of the grains were so fine that it would be exceedingly interesting to know the character and quality of the soil in which they were grown, and also the kind of manure used, if any.

I selected some jowaree for analysis, and it gave the following result:—

2.19 per cent. of nitrogen equal to 13.687 per cent. of nitrogenous compounds, and 1.82 per cent. mineral matter.

This is a very fine sample. A sample of jowaree I had occasion to examine a short time since, grown in a different district, contained only 11.14 per cent. of nitrogenous compounds and 1.98 per cent. of mineral matters. The sample of indigo exhibited in this collection, although in small button-like cakes, is of exceedingly fine quality, being almost quite free from extraneous matter. This indigo should command the highest price that the finest qualities realize in the market.

The verandi, or castor-oil seeds, from this district, give a much larger percentage of oil than any other such seeds exhibited, still it is a question if the cultivation of this seed may not be even still more improved, so as to render it one of the most profitable products of the district.

The sample of moor from this district gave the following analysis:—

Moisture	...	...	...	...	...	...	...	6.59
Oil	...	...	...	...	...	...	...	8.95
Nitrogenous compounds	...	...	...	...	...	...	...	13.61
Gum, starch, &c.	...	...	...	...	...	...	...	60.80
Husk	...	...	...	...	...	...	...	6.97
Mineral matters	...	...	...	...	...	...	...	3.68
								100.00

This specimen is another fine example of the quality of the seeds sent from Baroda.

As to the superior quality of the grains, &c., exhibited from this Province, there can be no doubt. Possibly a more close and scientific study of the practice of agriculture may make such a productive soil even more remunerative to the farmer, and at the same time add considerably to the revenues of the State.

Sattara—Exhibits in all twelve samples of rice, with and without husk, and nine of jowaree. The samples of rice were good.

Dharwar—Exhibits forty-four samples of various grains, including the seed of the ambadee, the Indian hemp, *Hyblacus cannabiz*. Some fine samples of matting were exhibited made from the fibre of this plant, the quality of which induces the conclusion that it is a pity the cultivation of this plant is not more general, as evidently it may be made very profitable. Some districts may be more adapted to its cultivation than others; but most probably, with proper attention, there are few districts in India where its cultivation would not well repay the land-owner.

The samples of rice, both in the husk and cleaned, were very fine. The sample of wheat was thin and dark in colour. No analysis was made.

Sind—The samples of seeds sent from this Province numbered forty, comprising a very fine collection of wheat, jowaree, ooreed, maize, &c. An average sample of wheat selected from those exhibited gave on analysis the following results in respect to nitrogenous compounds and mineral matters.

I have given with the analysis of this Sind wheat, for the sake of comparison, a similar examination of wheat from the Central Provinces.

Although the wheat from the Central Provinces was comparatively a long, thin, rolong wheat, and the wheat from Sind a short plump seed, it will be seen from the following results, that the short plump seed contains the most nitrogen. This is apparently a contradiction to the examinations I have had an opportunity to make of other Indian wheats of similar appearance, as we have found that the fat lump seed frequently contains less nitrogen than the long thin, hard-coated, rolong wheat.

As a rule, not only the wheat grown in this climate, but also all other grains, contain in the average more nitrogen than similar grains grown in a colder climate.

The following results were obtained from an examination of the samples of wheat from Sind and from the Central Provinces:—

	Sind. Exhibition Sample.	Central Provinces. Exhibition Sample.
Nitrogenous compounds.....	16.12	14.937
Mineral matter.....	3.52	6.080

Considering the agricultural difficulties and the aridness of the soil of Sind, it is surprising that the quality of the wheat grown in that District should supersede in quality a wheat grown in the Central Provinces, where greater capabilities may fairly be supposed to exist for its cultivation.

There can be no doubt but that our present knowledge in chemical physiology does not enable us to arrive at a proper estimate of the value of a nitrogenous food in such a climate as that of India, "if in any climate."

As a rule, nature always adapts herself to her surrounding necessities; and we might fairly expect that the food she supplies in such a climate as that of India, would contain a less proportion of heat-givers, and, at the same time, that food grown in a colder climate would contain a less proportion of flesh-formers, but a larger quantity of heat-givers.

An examination, however, of linseed grown in India (take for example the sample of linseed exhibited from Dharwar) proves that the linseeds are open, individually, to very great variation in this respect, although the average of a series of examinations of seeds grown in Russia would show a little less quantity of albumenoid matter than our Indian seed.

It is singular that the wheat grain of India, which is perhaps the most important grain produced, illustrates in the highest degree the adaptation of nature to climate, containing, as it does, in nearly every sample I have examined, a less proportion of heat-givers than wheat grown in colder climates.

It will be seen that the percentages of nitrogen vary in each of the above samples of wheat; but when we consider that the mean result of many analyses of English wheat of the finest quality only give 14.4 per cent. of nitrogenous compounds, we are almost bound to accept the idea that nature has provided, as a necessity, in her Indian grains, an extra percentage of nitrogen, at the same time decreasing the amount of heat-givers.

The extent of our knowledge in relation to this subject is extremely limited, and that there are many apparently contradictory points to be explained is evidenced by the fact that the majority of our Indian population, to a great extent, exist upon rice, containing, as it does, not more than between three and four per cent. of gluten, and as much as from 80 to 85 per cent. of starch.

There is one thing I may mention in relation to rice. Its mineral matters contain from 49 to 53 per cent. of phosphoric acid. In such a climate as this such a fact is significant.

Kothapoor—Exhibits sixteen different kinds of seeds. Although a small collection, they are certainly of excellent quality.

Limbee—One may be surprised that such an enterprising State as this should only exhibit two samples of cotton seed and four of other seeds.

Saurat Waree—Thirty samples of rice in husk were sent from this District, six of cleaned rice, twenty-six samples of other grains, and three samples of excellent iron-stone, marked in the catalogue as coming from Surat. The seeds were all of fair and good quality, but did not possess any marked superiority.

Belgaum—The collection of seeds from this District numbered sixteen, including samples of ooreed, bajree, jowaree, gran, barley, peas, kooltee, &c. From this collection I selected two grains for analysis, ooreed and jowaree. My reason for selecting ooreed was that I have been unable to find in either Dr. Parkes or Dr. Watson's examination of Indian seeds the proportion of nitrogen it gives upon analysis.

I am informed that ooreed is used not only for the feeding of cattle, but also largely for human consumption. The class of men who consume this grain are chiefly the ascetics of Western India; men constantly in the habit of considerable muscular exertion. This food gave upon analysis 3.98. This food again illustrates the adaptation of nature to climate.

The jowaree analysed gave 2.98 per cent. of oil, 12.38 per cent. of nitrogenous compounds, and 68 per cent. of starch, gum, &c.

It will be seen that this sample was not as rich in nitrogenous matter as that received from Baroda.

Khandeish Government Model Farm—Exhibited certainly a splendid collection of grains used both for human and cattle consumption, numbering altogether one hundred and eight samples, of which five consisted of oil-cakes.

Having some years since paid special attention to the analysis and quality of oil-cakes used as cattle food, these samples obtained to me special interest.

Judging from the appearance of the linseed cake exhibited, I expected to find a higher percentage of oil, as the paper in which it was wrapped had already absorbed a sufficient quantity of oil to indicate the character of the substance. A cake made at Home containing even a larger percentage of oil would not have soiled the paper in the same way. The cause of this may be due to climate.

From the following analyses of the Khandeish oil-cakes, I find the linseed cake contains a little more oil than cake crushed at Home from Bombay seed.

The ground-nut oil cake, the mark of the seed *Arachis hypogea*, known here as well as in America as a burrowing ground-nut, and largely used in England for the adulteration of linseed cake, gives not so good a result as the same kind of cake imported from America into England.

The cakes gave the following analyses:—

	Ground-nut Cake from Khandeish Farm. Percentage.	American Ground-nut Cake analyzed by Mr. Harris. Percentage.
Oil.....	6.2	12.40
Mineral matters.....	8.17	4.94
	Linseed Cake from Khandeish Farm. Percentage.	English Linseed Cake of good quality made from Bombay linseed, previously ana- lyzed by Mr. Harris. Percentage.
Oil.....	12.47	10.84
Mineral matters.....	6.2	7.32
	Poppy Cake from Khandeish Farm. Percentage.	English Poppy Cake analyzed by Mr. Harris. Percentage.
Oil.....	9.0	6.48
Mineral matters.....	11.83	18.04
	White Teel Oil Cake from Khandeish Farm. Percentage.	Dutch Poppy Cake analyzed by Mr. Harris. Percentage.
Oil.....	10.8	10.56
Mineral matters.....	13.2	10.04
		Halim Oil Cake from Khandeish Farm. Percentage.
Oil.....		14.50
Mineral matters.....		6.16

The above results show that the linseed cake manufactured at the Khandeish Farm is of a superior quality to the average of cake made at Home from Bombay linseed, as it contains not only more oil, but the percentage of mineral matter, due to its being cleaner, is much less. The microscopic examination also proves it to be a cake very clean from weed seeds.

Judging from the above analyses, the Khandeish Farm should be congratulated on being able to turn out oil cakes such as linseed, ground-nut, poppy, white teel, and halim, containing the percentages of oil they do, although it is a question whether any oil cake containing fourteen per cent. of oil is better for cattle-feeding purposes than a cake containing only ten per cent. of oil, the difference in the percentage being non-assimilated and passing off in the manure, of course adding to the manurial value, but not adding to the flesh-forming quality of the cake.

The extraction of such extra two or three per cent. of oil from the different seeds must add considerably to the successful working of the Farm in a money relation, at the same time not necessarily lessening the value of the cakes as flesh-producers.

The sunflower seed exhibited in this collection is a sample of very fine quality, containing as it does a large percentage of oil, little mineral matter, and not an excess of hardened cellulose.

The other sample of seeds were, as a rule, of good quality.

Bevar.—Exhibited thirty-four samples of seeds, roots, and bulbs, including turmeric, jira, garlic, coriander, rice, konsumb, cored, two samples of teel, onions, dried chillies, mustard, peas, maize, gram, toor, and two samples of jowaree. This collection, although on the whole good, did not warrant any special sample being taken for analysis.

Ahmednuggur.—The collection of seeds sent from this district to the Exhibition numbered in all twenty-one: a fine collection. Many of the seeds were of a superior quality.

The wheat samples, three in number, were, from their appearance, good specimens of fine rolling wheat. The one taken for examination, a dry, hard seed, with rather a thick husk, contained 16.08 per cent. of nitrogenous compounds, or muscle-formers, the average analysis of many samples of English wheat, as already mentioned, giving only 14.4 per cent.

The Surat District.—Sent seventeen samples to the Exhibition, comprising rice in husk, jowaree, gram, peas, cored, val, mutt, gowar, bajree, toor, moog, munsoor, peas pulse, maize, and kang. Two samples were selected for analysis—peas and val.

The peas were very rich in nitrogen, containing 26.87 per cent. nitrogenous compounds and 3.04 per cent. of mineral matter, this percentage of mineral matter indicating but a small percentage of husk or hardened cellulose.

The sample of val, the seed of a leguminous plant, is evidently a white variety of the seed sent from Dharwar under the name of "wal." It is stated in the report from Poona that "wala" (which I suppose to be another name for the same seed) is eaten as a vegetable, and that cattle are fed on the husks.

It contains a larger percentage of nitrogen, less mineral matter, but less phosphoric acid than our ordinary English bean.

The other seeds from this district also commanded considerable commendation.

Nussick.—Sent twenty-six samples of various seeds to the Exhibition, comprising three samples of rice in husk, two of wheat, three of moog, two of mussoor, two of mutt, jowaree, bajree, peas, &c. No samples were taken from this collection for analysis.

Tanna.—There were one hundred and forty samples of seeds sent from this Collectorate, amongst which were eighteen samples of rice in husk. It would appear that the ryots pay more attention to the cultivation of rice, judging from the samples exhibited, than any other grain. Many of the rice samples were of very good quality.

The other grains were of fair average quality. No samples were taken from this collection for analysis.

Aden.—Forwarded an exceedingly fine collection, not only of food, seeds, but also of dyes, gums, &c., comprising four samples of jowaree, maize, barley, peas, moog, methee, two samples of wheat, mussoor, bajree, chowlee, mustard, onion seed, eleven samples of coffee, teel, cotton seed, senun, Wars sesame (a dye), henna manra (a dye), kurhfa (African fume), violet root (fume), madder (dye), indigo, khiseo, fish scales, gum Arabic, myrrh, aloes, mastic gum, poppy seed, eight samples of African frankincense, cardamoms, beeswax, amber, tamarind, walnuts, &c., numbering in all sixty-one samples.

The samples possessing to me the most interest were the following—viz., coffee, safflower or saffron flower, myrrh, kurhfa, fumes, beeswax, indigo, aloes, fish scales, and gum Arabic.

I found the coffee to be of superior quality, my experimental results being corroborated by the opinion of a gentleman who has had considerable experience in coffee cultivation.

The safflower, known as bastard saffron, the stigmas and florets of the *Carthamus tinctorius*, not only used as a dye in India, but largely exported to England for the same purpose, was as fine a specimen of its kind as I have seen. It would have been interesting if the seeds of this plant had been also sent, as they contain a considerable amount of fixed oil, and are imported into England in large quantities for the purpose of crushing.

The sample of myrrh was clean, free from foreign matter, and of good odour.

The kurhfa and fumes I am unable to give an opinion upon.

The reason of the beeswax attracting my attention was because I found it a black, semi-viscid substance, having not the slightest appearance of ordinary beeswax. When submitted to a gas flame it took fire—ordinary beeswax would melt. Although it had slightly the odour of beeswax, I think it more probable it was a compound mixture used for aromatic fumigation, and sent to the Exhibition labelled in error.

The sample of indigo exhibited consisted of oblong blocks of one or one and a half inches in length, and one inch thick, and might be considered an average sample of commercial indigo, although the small button-like cakes from Baroda were of a much superior quality, not only in relation to colour, but also in their freedom from foreign matter.

I have not had sufficient time to make a proper examination of the sample of aloes; but from its general appearance, and from the few experiments I have made, I should consider it to possess an aloeic action equal to many samples grown in other countries.

The sample of fish scales commands considerable interest, consisting, as they do, almost entirely of soluble gelatinous matter. I have not been able to ascertain for what purposes they are principally used—most probably as my article of food. They are very considerably thicker than an ordinary fish scale, and much longer.

The sample of gum Arabic was very fine, being large, and of exceedingly good colour. If this was not picked specially for the Exhibition, but is an average sample of the gum of the district, it must be a most valuable product.

Altogether this collection may be considered one of the finest in the Exhibition.

Kutch.—Exhibits fourteen samples of seeds, together with three samples of chunam, and one of rose and sugar spirit. No seeds were taken from this collection for examination. The rose and sugar is apparently a strong, pure-flavoured alcoholic liquid. It contains less freedom than most of the brandies imported into Bombay. Its percentage of alcohol by weight is high, being about 62.5, equally 22.5 per cent. over proof, or about 70 per cent. by volume. This result corroborates my previous experiments as to the exceedingly high strength of most of the native liquors in relation to the alcohol they contain. At the same time it becomes a question whether such a strong, pure, alcoholic liquor as this, when properly diluted, is not more wholesome than many of the adulterated wines and brandies imported into Bombay.

Central Provinces—Exhibited sixty-nine samples in all, including arrowroot and dried ginger. Of the two samples of wheat in this collection, the results of the one analysed has already been given in conjunction with the wheat from Sind.

Punjab—Fifty-four samples were sent from this Province, amongst which were two of coffee and two of wheat. Although no samples were taken for examination, the collection on the whole deserves very great credit.

Indore—Exhibited thirteen samples of seeds, ginger, and turmeric.

Bengal—Forwarded forty-four samples, comprising rice, wheat, barley, mustard, three samples of coriander seed, two samples of chillies, turmeric, &c.; in all seventeen.

Madras—Exhibited only forty-two samples of wheat, rice, barley, maize, gram, mustard, and chowlee. I was given to understand that samples of cinchona bark were sent, but were removed before I had an opportunity of selecting specimens.

Oude—Sent sixty-three seeds and roots, including ginger, turmeric, nine samples of rice in the husk, and ova. A very interesting and good collection of other seeds make up the number.

Mahabeshwar—Three samples of cinchona bark, grown on the Government Plantation at Lingmulla, were sent to the Exhibition, a portion of each of which I obtained for examination. The cultivation of cinchona has become such an important question for India, that I copy in full the labels upon each sample, commencing with the youngest bark:—

No. 1—Bark of cinchona removed in May 1871. Age of tree 3 years, height 8½ feet, girth 1 ft. ½ inch.

No. 2—Bark of cinchona removed in May 1871. Age of tree 4 years, height 12½ feet, girth 1 ft. 8 inches.

No. 3—Bark of cinchona removed in January 1873. Age of tree 6 years, height 12 feet, girth 1 ft. 6 inches.

