

EAST INDIA WHEAT.

PAPERS

REGARDING THE

IMPURITY OF INDIAN WHEAT

AND THE ESTABLISHMENT OF

**WAREHOUSES FOR CLEANING AND GRADING,
WHEAT, OR FOR STORAGE.**

1885—90.

Presented to both Houses of Parliament by Command of Her Majesty.



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EAST INDIA WHEAT.

Papers regarding the Impurity of Indian Wheat, and the establish- ment of Warehouses for cleaning and grading Wheat, or for

CONTENTS.

	Page
1. Government of India, to Local Governments, No. 67-42-4, dated 16th May 1885. Asks for a report after discussion with commercial public on the question of the construction of warehouses near railway stations for storing and cleaning wheat, &c., intended for exportation	7
ENCLOSURES TO NO. 1.	
2. Resolution by Government, Punjab, No. 95, dated 19th March 1885. Review of the Wheat Trade of the Punjab, and measures to facilitate and develop it	7
3. Annexure to above. Extract from notes by Messrs. McDougall Brothers, dated London, 15th December 1882, on the Quality and Value of Indian Wheats in European markets	14
4. Messrs. Reinhold Brothers, Cawnpore, to Government, North-Western Provinces and Oudh, dated August 1883. Scheme for Cleaning and Grading Warehouse under Government Supervision	15
5. Director, Department of Land Records and Agriculture, North-Western Provinces and Oudh, to Local Government, No. 48 T., dated 25th July 1884 (extract). Opinion on Messrs. Reinhold Brothers' scheme	17
REPLIES TO NO. 1 (CIRCULAR DATED 16TH MAY 1885).	
MADRAS.	
6. Resolution by Government, Madras, No. 922, dated 11th August 1885. Action taken by Local Fund Boards in providing warehouses for storage	18
7. Resolution by Government, Madras, No. 3267, dated 4th June 1886. Working of warehouse near Arcot railway station	19
BOMBAY.	
8. Government of Bombay, to Government of India, No. 6606, dated 17th September 1886. Forwards Nos. 9 to 12, and inquiries whether warehouses should be provided by the Local Government, Railway Companies, or the Trade	19
9. Commissioner, Central Division, to Government of Bombay, No. 634 R., dated 11th February 1886. Forwards précis of Reports of Collectors, Central Division, and states that in his opinion ware- houses should be erected by private persons where they are wanted	19
10. Précis of Reports of Collectors, Central Division by Government, Bombay, Public Works Department, Railway, No. 781, dated 29th 1886. replies of Railway Companies, asks for the opinion of the Bombay Chamber of Com- as to localities where warehouses would be most desirable	20
12. Resolution by Government, Bombay, Public Works Department, Railway, No. 1676, dated 27th July 1886. Reply of the Bombay Chamber of Commerce, and orders thereon	22
13. Resolution by Government, Bombay, Public Works Department, No. 645 C.W., dated 8th November 1886. Replies of Superintending Engineers, Southern and Northern Divisions, regarding the localities at which warehouses and sheds might be provided. Question of the provision of funds. Working of a warehouse at Nadiad	24
BENGAL.	
14. Director, Department of Land Records and Agriculture, to Government, Bengal, No. 391 T., dated 7th July 1886. Forwards papers 15 to 23, and reports on present condition, practices, and requirements of the Wheat Cultivation and Trade of Bengal	24
15. Director, Department of Land Records and Agriculture, to Assistants to Directors, Nos. 414-16, dated 2nd September 1885. Letter of instructions noting points requiring investigation	28
16. Mr. D. B. Allen, Assistant to Director, Department of Land Records and Agriculture, to Commis- sioner, Patna Division, dated 2nd December 1885. Wheat Cultivation and Trade of the Patna Division	30
17. Officiating Collector, Shahabad, to Commissioner, Patna Division, No. 1826 G., dated 10th October 1885. Wheat Cultivation and Trade at the Shahabad District	33

	Page
18. Officiating Commissioner, Bhagulpore and Sonthal Parganas, to Government, Bengal, No. 1047 C.T., dated 31st January 1886.	
Wheat Cultivation and Trade of the Bhagulpore Division	38
19. Assistant to Director, to Director, Department of Land Records and Agriculture, Bengal, dated Bhagulpore, No. 255. dated the 30th November 1885.	
Reply to No. 15	39
20. Assistant to Director, to Director, Department of Land Records and Agriculture, Bengal, No. 322, dated Bhagulpore, the 15th December 1885.	
Further reply to No. 15	40
21. Commissioner, Presidency Division, to Government, Bengal, No 7 M.A., dated 27th January 1886.	
Wheat Cultivation and Trade of the Presidency Division	40
22. Covenanted Deputy Collector in charge Murshedabad, to Commissioner, Presidency Division, No. 2310 G, dated 30th January 1886.	
Wheat Cultivation and Trade of the Murshedabad District	41
23. Bengal Chamber of Commerce, to Government, Bengal, dated 13th November 1885.	
Opinion of the Chamber on the measures necessary and possible for the improvement of the Wheat Trade	42
24. Director, Department of Land Records and Agriculture, Bengal, to Government, Bengal, No. 692, dated 27th July 1886.	
Correspondence with Chamber of Commerce on reduction of refraction for wheat: no alteration possible in present circumstances of trade	43
25. Government, Bengal, to Director, Department of Land Records, and Agriculture, No. 1899-304, dated 10th August 1886.	
Orders on Director's Report on Wheat Cultivation and Trade of Bengal (No 14) and on correspondence regarding refraction (No. 24)	44
26. Government, Bengal, to Chamber of Commerce, No. 1896-301, dated 10th August 1886.	
Expresses a hope that a reduction in the standard of refraction for wheat will be found possible at no distant date	44
27. Chamber of Commerce, to Government, Bengal, dated 15th September 1886.	
Replies to No. 26	44
28. Director, Department of Land Records and Agriculture, Bengal, to Government, Bengal, No. 1,265, dated 18th August 1887.	
Comments on the letter of the Chamber of Commerce, Bengal (No. 27), and forwards Nos. 29 to 35	45
29. Director, Department of Land Records and Agriculture, Bengal, to Messrs. Ralli Brothers, Vale King & Co., and Petrocochino & Co., dated 2nd April 1887.	
Asks whether a higher price would be given for clean wheat	52
30. Messrs. Ralli Brothers, to Director, Department of Land Records and Agriculture, Bengal, dated 2nd April 1887.	
Reply to No. 29	52
31. Messrs. Vale, King, & Co, to Director, Department of Land Records and Agriculture, Bengal, dated 2nd April 1887.	
Reply to No. 29	53
32. Messrs. Ralli Brothers, to Director, Department of Land Records and Agriculture, Bengal, dated 23rd May 1887.	
Valuation Report on samples of wheat threshed by steam and on the native method	53
33. Wheat and Seed Trade Association, Calcutta, to Director, Department of Land Records and Agriculture, Bengal, dated 2nd June 1887	
Valuation Report on samples of wheat threshed by steam and on the native method	54
34. Messrs. Ralli Brothers, to Director, Department of Land Records and Agriculture, Bengal, dated 21st July 1887.	
Experimental shipment to Marseilles of clean wheat	54
35. Statement	
Appraisalment of wheat samples from various districts by the Chamber of Commerce, Bengal	56
36. Government of Bengal, to Director, Department of Land Records and Agriculture, Bengal, No. 3421-608, dated 16th November 1887.	
Acknowledging No. 28, agrees that Government cannot urge cultivation or sale of pure wheat on agriculturists till the conditions of trade alter, and a demand for such wheat at better prices is created	56
NORTH-WESTERN PROVINCES AND OUDH	
37. Government, North-Western Provinces and Oudh, to Government of India, No. 1172-1-85, dated 6th July 1885.	
States that no special measures appear to be required for the provision of storage accommodation	57
38. Note by the Department of Land Records and Agriculture, North-Western Provinces and Oudh, dated 14th January 1887.	
Probable causes of the exportation of dirty wheat and measures feasible for facilitating trade and removing admixture of foreign substances	57
PUNJAB.	
39. Government of the Punjab, to Government of India, No. 259, dated 23rd December 1886.	
Forwards Nos 40 and 41, and states that attention having been drawn to the subject, and a commencement made in providing storage for grain at the principal exporting stations, no further step seems required at present	65
40. Financial Commissioner, Punjab, to Government, Punjab, No. 1025, dated 26th November 1886.	
Forwards No. 41, showing the result of inquiries into the storage accommodation provided or required at different stations	65

	Page
41. Précis of correspondence forwarded by Financial Commissioner, Punjab - - - -	66
42. Chamber of Commerce, Karachi, to Government of India, dated 26th October 1886 Considers the construction of warehouses a very desirable measure - - - -	67
43. Government of India, Public Works Department, to Government of India, Revenue and Agricultural Department, No. 753 R. T., dated 22nd August 1885. Forwards reports from Managers, Punjab Northern and Indus Valley State Railways on demurrage charges levied on those railways and the provision of warehouses, with the remark that the Public Works Department concurs in the opinions expressed by those officers - -	67
44. Officiating Manager, Punjab Northern State Railway, to Director-General of Railways, No. 3,113, dated 17th June 1885. States that the construction of warehouses as depots of trade do not come within the province of railway management - - - - -	67
45. Manager, Indus Valley State Railway, to Director-General of Railways, No. 370, dated the 3rd August 1885. Objects to the abolition of demurrage charges, and states that, with the exception of Sukkur, where storage room is much needed, warehouses would not be required if octroi were abolished - - - - -	68

CENTRAL PROVINCES.

46. Chief Commissioner, Central Provinces, to Government of India, No. 9,038, dated 28th Oct. 1886. Forwards No. 47, and states that Government having provided the land it must be left to private enterprise to erect warehouses where required - - - - -	69
47. Chief Commissioner, Central Provinces, to Government of Bombay, Public Works Department, No. 753, dated 10th September 1886. Explains that the action taken in the Central Provinces has been confined to acquiring plots of land in the vicinity of railway stations - - - - -	69

BERAR.

48. Resident, Hyderabad, to Government of India, No. 454, dated 13th December 1886. Forwards Nos. 49 to 55, and states that the demands of trade are making the people alive to the necessity for a more extended cultivation of wheat, and direct encouragement on the part of Government is not needed - - - - -	69
49. Commissioner, Hyderabad Assigned Districts, to Resident Hyderabad, No. 5,913, dated 22nd November 1886. Forwards replies of District Officers and of the Agricultural Association, Amraoti, and explains action taken in advising and distributing good seed to cultivators and the needs of the trade as regards railways and storage accommodation - - - - -	70
50. Deputy Commissioner, Buldana District, to Commissioner, Hyderabad Assigned Districts, No. 1,611, dated 25th June 1885. States that sheds are not required as grain can be safely stored in the open air for eight months, but metalled roads and bridges are needed - - - - -	71
51. Deputy Commissioner, Ellichpur District, to Commissioner, Hyderabad Assigned Districts, No. 1,863, dated 18th August 1885. States that economical difficulties, such as impurities in wheat, must be left to cultivators and traders, while administrative and physical difficulties are being met by Government in the construction of roads and railways - - - - -	71
52. Deputy Commissioner, Amraoti District, to Commissioner, Hyderabad Assigned Districts, No. 544, dated 11th September 1885. Reports that the want of warehouses is not felt, and that the improvement of seed appears to be the only direction in which action can be usefully taken - - - - -	72
53. Deputy Commissioner, Akola District, to Commissioner, Hyderabad Assigned Districts, No. 1,478, dated 18th October 1886. States that no action has as yet been taken by municipalities to provide warehouses, the want of which is not keenly felt - - - - -	72
54. Deputy Commissioner, Bassim District, to Commissioner, Hyderabad Assigned Districts, No. 3,045, dated 31st October 1885. States his opinion that the remedy for improved and pure wheat lies in the hands of the traders - - - - -	73
55. Secretary, Agricultural Association, Amraoti, to Commissioner, Hyderabad Assigned Districts, No. 111, dated 10th August 1885. Submits the suggestions of the Association for the encouragement and increase of wheat cultivation and for the development and improvement of the wheat trade - - - - -	73

AJMERE.

56. Chief Commissioner, Ajmere-Merwara, to Government of India, No. 742-250, dated 11th July 1888. Forwards reports of local authorities, and states that the wheat trade of Ajmere is insignificant, and means of transport more than sufficient - - - - -	74
57. Commissioner, Ajmere-Merwara, to Chief Commissioner, Ajmere-Merwara, No. 1,656 R., dated 2nd July 1888. Forwards reports of Assistant Commissioners, and states that there is no need and very little scope at present for administrative action in behalf of the wheat trade - - - - -	75
58. Assistant Commissioner, Merwara, to Commissioner, Ajmere-Merwara, No. D.—122 M., dated 7th June 1888. Reports on the Wheat Cultivation and Trade of Merwara - - - - -	75
59. Assistant Commissioner, Ajmere, to Commissioner, Ajmere-Merwara, No. 63, dated 16th January 1888. States that wheat cultivation is insignificant, no want of facilities for trade exists, and improvement may be left to the self-interest of the people - - - - -	76

APPENDICES TO PART I.

APPENDIX A.

Correspondence in 1886, 1887, and 1888, between the Bombay Chamber of Commerce and the various Corn Trade Associations in the United Kingdom regarding measures for the improvement in the cleanliness of Indian Wheat. (Reprinted from the Chamber's Annual Reports.)	
1. Bombay Chamber of Commerce to Chairman, Corn Trade Association, London, Liverpool, Glasgow, and Hull, dated 12th November 1886. Inquiries whether the Association would co-operate in reducing the allowance for impurities in wheat shipments to 2 per cent.	78
2. Liverpool Corn Trade Association, to Bombay Chamber of Commerce, dated 3rd December 1886. States that the Association has advocated the reform for some time, and will do its best to give effect to the Bombay Chamber's proposal	78
3. London Corn Trade Association, to Bombay Chamber of Commerce, dated 11th February 1887. States that the Association, while alive to the importance of insuring purity of Indian wheats, considers that the reform must depend mainly on the efforts of the Chamber to check admixture of foreign substances	79
4. Extract from the Report of the Bombay Chamber of Commerce for the year 1888. Summary of the action taken	79
5. Circular of Bombay Chamber of Commerce to members, dated 15th March 1888. Forwards, for opinion, Resolution of Liverpool Corn Trade Association proposing new standard for Wheat Contracts	80
6. Letter from Liverpool Corn Trade Association, No. 123, dated 15th February 1888. (Enclosure to No. 5.) Announces the new standard proposed by the Standards Committee of the Association	80
7. Bombay Chamber of Commerce, to London Corn Trade Association, dated 20th April 1888. Forwards Resolutions adopted as basis for future Wheat Contracts, and requests co-operation in limiting refraction for Bombay shipments to 2 per cent.	80
8. Bombay Chamber of Commerce, to Liverpool Corn Trade Association, dated 20th April 1888 Forwards for acceptance, Resolutions adopted by Chamber as basis of future Wheat Contracts	81
9. London Corn Trade Association, to Bombay Chamber of Commerce, dated 11th May 1888. States that the Association does not see its way to carry out the Resolutions adopted by the Bombay Chamber	81
10. Liverpool Corn Trade Association, to Bombay Chamber of Commerce, dated 12th July 1888. Notifies the Liverpool standards for Bombay wheat finally adopted	81

APPENDIX B.