Upon examination they gave the following percentages of total alkaloids and mineral matters:—

	No. 1.	No. 2.	No. 3.
Per cent. of total alkaloids.....	2.25	2.05	1.816
Mineral matter	4.50	5.30	6.10

I do not understand cinchona cultivation sufficiently to explain why the youngest bark should contain the most alkaloids, although it is easy to understand why it should contain the least mineral matter. I am under the impression that this is a question which our scientific men, who have had an opportunity of paying considerable attention to the subject, are not fully agreed upon.

Unfortunately, as I have mentioned before the barks from the Neilgherries were removed before I was requested by the Committee to report upon these products. An estimation of the alkaloids in the barks from the two districts would have had considerable interest.

A sample of bark grown at Darjeeling, examined by me some time since, gave 3.2 per cent. of total alkaloids. Referring to the report on cinchona cultivation in Bengal by Dr. C. King, Superintendent of the Botanical Gardens for 1871-72, a copy of which report I have before me, I find he states that—"The prunings and thinnings of the year of the Government cinchona plantations of British Sikkim amounted to 39,000 lbs. of dry bark, some of the best of which has again been sent home for sale in London. If the dry bark will yield three per cent. of useful alkaloids, the produce under review would give 1,170 lbs. of alkaloids, which might be worth to Government Rs. 25 a pound, or Rs. 29,250 in all."

This quotation from Dr. King's report raises two suggestions:—

Firstly.—The evident importance of the cinchona cultivation to India.

Secondly.—What reason is there, when India has to import such large quantities of the active principle of this bark, that she should export any of the raw material, and be at the expense of English labour and knowledge to extract the alkaloids it contains? Surely there are men sufficiently well educated and versed in chemical knowledge in the Government employ who would be capable of superintending such a manufacture.

Nagpore—Exhibited a sample of beeswax superior in quality to much that is to be met with in Bombay, a considerable quantity of which is imported from England.

From the results of my examination of the different collections, together with the results of the analyses of those grains I selected, I would suggest to the Committee that the three highest medals of equal value, to be given away in this department, should be awarded to the Khandeish Farm, Baroda, and the Aden collections.

The Ahmedabad collection commands a second class medal.

A second class medal should also be awarded to the Sind collection. The wheat examined (the analysis of which has been given) was one of the finest samples exhibited; and it is desirable that the growth of such a wheat, so well suited to Indian consumption, should be encouraged especially when considering the agricultural disadvantages of the soil of the Province in which it was grown.

It is gratifying to know that most of the other collections of grains used for human and cattle consumption, sent in from the other Bombay Districts were highly commendatory, and deserving of considerable encouragement. The analyses of several grains received from these different districts will be found in this report.

In respect to the collections of food-products from the other different Collectorate of the Bombay Presidency and the Central Provinces, commanding as they do, with two or three exceptions, equal merit, it is impossible for me to make any further distinction between them.

I understand that before I had an opportunity to examine these products, Mr. Halsey, the Honorary Secretary of the Central Committee, had occasion to select the best samples of grain sent in from the other provinces, in order to forward them to the Vienna and South Kensington Exhibitions; consequently, I am unable to report upon the products of these districts.

I should conclude Mr. Halsey made his selections without chemical examination, only depending upon his judgment obtained by observation as to the respective value of such Indian grains.

Strictly speaking, the Committee directed me to report upon the food-grains, but I hope I shall be excused for slightly exceeding their instructions.

I found in the Rotunda samples of iron-stones and coals sent in for exhibition from different districts. As it is impossible to judge of the quality of an iron-stone without an assay, I took the liberty of asking Mr. Terry, who kindly complied with my request, to supply me with samples of these stones and coals, thinking it would be of interest to arrive at the percentage of metal each stone contained, and also the amount of combustible matter in the two coals.

The following are the quantities of metallic iron the stones from each district contained:—

	Percentage of Metallic Iron.
Iron-stone from Dharwar.....	60.3
* Chalk-stone from Dharwar.....	21.4
Iron-stone from Kulladghee Hill	56.5
Do. from Karwar	62.5
Do. from Kaira, No. 1.....	60.7
† Do. do. 2.....	44.6
Do. do. 3.....	50.6

The iron in all these stones exists, more or less, as a low oxide. It is an interesting question whether the superior quality of the iron, of which, as a rule, there can be no doubt, produced by the crude native process, may not be as much due to the peculiar character of these Indian iron-stones, as to any skill the native iron smelters may possess.

Coal—The mineral exhibited marked as Vudwan coal I found not to be coal at all, although its appearance might lead a superficial observer to suppose it was an anthracite or stone coal; upon examination it gave the following results:—

	Per cent.
Matters capable of combustion	6.6
Mineral matters	93.4
	100.0

The mineral matters contained 8 per cent. of oxide of iron and alumina, the residue consisting of insoluble silicate, chiefly silicate of iron. The coal sent from Kutch was a species of lignite coal, containing—

	Per cent.
Matters capable of combustion	89.8
Mineral matters	10.2
	100.0

Although this Coal would not be such a great heat-producer as the harder sorts of coal, it is of its kind a very good sample. Before closing my report I may mention that the large quantity of nitrogenous matter found in the grains examined, explodes the idea that the support of our Indian population is due to rice.

Although rice is so largely consumed, and forms perhaps the basis of the native food, as a rule it is never eaten without being mixed with a certain quantity of these rich nitrogenous grains, making in all a food more rich in nitrogen than food consumed in colder climates.—I have, &c.,

W. H. HARRIS, F.C.S.

* This stone, a light purplish chalky stone, containing as it does manganese, must be a valuable stone to mix with other iron ores in the smelting, although not containing in itself a large percentage of metal.

† The iron in this stone existed as a silicate and a protoxide; when the iron in the one was raised to the highest stage of oxidation, it gave 11.38 per cent. above the weight taken.

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VOL. V.]

CALCUTTA: FRIDAY, 31st JULY 1874.

[No. 12.]

MADRAS AND ANDAMAN GUMS.

*From Government of India, to Chamber of Commerce, Bengal.**Calcutta, 22d March 1873.*

I AM directed to forward the accompanying copy of a letter from the Government of Madras, No. 199, dated 20th ultimo, together with 5 lbs. of each of the 9 specimens of gums therein referred to, and to state that the Government of India will be glad to be favoured with a report as to their market value.

From Secretary to Government, Revenue Department, Fort St. George, to the Secretary to the Government of India, Department of Agriculture, Revenue, and Commerce.

20th February 1873.

With reference to your Under-Secretary's letter, dated 7th November 1871, No. 558, I am directed to inform you that the Master Attendant has been instructed to forward to you by the first opportunity a box, for transmission to England, containing in twelve tin cases specimens of gums collected by the Forest officials of this Presidency.

2. Enclosed is a list giving all requisite particulars in connection with these gums; also a letter* from the Inspector of Forests, from which it will be seen that duplicate specimens are not forthcoming.

Read the following letter from the Inspector of Forests, to the Secretary to Government, Revenue Department, dated Madras, 31st January 1873, No. 1672:—

With reference to the Proceedings of Government dated 13th December 1871, No. 2100, Revenue Department, I have the honour to forward herewith specimens of gums, as per accompanying list, for transmission to England. As only a small quantity was collected by the officers of the department, duplicate specimens are not forthcoming.

List of Specimens of Gum collected by the Officers of the Forest Department of the Madras Presidency, agreeably to G. O. No. 2100, dated 13th December 1871.

Range.	Botanical Names of the Species of Gum.	English Names.	Vernacular Names.	Quantity supplied.	Quantity that could be supplied yearly from the Forest.	Approximate value per ton or 2,240 lbs.
				lbs.	Tons.	Rs.
Salem	1 Chloroxylon Swietenia .....	.....	Biloo (Telugu), Porasa (Tamil)	10	1	300
	2 Conocarpus latifolia .....	.....	Cheeriman or Yellama (do.)	10	2	420
	3 Hardwickia binata .....	.....	Namoi or Vellai Nagay (do.)	10	2	320
	4 Pterocarpus Marsupium .....	.....	Acha (Tamil), Yapei (Telugu)	10	1½	420
	5 Semicarpus Anacardium .....	.....	Yagy (Telugu), Vengay (Tamil)	10	3	420
	6 .....	.....	Geeduchitta (Telugu), Choran Cottai (Tamil)	10	1	350
	7 Melia Azadirachta .....	.....	Moorkalu (do.)	10	3	150
	8 Acacia Arabica .....	.....	Vaipum (do.)	10	2½	320
	9 Nim, 1st sort .....	.....	Diabool (do.), Kurvallum (Tamil)	10	2	150
South Arcot ...	1 Do. 2nd " .....	.....	Do. (do.)	10	2	360
	2 1st "	Wood Apple	Velam pecin (Tamil)	10	2	360
	3 2nd "	Do.	Do. (do.)	10	1	220
South Canara ...	1 1st "	Babool	Karnyalun (do.)	10	1	220
	2 2nd "	Do.	Do. (do.)	10	1	300
	9 Vateria Indica	Dhoop .....	.....	2½	1	300

(Signed) R. H. BEDDOME, Major,
Inspector of Forests.

*Madras, 31st January 1873.**ORDER THEREON, 20th February 1873, No. 198.*

Ordered that the foregoing letter, together with the twelve tin cases and list therewith received, be forwarded to the Government of India with reference to the letter from that Government, dated 7th November 1871, No. 558.

D. F. CARMICHAEL,
Secretary to Government.

*From Government of India, to Chamber of Commerce.**Calcutta, 2nd April 1873.*

I am directed to forward the accompanying specimens of gum collected at the Andaman Islands, and to request that you will be good enough to favour the Government of India with a report as to their market value.

*From Government of India, to Chamber of Commerce.**Singla, 21st October 1873.*

In acknowledging with thanks the receipt of your letter of the 12th July last, on the samples of oils and resins received from British Borneo, I am directed to state that the Government of India will also be glad to be favoured with a report as to the market value of the Madras and Andaman gums, specimens of which were forwarded to you with the letters from this office No. 465, dated 25th March, and No. 503, dated 2nd April last.

*From Chamber of Commerce, to Government of India.**Calcutta, 22nd December 1873.*

In acknowledgment of your letter No. 1237 of the 21st October, I beg to state that from inquiries made regarding the samples of Madras gums I have been unable to find values in the Calcutta market for any of them except that marked "South Canara, No. 9, Dhoop," which is valued at Rs. 10 to Rs. 12 per bazaar maund, and the Andaman gum which is valued at Rs. 3 to Rs. 3-4-0 per maund. The other samples are unknown in this market so far as I have been able to ascertain.

I very much regret to submit so unsatisfactory an answer to your reference and to send so late a reply to it, but I have been able to arrive to even this meagre reply with great difficulty.

* Dated 31st January 1873, No. 1672.

RAW SILK FROM BRITISH BURMAH.

From Government of India, to Chamber of Commerce, Bengal.

Calcutta, 3rd January 1873.

I AM directed to forward copy of a letter* from Conservator of Forests, British Burmah, together with the two samples of raw silk therein referred to, and to request that the Government of India may be favoured with the opinion of the Chamber as to their marketable value.

From the Conservator of Forests, British Burmah, to the Chief Commissioner, British Burmah.

Rangoon, 6th December 1873.

I have the honour to forward for submission to the Chief Commissioner, two samples of raw silk prepared at Toungoo by Teen Couri Mistry, a native of India.

2. The interest attaching to these samples lies in the fact that they are believed to represent the first attempt made in this country towards introducing the Indian method of unwinding the silk from cocoons.

It has been offered for sale here but apparently the Chinese and Burmese dealers are accustomed to purchase only the thick coarse silk as manufactured in Burmah, and hence they decline to buy raw silk prepared so fine and thin as the accompanying sample.

From Teen Couri's Agent I have obtained the following particulars:—

The cocoons are purchased in the vicinity of Toungoo at the rate of Rs. 1-8 per viss, and silk is obtained from them to the extent of 6 tickals per viss.

The only difference apparent between the Indian and Burmese methods of unwinding is that in the former more care is bestowed on the operation. The cocoons are soaked for upwards of half an hour in hot water and kept constantly stirred with a small tamarind branch. When unwound there is full occupation for two men, one attending to the unwinding and the other to the cleaning of the silk and freeing it from coarse extraneous particles.

3. The ordinary piece of silk is found Rs. 24 to Rs. 25 per viss, but for silk of the finer description at Calcutta as high a price as Rs. 16 to Rs. 20 per seer is obtained which is equivalent to Rs. 28 and Rs. 30 per viss.

As two men on Rs. 20 per mensem can prepare 20 to 25 tickals of silk in one day, there is reason to believe that the experiment now made will give a good return.

Should this prove to be the case a considerable export trade of the finer description of raw silk may spring up and materially stimulate the cultivation of silk as well as induce more care in its preparation.

From Chamber of Commerce, to Government of India.

Calcutta, 14th January 1874.

I have the honour to acknowledge the receipt of your letter No. 5 of the 3rd instant, forwarding two samples of raw silk from the Conservator of Forests, British Burmah; and in reply, I beg to annex for your information copy of report upon them from Mr. S. Vaughan of Messrs. Ernsthausen and Oesterley.

To the Secretary of the Chamber of Commerce.

Calcutta, 13th January 1874.

I have the pleasure to inform you that I have examined the two skeins of Burmah silk, yellow and white, and must class them with our low silks produced in Bengal and certainly not with the finer sorts of medium or good native.

The two skeins in question are native short reel, resembling in nature to some extent our short skein Hurripaul, the white skein however is perhaps more like Gonatia than Hurripaul silk. The thread cannot be said to show careful reeling, is gouty and foul. The yellow skein is medium to coarse and the white what we term coarse size thread pretty even for such a class of silk, and possesses substance. This sort of silk, at present, is not at all in request for the European markets, Canton silks being much preferred at their present low rates; but it is suited to the requirements of the Bombay and Coast trade, who regularly consume this description of silk. For this purpose I estimate its present value at from Rs. 9 to Rs. 9-8 per factory seer. In order to adapt this silk to present European requirements much more care in reeling would be necessary both as regards size and cleanness of thread.

Good bright native Bengal silk is at the present moment worth from Rs. 13 to 14—and this description of silk shows much more care in the reeling; say from 8 to 10 cocoons to produce the single thread, and is free from the foul and knib we observe in the sample under review.

S. VAUGHAN.

ACTUAL OUTTURN OF COTTON, —N.-W. PROVINCES.

(For the year 1873-74.)
No. 539 of 1874.

From E. C. BUCK, Esquire, Officiating Secretary to the Board of Revenue, North-Western Provinces.

Allahabad, 14th May 1874.

In a Circular Letter JJJJ. of 1873, (a) the Board issued special instructions to Revenue Officers to institute careful enquiries into the conditions of cotton cultivation in each district; and excused them from making those enquiries which the Board have hitherto expected them to make regarding other crops, in order that they might be able to give more time to investigate the circumstances of cotton cultivation.

On the 30th December, a second circular letter (b) was issued. In this the Board requested Collectors to supply with their cotton reports such information as they might be able to obtain regarding the export of cotton from their districts.

The first circular letter of the Board has not been so productive of information as they could have wished, and they are still unable to furnish much more complete account of cotton cultivation in the provinces than heretofore.

The Government, in order No. 2042A, dated 20th September, 1873, Revenue Department, desired that the general return of the outturn in the North-Western Provinces should be submitted by the Board by the 1st March; and with this object the Board instructed Collectors to despatch their returns by the 1st of February at latest, instead of the 1st March, the date hitherto adopted; but it has been completely impossible to adhere to this programme. Notwithstanding the Board's repeated orders, many of the returns have only just been received, and the Board would recommend that the old date be retained.

The Collectors of Benares and Ghazepore report that they cannot give a complete return of the outturn as the pickings are not yet over.

The season, as noted in the report regarding the estimated outturn of the year, was singularly unfavourable.

The rains were late throughout the provinces, and there was accordingly a good deal of delay in getting the crop into the ground; and when they did come, heavy and untimely downfalls occurred, which damaged the crop considerably. The early cessation of the rains on the other hand was productive of early cold, which injured the late flowering plant; and the Board have by direct enquiry ascertained that such was the case in the Lower as well as the Upper Doab; although the circumstance is not mentioned in any of the district reports from the former tract. The early cold was followed by severe frost in January, which affected the later pickings; and the allusion to this circumstance in the reports of districts in all parts of the provinces justifies the inference that the effect of the frost was universally felt throughout the provinces.

* No. 1343/87, dated 6th December 1873.

(a) From E. C. BUCK, Esq., Officiating Secretary to the Board of Revenue, North-Western Provinces, to All Commissioners in the North-Western Provinces (No. JJJJ. of 1873).—Dated Allahabad, the 27th September, 1873.

SIR,—I am directed to forward, for circulation among Collectors, copy of a letter received from Government, together with copy of a Memorandum by the Officiating Commissioner of Cotton and Commerce, on the actual outturn of cotton in the North-Western Provinces during the year 1871-72.

2. The returns hitherto received by the Board regarding cotton cultivation in these Provinces have been very unsatisfactory, owing to the absence of systematic and personal enquiry into the statistics supplied to Collectors by their subordinates.

3. The Board request that putwarees may be directed to furnish annually in future a statement relating to cotton cultivation in their circles, showing for each village—

- I.—Number of fields in the settlement khushahs.
- II.—Area of the fields.
- III.—Description of soil, and whether irrigated or manured.
- IV.—Whether any other crop is grown with cotton, and if so, what is the effect on the outturn.

These returns should be tested by the canongoes and talsildars, and also by District Officers when on their cold-weather tour.

4. Collectors and Settlement Officers should make enquiries over a sufficiently large area into the outturn of cotton per acre. I am also to invite your co-operation in the matter with a view to the putwarees' returns being examined by you in the course of your cold-weather tour.

5. The Board think that if District Officers devote their attention to the preparation of correct returns regarding cotton this year, they will probably be unable to give much of their time to enquiries regarding other crops, and the Board will not therefore require, for the present year, the returns connected with agricultural produce, which they have previously called for. They expect, however, that District Officers will take especial pains to supply really accurate information about the cotton crop of the current year, and will provide them with carefully prepared statistics of the outturn on both good and bad land.

(b) From E. C. BUCK, Esq., Officiating Secretary to the Board of Revenue, North-Western Provinces, to Commissioners of Meerut, Rohilkhand, Agra, and Jhansi (Nos. 670, 732, 696, 405).

Requests that they will call upon Collectors of their divisions to make careful enquiries among the leading merchants of their respective districts, as to the direction in which the cotton crop of the present season is exported, and to endeavour to ascertain as far as possible the probable amount which is exported in each direction. The destinations about which information is chiefly required are Calcutta, Bombay, Oudh, and Nepal.

The information should be submitted with the report on the actual outturn of cotton.

The following table is a summary of the replies regarding the season.
The cotton crop is said to have been injured :—

By the late arrival of the rains in—	By heavy and untimely downfalls in—	By cold after the rains in—	By frost in January in—
Moozuffernuggur	Seharunpore	Boolandshuhur	Boolandshuhur.
Meerut	Moozuffernuggur	Ditto	Ditto.
Boolandshuhur	Meerut	Ditto	Ditto.
Ditto	Boolandshuhur	Ditto	Ditto.
Ditto	Allypore	Ditto	Ditto.
Ditto	Jaloun	Ditto	Ditto.
Jhansi	Jhansi	Ditto	Ditto.
Ditto	Lullitpore	Ditto	Ditto.
Bijnour	Bijnour	Bijnour	Ditto.
Juleysur	Agra Division, Pergunnah Juleysur	Ditto	Ditto.
Agra	Agra	Agra	Agra.
Mynpoory	Ditto	Mynpoory	Mynpoory.
Etawah	Etawah	Etawah	Ditto.
Ditto	Futtehpore	Ditto	Ditto.
Banda	Ditto	Ditto	Ditto.
Ditto	Allahabad	Ditto	Ditto.
Ditto	Humeerpore	Ditto	Ditto.
Benares	Ditto	Ditto	Jounpore.
Mirzapore	Ditto	Ditto	Ditto.

It will be as well before reviewing the replies received regarding the outturn of cotton to give such description as can be gleaned from the reports regarding the method of cotton cultivation.

There are three distinct classes of cultivation. In the first class the cotton is grown in good land, which though not as a rule specially manured and irrigated for the crop of the year, is generally land which is habitually manured and irrigated.

The crop receives in such land a good deal of care and labour.

In the second class cotton is grown in poor stony soil, and receives but little attention and no manure.

In the third class it is grown in the rich black soil of Bundelkhand without manure.

The first class obtains throughout the Doab, and especially in the cotton-growing districts from Allypore to Futtehpore. The second class is found in the tracts lying along the Jumna, and the third in the trans-Jumna country. The best staple is said to be produced in the last class, which is believed to be similar in soil to the country round Hingun Ghat.

The second and third classes meet in the districts of Humeerpore, Banda, Jaloun, Futtehpore, and perhaps in Allahabad; but no attempt is made to distinguish between the two classes of cultivation in the report from any district but Banda, where the outturn in different soils is separately estimated. The first and second classes meet in Cawnpore, Futtehpore, Etawah, and probably other districts lying along the Jumna; but no distinction is made between the classes, except in the report from Mr. Wright, Settlement Officer of Cawnpore.

Cotton appears to be almost universally grown with other crops, and generally with urhur. When urhur is not grown, "undergrowth" crops usually accompany the cotton. These appear to be lentils or oil-seeds.

In the best tracts of the Doab (see Mr. Wright's and Mr. McConaghey's reports), the urhur is grown in rows a few feet apart, with cotton in the intermediate spaces, mixed with a little undergrowth. The urhur serves as a reserve crop. If the cotton fails, it protects the cotton from frost, and affords a convenient demarcation by which the cultivator can know from day to day what portion of the cotton crop has been picked on previous days.

The foregoing remarks will have made it plain that the outturn of cotton must vary extremely in different tracts, and that it is impossible to lay down any fixed average which can approach correctness for all districts.

The officers who have submitted the most careful estimates are Mr. Wright, Settlement Officer of Cawnpore, and Mr. Alexander, Assistant Collector of Furruckabad. Full reports have also come from Mr. Hall, Assistant Collector of Mynpoory, and Mr. McConaghey, Settlement Officer of Muttra.

The replies of these officers confirm the estimate made by Government last year, that in a good average year, on good average land, the outturn would ordinarily be not less than 80 lbs. an acre.

Mr. Wright obtained answers to personal enquiries from 219 cultivators, and their replies pointed to an outturn ranging in ordinary years from two to four maunds, i.e., from 160 to 320 lbs. of uncleaned cotton, or from about 50 to 120 lbs. of cleaned cotton per acre.

Mr. Alexander, who has carried out his instructions in the most thorough manner, has arrived at the conclusion that the following estimate for the present year may be made :—

Class of Soil.	Pounds per Acre.	
	With other crops.	Without other crops.
Doomut	77	97
Mutiar	86	106
Bhoor	50	60

Mr. Hall's estimates founded on careful enquiry and personal investigation in 164 cases are as follows :—

1st class highly manured, average cleaned cotton per acre, 108 lbs.
2nd class ditto, ... 82 "
3rd class ditto, ... 28½ "

The larger proportion of cotton in the Mynpoory District is grown in second class fields.

Mr. Hall's and Mr. Alexander's estimates refer to the present year's outturn, which was below the general average. The latter officer estimates that in ordinary years the outturn is 12 per cent. higher.

But it is clear from the information in these reports that it is impossible to judge of the approximate correctness of the returns from each district, except in the most general way, unless details of the class of land in which the crop is grown are given.

The most accurate information regarding the average amount of produce on each class of land is useless without the area of each class. The details which the Board required in para. 2 of their Circular, to be obtained from putwarees, have been submitted to the Board in too few instances to enable them to make any abstract for the Provinces in the present year, but the Board would represent that if these estimates are to be of any value, an attempt should be made to effect some classification of the land in each district.

The Board would suggest such classes as,—

- 1st class or richly manured (village circle),
- 2nd class or ordinarily manured,
- 3rd class or poor outlying land,

and these classes should be sub-divided into the heads "cotton grown with other crops," "cotton grown alone."

It is quite evident from the different rates of outturn which the reports above noticed have shown belong to different classes of lands, that a "district average" does not afford a safe indication of the district outturn.

Should Government consider the object worth attaining, the Board will issue orders for returns to be submitted in this form next year.

Allypore is an example of a district in which the returns for the whole district have been submitted in a form of this nature, and affords a proof of the possibility of a certain amount of detail being furnished.

The following table shows the area reported under cotton in the last three years. The area of the year under report is not more than 82 per cent. of the average area of the three preceding years :—

	Acres.
1870-71	1,218,306
1871-72	1,077,358
1872-73	1,206,011
Average	1,137,225
1873-74	970,171

The following table shows the actual outturn reported for the last eight years contrasted with the outturn reported this year :—

									lbs.
1865-66	...	...	...	...	...	...	...	...	32,603,230
1866-67	...	...	...	...	...	...	...	...	85,684,920
1867-68	...	...	...	...	...	...	...	...	57,875,120
1868-69	...	...	...	...	...	...	...	...	44,137,840
1869-70	...	...	...	...	...	...	...	...	37,104,160
1870-71	...	...	...	...	...	...	...	...	76,387,600
1871-72	...	...	...	...	...	...	...	...	65,794,000
1872-73	...	...	...	...	...	...	...	...	97,570,480
									527,217,400
									65,902,175
Average of the last eight years	...	...	...	...	...	...	...	...	45,922,000
1873-74	...	...	...	...	...	...	...	...	19,980,175

The outturn of the year has therefore not been much more than two-thirds of the average of the last eight years. Excluding that of last year, which was exceptionally good, the average outturn of the preceeding years was 61,378,138, which was still much in excess of that of the year under report.

But the remarks which have already been made in preceeding paragraphs tend to show that there has been heretofore a continual under-estimate of the outturn, and that both the outturn of preceeding years and of the present year have been a good deal under-estimated. The under-estimate has probably been less in the present than in preceeding years.—

(1.) Because the Board and Government drew attention last year to the lowness of the estimates.

(2.) Because the year was very unfavourable.

The Board suggest that the following rough amendments of the district returns give a somewhat closer approximation to accuracy. They give an increase of 4,500,000 lbs., and raise the total estimate to 50,422,000 lbs.

Division.	Districts.	Remarks.	Add.	Subtract.
Meerut	Moozuffernugger .....	.....	160,000	.....
	Meerut .....	.....	400,000	.....
	Allypore .....	.....	.....	2,400,000
Kumaon Division .....	.....	.....	400,000	.....
Rohilkhand	Moradabad .....	.....	480,000	.....
	Bareilly .....	.....	1,200,000	.....
Agra	Mynpoore .....	.....	.....	960,000
	Etawah .....	.....	400,000	.....
Jhansi	Jaloun	The Board do not like to increase the estimate for Jaloun though it is low : as much of the land in which cotton is grown is very poor, and the trans-Jumna cotton evidently suffered a good deal. But the Jhansi and Lullupore estimates are extravagantly low.	40,000	.....
Jhansi	Jhansi	The Board increase the estimates of these two districts to a level of about 32 lbs. an acre. The Deputy Commissioner says that 2,000 acres were taken up for other crops in consequence of the non-germination of the cotton seed, but he does not say whether he has excluded the 2,000 acres from his area or not.	40,000	.....
	Lullupore .....		.....	.....
Allahabad Division .....	.....	The whole estimates are too low, and may be increased to about 32 lbs. an acre.	4,500,000	.....
Benares .....	.....	The whole division is low, and a slight addition may be made.	240,000	.....
Total			7,860,000	3,360,000

The Board request that they may receive definite orders as to the course which they are to pursue next year with regard to these returns. They have succeeded in obtaining in this year a somewhat more accurate account of the amount of cleaned cotton, which can be produced in good land ; but they have not much more accurate statistics to give than heretofore of the total amount of cotton produced in the provinces : because they do not know how much cotton has been grown on good, and how much on bad land. They desire me to ask therefore for instructions whether the object of obtaining more accurate information on this point is of sufficient importance to justify them in issuing any orders for the classification of land next year.—I have, &c.,

E. C. BUCK,
Officiating Secretary.

NOTE ON COTTON, BY MR. F. WRIGHT, SETTLEMENT OFFICER OF CAWNPORE.

I have been unable to superintend the pickings from any particular field, as they always extend over a much longer period than I have been able to stay in one place. I have made constant enquiry as to method and cost of cultivation and out-turn, both in individual instances and in a general way.

The first was a Kachee : he sowed an acre in the homestead, which he had manured last year for a crop of bejhar. He ploughed twice after first fall of rain, beginning of "Sawn" (end of July) ; this took him two days, and cost him nothing, but the use of his own cattle and plough. He then sowed five seers of seed after mixing them in cow-dung to separate them. He then ploughed them in, and ran the "patela" over : to do this in one day he had to borrow another plough, and had not finished by night-fall. He weeded four times : the first time ten days after sowing, the others at intervals of about a fortnight, as he got leisure from other work. The weeding took ten men besides himself and his son, getting 1½ annas a day besides "chabena" (parched gram). He gave the grass weeded up to his cattle. He commenced picking from 15th Katik (22nd October), after anointing the middle plants with curds and rice. He continued picking till first week in January. His wife and niece did all this unhelped.

The first day's picking he took to the banyan, and got molasses which he gave to his children. He picked altogether two maunds eleven seers of cotton, of which he sold two maunds four seers for Rs. 12, and kept one rupee's worth for family use : had his field not suffered from frost, he expects he would have picked Rs. 20 worth of cotton. He sowed urhar with his cotton, but it was destroyed by frost.

A second from whom I enquired was a Chamar. He sowed one-beegah 15 biswas, or just under an acre, in the outlands, for which he paid Rs. 4 per acre, and which he had manured last year with 80 maunds. Having no plough-cattle, he hired, paying one rupee two annas for the whole job. He ploughed twice : sowed seven seers, which cost him five annas ; and ploughed and harrowed the same day. He weeded four times, twice with hired labour, which cost him one rupee eleven annas, the third and fourth he and his wife weeded as they found leisure. He began to pick in October, the members of his family picking, and picked up to the frost one maund twenty-four seers which he sold for Rs. 8.

I have recorded the statements of 219 men as to the average outturn of cotton. An abstract of their answers is attached.* It seems to me to point directly to an average outturn of three maunds per acre. The largest number of answers giving outturn between two and four maunds. This is double what the actual experiments of the tahsildars give, but this year has been most unfavourable to cotton : the irregular way in which the rains fell did great injury to the cotton, both at sowing and at flowering. I find on record that I informed Mr. Buck in November that I had not then seen one really good crop of cotton. At the same time it must be remembered that the better the soil the better the produce ; hence in the northern pergunnahs, where cotton is generally grown in the best and oftenest manured lands, the outturn would be higher than in the southern pergunnahs, where it is sown indiscriminately over the whole village, with or without manure.

In the northern pergunnahs cotton is sown in the best land available : thus, if a village is full of Kachees, it is grown in the belt of land outside the gardens, otherwise largely in the immediate homestead or a little way from it. The Jumna pergunnahs and the villages that lie along the Sengoor it is grown everywhere : kunkery soil specially suits it, and the black soil found here and there is specially fitted for cotton.

It is usually sown at the end of Asarh, corresponding to 15th July, after but a couple of ploughings ; is weeded three or four times ; and pick-sweetmeats to the family. Picking continues to the 15th January : picking, where not done by the family, is paid for by a share in the cotton picked, varying in different parts from one-seventh to one-eleventh. My enquiries lead me to think one-tenth the usual share given.

In the northern pergunnahs urhar is almost invariably sown in rows, urd and til being scattered here and there amongst the cotton. The castor tree is also grown in cotton fields. Urhar is sown in rows in order to obtain a crop of pulse with the least injury to the cotton, with the greatest benefit to itself. It is sown running from east to west : thus the frost-laden wind blowing from the west catches only the end of the row, and the est is saved : where it is sown broadcast, it would be more exposed, and at the same time shade the cotton. It is not sown as a separate crop for being so susceptible of cold ; if it were frost-bitten, the husbandman would get no crop off his field at all.

* Not printed.

So much work is done by mutual help and so much done at spare times, that it is difficult to put actually into figures the cost of production. The above exemplars both show a loss: and the inference is fair that the entire cost of production paid in cash, and the average produce only assumed as one maund twenty seers, there would be a loss in every acre grown. But the explanation of this lies partly in the fact that with thorough working four maunds per acre is not too large a crop to expect, and that the ryot does not look to the price of his cotton to support himself, but to pay his *khureef* rent: he then gets his *juar* and maize for his own support.

Profit and Loss Account on Cultivation of one Acre of Cotton.

Cost.		Produce.		Weight.	Price.
	Rs. s. p.			M. s. c.	Rs. s. p.
Seed	0 4 0	Uncleaned cotton		5 0 0	15 0 0
Ploughing three times	1 8 0	Urhar		1 20 0	2 0 0
Weeding three times, each time 12 men, @ 1½ annas per day	3 6 0	Und. about			1 0 0
Picking one-tenth of produce	1 9 6	Til. about			1 0 0
	6 11 6	Castor-seed, about			1 0 0
Average rent, say	7 0 0	Total			21 0 0
Sum	13 11 6	Balance			18 11 6
					7 4 6

Add to which the ryot has the urhar and castor sticks for thatching; the urhar and und chaff for fodder (besides tops of the cotton plants), and the "til" stalks for burning. Sometimes also "putson" (a coarse hemp) is grown, enough for a well rope.

F. N. WRIGHT.

Officiating Settlement Officer.

MEMO. ON THE AREA ACTUALLY UNDER COTTON CULTIVATION DURING 1873-74 IN TUNSEEL JULEYSUR.