Abstract of a series of notes relative to the Impurity of Indian Wheat interchanged in 1886 between two gentlemen interested in the trade.	82
--	----

APPENDIX C.

1. From Lord Cross, to the Government of India, No. 128, dated 26th December 1889. Forwards Nos. (2) to (4)	83
2. John McDougall, Esq., to the Secretary of State for India, dated 27th November 1889. Reports the agreement come to by the London Corn Trade Association in reference to the terms of contract regarding impurities in Indian wheat. Suggests the introduction of American grain elevators into India	83
3. London Corn Trade Association, to the Secretary of State for India, dated 14th November 1889. Forwards letter addressed to the Bombay Chamber of Commerce and Calcutta Wheat and Seed Trade Association with regard to standards of impurities or "refraction" in Indian wheats	84
4. London Corn Trade Association, to the Bombay Chamber of Commerce, Calcutta Wheat and Seed Trade Association, &c., dated 14th November 1889. Notifies the standards agreed to after consultation with the Liverpool Corn Trade Association	85
5. Government of India, to Local Governments, and Government of India, Public Works Department, Nos. 220-225 C—19-3, dated 31st January 1890. Circulate for information papers (1) to (4)	86

APPENDIX D.

1. Extract from the Report of the Bombay Chamber of Commerce for the year 1889. Summary of action taken by the Chamber during the year towards the reduction of impurities in Indian Wheats	86
2. Bombay Chamber of Commerce, to the Government of Bombay, dated 14th June 1889. Protest against the statements put forward by the London Corn Trade Association at the India Office Conference of 8th May 1889	87
3. Bombay Chamber of Commerce, to the London Corn Trade Association, dated 6th December 1889. Points out that the impurity or refraction standards agreed upon by the London Association will not contribute materially towards improving the quality of Indian wheat, and requests reconsideration of the decision	89
4. Extract from the Report of the Bombay Chamber of Commerce for the year 1890. Summary of action taken during the year to improve the Indian Wheat Trade standards	89
5. London Corn Trade Association, to Bombay Chamber of Commerce, dated 7th February 1890. Regret their inability to go further in the matter of refraction standards	90

P A P E R S

REGARDING THE

IMPURITY OF INDIAN WHEAT, AND THE ESTABLISHMENT OF WAREHOUSES FOR CLEANING AND GRADING WHEAT, OR FOR STORAGE.

1.

GOVERNMENT OF INDIA to LOCAL GOVERNMENTS, No. 67A.—42-4, dated 16th May 1885.

I am directed to forward a copy of a Resolution (No. 95, dated 19th March 1885), recorded by the Government of the Punjab, on the subject of the wheat trade of that Province. The Resolution is of great interest and importance, and I am to suggest that the Local Government should give to it such publicity as may be considered necessary. Circular inquiry.

2. With reference to paragraph 11 of the Resolution, which deals with the question of the construction of Warehouses near railway stations for the storage of wheat, I am to enclose a copy of the accompanying papers.* The Government of India will be glad if the Local Government will take such steps as may be expedient to procure for this important question more full discussion and consideration in communication with the commercial public than it has yet received. As at present advised, the Government of India is disposed to believe that official action might usefully be taken in co-operation with the commercial community with the object of providing increased facilities for the wheat trade.

No. 67A.—42-4.

Copy forwarded to the Public Works Department for information, with the intimation that the Revenue and Agricultural Department will be glad to be favoured with an expression of the views of the Public Works Department on the questions of demurrage and warehouses, raised in paragraphs 10 and 11 of the Resolution, No. 95, dated 19th March, and referred to in the subsequent communication from the Punjab Government.

2.

RESOLUTION by the GOVERNMENT OF THE PUNJAB, No. 95, dated 19th March 1885.

In the Review of the Report on the Internal Trade of the Province for the year 1883-84, the growing dimensions of the export of wheat were briefly noticed, and allusion was made to the fact that the subject of the improvement of the trade and of the encouragement which could properly be given by Government towards its development had been for some time under consideration. Since then the papers and statistics relating to wheat cultivation in the Punjab, which have been compiled by the Commissioner of Settlements and Agriculture, have been before the Lieutenant-Governor; and as the matter is one of the greatest importance to the Province, in which one-third of the cultivated area may be said to be regularly cropped with wheat, the Lieutenant-Governor deems it desirable to gather into a single Resolution the whole of the information which has been recently collected regarding the present conditions of the wheat trade of the Punjab, and the suggestions which have been made for its improvement and development. Review of Punjab wheat trade.

2. It will be convenient, however, previous to considering the papers which are now before his Honour, to sketch briefly the action which has been taken by the Punjab Government from the date at which the question of the wheat trade first came under discussion up to the present time. The conclusions drawn by Dr. Forbes Watson in his report† on the subject dated 29th March 1879 were most encouraging. He considered that India was admirably suited for the growth of the finest qualities of wheat, both soft and hard, and he expressed an opinion that the Punjab was probably Dr. Forbes Watson's suggestions, 1879.

* Papers Nos. 4 and 5 of the present collection.

† Report on Indian Wheat, presented to Parliament—C. 2348 of 1879.

destined to become the chief wheat-exporting province of Hindustan. He suggested that the true policy in the matter was to encourage the cultivation of the finest varieties of wheat, and he commented on the mixed condition of the Punjab samples, and pointed out that the causes of the inferior quality of Indian shipments might be easily removed by the introduction of some simple screening and winnowing machines. In 1881 the Secretary of State for India called for a report on the description of soils in which the better classes of wheat indicated by Dr. Forbes Watson were grown, and on the system of cultivation followed. Before the information for this report had been collected, the Resolution in the Public Works Department, No. 6,436, dated 28th November 1882, was issued under the orders of the Lieut.-Governor. In that Resolution the necessity of the extension of railway communication and the reduction of railway freight was specially dwelt upon, and it was shown that India could as yet compete with America in the markets of Europe only when the latter had a deficient crop. The railway rates for the carriage of grain to the three ports of Calcutta, Bombay, and Kurrachee were compared, and it was demonstrated that, although the East Indian Railway, owing to its cheaper coal-supply, could afford to carry at lower rates than the Sindh, Punjab, and Delhi Railway, the cheapest route for all Punjab grain above Ludhiana, or perhaps Umballa, was *viâ* Kurrachee. The advantages of this port were thus described: "Situated at the extreme northern end of the Indus Delta, it is connected with the entire river system of the Punjab. It possesses a harbour safe and easy of approach, with fairly regular soundings and few formidable currents. It has the additional advantage of being northward of the limit of cyclones. It is less affected by the south-west monsoon than most parts of Western India. Being nearer by 200 miles to Aden, and bringing as it does a great part of the frontier 1,000 miles nearer to England than the route *viâ* Bombay, the importance of the port of Kurrachee as an outlet to this Province can hardly be exaggerated." (This was written in November 1882, when the cost of wheat delivered at the port of Kurrachee was Rs. 3.2.0 per maund. At the present time it being exported at Rs. 2.7.0, and as the sea freight is now 43 per cent. lower than was in 1882, wheat can be delivered in England at 10s. 7d. per quarter less than it could be two years ago—a fact which of itself is sufficient to show how greatly the importance of the Punjab wheat trade has increased during the last few years. Since then the publication of the report by Messrs. McDougall Brothers, of which the substance is contained in the extract annexed to the present Resolution,* has shown beyond dispute that in certain respects Indian wheats are second to none in the world, and the special attention of the principal English wheat firms and Indian Chambers of Commerce, as well as of Local Governments and Administrations, has been naturally directed to the whole subject of the export of Indian wheat. In reply to the inquiries instituted in connexion with the report called for by the Secretary of State, it was originally shown that about 6½ million acres were under wheat in the Punjab, and that, speaking roughly, 5½ maunds per acre for unmanured rain lands, 7½ maunds for manured rain lands, and 10 to 14 maunds for lands manured and irrigated, might be assumed as the yield of an average crop. It was further stated that the soft red was the most common variety of wheat, and that the method of cultivation was essentially the same everywhere in the Province. This information, though useful and reliable as far as it went, was hardly sufficient to publish for general guidance. The Financial Commissioner was accordingly requested to take steps for the collection of further facts with reference to the various points that had been raised in connexion with the subject, and as the question in many of its aspects was one peculiarly affecting the Agricultural Department, the inquiry was entrusted to the Commissioner of Settlements and Agriculture. Colonel Wace has now embodied all the most recent information on the subject in the pamphlet entitled "Punjab Wheat," which is above mentioned. This pamphlet, for which the thanks of the Lieut.-Governor are due to Colonel Wace, gives in a succinct manner the actual conditions of wheat production in the Punjab, and will, it is hoped, prove of real practical value to all who are interested in the question of the Indian wheat trade, from what point of view soever their interest arises.

Railway extension necessary.

Advantages of Kurrachee a port.

Punjab wheat acreage.

Colonel Wace's pamphlet.

Exports to Kurrachee and Bombay.

3. Before proceeding to a consideration of the papers published by the Commissioner of Settlements and Agriculture, it may be noted that the conclusions arrived at in the Resolution of the Public Works Department, to which allusion has been made in the preceding paragraph, regarding the importance of Kurrachee as an outlet for the trade of the Punjab, have been fully borne out by the returns for the last two years. In 1879 the export of wheat to Kurrachee was valued at Rs. 74,668. In 1882-83 the

* See No. 3 of the present collection.

money value of the wheat consigned by rail to that port, exclusive of river traffic, amounted to Rs. 51,42,886, and in the past year to Rs. 54,71,950. The exports of wheat to Bombay have also been very large, and have increased from a weight of 2,18,897 maunds in 1882-83, to 14,33,576 maunds in 1883-84, while the consignments to Calcutta have decreased from 2,40,082 maunds in 1882-83 to 2,11,384 maunds in 1883-84. From a provincial point of view, therefore, the trade to Bombay and Kurrachee alone demands attention at the present time, and from the experience of the past few years there seems no reason why Kurrachee should not eventually become the natural and geographical outlet of this Province. It must be remembered, however, that in spite of these satisfactory figures Kurrachee up to the present has enjoyed but a very small portion of the trade of India, as will be seen from the figures below, which show the proportionate value of the foreign trade of each of the five chief ports during the year 1883-84:—

	Per cent.
Bombay - - - - -	41·57
Calcutta - - - - -	38·48
Rangoon - - - - -	5·07
Madras - - - - -	5·28
Kurrachee - - - - -	3·37

But though the amount of trade appears insignificant as compared with that of Bombay or Calcutta, it may be noticed that within the past year there has been a marked increase in the trade of Kurrachee, which amounts to 13·56 per cent. of that during 1882-83. This is due, no doubt, to the great activity in the export of oil-seeds and wheat; but the principal difficulty with which the export of wheat to Europe has to contend may be seen at a glance from the fact that 65 steamers have entered Kurrachee in ballast during the past year.

4. The other disadvantages from which the wheat trade of the Punjab suffers may be readily gathered from a perusal of the papers collected by Lieutenant-Colonel Wace, and it may be hoped that among other useful purposes these will result in the eliciting of suggestions as to the best means of remedying the faults which up to the present have been inherent in the production and storing of wheat. It appears to His Honour from a consideration of the reports now published, and from a general view of the facts which have been collected on the subject of railway communications and freights and other matters connected with the wheat trade of India, that the disadvantages under which the trade suffers in the Punjab may be conveniently treated as (1) economical and (2) administrative and physical.

Defects in production and storage.

5. The chief economical drawback is the dirty condition in which the grain is usually purchased, and the first thing is to obtain, if possible, a clean wheat for export unmixed with dirt and other inferior grain. A perusal of the reports by District Officers leads the Lieutenant-Governor to agree with the opinion expressed by Colonel Wace that reform in this direction can be looked for only very gradually from the cultivators as a body. It is clearly indicated in many of the reports that the agriculturist has at present little or no interest in turning out a clean sack of wheat, as the middleman pays him no more for the cleaned article than is paid for uncleaned wheat. But this state of things obtains to a marked degree only when the cultivator is deeply in the debt of the middleman, and in those districts where the agriculturist is in prosperous circumstances there is no reason why he should not obtain a better price for a cleaner grain. The farmers in the Punjab are generally in a small way, and Sir Charles Aitchison is inclined to believe that for the purposes of a large export trade the work of cleaning the grain must, according to the natural division of labour, fall upon the trader, and that Government must look rather to the self-interest of this class and to the example set by Western enterprise, as in the case of Amritsar, where Messrs. Ralli Brothers have started machinery for cleaning grain, than to advising cultivators to take pains and trouble to produce a result which brings them little or no perceptible profit. It is admitted on all hands that at present the cost of threshing or winnowing machines is prohibitive to the small holder, but it has been suggested that it would perhaps not be beyond his means to thresh his wheat on a wood, canvas, or matting floor, and that a common fan would be far more efficacious than winnowing the grain by exposing it to the action of the wind by pouring it out of a basket or tray. It must be remembered, however, that the threshing floors in the Punjab are usually of the firmest consistency, and that the winnowing of the grain is accomplished for the most part by means of the strong winds which blow persistently in most districts of the Punjab during the months of April and May. Another reform which has been

Dirtiness of grain the chief economical drawback.

Causes of impurity and their remedy.

mentioned as essential for keeping wheat clean is that it should be stored in sacks, and until this is done the grain must always remain exposed to dust and dirt whenever it is moved from one place to another. Something might doubtless be done by middlemen in these respects, and the cultivator may be expected to gradually fall in with the views of the buyer, wherever it is possible to show him that the extra trouble entailed is fully compensated by the better price paid for the wheat. But it does not appear feasible for a Local Government or for Government officers to take any further steps in this regard beyond pointing out to the people that in the long run their interests are pretty sure to be found identical with those of the buyer. It would appear from the present papers that the Punjab cultivator cannot be justly charged with purposely adulterating wheat by the admixture of dirt.

Improve-
ment in
cultivation.