Regarding average outturn, I have made from time to time extensive enquiries personally and through my subordinates, both in the Doab pergunahs of this district and in Mynpoory, and I can therefore with considerable confidence state the general conclusion arrived at by me, which is that an average *kuchha beegah* (of five to the acre) of average cotton-growing soil in an average season produces about 27½ Government seers, or 55 lbs. of "kapas"; this gives 275 lbs. or 92 lbs. of clean cotton to the acre.

The area under cotton last year has been 10,455·67 acres below that of 1871-72. Less was originally sown, and many of the fields which were destroyed by excessive and untimely rainfall, were afterwards ploughed up and sown with wheat or barley.

In 1871-72, 20 per cent. of the total cultivated area was under cotton, while in 1873-74 the percentage brought to maturity has only been 12. Of the 15,999 acres occupied by this crop last season, in the Juleysur Tehseel 10 per cent. was matured, and 95 per cent. habitually irrigated land.

Urhar is generally sown with cotton in parallel ridges about 20 feet apart, and in the matured fields castor-oil is similarly grown. Patan and til are also met with in small quantities, but the custom of sowing cotton broadcast with *jowar* and *bajra* does not hold to any extent in this tehsel or in the neighbouring tehsels of Saidabad and Mahaban.

The effect which urhar or the castor-oil plant grown in ridges has on the cotton outturn is very difficult to estimate.

I would say not more than one-sixth or one-seventh at the very highest. These crops, it must be remembered, have not reached their full growth until after the cotton is gathered.

M. A. MCCONAGHEY,
Settlement Officer.

COTTON CROP—SEASON 1873-74.

To THE SECRETARY, Board of Revenue, Allahabad.

Cawnpore, 13th February 1874.

DEAR SIR,—In reply to your enquiry regarding the cause of the partial failure of the cotton crop now arriving at market in these provinces, we beg to submit the following information:—

Owing to the poor demand which existed for cotton last year, and the large stock which remained unsold in the district, the cultivation of the staple was on a very much reduced scale to what it has been of late years, and in its place the cultivation of indigo has been to a great measure substituted.

This will account to some extent for the enormous falling off in supplies this season; but irrespective of this the yield per acre has been a very miserable one.

In the past year cotton was, as usual, sown in the month of "Assar" on a very inadequate moisture; the seed, however, germinated fairly, but owing to the regular monsoon rains holding off longer than usual the plants were very backward, and the very heavy rainfall which was registered between the 15th of July and the 1st August, by flooding the fields and afterwards causing the surface of the land to cake, inflicted injury on the crop from which it never recovered.

The injury was greater beyond the Jumna, where the rainfall was heavier; and in the Calpee District, which generally supplies 80,000 maunds of cotton to the Cawnpore market, the crop was almost a complete failure. The same may be said of the districts from which Agra is supplied.

Along the banks of the Ganges the damage to the crop was not so serious, and in Kassganje, Chundowsee, Anoopahur, Boolundshahr, and Futteghurh the crop has been fairly successful.

To judge of the extent of the crop by the arrival at this market, we would be inclined to estimate the total outturn at about one-third of that of the two previous years.

The arrivals at Cawnpore this season, as nearly as we can get in the absence of reliable statistics, amount to only 50,000 maunds, against 250,000 maunds in an average season.—We are, &c.,

MITCHELL & Co.

ORDERS OF GOVERNMENT.

No. 1390A, OF 1874.

From THE SECRETARY TO GOVERNMENT, North-Western Provinces.

Nynee Tal, 6th June, 1874.

The year under report was more or less injuriously affected, so far as cotton cultivation is concerned, by the following causes:—

- (1.) Late arrival of rains.
- (2.) Excessive showers.
- (3.) Early cessation of rains.
- (4.) Severity of cold season.

Such contingencies find their natural result in diminished area and less plentiful outturn.

Accordingly, the figures compiled show that the area under cotton cultivation was not more than 82 per cent. of the average of the last three years; while the outturn was only 74·8 per cent. of the average of seven years, and only 47 per cent. on that of 1872-73, which was an unusually good season. The divisional figures of area and outturn are as under:—

Division.	Area in Acres.		Outturn in Maunds.	
	1872-73.	1873-74.	1872-73.	1873-74.
Meerut	278,846	228,483	348,671	229,359
Kumaon	3,598	5,777	22,178	3,461
Rohilkhand	174,800	181,251	104,973	105,841
Agra	436,431	243,422	238,374	168,064
Jhansi	76,670	61,662	41,044	13,551
Allahabad	274,247	247,643	122,139	42,129
Benares	21,419	11,585	7,535	8,697
Total	1,266,011	979,771	1,218,664	574,925

The estimates and actuals of the area under cotton cultivation still vary unaccountably, and these variations should be explained. As pointed out in para. 2 of G. O. No. 1379A., dated 3rd July, 1873, the area given in the report on the estimated outturn ought to be the actual area under cultivation: the outturn alone should vary according to results. The following are the most noticeable cases in which discrepancy as to area is observed:—

Area in Acres.				Area in Acres.			
		Estimates.	Actuals.			Estimates.	Actuals.
Futtehpoore	...	16,938	51,534	Allypore	...	88,567	1,01,450
Banda	...	92,676	78,104	Mirzapore	...	6,731	2,895
Mynpoore	...	32,339	22,292				

The earliest of these estimates (Allypore) was framed on the 4th November, when the rains had wholly ceased, and the cotton sowings had been over for some time. Where such great variations occur, the Board should call on District Officers to submit satisfactory explanations of the cause. The average outturn of cleaned cotton per acre is reported to vary from 4 pounds in Lullatpore to 102½ in Mynpoore. The divisional average outturns per acre are,—

				1872-73.			1873-74.		
				Mds.	S.	C.	Mds.	S.	C.
Mearut	...	...	...	1	10	0	1	0	2
Kunnaon	...	...	...	0	24	3	0	37	10
Rohilkhand	...	...	...	0	23	13	0	23	6
Agra	...	...	...	1	14	6	0	27	9
Jhansi	...	...	...	0	21	6	0	12	11
Allahabad	...	...	...	0	17	13	0	6	13
Benares	...	...	...	0	11	12	0	12	8
Total	...	...	...	0	38	8	0	23	7

In several districts the estimates for 1873-74 are strangely at variance, both with the actuals of 1872-73 and the actuals of 1873-74. These estimates were made out fully a month after the cessation of the rains, when all the damage caused by the rains was known. Yet for some districts these estimates were higher than the outturn of the previous year, which had been extraordinarily good. In other cases again the estimate was far below the mark. The following districts exemplify these variations:—

				Actuals, 1872-73.			Estimates, 1873-74.			Actuals, 1873-74.		
				Mds.	S.	C.	Mds.	S.	C.	Mds.	S.	C.
Moozuffnuggur	...	...	...	1	11	14	1	12	14	0	26	9
Allypore	...	...	...	0	37	12	0	31	8	1	11	0
Futtehgarh	...	...	...	0	27	5	0	23	6	0	37	4
Mynpoore	...	...	...	0	30	0	0	27	5	1	21	12
Banda	...	...	...	0	19	1	0	20	5	0	5	8
Allahabad	...	...	...	0	14	3	0	23	1	0	19	7
Bareilly	...	...	...	0	19	11	0	30	11	0	17	1
Budaon	...	...	...	0	22	9	0	27	2	0	32	0
Shahjehanpore	...	...	...	0	17	12	0	20	4	0	6	

Of course it may be said that in some cases, as that of Futtehgarh, last year's outturn was under-reckoned; but in all such exceptional cases special explanations should be given. The cases of Bijnour and Etah also call for remark. The former district suffered from heavy and untimely rain, from great cold after the rains, and from frost in January; yet it turned out 32 seers 7 chittacks in 1873-74, against 27 seers 8 chittacks per acre in 1872-73. Etah, on the other hand, which seems on the whole to have escaped, has fallen from 2 maunds 8 seers to 35 seers 1 chittack per acre. But here the estimate of 1872-73 was undoubtedly too high.

With reference to para. 17, I am to state that the Lieutenant-Governor approves of the Board's suggestion to call for the submission of next year's returns in the form shown below:—

1st class, richly manured.		2nd class, ordinarily manured.		3rd class, poor outlying land.	
Grown with other crops.	Grown alone.	Grown with other crops.	Grown alone.	Grown with other crops.	Grown alone.

Under present orders this report is due on the 1st of March of each year, that is, a month earlier than formerly. If however the Board cannot get in the district reports in time to allow of the submission of their General Report by the 1st March, the 1st April may be reverted to.

In conclusion, I am to express His Honor's satisfaction with the pains taken by the Board in their calculations of area and produce. By following up this line of criticism, some good results may confidently be expected.

C. A. ELLIOTT,
Secretary to Government, North-Western Provinces.

EUROPEANS IN INDIA, PURE AND MIXED.

(From the Friend of India.)

It was not till the Charter of 1813 that the East India Company was forced by Parliament to allow European British subjects, not in the services to settle in India without a license. Except for missionaries the permission mattered little, for no settler was allowed to purchase or hold land in his own name. That relic of exclusiveness and opposition to progress was removed by the Charter of 1833, from which time we date the marvellous growth of enlightenment and commerce due to three classes, formerly sneered at and obstructed as "interlopers"—missionaries, merchants and planters. But even after the decennial census of the British Empire, taken in 1851, the Court of Directors officially returned the number of independent Europeans outside of Calcutta, Madras, and Bombay cities at only 317. The absurdity of this attracted the attention of the Colonization Committee of the House of Commons in 1858, when the question of the strength of the Europeans and Christians in India assumed for the first time its due political importance. At the end of that year we ventured to predict that another decade would see "something like twenty thousand adult male settlers in Bengal alone." The subsequent figures will show how near we were to the mark.

The political aspects of the Mutiny, the increase of the official services and the influx of merchants, settlers and railway employés, led the Registrar-General of England to include the white residents in India in the next census of 1861. How imperfectly it was taken some of our readers may remember. It showed the European British population to be only 125,945 of whom 84,063 were soldiers and 41,862 composed the civil element, official and non-official. In June 1871 the Registrar-General's census showed that this number of 41,862 had risen to 64,961 in ten years while the Army had fallen to 60,873 including 2,269 officers. The total was thus 124,934, or less than ten years previously, owing to the gradual reduction of the Army which avenged the Mutiny. From the 64,961 civilians we must deduct 6,650 wives and 11,657 children of the soldiers, leaving in round numbers only 46,000 to constitute the community of British-born men, women and children. How far this is below the truth, owing to the careless and inaccurate manner in which the census of June 1871 also was taken, will be apparent from the returns of the Indian Census seven months later. These results are affected by circumstances which prevent perfect accuracy so far as uniformity is concerned. The Calcutta Justices failed to do their duty, and in some of the Provincial returns it is not always clear whether the troops are included or not. But it is possible to arrive at fairly accurate conclusions which shall not go beyond the truth at least. So far as we can judge the troops are included in the local returns to the extent of one-fourth of the Army. Adding three-fourths of its numbers for the rest, we have the following results according to the provincial census returns, for the both pure and mixed Europeans:—

Christians.				Europeans and Americans.		Eurasians and Indo-Portuguese.	
Bengal and Assam	...	...	...	19,822		23,853	
Madras	...	...	...	14,595		26,374	
North-Western Provinces	...	...	...	12,433		2,701	
Bombay	...	...	...	11,652		46,164	
Punjab	...	...	...	17,411		2,044	
Oudh	...	...	...	5,446		985	
Central Province	...	...	...	4,376		1,426	
Burmah	...	...	...	1,491		5,453	
Coorg	...	...	...	181		229	
Mysore	...	...	...	4,651		2,924	
Berar	...	...	...	220			
Add three-fourths the Army	...	...	...	45,660			
Total	...	...	...	128,648		112,150	

To divide this total of 128,648 Europeans into official and independent, and to classify the latter according to their pursuits, would be very interesting. We submit the following as an approximation to the truth and as a preparation for the next decennial census of 1881:—

Official.									
Convenanted Civilians	...	...	...	...	...	...	...	...	900
Unconvenanted do. (about)	...	...	...	...	...	...	...	...	500
Military Officers, British	1,783	...	...	...	...	...	...	...	...
Indian	1,874	...	...	...	...	...	...	...	...
Medical Services...	...	...	...	...	...	...	...	...	3,620
Protestant Chaplains and Additional Clergy...	...	...	...	...	...	...	...	...	890
Public Works Establishment	...	...	...	...	...	...	...	...	220
									1,172
									7,351

Independent									
Protestant Missionaries	...	...	...	...	...	...	...	...	517
Roman Catholic do. 680, of whom Europeans, say	...	...	...	...	...	...	...	...	409
Planters—Tea, Assam and Darjeeling	...	...	...	...	...	...	...	...	1,957
do. elsewhere...	...	...	...	...	...	...	...	...	...
Indigo and silk	...	...	...	...	...	...	...	...	...
Coffee, Coorg	...	...	...	...	...	...	...	...	54
do. elsewhere	...	...	...	...	...	...	...	...	...
Railway Staff	...	...	...	...	...	...	...	...	3,750
Other Mechanics...	...	...	...	...	...	...	...	...	...
Merchants	...	...	...	...	...	...	...	...	...
Professional Men	...	...	...	...	...	...	...	...	...

The blanks in the latter table show the importance of a special European and Eurasian census to be carefully taken in great detail by each Provincial authority. From the district and municipal returns—always excepting Calcutta—and from the local Directories the results might be arrived at, but they would not be accurate enough to be worth the trouble. The conclusion is, that of 130,000 European British-born and American subjects in India at the present time, about 70,000 are civil residents and of these only 7,500 male adults or—multiplying by three—22,500 altogether are officials, leaving 47,500 to represent the once hated "interlopers," who have given India nearly all the moral and material development on which England congratulates itself. The following figures give details of great value regarding the number of European and East Indian residents in each district of Bengal and Assam:—

Divisions.	Districts.	Europeans.	East Indian and other mixed classes.
Burdwan ...	Burdwan	526	297
	Bankura	28	5
	Beerbhoom	86	5
	Midnapore	122	95
	Hoochly with Howrah	798	691
Presidency...	24 Pargunnahs	3,842	1,326
	Calcutta	7,265	12,515
	Nuddea	152	61
	Jessore	112	29
	Moorshedabad	194	117
Rajshahye...	Dinapore	21	...
	Maldah	26	11
	Rajshahye	101	...
	Rungpore	28	13
	Bogra	15	4
Cooch Behar	Pubna	29	3
	Darjeeling	419	1
	Julpigoree	26	6
	Dacca	209	5,762
	Furreedpore	63	21
Dacca ...	Backergunge	27	127
	Mymensing	31	67
	Chittagong	143	899
	Noakhally	36	191
	Tipperah	35	16
Chittagong...	Chittagong Hill Tracts	39	...
	Patna	1,620	600
	Gya	102	19
	Shahabad	257	146
	Tirhoot	181	36
Patna ...	Sarun	95	29
	Chumparan	85	8
	Monghyr	510	438
	Bhaugulpore	186	33
	Purneah	181	130
Bhaugulpore	Sonthal Pargunnahs	120	92
	Cuttack	192	212
	Pooree	8	16
	Balsore	31	50
	Tributary Estates	1	...
Orissa ...	Hazareebagh	1,351	52
	Lohardugga	91	3
	Singbhoom	29	2
	Maunbhoom	39	14
	Gonpara	27	16
Chota Nagpore	Kamroop	53	31
	Durrang	55	6
	Nowgong	12	2
	Sebsaugor	75	7
	Luckimpore	137	9
Assam ...	Sylhet	43	8
	Cachar	236	22
Total		19,822	23,853

Beyond Calcutta and the neighbourhood, the strength of the European residents lies in the planting districts north of the Ganges from Assam to Chumparan, that of the East Indians in Dacca and Chittagong.

Space fails us for an analysis of the East Indian and mixed classes, whose vital statistics are of new importance since the pledge given by the Government of India to carry on the good work begun for them by Lord Canning and Bishop Cotton. The remarks of Mr. Beverley on the Ferri-ghies of Chittagong, of the late Mr. Gover on the mixed community of Madras city, and of the Bombay administration report on the large class of Indo-Portuguese there, deserve serious attention at the present time. No community of the same size in India have done so much for their own poor and ignorant as the East Indians. And there are none towards whom Government has so lamentably failed in its duty. May it be Lord Northbrook's task to remove the reproach!

POPULATION AND REVENUE, MADRAS.

FROM an abstract of the revenue return for 1871-72, it would seem that the average amount of revenue per head of the whole population of the Madras Presidency was Rupees 2-4-5, the sum varying from Annas 15-2 in Vizagapatam, to Rupees 8-15-1 in the Town of Madras, where the chief portion of the sea customs on the imports into the Presidency are received. The average sum of Rupees 2-4-5 is made up of the following items:—

	Amount	Average per head
Land Revenue ...	Rs. a. p.	1 6 8
Excise...	0 2 11	
Assessed Taxes...	0 0 6	
Customs ...	0 1 7	
Salt ...	0 6 8	
Stamps ...	0 2 1	
Total...	2 4 5	

With regard to the salt-tax it must be explained that the pressure on the population is not so great as would appear, because much of the salt contributing to the revenue of the Madras Presidency is taken away into Mysore, Hyderabad, and the Central Provinces to supply the populations of those countries. It has been estimated that more than ten millions of people outside the Madras Presidency are supplied with Madras salt, so that the salt-tax, instead of falling with an incidence of annas 6 and pice 8 per head, is probably not more than annas 5.

The following abstract shows, in detail, the revenue of each district for 1871-72:—

Statement showing the Collections of Revenue compared with the Population in 1871.

Districts.	Population according to the Census of 1871.	REVENUES COLLECTED DURING 1871-72.									
		Land Revenue.		Excise on Spirits and Drugs.		Assessed Taxes.		Customs.		Salt.	
		Amount.	Average per head.	Amount.	Average per head.	Amount.	Average per head.	Amount.	Average per head.	Amount.	Average per head.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1. Ganjam ...	1,520,088	958,735 0 10	1 7 4	13,714 0 9	0 0 2	18,782 0 0	0 0 2	48,911 0 0	0 0 6	1,664,190 1 6	1 1 6
2. Vizagapatam ...	2,159,139	1,331,359 0 9	1 6 1	186,497 0 1	0 0 3	31,697 0 0	0 0 3	70,162 0 0	0 0 6	298,991 0 2	0 0 11
3. Godavery ...	1,302,939	4,266,508 2 10	1 8 1	162,056 0 1	0 0 8	69,533 0 0	0 0 8	94,204 0 0	0 0 11	575,656 0 5	0 0 9
4. Kistna ...	1,452,374	3,846,936 2 10	1 6 5	164,585 0 1	0 0 10	53,926 0 0	0 0 7	5,568 0 0	0 0 1	1,259,842 0 13	0 0 10
5. Nellore ...	1,376,811	2,473,598 1 12	0 9 9	89,773 0 1	0 0 7	46,659 0 0	0 0 7	17 ...	...	1,349,011 0 15	0 0 8
6. Cuddapah ...	1,351,194	1,771,726 1 5	0 0 5	207,108 0 2	0 0 5	54,061 0 0	0 0 8	...	...	11,007 0 0	0 0 1
7. Bellary ...	1,668,006	2,349,386 1 6	0 0 6	689,841 0 6	0 0 7	45,940 0 0	0 0 5	...	...	1,922 ...	...
8. Kurnool ...	959,640	1,427,653 1 7	0 10	331,272 0 5	0 0 6	18,225 0 0	0 0 4	...	...	2,498,913 2 10	0 0 7
9. Chingleput ...	938,184	1,632,688 1 11	0 10	157,129 0 2	0 0 8	24,035 0 0	0 0 5	...	...	134,964 0 1	0 0 1
10. North Arcot ...	2,016,278	2,691,778 1 5	0 0 4	315,342 0 2	0 0 6	57,185 0 0	0 0 4	...	...	125,548 0 1	0 0 2
11. South Arcot ...	1,755,817	3,405,651 1 15	0 0 4	269,396 0 2	0 0 5	19,839 0 0	0 0 2	204,956 0 1	0 10	669,522 0 6	0 0 1
12. Tanjore ...	1,973,731	3,989,490 2 0	0 0 4	494,585 0 4	0 0 7	74,635 0 0	0 0 2	597,868 0 4	0 10	1,328,932 0 10	0 0 9
13. Trichinopoly ...	1,300,408	1,554,787 1 4	0 0 9	149,363 0 1	0 11	18,600 0 0	0 0 3	...	...	106,494 0 1	0 0 8
14. Madura ...	2,266,615	1,924,196 0 13	0 0 7	137,974 0 1	0 0 9	75,818 0 0	0 0 6	21,373 0 0	0 0 3	547,495 0 3	0 10
15. Tinnevely ...	1,693,959	2,856,551 1 11	0 0 1	164,035 0 1	0 0 7	78,688 0 0	0 0 9	136,150 0 1	0 0 3	1,022,793 0 9	0 0 8
16. Coimbatore ...	1,763,274	2,501,180 1 6	0 0 8	280,718 0 2	0 0 7	16,965 0 0	0 0 1	...	...	139,684 0 1	0 0 4
17. Nilgiris ...	49,501	85,007 0 11	0 0 4	84,067 1 11	2 0 2	6,237 0 0	0 0 2	...	...	7,276 0 2	0 0 4
18. Salem ...	1,966,995	2,188,829 1 1	0 10	306,113 0 2	0 0 6	21,433 0 0	0 0 2	...	...	135,434 0 1	0 0 1
19. South Canara ...	918,362	1,230,668 1 5	0 0 5	127,574 0 2	0 0 3	20,237 0 0	0 0 4	65,232 0 1	0 0 2	665,500 0 11	0 0 7
20. Malabar ...	2,261,250	1,827,300 1 12	0 0 11	227,158 0 1	0 0 7	50,577 0 0	0 0 4	195,989 0 1	0 0 5	1,189,133 0 8	0 0 5
21. Madras ...	897,552	95,385 0 3	0 10	1,089,624 2 11	0 10	171,671 0 6	0 11	1,691,853 4 1	1	...	...
Total...	31,281,177	44,353,411 1 6	8 5	5,708,924 0 2	11	949,713 0 0	6 3	1,322,283 0 1	7	13,078,407 0 6	8 3

LAND REVENUE.

The incidence of the land tax on the people is not to be measured by the figures here shown, for the districts which contribute the smallest revenue to the State, are the ones in which the actual cultivators are the most heavily taxed. In Ganjam and Vizagapatam, the land revenue realized by Government is only 10 annas 1 pice, and 9 annas 10 pice per head, respectively, but in these districts the Zemindary system prevails to a very great extent, and the landlords pay to Government only from one half to one-fourth, or one-fifth of the rents they receive from the actual cultivators. The land revenues of the Godavery and Kistna districts are the highest, i.e., Rupees 2-10-10 and 2-10-5 per head, and although there is a good deal of land in these districts settled on Zemindary tenure, the great irrigation works in connection with these districts enable the Government to make a demand for water supplied to the settled estates, and thus the land revenue reaches the high ratios we have seen. The land revenue per head of population in these districts is actually higher than in the fertile and well-watered district of Tanjore.

EXCISE ON SPIRITS AND DRUGS.

In regard to the revenue derived from an excise on spirits and drugs, there are wide variations in different districts, which seem to call for a few observations. In the Ganjam district, the revenue derived from this source averages only 9 pice per head of population. In Madura only 1 anna; in Nellore 1 anna 1 pice; in Vizagapatam 1 anna 5 pice; in Malabar 1 anna 7 pice; in Godavery 1 anna 8 pice; in Kistna 1 anna 10 pice; in Trichinopoly 1 anna 1 pice. In some districts, however, as in Bellary, Kurnool, and Tanjore, the average revenue per head is 6 annas 7 pice, 5 annas 6 pice, and 4 annas respectively, while in the town of Madras it amounts to no less than Rupees 2-11-10 per head. In the latter case however it is not all clear profit, as the cost price of the arrack imported from Colombo has to be deducted, but even with this deduction, the excise revenue per head is very high, in proportion to the other districts.

It is not easy to understand why there should be such wide differences in the apparent consumption of liquor in the different districts, and the fact that certain districts are contributing very slightly to imperial revenue by the liquor tax, seems to call for enquiry. In Ganjam it is notorious that the aboriginal people are heavy drinkers, and that they distil a spirit from the flowers of a tree, (*Moheta*) which pays no duty, and in Malabar the consumption of toddy by the lower grades of the people is enormous, and these districts contribute but insignificant sums to the excise revenue. Again in regard to the districts north of the Kistna, it is well known that the population of the sea board is an opium-eating people, and that the drug pays no duty or excise, being largely smuggled through Central India and the Hyderabad country. The people of the northern districts do not appear to drink so heavily as those of the south.

The aboriginal races of Southern India have a natural taste for intoxicating drugs and strong liquors. The taste is not of recent development, as some ill-informed native writers are in the habit of asserting. They manufactured and used intoxicants thousands of years ago, and long before the Aryan people settled in Northern India. Their habitual use of intoxicants is nothing new, but we notice the habit the more, perhaps, since the period when wages have risen from 50 to 100 per cent. above what they were twenty years ago, and because every common coolie is now able to earn more than enough to supply him with food, and has but few other temptations on which to expend his surplus wealth.

In the districts where labourers are paid in grain, they do not perhaps use so much liquor as in the coast districts where money payments are common; but there can be no question that with the increase of wages and wealth, there is, and must be, an increasing consumption of liquor in the country. And the taste for strong drink is not confined to the lower orders of the aboriginal people, but is spreading among the classes who have been influenced by Brahmanical civilization. Those who can afford to spend their money freely, appear to prefer European liquors, and as an instance gin, and many varieties of wine might be bought. The European residents of the station did not amount to a dozen altogether, and the inference no matter how remote from the Presidency, European liquors seem to have penetrated.

The methods of collecting the excise on liquors and drugs are not uniform, and are at present undergoing modification. The facts here noted in regard to the variations of revenue in different districts are of sufficient importance to suggest the question, why the liquor-consuming portions of the population should vary so greatly. It will probably be found that the system of farming out the privileges of manufacture and sale of arrack,

which has until recently obtained in all the districts, is attended with great loss to the revenue of the country. This revenue, even as at present imperfectly collected, has increased in ten years from £332,906 in 1861-62 to £550,892 in 1871-72, but it is evident that, if certain districts paid their fair proportion in reference to population, that the revenue from this source, at the present rates of excise, should come nearer to 1½ millions of pounds sterling than to the amount reached in 1871-72.

It is difficult to understand how it is that the people of Tanjore should consume liquor in such quantities as to pay an excise of 4 annas per head of the population, while the people of the neighbouring districts of Trichinopoly, Madura, and Tinnevely should pay only anna 1 pie 11, anna 1 pie 10, and anna 1 pie 7 per head, respectively, unless we infer that the excise revenue of the latter named districts is not collected in proportion to the drinking habits of the people. The discrepancies cannot be accounted for on the supposition that the people of one district are more habituated than those of another to the use of stimulants, for, practically, the whole population of the southern districts are an aboriginal people, accustomed to drink intoxicating beverages, nor is there that vast difference in the ability of the people to spend money on luxuries. The labouring classes of Madura, Trichinopoly, and Tinnevely are as well-to-do as those of Tanjore; and, as the figures stand, it is simply impossible to explain them on any other supposition than that the State is not getting its fair share of the profits arising from the sale of drinks.

Under a proper system of excise, and arrangements for the suppression of illicit distillation, the revenue from the sale of liquor may be expected to develop rapidly. The revenue is at present derived mainly from three sources—from licenses for the sale of palm juice in its fresh or slightly fermented state, and from the privilege of distilling and selling spirits in certain areas, or from an excise duty on every gallon of spirits issuing from a contractor's distillery. The fresh toddy or palm juice is a wholesome and refreshing beverage, but after fermentation it becomes highly intoxicating, and in this state is no doubt very largely used to the detriment of the excise on spirits. In a few places an inferior kind of beer is now manufactured and largely sold to the natives, subject to an excise of one anna per gallon. It has the two-fold merit, in native estimation, of being cheap and heady.

While the use of fresh toddy might everywhere be encouraged, there seems no reason whatever for stimulating the sales of spirits, of country or European make, and both of these articles would probably bear a much heavier excise duty than is now laid upon them. In regard to this question of intoxicants, it would be well to bear in mind that the native administrations preceding British rule, derived large revenues from betel and tobacco, neither of which articles now contribute anything to the State coffers, and that in taxing heavily the use of spirits, we are not placing burdens on an essential element of existence, but on one of the luxuries of native life.

The increase of drunkenness amongst the labouring classes, which the native press has frequently commented upon, is, in my mind, the result of wages having risen rapidly, and in a proportion beyond the cost of living. When a cooly has provided food for himself and family, he has nothing to spend his surplus wages on, but drink. He cares nothing for the adornment of his house or his person, nor does he spend money in educating and clothing his family. If 75 per cent. of his wages suffice for ordinary food requirements, the remaining 25 per cent. will ordinarily be spent in intoxicants.

In the northern coast districts I have personally witnessed the cultivators and labouring people spending their savings in opium, while in the south the spare cash assuredly finds its way to the toddy or arrack shop. The extraordinary rise in wages in England recently has been attended with precisely similar results. The working men labour for fewer hours, and spend more money at the public houses than they did before.

SALT.

The salt revenue is collected chiefly in the districts bordering the Eastern and Western Coasts, for the reason that the manufacture of salt can only be conducted with profit on the sea-coast. A little earth-salt is still made in a few inland districts where the railway has not brought sea-salt in competition with the local manufacture, but the industry is dying out. The Chingleput and Ganjam districts yield the largest revenues from salt. The total revenue under this head has increased since 1861-62 from £860,653 to £1,307,840, but this increase has been due more to an augmentation of the duty than to increased consumption, and in 1872-73 there was a falling off in the salt revenue. The sales of salt, allowing for the consumption in other districts, are not so large as to warrant the assumption that every individual of the population gets the quantity of salt that is essential for the maintenance of vigorous health.

STAMPS.

In regard to "Stamps" the people of Ganjam and Vizagapatam seem to spend very little money. The largest sums per head of population are realized in the Madras, Malabar, South Canara, Tanjore, Tinnevely, and Godavery districts. The total revenue under this item for 1871-72 was £399,857.

The following abstract shows the proportions of revenue under the several heads compared with population, for each Census year from 1856 to 1871:—

Statement showing the Revenue and the Population with the Average Revenue per Head for each Quinquennial Year from 1856 to 1871.

	1856-57.		1861-62.		1866-67.		1871-72.	
Population.....	22,857,855		24,656,599		26,539,052		31,281,177	
Items.	Amount.	Average per head.	Amount.	Average per head.	Amount.	Average per head.	Amount.	Average per head.
	Rs.	Rs. a. p.	Rs.	Rs. a. p.	Rs.	Rs. a. p.	Rs.	Rs. a. p.
Land Revenue.....	37,509,713	1 10 3	41,125,879	1 10 8	42,397,052	1 9 7	44,353,411	1 6 8
Excise on Spirits and Drugs.....	2,312,853	0 1 7	3,329,961	0 2 2	5,067,411	0 3 1	5,708,924	0 2 11
Assessed Taxes.....	1,082,974	0 0 9	2,859,754	0 1 10	807,350	0 0 5	989,218	0 0 6
Customs.....	1,504,965	0 1 1	2,366,380	0 1 6	2,519,021	0 1 6	3,132,283	0 1 7
Salt.....	5,404,795	0 3 9	8,600,532	0 5 7	10,938,017	0 6 7	13,078,407	0 6 8
Stamps.....	775,829	0 0 7	3,014,598	0 1 11	3,537,234	0 2 2	3,993,676	0 2 1
Extra Revenue.....	209,805	0 0 2	75,295	0 0 1	.....	.....	.....	.....
Total.....	48,800,934	2 2 2	61,372,399	2 7 9	65,266,085	2 7 4	71,255,819	2 4 5

TOWN POPULATIONS.

The grouping of the population in towns and villages, and the average size of the latter have now to be briefly noticed. Omitting the villages of the Jeypore country, and uninhabited village areas in other districts, there are 45,098 townships or villages with populations as follow:—

	Number of Villages.
Less than 200 inhabitants.....	14,509
From 200 to 500.....	13,408
" 500 to 1,000.....	9,508
" 1,000 to 2,000.....	4,999
" 2,000 to 3,000.....	1,310
" 3,000 to 5,000.....	862
" 5,000 to 10,000.....	403
" 10,000 to 15,000.....	52
" 15,000 to 20,000.....	14
" 20,000 to 50,000.....	27
" Above 50,000.....	6

This abstract is sufficient to show that the people are mainly collected in small villages. More than four-fifths of the villages have less than 1,000 inhabitants. The number of villages with populations from 3,000 to 10,000 is much swelled by the inclusion of those peculiar divisions of the Malabar country called *amshoms*, which properly speaking are not villages at all. There are 99 towns with more than ten thousand of inhabitants.

MUNICIPAL FUNDS.

At the time of the census there were 45 towns to which the Municipal Act had been applied; and since the date of the census, three other towns have been included amongst the Municipalities. The population of these 45 towns was 1,540,299, of whom 759,832 were males, and 780,467 were females. As the census of municipal towns was conducted under the direction of Municipal Officers, it will be interesting to note how the work was done, in comparison with the census of the rural tracts. If we take the proportions of the sexes as an indication of the correctness of the enumeration, we shall find that the Municipalities stand far ahead of the districts. In 25 of these towns out of 45, the number of females was returned in excess of the males, while in only 7 revenue districts out of 21 were the sexes thus returned. Taking the aggregate figures of the municipal towns, we find that the females were as 1027 females to every 1000 males, while in the districts generally the proportion was only 999.