6. But while Sir Charles Aitchison thinks it probable that the grower of wheat is not likely to find it greatly to his advantage to take much greater trouble in the harvesting of the grain than he does at present, he cannot take it for granted that the agriculturist has nothing to learn in the matter of wheat production. It may perhaps be the wiser policy at present to leave the cultivator very much to himself in the matter of the variety of wheat which he grows. The soft red wheat is a hardy plant, requiring less irrigation and less manure than the more valuable soft white; and at present the soft red variety is grown on 5 million acres out of a total of 7 million acres under wheat cultivation, according to the estimate framed by Colonel Wace. But though it is not the province of Government to interfere in any way with agricultural preferences for a particular variety, and though the advantage of State interference in questions of this sort is highly problematic, it cannot be considered beyond the sphere of officials that they should advise cultivators and middlemen of the fact that club or soft white wheats command a higher price in Europe than other varieties, and should give the people an opportunity for trying what can be done with the white wheats. It must be remembered that the export trade to Europe is of very recent date, while the cultivation of wheat in the Punjab is of some antiquity; and in arguing the cultivator cannot be taught much, consideration should be paid to the fact that the conditions of the wheat demand have changed enormously, and that with a change in the demand an alteration in the conditions of production is inevitable. Colonel Wace deprecates the charge brought against the cultivators that they are careless as to the selection of seed, and it is satisfactory to learn that they are not indifferent to the importance of securing seed of a good quality; but Sir Charles Aitchison here too thinks that much might be done by District Officers to encourage recourse to an Indian pedigree wheat. It is also satisfactory to hear that the Punjab cultivator does not sow mixed varieties of wheat in the same field, that he does not ordinarily mix his wheat with other crops; and that when he does he has good reasons for doing so. But here again, if the advantages of growing wheat separately were pointed out to the agriculturist and his money-lender, they might consider that the reasons for growing a mixed crop were outweighed by better reasons for growing wheat alone. It seems, indeed, to Sir Charles Aitchison that in an important question such as this is, Government would be failing in its duty if it neglected any legitimate means of placing before the agriculturist the profits which may result from the production of a superior and unmixed grain, and of promulgating the simpler methods by which this improvement in production may be attained. The methods by which this may be most conveniently done in His Honour's opinion will be indicated below.

Pedigree
wheat.

Village
traders.

7. So far the actual producer has been considered, but it is necessary also to refer briefly to the position of the village traders through whose agency the wheat is largely collected. Here the Lieutenant-Governor is more inclined to agree with the Commissioner of Agriculture that little success can be expected from Government advice or interference. There can be no doubt that the mixture of wheat with dirt, or with inferior grains, or of one kind of wheat with other kinds, prevails to a large extent owing to the carelessness or cunningness of this class. The account from Ludhiána shows that the wheat is deliberately watered and mixed with dirt, and it is stated that in certain villages of the Ferozepore District the Chamárs make it a trade to supply different coloured earths to suit the colour and size of the different kinds of grain. The earth is worked into small grains, and it is almost impossible to winnow it out. These malpractices and the general carelessness of the trader who sweeps up dust and grains of other descriptions into his wheat will bring their own remedy. The trader will desist from such ways when he finds that the 1,000 tons of wheat which he despatched from Lahore have been cleaned and examined at Kurrachee, and that he

Their mal-
practices.

only gets payment for 950 tons, and that too classed low for mixing. The report from Ludhiána shows that this process has already begun, and the middlemen must be left to learn their true interests by experience. Every opportunity, however, should be taken of explaining to this class that the cleaning process only requires to be done once, and that it ought to be done in the Punjab. If the grain were sent down to Kurrachee ready for shipment there would not only be the saving in the carriage of refuse, but further the whole of the cartage charges at Kurrachee would be avoided, as the wheat could be run straight out to the shipping.

8. This leads to a consideration of the question how far the trade is hindered by causes which can be modified or removed by the Administration, or by natural causes arising from difficulty of communication and the cost of carriage. Though Government cannot interfere with a trader who sends his wheat down to Kurrachee in a dirty condition, and though it cannot at once obviate economical drawbacks arising from custom and the lack of intelligence and enterprise, still it is possible to do much by the spread of information generally and by affording facilities to trade. In connexion with the expediency of cleaning the wheat once and for all up-country, the necessary accommodation at the railway works at Kiámári, which has greatly encouraged the direct shipment of grain, may be mentioned; but it must obviously rest with the traders of the Punjab to arrange for consigning their wheat to Kurrachee for direct export without having recourse to the expense and delay of an intermediate agency at that place. Another means of fostering the trade is to establish central grain markets, as in Amritsar, where the subject has been warmly taken up by the municipal authorities and local bodies, and it is probable that in other grain centres as well much might be done to exploit the trade by the action of municipalities.

Central
grain marts
advocated.

9. There can be no doubt that the first great requirement for the development of the wheat trade is the opening out of railways and as feeders to the main systems of the Province. The case for this has been forcibly stated by the late General Medley in his pamphlet "Railways in Upper India." Taking the best section of the Sind, Punjab, and Delhi Railway, some 335 miles in length, between Lahore and Gháziabad, General Medley has shown that this is fed by metalled roads only at the stations of Amritsar, Jullundur, Ludhiána, Rájputra, Umballa, Saháranpur, Muzaffargarh, and Meerut, or at intervals of 39, 49, 35, 53, 13, 55, 36, 35, and 27 miles; while the Punjab Northern and Indus Valley lines, and the Mooltan and Sind sections of the Sind, Punjab, and Delhi Railway may be said to have virtually no metalled feeders; and on the Indus Valley line traffic is practically suspended during the flood season,—*i.e.*, from June to October. The great need of feeder lines has never been lost sight of by the Punjab Government during recent years, and much has been done and will, it is hoped continue to be done, to develop side by side canals for the better cultivation of wheat, and railways for affording greater facilities of carriage for that wheat. The Punjab Northern State Railway to Pesháwar will tap the virgin country about to be irrigated by the Swat River Canal, and the Rewári-Ferozepore State Railway will open out a great grain-growing tract in which large areas will be watered from the Sirhind Canal. The construction of the lines from Wazirabad to Siálkot, from Lála Músa to Miáni, from Ráewind to the right bank of the Sutlej opposite Ferozepore, and of the Amritsar-Pathánot Railway, have all facilitated the export of wheat from important districts; and should the projected line of the Sind-Sagar Doáb, and the railway from Patiála to join the Ferozepore-Rewári line below Bhatinda, be ultimately constructed, the important wheat-fields of the jungle country and of Bannu, Dera Ismail Khan, and Muzaffargarh will be opened by railway communication. It is undoubtedly true that in certain parts of the Province the usefulness of railways is diminished by the absence of good feeder roads, metalled and unmetalled. Unfortunately the condition of Provincial finances and the numerous urgent demands made upon the resources of the Punjab Government render it impossible for Sir Charles Aitchison to contemplate any systematic plan of operations for remedying existing defects. As far as the very limited means at the disposal of the Province can be made to go, the metalling of important roads will receive its fair share of attention, but more than this it is at present beyond the power of the Lieutenant-Governor to say. During the past year several projects for the construction of metalled roads from the balances of district funds placed at the disposal of local bodies have been approved by His Honour, and it is probable that some further development in the direction desired may be looked for from this source. But it is necessary for local bodies to proceed gradually in the making of metalled roads, which are very costly to maintain; and as far as the remarks above quoted on railways in Upper India

Roads and
Railways
chiefly
required.

Recent
railway
extensions.

Tramways
as railway
feeders.

have reference to the country beyond the Ravi, it must be remembered that the carriage there depends chiefly on boats and on camels, and that it may be almost said that carts do not exist in these parts, nor cattle of a size to drag them. Proposals for the construction of tramways as railway feeders have also lately been before the Lieutenant-Governor. Those relating to the lines from Karnál to Delhi and from Gurgaon to Mathra are still in abeyance, but His Honour hopes that as soon as the permission of the Supreme Government is accorded, the intentions of the promoters of the tramway from Amritsar to Tarn Taran will be carried into execution, and he understands that suggestions are about to be submitted to the Local Government for the construction of a line from Chunián to Changa Manga. Meanwhile, under the orders of the Government of India the railway terminus at Gandasinghwála is about to be joined with that at Ferozepore by means of a light tramway passing over the bridge-of-boats. These experiments will be fraught with much interest for the Punjab, and should they prove successful it is possible that the railways of the Province will become gradually supplied with a number of important tramway feeders in the future.

Drawback of
Kurrachee;
no return
trade.

10. There are certain difficulties, however, in the way of the Punjab wheat trade connected with the management of existing railways which appear to the Lieutenant-Governor to require attention. It may be at once admitted that the export trade is at present heavily weighted by the fact that, owing to the absence of a return traffic from Kurrachee, it has to bear the cost of its own haulage and that of the empty returning waggons, and that consequently railway freights to Kurrachee must rule high. Various suggestions have been made for encouraging the import trade to Kurrachee and for fostering a traffic from that port up-country. But His Honour at present sees no way in which the Punjab Government can assist in this direction, and though he is ready to recommend any concessions that may appear fair to him, he cannot help thinking that the import trade of Kurrachee must depend for its development on the growth of wealth in the Punjab. But leaving out of the question the high rates of carriage, it appears to the Lieutenant-Governor that sufficient has scarcely been done in the way of popularising the railways. Some papers which have recently come before His Honour on the subject of the competition of country carts with railways show that even yet the people of the Punjab adhere on certain roads to cart traffic in preference to using the railway. There are many reasons for this which are outside the influence of railway management, but one point is fixed upon as highly unpopular among the native community,—*viz.*, the charge for demurrage; and it has been suggested that this should not be made until consignees have had sufficient time and warning to allow them to remove their goods without undue haste. It further appears from these papers that carts and ekkas, and even a bullock train, regularly ply between Lahore and Amritsar—a fact that would seem to point to the necessity of a reduction in railway freight for short distances and of greater attention to the convenience of traders on the part of the railway. The large firms engaged in the export trade and the Chambers of Commerce must necessarily be in a better position than a Local Government can be to judge of the possibility of greater facilities for the transport of wheat, and doubtless they will not fail to invite the attention of the railway authorities to this point from time to time. As, however, the matters here noticed have recently attracted the attention of the Lieutenant-Governor, His Honour has thought it proper to refer to them briefly in the present place.

Railway
reforms.
Demurrage
rules;
freight
for short
distances.

Want of
storage.

11. The absence of storing room at the stations on the Indus Valley Railway and the difficulties in procuring storage at Sukkur have been mentioned in the report from the Muzaffargarh District, and it would seem both politic and profitable to establish wheat warehouses as depôts of the trade. In connexion with this it may be mentioned that proposals for constructing such warehouses on the Amritsar-Pathankot Railway are under consideration. In the present state of intelligence it is hopeless for the railway authorities to look for due advice being given as to the date when the quantity of goods tendered for despatch may be expected at the railway, but where warehouses are constructed at stations the officials would at once know the requirements of traffic, and would be able to avert the rush and glutting of the lines which is so detrimental to economic working. Moreover, the establishment of such godowns would meet another evil by which trade is occasionally diverted from its natural course; for if traders knew they could find accommodation at railway stations for their goods, they could avoid storing their grain in places where octroi is levied, and could seek the nearest point on the railway.

Publication
of early
trade infor-
mation.

12. Finally, it remains to notice the measures for the improvement and development of the wheat trade which the Lieutenant-Governor thinks can be usefully adopted by

the Government. First among these is the publication of information regarding trade. Sir Charles Aitchison has recently taken steps to make the trade returns of his Province fulfil some of the purposes for which such statistics are compiled. In future these returns will be published quarterly, and at a date sufficiently early, it is hoped, to give valuable intelligence to the public. Further, under recent orders of the Government of India, a forecast will in future be prepared showing every year the area under wheat cultivation, the condition of the young plants and the probable yield of grain, and this information will be telegraphed to England in time to apprise the corn trade of the probable state of the market in India before they commence their annual operations. Similarly, the current prices in England and in other countries in which Indian wheats find a market might be circulated to the trading and agricultural communities, and information should be available of the freight rates prevailing at the different seasons of the year. In this direction the Chamber of Commerce, Kurrachee, might usefully co-operate, and efforts should be made to give wide and authorised publicity to this information. His Honour would therefore wish the Financial Commissioner to address the Kurrachee Chamber of Commerce on the subject, and ascertain if they could arrange for the preparation of quarterly statements showing the English price reduced to maunds and rupees at current rates of exchange, shipping charges and approximate freights, and the railway dues from the nearest stations in the district to Kurrachee. Such statements might be published for general information in the principal wheat markets of the Province, and judging from the allegations contained in the district reports of the general ignorance prevailing on the subject, they would doubtless prove of considerable practical value.

Trade returns; forecasts; European prices and freights.

13. There are many other methods which have been suggested for the encouragement and improvement of wheat cultivation. It has been proposed to give prizes for the best-farmed fields, to place samples in each tahsíl of the wheat most in demand, and to publish a broadsheet urging the cultivation of better wheat. The scheme of giving prizes has not been approved of, and the Commissioner of Agriculture appears to think that the agriculturists already know what kind of wheats are most in demand, and that even if samples were sent to tahsíls, the agriculturists would not go to look at them. The Lieutenant-Governor will not at present press the question of the giving of prizes; but the assumption that the kinds of wheat most suitable for export are generally known appears to be opposed to the facts contained in the report of the Deputy Commissioner of Delhi and other papers in Colonel Wace's pamphlet; while a number of officers have approved of the suggestion that samples of wheat should be placed in each tahsil in the wheat-producing districts of the Province. Sir Charles Aitchison would therefore desire that this may be done, and he would again wish to impress on all officers the fact that the conditions of agriculture, so far as wheat is concerned, are changing very rapidly, and that too much reliance must not be placed on the belief that the Punjab agriculturist has nothing to learn. Experience no doubt is worth a great deal, but agricultural experience when allied to custom is apt to make a community stubborn and unenterprising. In the same way Colonel Wace has disposed of the proposal to publish broadsheets with the remark that all that can be put into a simple pamphlet is known and practised by the cultivator to the best of his ability. But this is to beg the whole question of agricultural improvement, and Sir Charles Aitchison in dealing with a subject of such large issues as the wheat trade cannot accept the proposition that things should remain as they are. Many officers have expressed an opinion that such a paper would prove of great use as a guide to cultivators, and one officer, Mr. Wakefield, has suggested an excellent skeleton form for such a broadsheet. His Honour would wish therefore that a well-considered and practical broadsheet should be prepared in the Agricultural Department on the cultivation, harvesting, and storing of wheat, and that it should be made available for distribution in the various dialects of the Province to all zaildárs, village headmen, and patwáris.

Improvement of cultivation; Grant of prizes for wheat.

Exhibition of wheat samples at Tahsils.

Distribution of broadsheets to cultivators.