The municipal returns show the tendency of certain classes of the people to congregate in towns. Thus out of the 1,557,857 Mahomedans, 217,276, or 14.6 per cent., are inhabitants of municipal towns, while the districts generally have only 5.9 per cent., and of the East Indians 23,778 out of a total of 26,574, or 78 per cent., are congregated in towns.

MUNICIPAL INCOME.

The gross municipal income of the 45 towns in 1871 was £119,740. The rate of municipal taxation per head varied from 6 annas and 2 pice in Calicut, to Rupee 1-7-3 in Tuticorin, the average of the whole being Annas 15-7, or a little less than two shillings per head.

MADRAS PRESIDENCY CENSUS, 1871.

General Statement of Area and Population.

Number.	Districts.	Area in Square Miles.	Number of Villages, Mouzas, or Townships.	Number of Houses.	Total Population.	Averages calculated from preceding Columns.				
						Persons per Square Mile.	Villages, Mouzas, or Townships per Square Mile.	Persons per Village, Mouza, or Township.	Houses per Square Mile.	Persons per House.
1	2	3	4	5	6	7	8	9	10	11
1	Ganjam	8,313	4,562	341,404	1,520,088	182.9	0.64	333.2	41.1	4.45
2	Vizagapatam	18,344	*8,581	489,419	2,159,199	117.7	0.46	251.6	26.7	4.41
3	Godavery	6,224	2,202	389,712	1,592,939	255.9	0.35	723.4	32.6	4.08
4	Kistna	8,036	2,140	282,358	1,452,374	180.7	0.26	678.7	35.1	5.14
5	Nellore	8,462	2,174	263,820	1,376,811	162.7	0.28	633.3	31.1	5.21
6	Cuddapah	8,367	1,337	339,063	1,351,194	161.5	0.15	1010.6	40.5	3.98
7	Bellary	11,007	2,568	351,943	1,668,006	151.5	0.23	649.5	32.0	4.73
8	Kurnool	7,358	787	205,884	959,640	130.4	0.10	1219.4	28.0	4.66
9	Chingleput	2,753	2,362	141,434	938,184	340.7	0.85	397.2	51.4	6.63
10	North Arcot	7,139	5,292	329,844	2,015,278	282.3	0.74	380.8	46.2	6.11
11	South Arcot	4,873	3,198	228,761	1,755,817	360.3	0.65	549.0	46.9	7.67
12	Tanjore	3,654	3,935	269,984	1,973,731	540.1	1.07	501.6	101.3	5.33
13	Trichinopoly	3,515	1,644	210,690	1,200,408	341.5	0.46	750.1	59.9	5.69
14	Madura	9,502	5,459	413,513	2,266,615	238.5	0.57	415.2	46.7	5.11
15	Tinnevely	5,176	1,824	403,803	1,693,959	327.3	0.35	928.7	78.0	4.19
16	Coimbatore	7,432	1,575	361,109	1,763,274	237.3	0.21	1119.5	48.6	4.88
17	Nilgiris	749	17	13,922	49,501	66.0	0.02	2911.8	18.6	3.55
18	Salem	7,483	4,021	391,519	1,966,995	262.9	0.53	489.2	52.3	5.02
19	South Canara	3,902	1,288	184,569	918,362	235.4	0.33	713.0	47.3	4.97
20	Malabar	6,002	432	435,462	2,261,250	376.7	0.07	5234.4	72.6	5.19
21	Madras	27	23	51,741	397,552	14,721.1	0.85	17,284.8	1,916.3	7.63
	Total	138,318	55,421	6,229,954	31,281,177	226.2	0.40	564.4	45.0	5.02
	Poducottah Territory	1,380	1,279	77,638	316,695	229.5	0.92	247.6	56.2	4.07
	Grand Total	139,698	56,700	6,307,592	31,597,872	226.2	0.41	557.3	45.2	5.01

NOTE.—The area entered in this return is taken from the one prepared by the Superintendent of Revenue Survey, and printed in the Board's Proceedings, dated 19th March 1872.

* Includes 1,872 hill villages of Jeypore.

MUNICIPAL TOWNS, MADRAS PRESIDENCY.

Statement showing Population in Municipal Towns.

Districts.	No.	Municipal Towns.		Hindus (including Native Christians, Buddhists, and Jains).			Mahomedans.			Europeans.			Frisians.			Others.			Total.			Gross Municipal Income.	Gross Municipal Expenditure.	Rate of Municipal Taxation per Head of Population.		
		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Ruppes.	Ruppes.	Ruppes.	Annas.	Pies.		
Ganjam	1	9,892	7,674	14,566	422	550	972	2	...	2	25	22	47	...	...	...	7,341	8,246	15,587	9,842	9,890	0	10	1		
Berhampore	2	2,907	10,101	20,008	755	761	1,516	33	25	58	38	50	88	...	...	...	10,733	10,937	21,670	19,489	13,752	0	14	9		
Vizagapatnam	3	13,810	14,384	28,194	1,419	1,587	3,006	133	88	221	281	291	508	124	138	262	15,703	16,488	32,191	24,245	23,415	0	12	1		
Bidipatnam	4	4,110	4,202	8,312	129	150	271	33	20	53	38	53	90	8	10	18	4,318	4,435	8,753	8,642	9,937	0	15	7		
Paleontah	5	4,353	4,347	8,700	56	50	106	2	...	2	2	2	4	...	...	...	4,413	4,399	8,812	6,114	5,894	0	11	1		
Vizianagaram	6	9,338	9,609	18,947	595	622	1,217	3	2	5	75	71	146	...	...	...	9,996	10,293	20,289	11,507	12,253	0	9	2		
Gowdavery	7	8,687	8,272	16,959	308	287	595	97	87	184	15	15	30	28	27	55	9,956	8,744	17,699	16,180	18,021	0	14	6		
Ellore	8	11,039	9,348	20,387	718	828	1,546	16	8	24	15	15	30	...	...	...	13,788	11,699	25,487	12,569	10,473	0	7	11		
Rajahmundry	9	9,548	9,438	17,986	848	781	1,629	58	58	116	16	16	32	...	...	...	10,455	9,283	19,738	13,637	11,715	0	11	0		
Guntur	10	7,190	7,173	14,363	1,855	1,766	3,621	18	3	21	16	17	33	...	...	...	17,268	18,990	36,258	22,777	14,765	1	4	3		
Kistna	11	16,390	16,220	32,610	1,878	2,312	4,190	21	30	51	67	55	122	...	...	...	14,879	15,043	29,922	18,597	21,817	0	8	11		
Nellore	12	12,414	12,534	24,948	2,815	2,885	5,700	39	27	66	76	82	158	...	...	...	17,268	18,990	36,258	22,777	14,765	1	4	3		
Cuddapah	13	5,523	5,225	10,748	2,706	2,632	5,338	19	11	30	38	93	161	...	...	...	8,829	9,946	18,775	19,277	17,038	1	2	11		
Bellary	14	18,364	17,122	35,486	7,537	6,936	14,473	941	138	1,079	343	350	693	...	...	...	27,185	24,581	51,766	59,681	69,436	1	2	6		
Adoni	15	7,359	6,972	14,331	4,330	4,141	8,471	...	...	...	...	...	...	...	...	...	11,000	11,123	22,123	14,542	15,442	0	10	4		
Gooty	16	2,608	2,438	5,046	516	443	959	19	2	21	9	2	12	...	...	...	3,545	3,185	6,730	6,475	6,274	0	13	...		
Anantapur	17	1,791	1,849	3,640	642	627	1,269	...	...	...	...	...	...	...	...	...	12,496	13,083	25,579	18,794	19,063	0	11	9		
Kurnool	18	6,311	6,141	12,452	1,178	1,189	2,367	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Chingelpatnam	19	2,478	2,450	4,928	611	600	1,211	...	...	...	...	...	...	...	...	...	18,139	19,883	38,022	34,083	26,590	0	14	4		
North Arcot	20	17,692	18,510	36,202	555	560	1,115	...	...	...	...	...	...	...	...	...	19,252	19,875	39,127	34,941	29,699	0	13	4		
South Arcot	21	13,891	13,123	27,014	1,178	1,189	2,367	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Walajah	22	5,360	5,802	11,162	470	467	937	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Cuddalore	23	18,511	19,498	38,009	817	1,109	1,926	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Mannargudi	24	8,310	8,962	17,272	197	199	396	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Mayavaram	25	10,196	10,546	20,742	205	205	410	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Nagapattinam	26	16,722	18,797	35,519	4,104	8,103	12,207	109	60	169	137	154	281	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Carhaicottum	27	21,029	22,276	43,305	523	575	1,098	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Tanjore	28	24,187	24,842	49,029	1,401	1,480	2,881	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Tritchinopoly	29	30,800	33,591	64,391	5,219	5,449	10,668	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Madurai	30	23,285	23,250	46,535	2,776	2,592	5,368	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Dindigul	31	5,798	5,609	11,407	710	633	1,343	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Tinnevely	32	9,953	9,968	19,921	596	527	1,123	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Palamcottah	33	7,980	8,472	16,452	783	744	1,527	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Tuticottin	34	5,963	5,107	10,170	174	131	305	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Coimbatore	35	15,659	16,700	32,359	1,244	1,355	2,599	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Silgiris	36	4,197	4,187	8,384	673	626	1,299	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Coimoor	37	1,423	1,251	2,674	169	73	242	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Salem	38	22,852	22,045	44,897	1,222	1,860	3,082	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
South Canara	39	11,912	11,578	23,490	812	713	1,525	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Talicherry	40	6,061	6,190	12,251	321	303	624	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Cochin	41	5,169	4,963	10,132	1,102	1,081	2,183	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Calicut	42	2,961	2,903	5,864	480	405	885	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Canjore	43	15,299	14,693	29,992	7,476	8,143	15,619	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Polkshant	44	13,530	13,798	27,328	1,718	1,943	3,661	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Madras	45	161,618	166,434	328,052	24,670	26,094	50,764	...	...	...	...	...	...	...	...	...	18,252	19,075	37,327	31,941	29,699	0	13	4		
Total		636,161	632,454	1,268,615	105,164	112,108	217,272	6,657	3,155	9,812	1,861	2,017	3,878	739,832	780,467	1,520,299	1,497,000	1,444,663	...	...	...	...	...	...		

Note.—Since the taking of Census of 1871, Chelambaram in South Arcot, Erode in Coimbatore, and Srerungam in Trichinopoly have been made into Municipal Towns.

REPORT ON COTTON AND ITS CULTIVATION: AND REPORT ON DYES, IN THE BOMBAY PRESIDENCY.

REPORT ON COTTON AND ITS CULTIVATION, BY C. WILKINSON, ESQ., COTTON INSPECTOR FOR KHANDESH AND DECCAN.
The Species of Gossypium.

Dr. CLEGGHORN refers all known varieties of cotton to four distinct species, and Dr. Forbes Royle adopts this view. These are as follow:—
 1st.—*Gossypium indicum* or *herbaceum* includes all the indigenous Indian varieties and probably most of the cotton of China. It is probable that some of the African cottons are only varieties of this species. It is stated that seed of this kind has undoubtedly been taken from Smyrna and other places to America, where varieties resulting from it might be met with, though the cottons cultivated there belong to entirely different species.
 2nd.—*Gossypium arboreum*. A kind of arboreous habit with red flowers and silky cotton found about the temples and in gardens, &c., in India but never cultivated in fields. It is regarded as a sacred plant, and the cotton produced from it, known as Nurma or Deo-kuppas, is preferred for making the Brahmanical thread, or cotton wicks to be burnt never the Hindu gods. Hybrids have been produced with this kind, which, however, does not yield any of the cotton of commerce.
 3rd.—*Gossypium barbadense* or *barbadoes* cotton was originally introduced from the West Indies into Mauritius, and Isle of Bourbon, and thence into India; Sea Island; New Orleans acclimatized in Dharwar, Upland Georgian, Egyptian, &c., are all varieties of this species, which it is stated to be probably a native of Mexico.
 4th.—*Gossypium peruvianum* or *acuminatum* with conglomerated seeds in some kinds, yields the cotton of Brazil, Peru, &c. Isolated plants may often be seen in village gardens in India. It has been grown on various occasions on Government Farms, and tried by the people in several districts but as yet has not produced successful results in a large scale.

Note on Bunnee and Jurree Cotton.

The terms Bunnee and Jurree are applied to the two varieties of cotton generally grown in Hinganghat, the Berars, Khandesh, &c., either separately or mixed.

In the Bunnee plant, the 'bracts,' narrow and lanceolate are deeply divided, and there are generally small supplementary lobes between the larger ones. Leaves thin, slightly hairy, pod dark green, elongated and narrowing to the point, dotted with fine black spots, purple tinge noticeable in young parts of plant. Seed green or greenish grey, smooth, fibre rather scanty, but long, silky, and fine. This kind is sown in June or July, and ripens in November, producing the Hinganghat and Amraoti Bunnee cotton. It is grown in the Hinganghat district, South and East Berar, Khandesh, Nizam's territory, Ahmadnagar, &c.

In the Jurree variety the lobes of the leaves are less indented, are broader, blunter, curled at the edge, and more hairy than in Bunnee. Pods lighter green, smooth, rounder and without spots, leaflets of exterior calyx curled back. Seed white or light grey from presence of fine down. Fibre in larger quantity and of fair length, but coarser and harsher to the touch than in Bunnee. Sown about the same time as Bunnee or along with it, ripening in January and February. It is produced in the Hinganghat district, mixed with Bunnee.*

Cultivation of Cotton by the Native Method in the Bombay Presidency.

In Sind.—(NOTE.—From information furnished by Mr. Strachan, Superintendent of Cotton Experiments in Sind.)

The field is first cleared of rubbish, old plants, &c. Manure is then applied and the land once or twice watered to enable the plough to work. The seed is then scattered broadcast on the unploughed land, and turned in along with the manure with the plough. Manure is always used when procurable, except when land has been fallow a year or two, when a top dressing of Dungo, a manure found round the walls of old villages, is applied to the plants when 9 inches to a foot high.

Water for irrigation is universally lifted from the canals or river by Persian wheels, called "Nar": if worked by two bullocks to irrigate 12 acres, and "Hurla," if worked by one bullock, for watering 7 or 8 acres of land.

As a rule, sowing begins in the first week in May, and ends in the first week in July. Picking commences in the middle of October, in early seasons, in September, and ends in the first or second week of January.

Weeding is performed from a time when the plants are about 3 inches high about 5 weeks after sowing, and continued at intervals until the pods open. Two or three weedings are usually sufficient, but this depends on the state of the land, the first is the most important and is performed before the first watering after sowing the seed. The second extends over all the field, but is not so thorough as the first. If a third weeding is performed it only extends to the weedy parts of the field. The implement used is a small hand hoe, called a "Rumba."

Picking is paid for in kind: 1/10th to 1/12th being the share of the picker. One half is given later when little cotton is left on the plants. Picking is carried on in a great measure by labourers from villages where cotton is not grown.

The machine used in ginning is the common two-handed churka. Ginners are paid by the weight of clean cotton turned out, i.e., Rs. 2 per 1 maund of 82 lbs. This varies according to the rate and demand for cotton. To clean half a maund of Kuppas or seed-cotton occupies about 5 hours.

Cotton is generally ready for the market between the middle and end of January, and begins to arrive there about the end of January. Only one variety of cotton is generally grown in Sind, viz. the Sind native—a rough, coarse, short-stapled cotton. The proportion of fibre to seed in this is large, viz. 35 per cent. Three hundred pounds of clean cotton is considered a fair yield in a favourable season. The substitution of the drill for the broadcast system, and Mr. Login's "Egyptian" method are likely to increase the yield of this already very productive kind.

In Khandesh and Deccan.

In preparing virgin land, the jungle or bushes are first cleared, and the land is then broken up with the large plough two or three times. This should be done in November or December. It is then harrowed with the "Wakhur" and all roots are removed along with grass, especially the deep-rooted kind, known as "Koondar," the presence of which is extremely injurious to the crop. Manure is rarely applied to virgin land, which is also not used for cotton the first year. After a sufficient fall of rain the harrow is again passed over to level the surface, and bajri (*hemicum frumentaceum*) or tillee (*sesamum indicum*) is sown. The second year it is suitable for cotton, but it would not, as a rule, be ploughed or manured, only harrowed twice. Such land would probably not be ploughed again till the fourth year, unless very foul. Manure is put in the third or fourth year.

In the case of land which has been long under cultivation, cotton would succeed any grain crop, such as jowaree (*sorghum vulgare*) bajri, gram (*cicer arietinum*) or indigo, &c. The land, if light, is ploughed every third or fourth year, but if rich black soil at much longer intervals. Cotton is sown every alternate season, sometimes after two seasons have intervened. As manure is only applied every third or fourth year, cotton takes its chance with other crops in getting the first benefit of it. Manure would of course be more frequently and generally applied, were it obtainable, as with it the yield is in any land at least one-third greater than on the same unmanured land.

The rains commence in ordinary seasons about the 5th (Mroog) to 10th June, and sowing is generally completed before the end of June. Should the rains not be sufficient at the commencement, cotton can still be sown with success up to the 15th or 20th July provided subsequent circumstances are favourable, after this the chances of a good crop are small.

The implement used in sowing is a drill or sowing tube of bamboo, called a "nullee," surmounted by a cup for supplying the seed. The nullee is attached by the foot to one of the teeth of the harrow or "Wakhur," and dragged along behind, and the seed passing down the tube falls into the furrow made by the tooth. Seed is sown in rows about a foot and a-half apart. In parts of the Deccan, &c., the ordinary sowing drill for gram, "Panbhur" or "Teepun," is used also for cotton, in which case the rows are closer together. About 8 to 10 lbs. seed are used for an acre of land. The plants are closer together than they should be, and no thinning takes place except inadvertently at the time of weeding. But though, were more space allowed the plants, they would probably develop greater productiveness, and from a free circulation of air among them might escape many evils to which they are subject to later on from blight and attacks of insects, &c. Still the system of giving a plant unlimited space does not seem adopted to these districts where irrigation is not employed.

An experiment on the latter method was made in the Bhurgaum Taluka, Khandesh, where Hinganghat plants were sown 6 feet apart, the consequence being that, as soon as the heat of the ripening season set in, the plants afforded each other no shade and lost their foliage. The out-turn reported from the field was some 5 lbs. cotton per acre.

When the plants about a fortnight after sowing are a few inches above ground, a small hoe or kolpa is passed between the rows to loosen the soil and throw it up on each side over the base of the stems (Hilling). The field is then weeded. When the plants are about a month old, a larger hoe is passed between the rows for the above purpose, and this operation is performed a third, fourth or even fifth time, according to circumstances. This hoeing or "Koolupnee" is very important as effecting the out-turn of the crop. Sometimes the land is only once weeded, but more careful cultivators weed a second time after the third hoeing.

The pods begin to open in October, in early seasons in the latter half of September, but picking is not generally commenced till about the 15th November, lasting, in good seasons, till the end of January. The cause of this protracted harvesting is in Khandesh owing to the insufficiency of the labour supply in abundant years, and to the fact that the monsoon grain crops (Khurreef) ripen about the same time as cotton and must be attended

* NOTE.—The first or monsoon crop of Hinganghat, i.e., Bunnee, contains a certain proportion of Jurree, probably the same as in Khandesh, some 15 or 20 per cent. Besides this there is a distinct Jurree cotton produced in the Chanda, Woon, Hingole, &c., districts, to the south and west of Hinganghat, which is sown later. A good authority at Hinganghat states, after the rains as a dry crop, and comes to market—principally that of Hinganghat and Berar—in April and May. The plants are said to attain less growth, and the seeds are smaller than in the Bunnee kind. The greater moisture during the rainy season would account for the more luxuriant growth and larger seed of the Bunnee. This Jurree cotton is held in high estimation on account of staple and colour—also in South and East Berar, Khandesh, &c.

Its principal habitat is, however, in the Akot and Elichpur district, in North-West Berar, where the seed is purer and produces a more decided type of Jurree cotton, which, under the names of Akot, Dhandaak, &c., is much esteemed in the market.

In Khandesh the Hinganghat seed, introduced in 1866-67, contains, as a rule, about 80 per cent. of Bunnee and 20 per cent. of Jurree.

In Jurree, as the pods open, their contents remain compact and coherent, instead of paying out, as in the case of Bunnee. In this way it attaches less dirt, broken leaf, &c., and produces a cleaner cotton than the other. This characteristic is still more marked with the pods of the short woolly Sind, Malwa, &c., kind. In this the plant is of the Bunnee type, but the leaves are thicker and coarser.

In a field of mixed Bunnee and Jurree plants it is, as might be expected, not unusual to find many intermediate forms possessing features of either kind, often so equally as to render it difficult to decide which variety they most resemble.

The character of the plants of the indigenous kind, in parts of the Deccan and Southern Maratha Country, and of the Laris of Gujrat, as for instance, a bushy habit, blunt and only moderately indented leaves, whitish seed, later fructification, &c., seem to ally these to the Jurree. The cotton of these kinds has also a tendency to coarseness like Jurree, less so, however, in the Broom kind, which probably on account of the richness of the soil of the district is of very fine quality, and in all respects one of the most valuable of Indian cottons.

to first. The payment in kind for reaping *owaree* is far more remunerative than the wages for cotton picking, amounting often to four or five annas worth of grain. This affords a great inducement to labourers to neglect cotton, which in this way often remains much longer in the field than it ought to. In some parts of the district it is more quickly got in, and the effect of this, with the better treatment it receives at the hands of the ginners—for where the cultivator is careful the former to an extent seem to follow his example—is manifested in the superior condition of the cotton brought to market.

In Khandesh from $\frac{1}{2}$ to $\frac{3}{4}$ of the crop is already paid for by the Sowkars or middlemen, who either advance on their own account, or, more usually, act as a medium between the Bombay dealer and the ryot. The remaining portion of the crop is held by the cultivators and disposed of from time to time.

Picking.—The manner of picking is very simple. The operation is usually performed by women and children, the owner himself sometimes superintending or a paid labourer or two being present to collect the kuppas from the pickers who gather it from the trees and place it in a loose cloth tied round the waist. When full the contents of the cloth are removed and added to a heap made in a convenient part of the field. The heap or heaps of kuppas are packed in bundles and carried home when the day's work is over.

Pickers are either paid daily wages, varying from 1 to 4 annas, or more rarely receive a share or 'hissa' according to the weight, generally $\frac{1}{10}$ to $\frac{1}{100}$. The latter system tells injuriously on the condition of the cotton picked, as the picker's aim is to gather, as much as possible, without regard to its condition, the presence of dirt, leaf, and extraneous matter, being rather encouraged than otherwise as they all add to the weight.

A few cultivators prepare their cotton themselves for the market, but, as a rule, this work is conducted by the Wukharas, or the ginners, who purchase kuppas from the ryots.

The machine used for cleaning cotton is the common two-handled 'churka.' The labourers receive payment according to the weight of seed separated. The amount varies, according to the demand for cotton, from annas 8 to rupee 1, or even more, for 1 maund (82 lbs.) seed separated. In the Deccan, about Indapur, Sholapur, &c., the foot-roller is used instead of the churka.

The variety of cotton now universally grown in Khandesh and Nasik is the Hinganghat, imported in 1865-67 from the Central Provinces. It is believed not to give so much satisfaction as the Berar "Jurree Bunnee," which was tried very successfully in 1865, previous to the general introduction of the Hinganghat kind.

The original kind grown in Khandesh, and displaced by the above, was a mixture of the "Desee," locally called "gouranee," an inferior Bunnee introduced from Berar and the Malwa kind, a short harsh staple like Sind. The latter is said to have been introduced about the year 1858 from Ruttam in Malwa and rapidly spread over the district. The yield of the latter is greater than that of the Khandesh Hinganghat, to which, however, it bears no comparison in point of staple. The average yield of Khandesh Hinganghat is about 70 lbs. an acre in a fair season, though it not unusually yields 150 lbs.

The methods of cultivation adopted in the Deccan are believed to be very similar to those described in the foregoing, and call for no particular remark beyond what has already been made.

The seed of Ahmadnagar produces a cotton similar to Amraoti Bunnee, a silky staple of fair length. It classes with Amraoti.

The indigenous seed of Sholapur, Puna, and Satara produces cotton allied to Coompta or the indigenous variety of Dharwar. The cotton is wanting in colour but possesses a strong staple of good length. It thrives well in these districts where the Hinganghat kind has been experimented with on various occasions but without much success.

The average rainfall of Khandesh is between 25 and 30 inches. The lesser amount is sufficient for all crop requirements if equally distributed and at favourable intervals. In the last monsoon only some 13 inches fell, and about a quarter crop of cotton has been realized,* other crop suffering in like manner.

In the Deccan the failure of rain has, if possible, been more severely felt.

Southern Maratha Country.

In the Southern Maratha Country the methods of preparing land, &c., are much the same as in Khandesh, &c. The agricultural implements are in advance of those of the Deccan, but they are used in the same manner.

The two kinds of cotton generally grown are the indigenous or Coompta, and the exotic American (New Orleans). Both are sown about the same time in August, and the exotic ripens a fortnight earlier than the indigenous kind in February. The implement used for sowing cotton is called "Hathi Koorgi," consisting of two plain bamboo tubes attached by string to the teeth of a harrow, and dragged behind. This arrangement is also used in Berar, where it is called "Doosa," but in that district each tube is surmounted by a cup like the single cotton sowing tube of Khandesh.

This "Doosa" must not be confounded with the "Doosa" of Khandesh used for bajri and the dry grain crops, an ordinary sowing drill with two bamboos traversing the coulters or teeth of the implement, and meeting above surmounted with the usual cup for supplying the seed.

The Coompta is cleaned in great measure by the foot-roller, except in the southern part of the district, where the churka is also used. This churka is a one-handled one, with two wooden rollers. The American cotton has hitherto been cleaned by the saw-gin, but experiments are about to be conducted with a view to determine the adaptability of other machines for cleaning this cotton. The rainfall of Dharwar district varies from about 36 to 42 inches.

In the season 1870 there was a decrease in area sown with the American kind amounting to 25 per cent.

Gujrat.

In Gujrat cotton is sown with the "Phurko," a double drill like the Doosa of Khandesh, used for dry grain crops. The sowing season takes place about the same time as in Khandesh and the Deccan, but the cotton ripens later (in January), a fact which has suggested the idea that Broach cotton would suit the Khandesh district; in the view that following its usual habit the pods would not open till after the rains, which frequently fall in October and November, and cause so much injury to the early matured Hinganghat in Khandesh. An experiment with this kind was tried last year in Khandesh, but owing to the extreme unfavourableness of the season no definite conclusion as to its fitness for the district was, it is believed, arrived at.

It may be mentioned that Broach seed has succeeded well in Sind and in the Dharwar district, where a yield averaging 119 lbs. cotton per acre was obtained in the Government Farm. It is likely that the kind will be more generally cultivated in Dharwar.

In the Gujrat district the churka is used, but except in Northern Gujrat, Kattyawar, &c., the proportion of cotton cleaned by it is small.

In the Broach district the Macarthy gin is principally employed.

Roughly speaking the proportion of cotton cleaned by this machine is between 13 and 14 per cent. of the total export, or say 1,50,000 bales, of which Broach contributed 1,10,000 bales derived from its own district, and from Baroda, &c., and Verangaon, Ahmadabad, Berar, and Khandesh about 40,000 bales.

The Broach and Surat variety, called "Laria," or "Lallia," is one of the best kinds of Indian cotton. A description of it and of the other variety, the Wagureea principally grown in North and West Gujrat, Kattyawar, and Kutch is given in the note on Gujrat cotton in the catalogue.

Cotton Improvement.

A very important subject which has engaged attention of late years is the selection of seed on the Hallet system, which was inaugurated by His Excellency Sir Seymour Fitzgerald in 1868. Since that year the principle has been carefully followed out in successive experiments on Government Farms, more especially in the view of improving the indigenous kind. The benefit arising from the system of pedigree selection cannot be expected to be conspicuously noticeable until several years have elapsed, but even, so far as it has been followed, the results are sufficiently encouraging to render further attempts in this branch of improvement desirable. It may be mentioned that in Khandesh in the season 1870-71 selected seed produced double the yield of unselected seed, sown in the same land and subjected to the same conditions; and in other districts, though no such marked evidence in favour of selection is recorded, the advantage arising from the system is very remarkable. The surplus seed from the farms is always eagerly taken up by the ryots whose testimony with regard to it affords additional support in favour of its high quality and productiveness.

Whilst under present arrangements the supply of seed annually distributed from the farms to the ryots is not very large, as the farms are as yet only conducted on a limited scale, it is believed that, that already taken by the cultivators is not lost sight of, but is treated carefully and again selected from, and the dissemination of good seed through the districts would therefore take place more rapidly than would, at first sight be expected under existing circumstances. At the same time the opportunity is taken of urging the cultivators to adopt the system themselves, and it is not an exaggeration to say that many do retain the best seed produced on their own fields, supplying their neighbours or effecting exchanges with them, which is a step in the right direction.

Another matter to which much attention is paid, is the purity of the seed with regard to variety as sown in particular district. As a notable instance of this, we again refer to the substitution of Hinganghat kind for a mixed growth of Malwa and Bunnee cotton in Khandesh. The eradication of the latter, comparatively worthless product, was not thoroughly effected at the time of its displacement by the Hinganghat, but by the measures taken in subsequent seasons the seed of this district is now second to none in point of purity. In such a district as Khandesh or the Deccan, not remarkable for the excellence of its soil or of the superiority of the method of culture, carefulness in the selection of seed is a matter of necessity, if the result be only to sustain its quality and degree of productiveness, and so obviate the need for periodical replacement by fresh and undeteriorated importations from other more favoured districts.

The success which attended the introduction of Hinganghat into the above district led to this kind being regarded as the most desirable cotton to substitute for the indigenous growth in certain other districts. In the Deccan large quantities of seed were imported and distributed to the ryots, but corresponding success did not attain its cultivation. It is believed that further experiments will be made with it there.

In Dharwar, Gujrat, and Sind the Hinganghat kind has been tried with middling success, but the conclusion is arrived at that it will not take a hold in these districts, as the native kinds already grown there are harder and more productive even though inferior in quality of staple.

Grown in its own habitat the Hinganghat kind produces most excellent cotton, but transported to other districts, its tendency is to lose to a greater or less extent the characteristic on which its value depends, as for instance evenness and fineness of staple, silkiness and colour.

Whilst, therefore, the Hinganghat variety is less thought of as an agent for improvement in other districts, the Broach kind (Laria) has of late received much attention as being adopted for growth elsewhere, as whilst possessing a fine staple it is very productive and hardy.

It has already been mentioned that the cultivation of this cotton has been successfully carried on in Sind and Dharwar and in Khandesh, though no definite conclusion was arrived at "its hardiness under very adverse circumstances was remarkable." In view of these results it is probable that it will find favour with the cultivators of these districts and be introduced in a large scale. With regard to the cultivation of exotics of different varieties of *Gossypium barbadense* and *Gossypium peruvianum*, it may be stated that, except with New Orleans, no sufficiently encouraging

* NOTE.—The amount of the crop would be more correctly stated at seven annas.

results have been obtained to render it likely that such kinds will ever gain ground in this country. Occasionally good specimens of Egyptian, Peruvian, Bourbon, &c., are grown on a small scale, but in a financial point of view experiments with these kinds must in almost all cases be recorded as failures.

Many of these exotics are, however, grown for hybridizing purposes. Several hybrids have been obtained to be experimented with further, and the possibility is not considered a remote one of producing a variety possessing the hardy character of the native plant yet yielding a far superior staple.

Maligam, June 12th, 1872.

(Signed) C. WILKINSON.

Note on Gujrat Cotton.

In Gujrat Laria or Lallioo cotton, which is picked from the pods in the field, and the Wagureea (Wagria of Dr. Forbes Royle) or cotton extracted at home from pods (Kala or Dhakanioo) collected in the field, are the two principal varieties of cotton grown.

2. The Laria has a sub-variety, the Jureea, and the two yield the class of cotton known as Laria, its characteristics being a more soft and silky staple, and greater freedom from dirt than the Wagureea kind possesses. The Jureea differs from Laria in having a shorter and stronger staple, and a smaller proportion of fibre to seed.

Laria cotton is grown in the Duskrooke Pargunna of Ahmedabad, and about Etola in the Baroda State, also in Kattyawar; but in all these districts it occupies a very small area as compared to the Wagureea kind. It is universally grown in the Broach and Surat districts from which it is presumed that it was introduced in the northern and western parts of Gujrat.

The Jureea cotton is grown within three or four miles of Ahmedabad and round Mahmudabad in Kaira district.

3. The Wagureea or close podded kind is the principal cotton of Northern and Western Gujrat, including Kattyawar and Kutch. It is inferior to Laria in staple, which is more woolly and coarse, and comes to the market in a dirtier condition. It has several sub-varieties, of which may be mentioned the Nalkuntha, grown about Dholka and Sanand, with a weak staple and small yield. The Latwadee, grown about Veramgaon, is superior to the above in point of staple, and the Jhalawar, produced about Wudwan, &c., the best kind and known as Fair Dholera. The term Nowlode Dholera (from *nowa*, new, and *lodne*, to gin) is applied to the cotton fresh ginned from superior "Kuppas" or "Kala," and sent down just after the monsoon.

The cotton of Laria when ripe hangs pendent from the pods, which shrivel and dry up, and the seed-cotton is gathered in the field. The plant attains a height of three or four feet, thriving best in the black-soil, which contains a considerable admixture of sand. In the Wagureea kind the plant attains a height of two or two and a-half feet. The capsules or pods only open slightly, and some force is required to extract the seed-cotton from the cells. The wool, therefore, remains confined within the pods which are gathered, in which state they are termed "Kala" or "Kalliah" in Gujrat, "Dhakanioo" in Kattyawar. The "Kala" is stored in the house or in the *Wakhars* or ginning yards, and the seed-cotton is extracted and ginned as requested.