14. That the wheat trade of the Punjab should have expanded in so surprising a manner is all the more remarkable when it is considered how little has been done for it either in Europe or in the Punjab in the way of advertisement by statistics such as have been mentioned above. And if with all these drawbacks the trade has flourished, it is reasonable to anticipate a prosperous future for the Punjab wheat if the physical disadvantages under which it suffers can only be lessened. The Sukkur railway bridge, which has been described as "the link now wanting between the granaries of the Punjab and the seaboard," will doubtless give a very great impetus to export trade, and will effect a saving both in time and money; but there still remains

Conditions of competition with America.

the fact that the distance from the wheat lands of the Punjab to the seaboard is very great, and that in comparison with railway rates in the west of America, Punjab exporters had to pay in 1883 20s. 10d. per ton per 1,000 miles more than their American competitors. It must therefore be constantly borne in mind that strenuous efforts will have to be made to economise in the cost of production and in the cost of carriage to Kurrachee if Punjab wheat is to overcome adverse freights and a long sea voyage before competing with American produce. As has been already stated, Punjab wheat is now being exported to England at a rate which is 10s. 7d. less per quarter than it was two years ago. Of this reduction, it is perhaps fair to attribute a considerable share, amounting to 8s. 1d. per quarter, to improvements effected by the Government and railway administrations, among which may be mentioned the abolition of the Sutlej ferry dues, the saving in cartage resulting from the construction of a branch line from Gandasingh to Raewind, the abolition of the Sukkar ferry toll on grain for export, the reduction in freight charges over 1,000 miles from $\frac{1}{2}$ to $\frac{1}{4}$ pie per maund per mile, and the saving on cartage, freight, and intermediate agency on through-booked grain which has been cleared up-country *viâ* Kiamári. By these improvements alone it has been calculated that a saving of something like 5s. 7d. per quarter, or 9 annas 1 pie per maund, has been achieved in the cost of transport of wheat from the Punjab to the seaboard. Efforts too have been made by the railway to stimulate the import trade by reducing the rates for the carriage up-country of coal, metals, and piece-goods. At present there is reason to hope that the Punjab wheat trade will maintain in a measure the importance it has so suddenly assumed. But the export trade is weighed down by the heavy cost of carriage to Europe, and for this reason it behoves the Government and all concerned to free the trade of India from all impediments, and to offer every possible facility to growers and exporters. The Press, Chambers of Commerce, and the Railway authorities have it in their power to assist the development of the wheat trade in the Punjab; but Sir Charles Aitchison expects too that District Officers will do all they can to make known to cultivators the advantage of reaping pure and unmixed grain, and of separating at seed time the soft and hard and the red and the white grains, and of sowing them in separate fields, and to advise small traders of the loss and delay which must attend the despatch of dirty, uncleaned wheat. For many years the Indian wheat trade must necessarily remain an intermediate trade dependent for its expansion or contraction on causes which vary considerably. To secure the prosperity which has attended the export trade of wheat from India during the last few years a number of circumstances were necessary. (Abundant crops in India and crops below the average in the United States and Europe, with low rates of freight and low rates of exchange, combined to foster the Indian trade, but if any one of these factors is wanting hereafter, the profits extending the export of wheat may be reduced to a margin scarcely remunerative.) It is for this reason that His Honour would again urge the necessity for reducing in every possible way the cost of wheat production in the Punjab, and that he cannot accept the conclusion of the Commissioner of Agriculture that the Punjab cultivator has little to learn in the matter of wheat cultivation, and little to gain from listening to official advice. On the contrary, it appears to Sir Charles Aitchison that on a subject such as the present the Government have much to teach the cultivator; and if the instruction given is seconded by the self-interest of the growers of wheat, there is every reason to hope that the action of Government will result in better modes of cultivation, more careful selection of seed, and in cleaner methods of threshing and winnowing the grain, as well as in the removal of the administrative and physical difficulties now in the way of the trade.

3.

Annexure to foregoing, Extract from notes by Messrs. McDougall Brothers, dated London, 15th December 1882.

McDougall
Brothers'
Report.

In addition to the particulars contained in the foregoing returns, we have to report that to anyone experienced in the requirements of the wheat and flour markets of the United Kingdom, and indeed of most other countries, it will be evident there is no probability of these Indian wheats coming into demand for manufacture into flour *without a liberal admixture* of other wheats. They all possess in a marked degree, the same characteristics of great dryness, and a distinct beany and almost aromatic flavour inseparable from wheats grown in the climates and soils of the tropics. Also the flours are ricey, the texture of the breads is too close, and the crust is hard and brittle. But these

characteristics do not detract from their usefulness in any important degree. As is well known, a miller cannot show skill in his craft to greater advantage or profit than that with which he selects his wheats and mixes his grists so as to produce to best advantage a flour from which bread can be made of the colour, bloom, strength, and flavour desired, and with all a good yield.

We pronounce them to be exceedingly useful wheats, in fact hardly equalled for what is deficient and wanting in the English markets by any other wheats. Their chief characteristics are just those in which the wheats grown in our variable climate are most deficient. Their great dryness and soundness renders them invaluable for admixture with English wheats that are in any degree out of condition through moisture, and the great proportion of the wheats harvested here have been in that condition for some years past—a condition that must prevail in all other than wheats harvested and stored during fine and favourable weather, and this the English farmer knows, greatly to his cost, is a state of climate that is by a long way the exception rather than the rule. Added to their dryness, the thinness of the skin of these wheats and consequent greatness of the yield of flour must always place them in the front rank as a “miller’s” wheat whenever they are handled with reasonable intelligence and skill.

Peculiarities
of Indian
wheats.

Such unprecedented yields of flour as are shown by these wheats, ranging (by ordinary grinding) from 77·46 to 80·52 per cent., against English 65·2 and American spring 72·2, speaks volumes in their favour; and their value is still further increased by another point of merit of almost equal importance,—*viz.*, a larger percentage of bread may be obtained than from any other of the flours included in this review.

That for the best of these Indian wheats (the fine soft white), on the day they were valued on Mark Lane market, a price was offered as high as that for American winters, New Zealand or English, proves that the great value of the Indian wheat is becoming recognised here—a knowledge that will ere long extend to all our markets. The other lots of Indian wheats (Numbers 2, 3, and 4) were lower in value to the extent of 4s. to 5s. per quarter, as might almost have been expected from the difference in colour and other characteristics; still, as these latter wheats become better known here, this difference in price will be somewhat lessened. Their beany flavour is not a serious obstacle, as fair average deliveries, when well cleaned and properly dealt with, can be employed in the proportion of 25 per cent. to 50 per cent. along with home-grown or other wheats, such as American, possessing a fine sweet, milky, or nutty flavour.

Their com-
parative
value.

Glancing at all the facts here elaborated, it is evident that these wheats afford a larger margin of profit, both to the miller and baker, than any other.

We venture to record a conviction we have long held, strongly emphasised by the results of these experimental workings, of the measureless importance of the great resources of the Indian Empire being developed to the utmost in producing wheat for this country. Farmers here are finding that to live they must produce beef and mutton rather than grain; hence the greater need of resources of supply under our own control.

4.

Messrs. REINHOLD BROTHERS, Cawnpore, to GOVERNMENT, North-Western Provinces and Oudh, dated August 1883.

To enable India to compete successfully with America and other countries in the grain and seed trade, all intermediate charges should, as much as possible, be curtailed, and the advisability of bringing wheat from up-country by rail direct to the ship’s side has been discussed by the Government as well as by the Railway authorities; but objections have been raised by merchants that it is necessary to re-weigh and examine the goods on arrival at Calcutta before the goods are despatched to the ship and final payment is made to the native merchants.

Reduction of
intermediate
charges.

To us it appears the main cause of the delay and extra charges incurred thereby are simply due to the irregularities pursued by a great many of the native grain merchants in dealing with Calcutta firms. Their goods frequently contain a large admixture of foreign matter, to the great detriment of the value of the wheat itself in the European market; besides, there is usually a great difference in the weight of each bag, and as under the general rule of contracts in Calcutta only 10 per cent. of the bags are weighed, the supervision becomes all the more onerous to the merchant-shipper if the time for delivery is curtailed and thereby quick despatch into boats is enforced.

Impurity
and short
weight.

To obviate this state of things, we beg leave to make the following suggestions for His Honour the Lieutenant-Governor's consideration, and shall feel obliged if His Honour will forward the same to the Government of India for consideration and orders.

Cleaning
warehouse at
Cawnpore.

One of the chief and central stations for the wheat and grain trade on this side of India is Cawnpore. The East Indian Railway at this station has ample room at its disposal, and we think if it could be made available for the building of receiving warehouses and cleaning sheds for wheat and seeds, against a small charge and moderate rental for a limited period, much of the grain trade could be concentrated here. Cawnpore has the advantage of a dry climate, and is therefore best adapted for such a depôt.

There are not many varieties of wheat either from the surrounding districts at Cawnpore which will facilitate the work for a superintending committee, to which we shall allude as one of the main points of the scheme proposed.

Warehouse
rules.

All wheat tendered to be received into this warehouse should be *classified*, and a receipt and certificate be granted as to *quality* and *refraction*; no wheat to be received into store containing more than 4 per cent. *admixture* of foreign matter, or 5 per cent. *including* other grains and cereals.

Sheds for cleaning to be added to the storehouses, where natives themselves can superintend the cleaning.

The certified receipt of the committee will enable the bearer, or *bonâ fide* holder, to sell and transfer the same by endorsement, or deposit it with his bankers. The Committee to adjudge the quality should be composed of one or two competent merchants or brokers of recognised standing:—

An official of the Railway Company;

An officer of Government from the Agricultural Department.

The *Receipt for Weight* will be given by the Railway authorities, to whom all the weighing will be entrusted.

The goods will be piled and bagged on examination, and receipt granted at the owner's expense; and the bags thus weighed will be despatched, any natural loss in weight during storage to be at seller's or buyer's risk, to avoid all claims for difference in weight hereafter against the depôt authorities.

Advantages
claimed.

It is essential that the charges should be kept as low as possible, as an inducement to natives to bring their goods to the depôt.

The advantages we claim for this scheme are—

1. That the owner of the goods, as soon as he has got his certificate, can either sell or deposit the same with his banker against any advances he may wish to have.
2. That no extra freight is being paid upon useless admixture with grain.
3. That the European buyers can act with confidence as regards quality and weight, and let their goods go from the railway wagons direct on board the ship, saving intermediate charges and expenses.
4. That it will facilitate the traffic arrangements of the Railway Companies, and greatly accelerate the delivery at the terminus and at the shipping port.
5. That with such arrangements the goods may be directed to any dock or auxiliary shipping port, which are now contemplated by Government for enlarging the capabilities of the Calcutta sea-borne trade.
6. That Calcutta merchants will have the opportunity of buying gradually a full cargo and keeping it stored in the depôt until the vessel or steamer is announced at the Sandheads, and can obtain advances upon warrants from bankers and others within a fair margin.
7. That European and Native bankers will thereby be insured against unnecessary risks; whilst the security is undoubted, a fair competition in the banking branches will guarantee the holders against being charged usurious rates of interest.
8. That it portends to elevate the character of the grain trade of this country, and must eventually, with an improved and even quality, lead to an increased demand for Indian wheat at home. It is unnecessary to say that indirectly the consequences of such a system can but act as greatly beneficial to the agricultural classes of this country.

If this scheme finds favour and meets with the approval of Government, similar depôts might advantageously be called into existence at other centres; but we have purposely named Cawnpore, in the first instance, as combining many of the advantages alluded to in the foregoing remarks.

The successful application of our proposal depends in a great measure upon the willingness of the Government to depute one of their officers of the Agricultural Department to be associated with the committee; this, we think, essential to give to the class or quality, as well as to the weights entered into the warrants, an authoritative stamp and the value of a reliable security for merchants and bankers and to the smaller Native proprietors the assurance that there is scrupulously fair dealing with their produce.

Government
co-operation
needed.

For our part we shall be glad to assist and render such services, in connexion with a scheme of this nature as may be required; and we trust that our standing and experience as up-country merchants will be sufficient to explain the great interest we take in this question, by submitting these papers to Government.

5.

Director, DEPARTMENT OF LAND RECORDS AND AGRICULTURE, North-Western Provinces and Oudh, to LOCAL GOVERNMENT, No. 48 T., dated 25th July 1884 (extract).

30. This brings us to the consideration of a scheme proposed by Messrs. Reinhold Brothers of Cawnpore, that a committee should be established at that place to give certificates as to the class, quantity and refraction of all wheat delivered at certain storehouses set apart for that purpose. Such certificates would, it is represented, do away with any further examination of the wheat at the port of shipping. A table in the appendix shows what the wheat trade of Cawnpore has been for the last five years. The exports by the rail may be accepted for every year as showing the total amount for that year, the road and river export being quite insignificant. But this is not the case with the imports, and we only have a complete record of them for 1879-80, when both road and river and canal traffic were registered.

Opinion of
Director,
Department
of Land
Records
and Agri-
culture,
North-
Western
Provinces
and Oudh.

In 1881-82, when the road traffic, but not the water traffic, was registered, we have an approximately correct return of the total imports.

31. I take the exports first and compare them with the total export of the Provinces for the same year:—

Year	Bushels	Per-centage on Total Provincial Exports by Rail (s. 12).
1879-80	899,109	23
1880-81	572,249	15
1881-82	992,152	14
1882-83	617,441	10
1883-84	444,425	4

From this table it would appear that the importance of Cawnpore as an emporium for the export wheat trade is falling off, not only relatively but absolutely. Whereas its share of the total trade of the Province has fallen from nearly one fourth to only one twenty-fifth part in five years, the actual transactions are only a half now to what they were in 1879-80. This may be due to a temporary fluctuation in trade (though in any case it is strange that Cawnpore should have had no share in the extraordinary increase of 1883-84), but the following considerations seem to show that this is not the case.

Relative
importance
of Cawnpore
in wheat
trade.

32. The appendix showing the imports is unfortunately defective, but one thing comes out with sufficient clearness, and that is that the whole of the imports come from Oudh, with the exception of a small contribution by canal from the Agra division. If we compare the total imports of 1879-80 and 1881-82 with the total exports for those years, we find that the former exceeded the latter by 637,065 bushels, or more than 300,000 bushels a year. This amount is probably kept for its own consumption. It is clear, then, that Cawnpore does not export its own produce or the produce of any district for which it is on the direct road for Calcutta. It is entirely dependent for its wheat trade on imports from Oudh. It is not likely that the cart traffic has increased sufficiently to make up for the falling off in the railway traffic, and if we take (having no choice) the latter only as an indication of the relative

amounts of the imports of wheat from Oudh in each year, we get the following results.

Year	Bushels.	Percentage to Maximum.
1879-80 - - - - -	601,335	71
1880-81 - - - - -	609,301	72
1881-82 - - - - -	845,213	100
1882-83 - - - - -	304,437	36
1883-84 - - - - -	385,387	45

Cawnpore unsuitable as a cleaning centre.

The average of the first three years being exactly double the average of the last two, Cawnpore and Lucknow are at almost exactly the same distance from Calcutta; the former is outside and at the edge, the latter is in the centre of the wheat-producing districts, and with the opening of the Benares Bridge, and the abolition of octroi duties at Lucknow, it is hardly possible that Cawnpore will retain a commanding position in the wheat trade. I am therefore of the opinion that, if a committee of the kind proposed is to be established at all, Cawnpore would not be a convenient place for it.

Scheme would be advantageous.

33. Whether such an institution should be established anywhere in the Provinces is a matter on which I find great difficulty in forming an opinion. There is no doubt it would have great advantages. It is probable that there are faults in the present system which might be remedied. The practice is to have the grain carried off to godowns at Calcutta to be examined by or on behalf of the consignees for refraction. The cultivator can and often does clean down to 2 per cent. of impurities, but the consignees insist on deducting 4 per cent. on this account from the purest samples they receive, thereby occasionally making a not wholly deserved profit. The up-country dealer, however, soon learns this, and makes the profit himself by mixing the required proportion of dirt in the grain he gets from the cultivator. Whatever form the transaction takes it amounts to an *ad valorem* tax of 2 per cent. on the trade. It is said, moreover, that the business of assessing samples is much in the hands of native jemadars, and that there is a good deal of corruption. If subsequent trade reports gave ground to the supposition that the export of wheat was being checked by the dishonest practices which prevailed at the port of shipment, it would seem unquestionably right that these Provinces should take some such measure as has been recommended for their own protection. The stations where grain is brought to the railway are so numerous that no one of them would serve the purpose required, and the best places for a committee of the kind would seem to be where the grain left the Provinces—that is, Benares, Delhi and Agra. Of course, consignors would have the option of sending their goods to the certifying sheds or not. If it were found that consignees were satisfied with the certificates, an examination at Benares would save the examination at Calcutta, and might give an actual saving in time on the present system. It might also be found that the arrangements for testing at Bombay were better than those at Calcutta, and in that case it would be unnecessary to open sheds at Agra and Delhi. Finally, this is precisely the kind of thing which ought to be done by private agency, and Government should not interfere unless the Chamber of Commerce find that they are unable to insist on proper arrangements being made.

But should be left to private agency.

MADRAS.

6.

RESOLUTION BY GOVERNMENT, MADRAS, No. 922, dated 11th August 1885.

Warehouses in Madras Presidency.

In regard to warehouses, it is observed that the question of their construction by Local Fund Boards was very fully discussed in the years 1882 and 1883, and that the majority of Boards expressed themselves averse, under their then circumstances, to the expenditure of funds on such undertakings. An allotment of Rs. 410 was, however, sanctioned by the Board of Revenue in their Proceedings, dated 6th June 1883, No. 1,621, for the construction of a tiled warehouse near the Arcot railway station, and an expenditure of Rs. 380 appears to have been incurred on it up to 31st March 1885. Whether the building has since been completed, the Government are not aware. Other Boards have since expressed themselves more or less in favour of the construction of warehouses at various points along the line of rail when funds become available. It is observed that the cost of the Arcot warehouse was sanctioned from the Road Fund

balance, on the ground that the construction of such buildings is as much debitable to Road Funds as the cost of a railway station is to railway capital.

7.

RESOLUTION BY GOVERNMENT, MADRAS, No. 3267, dated 4th June 1886.

READ the following:—

From the District Board, North Arcot, to Director of Revenue Settlement and Agriculture, Madras.—No. 57, dated Chittoor, 18th January 1886.

I have the honour to reply to your letter No. 2,436, dated 4th December 1885.

2. A warehouse, at a cost of Rs. 410, was constructed near the Arcot railway station, in consultation with the grain-dealers of Ranipet and Walajapet, in deference to the wishes of Government expressed in their order, dated 25th July 1882, No. 773. The Agent and Manager of the Madras Railway was good enough to grant the site free, and a compound wall was erected round the warehouse at a further cost of Rs. 310. On the completion of the building it was leased out, for the first time, for the current year, for Rs. 12-12, to one Arumuga Reddy, the highest bidder. The lessee is allowed to collect fees at a rate of one anna for every bandy-load and three pies for each head-load. Warehouse. Arcot railway station.

3. As to the working of the warehouse at present, it appears from the report of the Walaja Tahsildar that very few merchants make use of it or appreciate its usefulness.

BOMBAY.

8.

GOVERNMENT OF BOMBAY to GOVERNMENT OF INDIA, No. 6606, dated 17th September 1886.

With reference to Mr. Officiating Under-Secretary Bayley's Circular letter, No. 67—42-4 A., dated 16th May 1885, forwarding copy of a Resolution of the Government of the Punjab and its accompaniments,* on the subject of the wheat trade of that Province, and commending to the favourable consideration of this Government the question discussed therein about the construction of warehouses near railway stations for the storage of wheat, I am directed to forward herewith, for the information of the Government of India, copies of the papers noted in the margin, and to inquire if any progress has been made in providing such warehouses elsewhere, and whether the Government of India contemplates the construction of these warehouses by the Local Government, the Railway Companies, or the trade.

9.

COMMISSIONER, Central Division, to GOVERNMENT OF BOMBAY, No. 634R dated 11th February 1886.

2. It will be seen from the accompanying précis that there is at present but little hope of the establishment of such warehouses. Where the trade is great, the traders, very naturally having their own wakhars, are opposed to the new scheme. Elsewhere the trade is not sufficient to render them in any way necessary. At places such as Khandesh, the people appear satisfied with present arrangements. In other cases where, if warehouses existed, they would probably do some good, there are no funds which could be spent on their erection. Who should construct warehouses.

3. My own opinion is that the whole scheme is exceedingly premature, that if warehouses are required and are to be built, they will, as soon as the actual necessity arises, be built by private persons who will aim at a fair rent return. Such schemes, in my opinion, do not properly rest within the province of Local Funds, and some municipi- Warehouses not in demand.

* Letter from the Commissioner, Central Division, No. 634R., dated 11th February 1886, and accompaniment.

Resolution of Government in the Public Works Department, Railway, No. 781, dated 29th March 1886, and accompaniments.

Resolution of Government in the Public Works Department, Railway, No. 1676, dated 27th July 1886, and accompaniment.

Scheme premature. palities who might undertake them have already numberless costly requirements of a far more urgent and pressing nature to think of and meet.

10.

PRÉCIS of REPORTS of COLLECTORS, Central Division.

Collector's reports, Sholapur.

In forwarding copy of a letter from the Chairman of the Sholapur Municipality, Mr. Loch reports that, owing to the steady opposition of the merchants, the municipality have not been able to do anything in the matter. He adds that some Barsi merchants who had lately gone to see him were entirely opposed to the project of building a grain market and warehouses at that town, on the ground that they all had wakhars of their own and they did not want to change their way of doing business. He therefore considers it unlikely that warehouses built either at Sholapur or Barsi would pay at present.

Khandesh.

Mr. Propert sees no chance of introducing the railway warehouse system at the stations in the Khandesh District. He is not able to gather from the printed correspondence whether the Railway Company or the mercantile community are supposed to erect the buildings; the latter, however, he states, will certainly not do so, and if the former should pay the cost, they would charge rent which the Khandesh dalals who represent the Bombay wheat merchants would not pay. The wheat arrives at the stations in carts, and is, as a rule, loaded up in wagons without much delay and without expense. Mr. Propert, therefore, remarks that the time has hardly arrived for providing expensive buildings in which to store the grain previous to despatch by rail.

Poona.

Mr. East intimates that as there is no wheat trade in Poona, the Managing Committee of the Poona Municipality are of opinion that there is no necessity for warehouses near the Poona railway station.

Ahmednagar

Mr. Waddington states that the wheat trade of the Ahmednagar District is not very extensive. The municipality of Nagor have constructed extensive godowns in the vicinity of the railway station for the storage of cotton, and these godowns are also availed of to a considerable extent for the storage of bajri and other grain, and would afford ample room for the storage of wheat as well, should the trade in that cereal increase. Beyond this Mr. Waddington does not consider that anything can be done in the Ahmednagar District.

Satara.

In enclosing a return showing the outturn of wheat for each taluka during the year 1883-84, Mr. King reports that the wheat crop is by no means contemptible as regards the Satara District, but as the principal towns of the district lie at some distance from the railway, and it is at present uncertain how far the railway will succeed in competing with the traffic which now finds its way down to the small ports in the Ratnagiri and Kolaba districts, he is not able to state where the experiment of establishing grain warehouses could be tried with the best chance of success, and therefore only suggests that as the carrying trade of the district is likely to pass through a crisis which may amount to a revolution at no very distant date, no measures based on the assumption that the current of traffic will set in this or that direction can be safely or economically encouraged, and that they should be deferred until they are warranted by practical results.

Nasik.

Mr. Woodward merely states that the Presidents of the several Taluka Local Boards concerned are in favour of establishing grain warehouses, but express their inability to provide funds.

11

RESOLUTION BY GOVERNMENT, Bombay, Public Works Department, Railway
No. 781, dated 29th March 1886.

Read again :

Government Resolution No. 4692, dated 9th June 1885, in the Revenue Department.

From the Consulting Engineer for Railways, No. 2033, dated 25th March 1886.

With reference to Government Resolution, No. 1602, dated 2nd January 1886 (passed on Revenue Department Government Resolution No. 4692 of 1885), submits the replies of the Agents, Great Indian Peninsula, Bombay, Baroda, and Central India, and Southern Mahratta Railway Companies, and the Manager, Bhavnagar-Gondal Railway, on the subject of the provision of warehouses for the storage of wheat near railway stations, and observes as follows :—

"In accordance with the order embodied in paragraph 2 of the Revenue Department Government Resolution No. 4692 of 1885, communications have passed between the Consulting Engineer for Railways and the Agents of the Railway Companies, and the Manager, Bhavnagar-Gondal State Railway, with the object of ascertaining where warehouses are chiefly required. The replies of the Companies are given in the tabulated form attached hereto.

"The Great Indian Peninsula Railway Company now name certain stations at which they think warehouses are required. A statement, which accompanies, shows the wheat traffic of those stations and also the oil-seed traffic.

"The Bombay, Baroda, and Central India Railway Company do not consider any further accommodation is required on the wide-gauge line at present. As regards the narrow-gauge line, the Agent is in correspondence with the Punjab Government.

"On the Bhavnagar-Gondal line there is no necessity for warehouses, and on the Southern Mahratta Railway the traffic is not yet sufficiently developed to admit of action being taken with confidence."

Resolution.—The reports from the Railway Administrations and the statement of traffic should be forwarded to the Chamber of Commerce, Bombay, with the following letter:—

With reference to paragraph 2 of Government Resolution in the Revenue Department, No. 4692, dated 9th June 1885, I am directed to forward copies of communications from the Railway Administrations under the control of this Government, expressing their views on the question of the desirability for the provision of warehouses for the storage of wheat near railway stations, together with a statement showing the total weight of inward and outward wheat and oil-seed traffic handled during the last three years at certain stations in the Central Provinces, and to solicit the favour of being furnished with the opinion of the Chamber as to the places at which warehouses would be most desirable.

Suitable stations for warehouses.

STATEMENT OF REPLIES from the RAILWAY ADMINISTRATIONS in the BOMBAY CIRCLE as regards the WAREHOUSE ACCOMMODATION for GRAIN TRAFFIC along the Line provided by LOCAL ADMINISTRATIONS, MUNICIPALITIES, and PRIVATE TRADERS, and their opinions as to the STATIONS at which it is desirable that such Accommodation should be provided.

Great Indian Peninsula Railway.	Bombay, Baroda and Central India Railway.	Southern Mahratta Railway	Bhavnagar-Gondal Railway.	Replies of Railway authorities.
<p>States that the Local Municipalities have erected storage-sheds at Nandura, Mulkapur, and Harda; that one at Multizapur has been built by the Local Funds; that there are sheds at Nagpur, but they are little used, that there are also sheds at Chendni, Bandar, Devlali, Kherwadi, and Dharmangam (belonging to Messrs. Ralli Brothers) and Wardah (erected by Messrs. Narandas Rajaram), but they scarcely come under the category of those which are the subject of inquiry.</p> <p>Adds that he thinks that warehouses might be erected in the first instance at the following stations on the line: Timarni, Sivni, Sohagpur, Pipariya, Bankhed, Kareli, Chhindvada, and Narsingpur, and if the experiment is successful, other stations might be mentioned hereafter.</p>	<p>As regards the general question, while conceding that the construction of such store-houses near stations where there is a large grain traffic offered, would be profitable to merchants, is distinctly of opinion that it is not within the province of the Railway Companies themselves to provide such conveniences, and that their action should be limited to rendering assistance in the way of providing sites where such cannot be found near stations and laying down sidings for facilitating, loading up, etc.</p> <p>The only stations on the Bombay, Baroda and Central India Railway at which storehouses would appear to be of any use are Nariad, Umreth, and Wasad. There is one existing at Nariad erected by the Local Fund Committee, and suffices for the purpose, but the grain traffic is not sufficient to pay any one to construct them at the two latter stations, but the Baroda State might be moved to make inquiries as regards the desirability for providing such storehouses there</p> <p>On the Rajputana-Malwa Railway the only stations at which the construction of warehouses appears desirable are Delhi, Hansi, Hissar, Sirsa, Bhatinda and Kotkapura; at Bhiwani there is a warehouse built by the Municipality which is availed of by merchants.</p>	<p>No warehouses have been erected at any of the stations on the line by Local Administrations, Municipalities or private traders, and the trade in wheat and other food-grains has not sufficiently developed to enable the Agent to say at what places it would be desirable to provide such accommodation</p>	<p>The traffic of wheat, &c., is at present small, and it is therefore considered unnecessary to provide warehouses near the stations on the line. No such accommodation has been provided at any station by Local Administrations, Municipalities or private traders</p>	

STATEMENT showing the WEIGHT of TOTAL INWARD and OUTWARD WHEAT and OIL SEED TRAFFIC of the under-mentioned STATIONS on the GREAT INDIAN PENINSULA RAILWAY during the last Three Years.

Stations.	Wheat Traffic.	Linseed Traffic.	Til Seed Traffic.	"Other Oil Seed Traffic."	Total Oil Seed Traffic.
Timarni	Maunds 7,50,780 (Tons 27,806)	Maunds. 3,351	Maunds. 2,883	—	Maunds. 6,234 (Tons 230)
Sivni	14,63,905 (Tons 54,218)	23,486	27,178	—	50,659 (Tons 1,876)
Sohagpur	2,30,130 (Tons 8,523)	2,873	7,028	27	9,923 (Tons 367)
Pipariya	10,52,351 (Tons 38,975)	21,633	24,199	—	45,832 (Tons 1,697)
Bankhed	4,07,903 (Tons 15,107)	7,687	18,628	—	26,315 (Tons 974)
Kareli	19,99,052 (Tons 74,038)	2,26,826	1,43,463	17	3,70,306 (Tons 13,715)
Narsingpur	1,72,590 (Tons 6,392)	6,548	10,527	—	17,075 (Tons 622)
Chhindvada	7,28,528 (Tons 26,982)	57,620	66,463	167	1,24,250 (Tons 4,601)

12.

RESOLUTION BY GOVERNMENT, BOMBAY, PUBLIC WORKS DEPARTMENT, RAILWAY, No. 1676, dated 27th July 1886.

READ again Government Resolution No. 781, dated 29th March 1886.

From the Secretary to the Chamber of Commerce, Bombay, dated 28th June 1886 :—

Opinion of
Bombay
Chamber of
Commerce.

"I have to acknowledge the receipt of your letter No. 781, of 29th March last, forwarding copies of communications from the Railway Administrations under the control of Government, expressing their views on the question of the desirability of providing warehouses near railway stations for the storage of wheat; and requesting to be furnished with the opinion of the Chamber as to the places at which warehouses would be most desirable.

"2. Before replying, the Committee took steps to ascertain the views of the proposal entertained by the members of the Chamber who are most largely interested in the wheat and oil-seed trade of the port; and I am now directed to inform you that the opinions expressed are unanimously in favour of such warehouses or depôts being provided at all stations where the extent of the traffic appears to call for the accommodation.