(Signed) C. WILKINSON.

REPORT ON DYES.

[BY NARAYAN DAJI, ESQ., G.G.N.C., BOMBAY.]

Substances used for dyeing, including cloths dyed to illustrate the process as practised in Bombay.

The art of dyeing is in its infancy in this country. It is rudely practised and is capable of much improvement. The colours imparted are of great variety, but they are generally not permanent. This is owing to the sad want of chemical knowledge. The mordant principally used is *alum*, the use of the salts of tin and lead is entirely unknown to native dyers. All the shades of red from scarlet downwards produced from safflowers are not permanent from there being no mordant known which fixes its colour. The colours imparted from madder and indigo are generally permanent, but in their brightness they are inferior to dyes from Europe.

The majority of substances used in dyeing are produced from the vegetable kingdom and a few only are minerals.

The apparatus used is simple and inexpensive. A few pans, earthen pots, and jars and cloth filters constitute the principal items of a dyer's workshop.

The following is a list of colours which are commonly produced on cotton cloth, and of the substances used in the production of each:—

1. *Kussumbi*.—Crimson. Not permanent. *Articles used*.—Safflower and lime juice. A watery infusion of the safflower being prepared, to it lime juice is added, and the cloth steeped and dyed.
2. *Gulinar* (like the flower of the pomegranate).—Scarlet. Not permanent. *Articles used*.—Safflower, the yellow part of the flower of *nyctanthus arborescens*, and lime juice. *Process*.—The wet cloth is steeped in a cold watery solution of safflower, then dried, next steeped in a solution of *nyctanthus* flowers, to which lime juice is added and dyed.
3. *Gulabi* (pale).—Pale rose colour (pink). Not permanent. *Articles used*.—Safflower and lime juice. *Process*.—The wetted cloth is steeped in a mixed solution of safflower and lime juice and dyed.
4. *Phul-gulabi*.—Rose colour. Not permanent. *Articles used*.—Safflower and lime juice. *Process*.—Steep the wetted cloth first in a solution of safflower, and afterwards into a solution of lime juice and dry.
5. *Kirmaji*.—Kermes colour. Not permanent. *Articles used*.—Safflower, kermes, lime juice, and tamarisk galls. *Process*.—Steep the cloth in solution of safflower, dry and steep in decoction of kermes, to which lime juice and tamarisk gall decoction is added, then dry.
6. *Kasni*.—Colour of the flower of chicory, very pale lilac. Not permanent. *Articles used* are safflower, indigo, and lime juice. *Process*.—Steep the cloth separately, first in a solution of safflower, then in a dilute solution of indigo, and lastly in dilute lime juice.
7. *Jambali* (*syzygium jambolanum* fruit colour).—Purple. Not permanent. *Articles used*.—Indigo, safflower, lime juice. *Process*.—Steep the cloth in solution of indigo, then in solution of safflower, to which lime juice is added.
8. *Abasahi*.—Purple, with a shade of blue. Not permanent. *Articles used*.—Safflower, indigo, and lime juice, or its substitute, dried mangoes. *Process*.—The cloth is steeped in a solution of safflower, to which afterwards is added indigo and lime juice.
9. *Badami*.—(Almond-shell colour). Not permanent. *Articles used*.—Safflower, turmeric, flowers of *butea frondosa*, and lime juice. *Process*.—The cloth is first dyed in safflower solution, then in that of turmeric, then in lime juice, and lastly in solution of *butea* flowers, all the solutions being treated separately.
10. *Motiya*.—Very pale pink. Not permanent. *Articles used*.—Safflower and lime juice. *Process*.—The cloth is dyed in safflower solution, to which lime juice is added.
11. *Calino* (Indigo blue).—Colour permanent. *Articles used*.—Indigo and impure carbonate of soda. *Process*.—A cold watery solution of indigo and carbonate of soda being prepared, the wetted cloth is steeped and dyed.
12. *Katoo*.—Charcoal black. Permanent. *Articles used*.—Indigo and sulphate of iron. *Process*.—The indigo is dissolved in an aqueous solution of sulphate of iron in a proper vat, and the cloth is steeped in it for a day or two, and frequently shifted.
13. *Lilo*.—Galileo (indigo green). Permanent. *Articles used*.—Turmeric and indigo solution. *Process*.—Steep in solution of indigo, and lastly in that of turmeric.
14. *Asmani*.—Sky blue. Not permanent. *Articles used*.—Indigo solution and alum. *Process*.—Steep in solution of indigo, to which afterwards alum is added.
15. *Lala Majithiya*.—(Madder red colour.) Permanent. *Articles used*.—Madder, flowers of *tomentosa*, alum, and myrobolams. *Process*.—Steep the cloth in decoction of myrobolams, dry and wash it, then steep in alum solution and wash, then steep in a mixed decoction of madder and griseola flowers, wash and dry.
16. *Lala Surangi*.—(Surangi red.) Permanent. *Articles used*.—Surangi (root of *merinda citrifolia*), goat's dung, myrobolams, alum, castor-oil, impure carbonate of soda, and tamarisk galls. *Process*.—Steep the cloth in a solution of goat's dung and wash, then steep in a decoction of myrobolams, then in alum, and then in oil, and keep there for 8 days. Make a cold infusion of *merinda* root and tamarisk galls, and steep the cloth in it for 2 days.
17. *Patangiya*.—(Lilac pink.) Not permanent. *Articles used*.—Sappanwood (of *Casalpina Sappan*), alum, myrobolams, and carbonate of soda. *Process*.—Steep in solution of alum and myrobolams and dry, then steep in decoction of Sappanwood, to which carbonate of soda is added.
18. *Lakhano*.—(Pink from lac.) Not permanent. *Articles used*.—Lac, bark of *symplocos racemosa*, and alum. *Process*.—Steep in solution of alum and dry; stick lac and *symplocos* bark are pounded, and their decoction being prepared, the cloth is steeped and dried.
19. *Kapilo*.—(Orange yellow.) Permanent colour. *Articles used*.—Kapilo (powder over the capsule of *rotifera tinctoria*), kermes and alum. *Process*.—Boil the three articles together, and make a decoction into which the cloth is steeped, wash and dry.
20. *Sonevi*.—(Golden yellow.) Not permanent. *Articles used*.—Old roots of turmeric, carbonate of soda, safflower, and alum. *Process*.—Prepare a decoction of turmeric, to which soda is added, steep the cloth in, wash and steep in a solution of safflower, and lastly steep in a solution of alum and dry.
21. *Kesari*.—(Saffron yellow.) Not permanent. *Articles used*.—Flowers of *carthamus tinctorius* and carbonate of soda. *Process*.—Steep in decoction of *butea* flowers to which soda is added, wash and dry.
22. *Pilo*.—(Yellow of isparak.) Not permanent. *Articles used*.—Isparak, flowers of a species of *delphinium* from canbol, carbonate of soda, lime juice. *Process*.—Steep for 2 hours in a solution of *delphinium* flowers to which soda is added, then steep in a solution of lime juice and dry.
23. *Kapasi*.—(Pale yellow, colour of flowers of cotton plants.) Not permanent. *Articles used*.—Flowers of *butea frondosa*, lime juice, and turmeric. *Process*.—Steep in decoction of *butea* flowers, then in that of turmeric and lastly in lime juice.
24. *Totak*.—(Parrot green.) Not permanent. *Articles used*.—Verdigris, turmeric, and lime juice. *Process*.—Steep in a solution of verdigris, then in that of turmeric, to which lime juice is added.
25. *Halako popati*.—(Pale parrot green.) Not permanent. *Articles used*.—Turmeric, blue vitriol, and lime juice. *Process*.—Steep the cloth in the various solutions separately.
26. *Piroza*.—(Turkish blue.) Permanent. *Articles used*.—Blue vitriol, and carbonate of soda. *Process*.—Steep in solution of soda and lastly in that of blue vitriol.
27. *Khakhi*.—(Ash colour.) Permanent. *Articles used*.—Green vitriol and carbonate of soda. *Process*.—Steep in solution of green vitriol and then in that of carbonate of soda.
28. *Tapakiri*.—Snuff colour. Permanent. *Articles used*.—Catechu, carbonate of soda. *Process*.—Steep the cloth in cold solution of catechu, and soda for two days, and dry.

April 1872.

(Signed) NARAYAN DAJI,
Graduate, Grant Medical College.

STATISTICAL TABLES OF BRITISH BURMAH DIVISION FOR THE YEAR 1872-73.

TABLE I.

Classification of Lands and Crops, 1872-73.

Classification of Lands.				Arrakan.	Pegu.	Tenasserim.	Total.
				Acres.	Acres.	Acres.	Acres.
A. Total Area	...	...	...	8,620,320	17,849,120	29,807,200	55,776,640
{ B. Barren	...	...	...	7,156,172	7,720,320	15,706,880	30,583,372
{ C. Residue, cultivable	...	...	...	1,564,148	9,628,800	14,200,320	25,193,268
{ D. Jagheer	...	...	...	37,301	.....	16,550	53,851
{ E. Culturable, not cultivated	...	...	...	862,595	8,320,030	13,718,387	22,901,012
{ F. Fallow	...	...	...	5,767	18,472	11,580	35,819
{ G. Under cultivation	...	{ Rubbee	...	42,762	26,771	4,025	73,558
		{ Khareef	...	415,723	1,263,527	449,778	2,129,028
		Total...	...	1,564,148	9,628,800	14,200,320	25,193,268
{ H. Barrenness	...	{ Rubbee	...	42,762	26,444	4,025	73,231
		{ Khareef	...	415,723	1,244,486	449,778	2,109,987
		Total...	...	458,485	1,270,930	453,803	2,183,218
{ I. Canal Irrigated	...	{ Rubbee	...	.....	.....	.....	.....
		{ Khareef	...	.....	.....	.....	.....
		Total...	...	.....	.....	.....	.....
{ J. Irrigated otherwise	...	{ Rubbee	...	.....	327	.....	327
		{ Khareef	...	.....	19,041	.....	19,041
		Total...	...	.....	19,368	.....	19,368
{ I & J. Total Irrigated	...	{ Rubbee	...	.....	327	.....	327
		{ Khareef	...	.....	19,041	.....	19,041
		Total...	...	.....	19,368	.....	19,368
Deduct area cropped in both fusts	...	...	...	.....	.....	.....	.....
Net area Irrigated	...	...	...	.....	19,368	.....	19,368
Population	...	{ Town	...	27,851	254,838	88,600	371,289
		{ Rural	...	438,811	1,329,457	502,558	2,270,826
		Total...	...	466,662	1,584,295	591,158	2,642,115

TABLE II.

Distribution of Chief Crops in Acres during 1872-73.

Crops.				Arrakan.	Pegu.	Tenasserim.	Total.
Rubbee crops grown in the cold weather.	{ Indigo	...	...	75	.....	.....	75
	{ Tobacco	...	...	3,125	.....	61	3,186
	{ Chillies	...	...	2,793	.....	.....	2,793
	{ Hemp	...	...	214	.....	.....	214
	{ Fruit Trees	...	...	22,097	.....	.....	22,097
	{ Pán Vines	...	...	237	.....	.....	237
	{ Vegetables	...	...	8,974	.....	.....	8,974
	{ Durnee or Tari	...	...	2,328	.....	.....	2,328
	{ Coconut	...	...	203	.....	.....	203
	{ Plantain	...	...	1,119	.....	.....	1,119
	{ Betelnut	...	...	97	.....	.....	97
	{ Wheat and Barley	...	...	.....	18	.....	18
	{ Rice Mazeen	...	...	.....	368	.....	368
	{ Til-oil seed	...	...	.....	75	.....	75
Khareef crops grown in the rains.	{ Pulse	...	...	.....	527	.....	527
	{ Others	...	...	1,480	25,783	2,612	29,875
	Total...	...	...	42,762	26,771	2,673	72,206
	{ Rice	...	...	412,888	1,148,649	355,454	1,916,991
	{ Sugar	...	...	1,472	.....	.....	1,472
	{ Cotton	...	...	495	11,142	1,485	13,122
2 Fust crops of 2 seasons.	{ Til-oil seed	...	...	868	15,963	141	16,972
	{ Pulse	...	...	.....	1,894	.....	1,894
	{ Others	...	...	.....	85,879	92,698	178,577
	Total...	...	...	415,723	1,263,527	449,778	2,129,028
2 Fust crops of 2 seasons.	{ Fruit Trees	...	...	.....	.....	1,253	1,253
	{ Sugar	...	...	.....	.....	92	92
	{ Vegetables	...	...	.....	.....	7	7
	Total...	...	...	.....	.....	1,352	1,352
Grand Total...	...	...	...	458,485	1,290,298	453,803	2,202,586

TABLE III.
Weights of Produce in Maunds of 82 lbs. for 1872-73.

Produce.	Total.		Arrakan.	Pegu.	Tenasserim.
	Area.	Weight.			
Rice ...	1,917,359	43,698,998	9,798,782	26,265,688	7,634,528
Tobacco ...	3,186	19,714	19,714	.....	.....
Indigo ...	75	298	298	.....	.....
Chillies ...	2,793	19,796	19,796	.....	.....
Cocunut ...	203	3,654	3,654	.....	.....
Betelnut ...	97	1,940	1,940	.....	.....
Dumnea ...	2,328	116,400	116,400	.....	.....
Plantain ...	1,119	34,689	34,689	.....	.....
Fruit ...	23,350	478,505	478,505	.....	.....
Pan Vine ...	257	55,298	55,298	.....	.....
Vegetables ...	8,981	115,360	115,360	.....	.....
Oil Seeds ...	17,047	98,327	27,116	65,879	832
Cotton ...	13,122	59,948	2,961	50,777	6,210
Sugar ...	1,564	28,152	28,152	.....	.....
Hemp ...	214	1,019	1,019	.....	.....
Pulse ...	2,421	28,482	.....	28,482	.....
Wheat and Barley ...	18	90	.....	90	.....
Others ...	208,452	1,318,631	41,907	1,085,925	190,799
Total ...	2,202,586	46,074,296	10,745,591	27,496,336	7,832,369

TABLE IV.
Exports.—Distribution of Produce in Maunds of 82 lbs., 1872-73.

Divisions.	Rice.	Cotton.	Oil seed.	Pulse.	Tobacco.	Cocunut.	Fruit.	Sugar.	Pan Vine.	Wheat and Barley.	Hemp.	Other crops.	Total.
Arrakan ...	4,679,264	...	7,916	...	5,797	49	...	20,996	5,000	...	50	20	4,719,092 6,026,499
Pegu ...	17,095,598	4,746	8,040	6,940	...	...	...	...	...	...	...	48,450	17,163,774 10,332,562
Tenasserim ...	2,544,156	359	8	...	...	...	...	...	...	...	...	6,220	2,551,743 5,281,626
Total ...	24,319,018	5,105	15,964	6,940	5,797	49	...	20,996	5,000	...	50	54,690	24,493,809 21,640,687
													16,074,296

Kept for Consumption.

Divisions.	Rice.	Cotton.	Oil Seed.	Pulse.	Tobacco.	Cocunut.	Fruit.	Sugar.	Pan Vine.	Betel.	Indigo.	Dumnea.	Chillies.	Plantains.	Vegetables.	Hemp.	Wheat and Barley.	Other crops.	Total.
Arrakan ...	5,119,518	2,961	19,200	...	13,917	3,605	478,505	7,156	50,298	1,940	298	116,400	19,796	34,689	115,360	969	...	41,887	6,026,499
Pegu ...	9,170,085	46,031	57,339	21,542	...	...	...	...	...	...	...	...	...	...	...	...	90	1,037,475	10,332,562
Tenasserim ...	5,090,372	5,851	824	...	...	...	...	...	...	...	...	...	...	...	...	...	...	184,679	5,281,626
Total ...	19,379,975	54,843	77,363	21,542	13,917	3,605	478,505	7,156	50,298	1,940	298	116,400	19,796	34,689	115,360	969	90	1,263,941	21,640,687

TABLE V.
Areas and Population of Talooks on the proposed Line of Railway from Rangoon to Prome, 1872-73.

	Area.		Population.	
	Total.	Crops.	Town.	Rural.
Arrakan ...	.....	.....	.....	.....
Pegu ...	2,196,920	251,262	128,720	330,506
Tenasserim ...	.....	.....	.....	.....
Total ...	2,196,920	251,262	128,720	330,506
	3,482 square miles.	73 acres per square mile.	37 per square mile.	96 per square mile.

TABLE VI.
Areas and Population of Districts from Rangoon to Prome on the Line of Railway, 1872-73.

	Area.		Population.	
	Total.	Cultivation.	Town.	Rural.
Arrakan ...	.....	.....	.....	.....
Pegu ...	10,652,800	972,907	203,302	913,402
Tenasserim ...	.....	.....	.....	.....
Total ...	10,652,800	972,907	203,302	913,402
	16,645 square miles.	58 acres per square mile.	12 per square mile.	55 per square mile.

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