"3. These points can, of course, be best indicated from experience by the railway authorities themselves; but I append a list of the places which, from the trade passing through them, seem to the members of the Chamber desirable locations.

Warehouse
rules sug-
gested.

"4. In connexion with the proposed arrangement, however, I am instructed to point out that it would be advisable to impose such regulations for the use of the accommodation as would prevent its being availed of for the mere purpose of local storage, free of charge, as that might be utilised by dealers as a means of hoarding supplies with a view to affecting the Bombay market. Probably it would be sufficient to obviate this if it were made a rule that all stuff lodged in the warehouses should be allowed to remain only until such times as the Railway Companies were able to provide wagons for its removal.

Deficiency
of rolling
stock on
Great Indian
Peninsula
Railway.

"5. It might not be out of place here to point out that serious complaints continue to be made by merchants, both Native and European, as to the delay and expense imposed on the trade by the deficient supply of rolling stock in possession of the railways. The complaints are more particularly against the Great Indian Peninsula Railway Company, who have been quite unable to keep pace with the requirements of traffic this season during the six weeks preceding the setting in of the rains. The fact of the pressure being confined to such a short space of time will, no doubt, be alleged by the companies as a reason for not providing themselves with a larger number of engines and wagons, but the concentration of traffic into a limited portion of the

season is incidental to the nature of the trade, and quite unavoidable—in fact, is more likely to increase than diminish as time goes on, so that the want will have to be supplied sooner or later, and the earlier the matter is taken in hand the better. These proposed warehouses would, no doubt, assist in mitigating the pressure; but they would not accelerate the transport of produce to the seaport before the rains, which is the objection complained of.”

RESOLUTION.—Extract, paragraphs 1 to 4, from the letter of the Chamber of Commerce, together with copy of Bombay Government Resolution, Railway Department, No. 781 of 1886, and of the statement therein referred to, should be forwarded to the Resident at Hyderabad, and the Chief Commissioner, Central Provinces, for information and such action as may be deemed necessary.

2. The Consulting Engineer for Railways should report on paragraph 5 after communication with the Agent, Great Indian Peninsula Railway Company.

3. The question of providing warehouses or storehouses at stations in the Bombay Presidency should be further considered in the Revenue and Public Works Departments. As pointed out by the Agent, Bombay, Baroda and Central India Railway Company, it is not within the province of the Railway Companies to provide these conveniences, but sites may perhaps, in some cases, be found on railway land.

Provision of warehouses not the duty of Railway Companies

Railway Stations near which the Chamber of Commerce, in their letter dated 28th June 1886, recommend the establishment of Warehouses for the storage of Wheat, &c.

Ahmedabad Collectorate.

1. Viramgam.

Ahmednagar Collectorate.

1. Ahmednagar.

Khandesh Collectorate.

1. Jalgaon.
2. Chalisgaon.

Nasik Collectorate.

1. Lasalgaon.
2. Nasik.
3. Manmad.
4. Niphad.
5. Nandgaon.

Poona Collectorate.

1. Diksal.

Sholapur Collectorate.

1. Jehur.
2. Barsi Road.
3. Madha.
4. Mohol.
5. Kim.
6. Sholapur.

Baroda State.

1. Unja.
2. Mehsana.
3. Bhundu.

Kaira Collectorate.

1. Wassud.
2. Umrath.
3. Godhra.

Central Provinces.

1. Kirkian.
2. Timarni.
3. Pagdhal.
4. Seoni.
5. Dhuramkundi.
6. Dularia.
7. Itarsi.
8. Semri.
9. Piparia.
10. Bunkheri.
11. Gadarwara.
12. Kareli.
13. Narsingpur.
14. Chindwara.
15. Shahapur.
16. Pulgaon.
17. Degon.
18. Panner.
19. Sindi.
20. Bori.
21. Sohagpur.
22. Nagpur.
23. Hurda.
24. Jabalpur.
25. Rajnandgaum.
26. Wardha.

Suggested warehouse stations.

Hyderabad Assigned Districts.

1. Mulkapur.
2. Murtizapur.
3. Manna.
4. Chandur.
5. Dhamargaon.
6. Khangaum.
7. Boregaum.
8. Amraoti.
9. Gulburga.
10. Akola.
11. Badnera.

13.

RESOLUTION BY GOVERNMENT, BOMBAY, PUBLIC WORKS DEPARTMENT, No. 645, C.W., dated 8th November 1886.

READ letter from the Superintending Engineer, Southern Division, No. 1823, dated 11th August 1886:—

"I have the honour to acknowledge the receipt of Government memorandum, No. 868 B., of the 6th August 1886, which forwards, for report and opinion, certain papers bearing on the question of providing warehouses or storehouses at railway stations; the call is in this form, and no special points are specified as those on which report and opinion is required; I trust, therefore, that it will be excused if I touch on any matters that may be considered beyond my province.

"2. First, as to where the obligation lies of providing such accommodation as may be required for giving shelter to goods as well as passengers arriving at stations for carriage by rail, — I should have thought that it was certainly with the Railway Companies, and that this had never been disputed; the remedy for any attempt to use these goods stations as warehouses is as indicated in the 4th paragraph of the letter from the Chamber of Commerce; the provision of warehouses for storage should, it appears to me, be left entirely to private enterprise; no company would think of complaining of excess of custom, and none can fairly object to providing passenger and goods accommodation reasonably sufficient for their custom.

"3. In the face of the statement as regards the present condition of the traffic made by the Agent, Southern Mahratta Railway, no opinion, from anyone as to the location of warehouses on that line, by whomsoever built, can be looked for; but some special arrangements for sheltering goods, carts, and bullocks and their drivers, will certainly be required at both ends of the cart road link, between the above ghât and below ghât temporary termini, at Baralkod and Collem respectively, of the Hubli-Marmagao Railway; the above ghât terminus will be in a very unhealthy locality; the number of carts is expected to be 800 a day both ways, and this road link will be required for certainly one year (from the 1st January 1887) and probably two or more."

Memorandum from the Superintending Engineer, Northern Division, No. 4,163, dated 22nd September 1886:—

"Reporting on the accompaniments to Government endorsement No. 868 B., of 1886, dated 6th August, the Acting Superintending Engineer, Northern Division, is of opinion that warehouses for the storage of wheat, &c., near railway stations might advantageously be built at Wasad, Umreth, and Godhra, and at Viramgam, Jhund, and Sanand. At Viramgam the trade is large and thoroughly established, and there is little doubt that a large warehouse there, if conveniently placed, will be a convenience to trade and will pay a good return on outlay. The trade at Wasad, Umreth, and Godhra is sufficiently large to require warehouse accommodation and to pay for it.

"2. At Jhund and Sanand it will be well to build at first small warehouses capable of extension, should trade develop and require more accommodation.

"3. The warehouses at Nadiad are much used and are financially a success, the best proof possible that such warehouses are a convenience to trade; but they would have been even more useful if better placed, as they are too far from the railway. When building new warehouses they should, if possible, be placed on a railway siding, so that the labour and loss and risk in loading may be reduced to a minimum."

Memorandum from the Superintending Engineer, Northern Division, No. 4,310, dated 4th October 1886.

With reference to Government Memorandum No. 1,051 B., dated 25th September 1886, forwards a letter from the Executive Engineer, Kaira, who states as follows:—

"The warehouse at Nadiad was constructed from Local Funds at a total cost of Rs. 4,820 during 1884-85.

The realisation on account of rent for the year ending 31st October 1885 (the first year after construction) was -	439
The realisation on account of rent for the year ending 31st October 1886 -	868

Total -	<u>1,307</u>
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Rs.

"2. There is no scale fixed for levying charges for storing grain, &c., but the different rooms in the building are put up to auction annually by the Revenue Authorities for one year's tenancy on certain conditions."

Memorandum from the Public Works Department (Railway), No. 2345, dated 22nd October 1886.

With reference to Public Works Department memorandum No. 1108 B., dated 8th October 1886, forwards a statement showing the weight of inward and outward wheat, cotton seeds, and seeds traffic at the Nadiad Station of the Bombay, Baroda and Central India Railway during the last three years 1883 to 1885; and states that, as this Railway Company compiles no returns under the head "Oil Seeds," information as regards cotton seeds and seeds has been entered therein.

2. The provision of warehouses at railway stations is not an object on which expenditure could be incurred from Provincial funds, and the matter appears to be one for the consideration of the Local Boards and Municipalities concerned. Warehouses should be provided by Local Boards and Municipalities.

3. It is observed that a warehouse has been erected at Nadiad, the cost of which (Rs.4,820) has been met from Local funds, and that the receipts therefrom in the current year are shown as Rs.868.

BENGAL.

14.

DIRECTOR, DEPARTMENT OF LAND RECORDS AND AGRICULTURE, to GOVERNMENT, BENGAL,
No. 391 T., dated 7th July 1886.

3. Regarding the question of obtaining clean grain for export, the following remarks were made in my letter of the 2nd September:— Bengal: Director of Agriculture's Report.

"The impure condition of Indian as compared with the wheat of other countries is attributed to one or more of the three following causes:—

1st.—The mixture of other grains due to the practice of growing two or more crops on the same land at the same time.

2nd.—Imperfect arrangements for winnowing the grain and removal of extraneous matter.

3rd.—Deliberate adulteration by traders, brokers, or others.

"As regards the first of the causes enumerated above, it will be observed that the Bengal Government, in circulating among Commissioners the letter from the Government of India, No. 57 A., dated 10th August 1883, with Mr. Bolton's circular No. 7T—R, dated 4th September 1883, desired these officers to issue instructions to Collectors of wheat-producing districts, in accordance with the wishes of the Government of India, to impress on wheat-growers the importance of preventing the admixture of other grains with wheat, and at the same time called upon them to report the action which Collectors might take in the matter. The Commissioners generally reported, in reply, that little could be done, but added that all that was possible would be done in making known to the cultivators the importance of keeping their wheat free from foreign substances. The Assistant Commissioner of Palamow went further than this, and promised that he would endeavour to persuade cultivators to sow their wheat by itself in the course of his next cold-weather tour; while the Commissioner of Patna submitted for the approval of Government a draft circular which he proposed to issue to zamindars, patwaris, and others, pointing out to them the disadvantage of growing wheat in the same fields as other grains. Attention has, however, been called since that time to the circumstance that the cultivator, in growing oilseeds or other crops with wheat, selects such crops as are likely to succeed in a drought when wheat fails, and thus protects himself against the risks of an unfavourable season. Bengal wheat contains a large admixture of linseed, stones and mud. The standard of refraction in Calcutta being 5 per cent., any refraction there may be over and above this standard is deducted from the value of the parcel. If, for example, the refraction is 8 per cent., a deduction is made of 3 per cent.; but it is to be remembered, on the other hand, that as 5 per cent. is ordinarily deducted, it is doubtful whether cultivators would under existing arrangements derive any benefit from the production of entirely clean grain or grain in which there may be less than 5 per cent. of foreign matter. It is found in the trade that mud can be got rid of,

Prevention of impurities.

"Refraction" system.

but there is no process known by which linseed or barley can be separated from the wheat, and hence it happens that parcels containing an admixture of mud sell better in the London market than parcels containing an equal weight of admixture of other grains. It is to avoid this admixture that merchants agitate against the simultaneous growth of two or more crops with wheat in the same field.

Mixed crops. "The advantage of producing clean wheat would, as a matter of course, be represented by the smaller refraction of (say) 2 per cent. over and above the minimum of 5 which might be charged on pure wheat if it could be generally procured; but it is yet to be shown that any appreciable part of this advantage would reach the cultivator as long as a uniform minimum standard of refraction is adopted by the exporters in Calcutta. That, then, the growth of other crops simultaneously with wheat in the fields is, under all circumstances, to be deprecated, does not appear to be a conclusion so obviously certain *à priori*, or so firmly established by the results of experience, as to warrant, for the present at all events, the active interference of Government officers in discountenancing the practice. In the present state of our knowledge on the subject, all that it seems desirable to do is to point out to the cultivator the advantages, such as they are, of producing clean wheat, and of separating the hard and soft and the white and red grains in the selection of seed, and to leave it to him to determine whether the reasons for growing a mixed crop are outweighed by the reasons for growing it alone. The question, however, is one which demands further inquiry, and I request that you will give it your attention and report upon it in due time."

Reasons for mixed crops. 4. On the first of the causes enumerated above, to which the impurity of Indian wheat was attributed, namely, the admixture of other grains, due to the practice of growing other crops at the same time, the reports now received show that there is unanimity of opinion to the effect that Government should not interfere with a view to discourage the growth of other crops with wheat. Cultivators are not indifferent to the advantages of producing clean grains, but they prefer to grow mixed crops with a view to secure a better outturn, and at the same time to guard against the risk of failure to which they would be liable by growing an unmixed crop. The advantage from the cultivator's point of view of sowing wheat alone is not clear, for by growing a double crop he gets a chance of securing something if the wheat fails, and moreover, when a deep-rooted crop like wheat is grown with a surface feeder like barley, each stalk of wheat has a larger area for its roots, and the grains are likely to be fuller and heavier than if only wheat were sown. For these reasons it would appear that the active interference of Government officers, with a view to discountenance the practice of growing other crops simultaneously with wheat, is not warranted. All that officials can safely do in this direction is to circulate information showing the prices which may be realised in Calcutta for entirely clean and for impure grain respectively, leaving it to cultivators themselves to determine whether the reasons in favour of growing a mixed crop outweigh those in favour of growing wheat alone. The strength and force of these reasons will, as shown later on, entirely depend on the efficacy of any action which the Chamber of Commerce may find it possible to take towards altering the present system, under which a uniform minimum standard of refraction is adopted by the exporters in Calcutta.

Deliberate adulteration. 5. With regard to the third cause given for the impurity of Indian wheat, namely, deliberate adulteration on the part of middlemen or cultivators by admixture of dirt, an opinion was expressed in my letter of September 2nd, on which comment was invited from the Chamber of Commerce, to the effect that the real reason why Indian wheat is adulterated by admixture of foreign substances lies not in defectiveness of winnowing arrangements, but in the fact that it is not to the cultivator's interest to produce entirely clean grain; for so long as a minimum of 5 per cent. refraction is deducted by exporters in Calcutta, it is evident that it is the interest of the producer to mix dirt with the grain to that extent at least. It was suggested that the remedy therefore lies, not in the introduction of better winnowing arrangements so much as in the alteration of the present system of deductions for refraction. A very remarkable confirmation of this view is afforded by Mr. Allen's interesting report which I quote at length on this point:—

Its causes. "Similar arguments," he says, "apply to adulteration of mud, &c. These, I believe, the ryot does not add wilfully because the bepari or petty trader to whom he sells would detect them in his small consignment and pay him an inferior price. On the other hand, the petty trader does not insist on cleaned grain, for he will not himself sell grain containing less than 5 per cent. of impurities, which, if deficient, he will add; for so long as the Calcutta merchants accept 5 per cent. as refraction, it would not

pay the bepari to sell grain with only 1 or 2 per cent. of adulteration. This brings me to the real point of the whole question. It is purely a case of supply and demand. If the Calcutta merchants insisted on cleaned grain, they would get it. They do insist on clean samples in the case of linseed, and the result is that linseed is cleaned by the actual cultivators before being sold to the petty dealers. The same result would, I believe, follow in the case of wheat. As matters now stand wheat in Patna is freely adulterated. Ralli Brothers, in Patna City, deal only with the petty dealers, and these refuse to give any guarantee with the wheat sold. Each lot has to be tested both for impurities and for the per-centage of red grain before the price is fixed. If the samples tested happen to be superior to the bulk, the bepari gains. If they should be inferior, the bepari can refuse to deal, and so he cannot lose either way. The cultivators never get a fair price, for the brokers and the aratdars have each to get their commissions on each transaction between the bepari and Ralli Brothers. In some marts where the grain comes chiefly from the neighbourhood it might be possible for Ralli Brothers to deal directly with the actual cultivators; but in Patna, where the grain comes largely from Gorakhpore and Fyzabad, this is impossible, and the agent for Ralli Brothers is compelled to deal with the petty dealers, whose interest it is to cheat him if they possibly can.

“ Since writing the above, I have had a remarkable confirmation of these views from the Manager of the Dumraon Raj, the Honorable Joy Prokash Lall. The statements he made were so significant that I took a note of them at the time, and at the same time informed him that I should embody them in this report. The Manager said that about two years ago, when the prospects of the wheat trade were apparently good, he seriously thought of cultivating wheat on a large scale. He estimated that on the Raja's estates there were 300,000 acres of land capable of growing wheat, and he proposed commencing operations with a capital of two lakhs. His idea was to induce the ryots to grow wheat alone by means of advances in coin and seed, and he intended purchasing machinery, such as he had seen at the Calcutta Exhibition, for cleaning the grain. All that he now required was a remunerative market. Last year, when in Calcutta on Council business, he called at the office of Ralli Brothers, and after telling them his plans asked what price they would give for clean grain. *Ralli Brothers informed him that owing to the action of the merchants in England they could not afford to pay more for a clean sample than they now did for grain with 5 per cent. refraction.* Upon hearing this the Manager abandoned the idea of growing and cleaning wheat on a large scale. It is difficult to overrate the significance of this anecdote, which appears to prove conclusively that so long as merchants will not pay a higher price for clean grain, it is useless for Government to think of inducing cultivators to change their present practice.

Evils of
refraction
system.

“ I then asked the Manager about wilful adulteration. He said that he had a gola at Itarsi, near Buxar, from which he used to sell wheat on rather a large scale to the agent of Ralli Brothers at Buxar. The wheat as he got it did not contain 5 per cent. of foreign matter. Accordingly, his servants were directed to mix two maunds of earth with every 100 maunds of grain, so as to bring the adulteration up to the required standard. This earth was treated with water and specially prepared for the purpose of adulteration. The suggestion for adulterating the grain in this way came, as the Manager says, from the employés of Ralli Brothers. This fully bears out what Major Boileau says, that grain-dealers in Dinapore wilfully adulterate their grain, adding about two maunds and thirty seers of dry clay, bhusee, and other grains to every hundred maunds of wheat. Mr. T. Gibbon, C.I.E., the Manager of the Bettiah Raj, told me that wilful adulteration was practised by the petty dealers in Chumparun. and Mr. Carnduff writing from Hajipore, a large grain mart, says:—‘ In the hands of the middlemen, when the grain is lodged in their golas, such grains as *akla pipra* are, I understand, intentionally added with a view to adulteration.’ Mr. Jenkins, from Buxar, who has clearly paid a good deal of attention to the subject, is of the same opinion.

* * * * *

“ Messrs. Mylne and Thompson have pointed out to me that adulteration of *gúr* is analogous to the adulteration of wheat. When their sugar-mills were first introduced, they were valued by the purchasers on account of their saving labour, and not because they turned out a cleaner article. Even now the Bunniahs in Jugdispore refuse to pay a higher price for *gúr* free from adulteration, and though the cultivators *can* produce clean *gúr*, and *will* do so if required, it does not pay them to clean the *gúr* they sell in open market. There is now, however, a tendency among European firms to pay a higher price for purer *gúr*; similarly, if the merchants would reduce their standard of

refraction, they would get cleaner samples of wheat. This question is treated exhaustively in the report from Shahabad, and it is so difficult to make extracts without omitting something of interest that I venture to suggest that the whole report be sent in original. The possibility of cleaning grain with the ordinary tray-shaped fan (scoop) is pointed out by the Collector of Sarun, and in the report from the Patna district."

Remedy lies with the Trade.

6. As regards, then, the alleged imperfection of present arrangements for winnowing, it will thus be seen that the mixture of dust from the threshing-floor forms a very small portion of the impurities found in Indian grain, and that the present arrangements for winnowing are as good as can be hoped for under present conditions. It will of course be desirable to effect improvements in winnowing and threshing should any be found possible; but the root of the evil complained of can only be reached by the abolition of the system of deducting a minimum refraction of 5 per cent.—a remedy which lies in the hands of the merchants themselves. The facts mentioned by the Manager of the Dumraon Raj show conclusively that clean grain will be forthcoming if the merchants pay for it, and that it will not be forthcoming, however perfect the winnowing and threshing arrangements may be, so long as a minimum of 5 per cent. is deducted for impurities, be the samples ever so clean.

Reply of Calcutta Chamber of Commerce.

7. These facts and arguments have been brought to the notice of the Calcutta Chamber of Commerce, who, while not denying their force, express regret that they are unable in the present state of the trade to alter the existing practice in this respect. As long as that practice continues, it would appear to me to be futile for Government officers to talk to cultivators of the advantages of producing entirely clean grain. On the contrary, if Government officials interfere at all in the matter, it should be by explaining to the cultivators that it is their interest to mix at least 5 per cent. of foreign matter with clean grain before offering it for sale.

Messrs. Reinhold's scheme impracticable.

12. With reference to Messrs. Reinhold Brothers' scheme for the provision by Government of facilities for storing wheat near railway stations where the grain might be cleaned and graded on the American system, there is unanimity of opinion adverse to the proposal. I agree in the view that it is impracticable and inexpedient to establish grading warehouses in the manner suggested, and concur with the Director of the Agricultural Department of the North-Western Provinces in thinking that if any such action as is suggested by Messrs. Reinhold Brothers is to be taken, it is precisely the kind of thing which ought to be done by private agency, and in which Government should not interfere unless the Chamber of Commerce find they are unable to insist on proper arrangements. In the present instance the Chamber are opposed to such interference, and no complaints are anywhere made of the insufficiency of the present storage accommodation at railway stations. The East Indian Railway authorities, it may be added, have recently reduced the freight rates from Patna, which now amounts to one-sixth of a pie per maund per mile. It will be seen, however, from the annexed list that while the freights from Patna have been reduced by more than 20 per cent. within the present year, no corresponding reduction has been made in freights from Dumraon and Buxar, from which stations local wheat should be largely exported.

15.

DIRECTOR, DEPARTMENT OF LAND RECORDS AND AGRICULTURE, to ASSISTANTS to DIRECTOR, Nos. 414-16, dated 2nd September, 1885.

Causes of impurity of Indian wheat.

The first question to which attention is called is the necessity of obtaining clean grain for export. It will be seen from the papers that the mixture of foreign matter in the wheat now sent to Calcutta for export is said seriously to depreciate its price, thus affecting unfavourably India's ability to compete successfully with America, Australia and other countries, and ultimately injuring the producers. The impure condition of Indian as compared with the wheat of other countries is attributed to one or more of the three following causes:—

- 1st. The mixture of other grains due to the practice of growing two or more crops on the same land at the same time.
- 2nd. Imperfect arrangements for winnowing the grain and removal of extraneous matter.
- 3rd. Deliberate adulteration by traders, brokers, or others.

2. As regards the first of the causes enumerated above, it will be observed that the Bengal Government * * * * * desired these officers to issue instructions to Collectors of wheat-producing districts, in accordance with the wishes of the Government of India, to impress on wheat growers the importance of preventing the admixture of other grains with wheat, and at the same time called upon them to report the action which Collectors might take in the matter. The Commissioners generally reported, in reply, that little could be done in the matter, and added that all that was possible would be done in making known to the cultivators the importance of keeping their wheat free from foreign substances. The Assistant Commissioner of Palamow went further than this, and promised that he would endeavour to persuade cultivators to sow their wheat by itself in the course of his next cold-weather tour, while the Commissioner of Patna submitted for the approval of Government a draft circular which he proposed to issue to zemindars, patwaris, and others, pointing out to them the disadvantage of growing wheat in the same fields as other grains. Attention has, however, been called since that time to the circumstance that the cultivator, in growing oilseeds or other crops with wheat, selects such crops as are likely to succeed in a drought when wheat fails, and thus protects himself against the risks of an unfavourable season. Bengal wheat contains a large admixture of linseed, stones and mud. The standard of refraction in Calcutta being 5 per cent., any refraction there may be over and above this standard is deducted from the value of the parcel. If, for example, the refraction is 8 per cent., a deduction is made of 3 per cent., but it is to be remembered, on the other hand, that as 5 per cent. is ordinarily deducted, it is doubtful whether cultivators would, under existing arrangements, derive any benefit from the production of entirely clean grain, or grain in which there may be less than 5 per cent. of foreign matter. It is found in the trade that mud can be got rid of, but there is no process known by which linseed or barley can be separated from the wheat, and hence it happens that parcels containing an admixture of mud sell better in the London market than parcels containing an equal weight of admixture of other grains. It is to avoid this admixture that merchants agitate against the simultaneous growth of two or more crops with wheat in the same field.

1st cause.—
Mixed crops.

2. (a.) The advantage of producing clean wheat would, as a matter of course, be represented by the smaller refraction of say 2 per cent. which might be charged on pure wheat, if it could be generally procured, instead of the ordinary refraction of 7 to 10 per cent., but it is yet to be shown that any appreciable part of this advantage would reach the cultivator as long as a uniform minimum standard of refraction is adopted by the exporters in Calcutta. That, then, the growth of other crops simultaneously with wheat in the same field is, under all circumstances, to be deprecated does not appear to be a conclusion so obviously certain *a priori*, or so firmly established by the results of experience as to warrant, for the present at all events, the active interference of Government officers in discountenancing the practice. In the present state of our knowledge on the subject, all that seems desirable to do would appear to be to point out to the cultivator the advantages, such as they are, of producing clean wheat, and of separating the hard and soft and the white and red grains in the selection of seed, and to leave it to him to determine whether the reasons for growing a mixed crop are outweighed by the reasons for growing it alone. The question, however, is one which demands further inquiry, and I request that you will give it your attention and report upon it in due time.

3. With reference to the second cause given for the impurity of India wheat, namely, the defectiveness of existing arrangements for winnowing, I would invite your attention to the remarks made in paragraph 5 of the Proceedings of the Punjab Government. It is there stated that the suggestion has been made that it might not perhaps be beyond the "ryot's means to thresh his wheat on a wood, canvas, or matting floor, and that a common fan would be far more efficacious than winnowing the grain by exposing it to the action of the wind by pouring it out of a basket or tray."

2nd cause.—
Defective
winnowing.

4. The Punjab Government is, however, of opinion that little in this direction can be expected from the cultivators, and it looks mainly to the traders to provide cleaning or winnowing machines. It appears certain that nothing can be hoped for in this matter from ordinary cultivators, at least until it can be clearly shown them that they would derive any adequate advantage from the production of entirely clean grain. The fact would seem to be that the impurity of Indian wheat is due to deliberate adulteration by brokers and traders as much as to admixture of foreign grains or

3rd cause.—
Wilful
adulteration.

imperfect winnowing on the part of the cultivators. If, however, anything is to be done in the direction of introducing better arrangements for cleaning the grain by winnowing machines or otherwise, the agency through whom the attempt must be made is that of zemindars, village headmen, or the grain-dealers themselves.

Messrs.
Reinhold's
scheme.

7. In paragraph 4 of the letter from the Bengal Government and paragraph 11 of the Resolution of the Punjab Government is discussed a proposal made by Messrs. Reinhold of Cawnpore to establish a system of inspecting and grading wheat similar to that adopted in America. The proposal does not receive, it is believed, much favour from the Calcutta Chamber of Commerce, but the question of the establishment of such a system in Patna, from which some 13 lakhs of maunds are sent annually by rail to Calcutta—a quantity which is more than double that consigned from Cawnpore or any other station in India—is one on which Mr Allen is requested to report fully, after communication with persons interested in the wheat trade in Patna. The special officer of the Bhagulpore Division should make similar inquiries regarding the expediency or otherwise of establishing a similar system in Bhagulpore or Monghyr, from which large quantities are sent by boat. In connexion with this subject agricultural officers are requested to inquire into the sufficiency of the existing accommodation for storage of wheat at or near railway stations; to what extent, if any, inconvenience or loss is now caused by the insufficiency of such accommodation; whether it is necessary or desirable to establish warehouses in the way suggested, near railway stations, or in the gunges or marts by the river-side, whence the wheat is shipped, and if so, whether it would be feasible to make arrangements for cleaning the grain stored in such warehouses.

16.

Mr. D. B. ALLEN, Assistant to Director, Department of Land Records and Agriculture, to COMMISSIONER, Patna Division, dated 2nd December 1885.

I have the honour to submit a report on the wheat cultivation of this division. My information is derived from reports submitted by each Collector, and by the Chairmen of Mozufferpore, Gya, Arrah and Durbhunga, and also from independent sources.

Before giving my own views, which, so far as Patna is concerned, are embodied in the report by the Collector of the Patna district, I will here summarise some of the reports to which I have had access.

Abstract of
Collectors'
replies,
Patna Division.

2. The Collector of Chumparun, Mr. Henry, forwards a resolution passed by the Municipal Commissioners of Motihari, deprecating the construction of a central warehouse for grading wheat, and points out that very little wheat is exported, and that little more than 5 per cent. of the cultivated area is grown with wheat.

The Collector of Mozufferpore, Mr. Norman, with whom the Municipal Commissioners agree, thinks that interference on the part of Government with wheat cultivation or trade would be a mistake, and points out that there is little or no export from the district. He also forwards reports from the Sub-divisional Officers and from a Deputy Collector and kanungo which do not require any special comment.

The Collector of Durbhunga, Mr. Price, as Chairman of the Municipality, is in favour of establishing warehouses near railway stations for storing and cleaning grain, but in another report as Collector, he states that Messrs. Reinhold Brothers' scheme does not commend itself to the trading community at Durbhunga, because it will greatly add to the charges incurred by the native merchants in dealing with European firms, and besides having got their certificate, the storage charges will hurry the market.

The Collector of Sarun, Mr. Forbes, in a report founded apparently solely on personal inquiries, points out that there is no export trade, properly so called, in wheat, the only business of the kind being merely a transshipment trade at Revilgunge and Chupra, where a considerable portion of grain traffic from the North-West Provinces changes hands on its way down the Gogra to Lower Bengal, the remaining portion being retained for consumption in the Sarun District. He disagrees with Mr. MacDonnell's view that there should be an average annual surplus of 20,000 tons of food-grains available for export from this district, holding that the annual supply is not even enough for the local demand. Finally, he is averse to the establishment of central warehouses even at Revilgunge, as there are already private golas there, where the merchants clean their own grain as much as they think desirable.

The Collector of Gya, Mr. Norton, and the Chairman of the Gya Municipality are both averse to warehouses, as there has been no export from this district for over two years, and besides, in the Collector's opinion, *keval* land on which three-fourths *bis* of the wheat is sown is not suited to growing white wheat.

The Collector of Patna, Mr. Quinn, agrees with me in thinking that central warehouses are a mistake, and though Major Boileau from Dinapore is in their favour as a means for securing a clean sample, he admits that the scheme would cost a great deal of money.

The Collector of Shahabad, Mr. Power, submits a very interesting report embodying lengthy extracts full of valuable information from his Sub-divisional Officers, Messrs. Jenkins and Macpherson, and from Mr. Peppe, Sub-Deputy Opium Agent. The Chairman of the Arrah Municipality, the Honourable Harbans Sahai, also submits a report in which he agrees with the Collector in thinking central warehouses unnecessary.

3. A consideration of the reports referred to above shows that from the northern half of the division there is practically no export trade in wheat, for the business done at Revilgunge has really nothing to do with the Sarun district. Again, from Gya there is now no export of wheat, and if the Collector's view is correct (of which, however, I am very doubtful), there is no likelihood of good white wheat being ever largely grown in the Gya district. Patna, too, though apparently a large exporter of wheat, really grows little more than is required for its own consumption; so the main interest of the wheat question centres in Patna City, the great wheat-distributing centre of the division, and the district of Shahabad, where wheat is grown for export, and where much of the soil is so suited for this crop that the best wheat in the Calcutta market, viz., Buxar club No. 1, is named after a sub-division of this district. Fortunately the reports from Shahabad are full of interest and enable one to discuss satisfactorily the various points raised by the Government of Bengal.

Shahabad
the only
exporting
district in
Patna Divi-
sion.

4. The first question to which attention is called is the necessity of obtaining clean grain for export. The impure condition of Indian as compared with the wheat of other countries is attributed, as the Director of the Agricultural Department points out, to one or more of the three following causes:—

First. The mixture of other grains due to the practice of growing two or more crops on the same land at the same time.

Second. Imperfect arrangements for winnowing the grain and removal of extraneous matter.

Third. Deliberate adulteration by traders, brokers or others.

First, All the reports show the prevalence of the practice of growing other crops along with wheat, and, as I said in my report to the Collector of the Patna district (paragraph 4), the advantage from a cultivator's point of view of sowing wheat alone is not very clear. By sowing a double crop he gets a chance of securing something if the wheat failed. Again, when a deep-rooted crop like wheat is grown with a surface foeder like barley, each stalk of wheat has a large area for its roots, and the grains are likely to be fuller and heavier than if only wheat were sown. This is well known to ryots, who select their grain seed from fields where wheat has been grown with barley. Then as regards the admixture of white and red wheats, it is extremely probable that soil and climate have the effects of converting white wheat into red. Suppose a ryot pays a high price for securing a clean sample of the best white wheat seed. Unless the soil of his field is suited for the growth of white wheat, the outturn will contain a proportion of red grains, and each successive year unless fresh seed be obtained, the proportion of red to white will go on increasing. The price of pure white wheat would have to be enhanced before it paid the ryot to separate the red grains from the bulk. But what are the facts? The best wheat exported from Calcutta, viz., Buxar club No. 1, contains 25 per cent. of red grains. When that is so, why should the cultivator go to the trouble and expense of selling pure white wheat when he gets the best price for white wheat mixed with 25 per cent. of red?

Reasons for
mixed crop.

Similar arguments apply to adulteration of mud, &c. These, I believe, the ryot does not add wilfully, because the bepari or petty trader to whom he sells would detect them in his small consignment and pay him an inferior price. On the other hand, the petty trader does not insist on cleaned grain, for he will not himself sell grain containing less than 5 per cent. of impurities, which, if deficient, he will add; for so long as the Calcutta merchants accept 5 per cent. as refraction, it will not pay the bepari to sell grain with only one or two per cent. of adulteration. This brings me to the real point of the whole question. It is purely a case of supply and demand. If the

Reasons for
adulteration

Calcutta merchants insisted on cleaned grain, they would get it. They do insist on clean samples in the case of linseed, and the result is that linseed is cleaned by the actual cultivators before being sold to the petty dealers. The same result would, I believe, follow in the case of wheat. As matters now stand, wheat in Patna is freely adulterated. Ralli Brothers in Patna City deal only with the petty dealers, and these refuse to give any guarantee with the wheat sold. Each lot has to be tested both for impurities and for the percentage of red grain before the price is fixed. If the samples tested happen to be superior to the bulk, the bepari gains. If they should be inferior, the bepari can refuse to deal, and so he cannot lose either way. The cultivators never get a fair price, for the brokers and the aratdars have each to get their commissions on each transaction between the bepari and Ralli Brothers. In some mart where the grain comes chiefly from the neighbourhood it might be possible for Ralli Brothers to deal directly with the actual cultivators, but in Patna, where the grain comes largely from Gorakhpore and Fyzabad, this is impossible, and the agent for Ralli Brothers is compelled to deal with the petty dealers, whose interest it is to cheat him if they possibly can.

No demand
for pure
grain.

5. Since writing the above, I have had a remarkable confirmation of these views from the Manager of the Dumraon Raj, the Honourable Jai Prokash Lall. The statements he made were so significant that I took a note of them at the time, and at the same time informed him that I should embody them in this report. The Manager said that about two years ago, when the prospects of the wheat trade were apparently good, he seriously thought of cultivating wheat on a large scale. He estimated that on the Raja's estates there were 300,000 acres of land capable of growing wheat, and he proposed commencing operations with a capital of two lakhs. His idea was to induce the ryots to grow wheat alone by means of advances in coin and seed, and he intended purchasing machinery such as he had seen at the Calcutta Exhibition for cleaning the grain. All that he now required was a remunerative market. Last year, when in Calcutta on Council business, he called at the office of Ralli Brothers, and after telling them his plans asked what price they would give for clean grain. Ralli Brothers informed him that owing to the action of the merchants in England, they could not afford to pay more for a clean sample than they now did for grain with 5 per cent. refraction. Upon hearing this the Manager abandoned the idea of growing and cleaning wheat on a large scale. It is difficult to overrate the significance of this anecdote, which appears to prove conclusively that so long as merchants will not pay a higher price for clean grain, it is useless for Government to think of inducing cultivators to change their present practice.

Causes of
adulteration.

6. I then asked the Manager about wilful adulteration. He said that he had a gola at Itarsi, near Buxar, from which he used to sell wheat on rather a large scale to the agent of Ralli Brothers at Buxar. The wheat as he got it did not contain 5 per cent. of foreign matter. Accordingly his servants were directed to mix two maunds of earth with every 100 maunds of grain, so as to bring the adulteration up to the required standard. This earth was treated with water and specially prepared for the purposes of adulteration. The suggestion for adulterating the grain in this way came, as the Manager says, from the employes of Ralli Brothers. This fully bears out what Major Boileau says that grain dealers in Dinapore wilfully adulterate their grain, adding about two maunds and 30 seers of dry clay, bhusee, and other grains to every hundred maunds of wheat. Mr. T. Gibbon, C.I.E., the Manager of the Bettia Raj, told me that wilful adulteration was practised by the petty dealers in Chumparun, and Mr. Carnduff, writing from Hajipore, a large grain mart, says: "In the hands of the middlemen when the grain is lodged in their golas, such grain as *akta pipra* are, I understand, intentionally added with a view to adulteration." Mr. Jenkins from Buxar, who has clearly paid a good deal of attention to the subject, is of the same opinion.

7. As regards imperfect arrangements for winnowing, further inquiries have only confirmed the view expressed in paragraph 5 of my report to the Collector, that the present plan is quite good enough under present circumstances. The admixture of dust from the threshing floor even now forms a very small proportion of the adulteration eventually found in the grain, and with greater care it might be reduced still lower.

Merchants
should en-
courage
reform.

8. Messrs. Mylne and Thompson have pointed out to me that the adulteration of *gúr* is analogous to the adulteration of wheat. When their sugar-mills were first introduced, they were valued by the purchasers on account of *their saving labour*, and

not because they turned out a *cleaner* article. Even now the Bunniah in Jugdispore refuse to pay a higher price for *gúr* free from adulteration, and though the cultivators can produce clean *gúr*, and will do so if required, it does not pay them to clean the *gúr* they sell in open market. There is now, however, a tendency among European firms to pay a higher price for purer *gúr*; similarly if the merchants would reduce their standard of refraction, they would get cleaner samples of wheat. This question is treated exhaustively in the report from Shahabad, and it is so difficult to make extracts without omitting something of interest that I venture to suggest that the whole report be sent in original. The possibility of cleaning grain with the ordinary tray-shaped fan (scoop) is pointed out by the Collector of Sarun and in the report from the Patna district.

11. One other point that I wish to refer to is the uncertainty of the wheat trade. The exports from Bengal and Behar stations, which exceeded 56 lakhs in 1881-82, fell to 26 lakhs in 1882-83, and then rose to 38 lakhs in 1883-84. Since then the trade in wheat has been remarkably dull. The improvement in 1882-83 tempted the Manager of Dumraon Raj to consider seriously the advantages of growing wheat on a large scale. In the present state of the market nothing would induce him to embark on such a speculation, and nowhere in the division is there any landowner who ceases to grow wheat on a large scale.

Uncertainty
of wheat
trade.

12. Are we then to resign ourselves to a policy of inaction? I think not. Competent values have proved that Behar can produce wheat that can compete successfully with grain grown in Russia or America. The comparatively low price at which Indian wheat sells is admittedly due to adulteration. We have proved that this adulteration is not due to the negligence or wilfulness of the actual cultivator. It is not inevitable owing to his system of cultivation. It is, I maintain, mainly due to the 5 per cent. standard of refraction. It is no use preaching to the cultivators. They will provide clean grain if the merchants will pay them for it, and there is grain of good quality in the division whose cultivation can be widely extended, provided the merchants will pay a better price for good quality. As it is the best price is paid for Buxar club No. 1, which contains 25 per cent. of red grains and 5 per cent. of adulteration, and for part of year another 1 per cent. is allowed for weevilled grain.

Refraction
standard the
cause of
present evils.

The action of the Calcutta merchants, which depends on the English market, can only be explained on the theory that they have not realised that adulteration is wilful and not due to the native modes of growing and cleaning grain. If Government can bring this fact home to the merchants in a way that will induce them to lower their standard of refraction, and to insist on a higher percentage of white grain, there is every probability that there will be a revival in the wheat trade. The Manager of the Dumraon Raj is not the only man who would gladly grow wheat on a large scale provided he could get a remunerative price, and by diminishing the number of middlemen, the actual cultivator would get a much larger share of the profits. At present the small cultivator is at the mercy of the bepari or petty dealer. He may stand out for a time, but when he must have money to pay his rent he is obliged to come to terms with the bepari. Even the bepari does not (at any rate in the Patna City) gain the bulk of the profits, for before he can deal with the agent of Ralli Brothers, commission must be paid to the brokers, and to the aratdars when the grain is stored. Consider, too, the labour now expended in wilful adulteration, and the freight that is paid for the carriage of dirt. The actual condition of the trade is almost incredible; but the reports that have been received from every district in the division bear out the facts referred to above, and it is noteworthy that those who have given most attention to the subject all agree that it is the merchants, and the merchants alone, who are responsible for this deplorable condition of affairs.

Mercantile
community
responsible.

17.

OFFICIATING COLLECTOR, Shahabad, to COMMISSIONER, Patna Division, No. 1826 G.,
dated 10th October 1885.

I have the honour to submit the following report on the cultivation and trade in wheat in this district.

2. What follows is the substance of a note by Mr. T. F. Peppe, of the Opium Department, a gentleman who has made the wheat trade a subject of special inquiry, together with reports from the Sub-divisional Officers of Buxar and Sasseram.

Wheat cultivation in Shahabad.

3. Regarding the district in general, Mr. Peppe writes thus:—

“ There are two principal tracts in which wheat is largely grown in this district; the first is the alluvion soil called the deara, extending from Buxar to the one and reaching a maximum breadth of 10 to 5 miles, with a length of, say, 40 miles, thus including less than 400 square miles. This is the tract in which the beautiful soft white wheat is grown; the land is a rich alluvium annually enriched by the overflow of the Ganges; it is needless to say that no manure is required in this soil for the finest wheats, and that it is in this tract possible to grow as fine wheat as anywhere in India; unfortunately it is in this very tract that the cultivators sow three, or four, and even more crops in the same field, and this is a fertile source of dirty grain, as when reaped separately they are very often pulled out by the roots not cut, and this carries an unusual amount of dirt with the grain on to the threshing floor, but it can be easily separated if the ryot chooses to take the trouble. From what I can gather, about 40 per cent. of the best wheat comes from this tract. The next in importance is the black clay soil extending from the eastern part of the Sasseram sub-division well into the Bhabooah sub-division, and extending from the Grand Trunk Road on the one side, and on the other to within 15 miles of the Ganges, say, 25 miles \times 20 miles = 500 square miles.

“ In this tract some of the finest wheat is grown, about 50 per cent. of the whole outturn of the district; the cultivators attempt to keep their seed pure white, but there is a tendency to revert to the red variety; the cultivators tell me that there is no market for red wheat, and that they endeavour to produce a pure white soft wheat without admixture of any kind, and sow it entirely by itself, only a little linseed is sown round the margin of the field, and the whole *rubbee* cultivation in some villages in this tract is confined to wheat and linseed, with small patches of barley and other crops for home consumption. The wheat from this tract, although very good, is not equal to the wheat grown on the alluvium lands, and sells for one to two seers less in the rupee. The third principal cultivation of wheat is the koeries and others amounting to about 5 per cent., who sow on dih * lands all over the district, one bigha or so at a time on rich dih land well manured and irrigated. This is probably as fine grain as could be produced in this district, and the only improvement that could be effected would be by sowing a better class of seed, which the koeries and others would be very glad to do; as it is they carefully select their seed and endeavour to get rid of all bad grains before sowing. There is a fourth source of wheat, *viz.*, the small patches of wheat sown in good soil at the foot of the hills or in the valleys or local alluvium along the banks of the smaller streams; this does not amount to more than 5 per cent. of the wheat grown in the district, and is very variable in quality, a large proportion being red wheat in the south of the district. With regard to the question of increasing the cultivation, the whole of the deara lands could be sown year after year with wheat without any loss in quality, for the land is annually renewed by a rich deposit, and therefore the produce of this tract could be enormously increased, and no doubt the time will come when the value of a well-bred wheat crop, free from earthy particles or any other kind of grain, will be as well known to the wealthy cultivator of the deara as to the British farmer. At the present time a ryot who holds 100 bighas sows 20 in peas, 10 in barley, and the rest 70 bighas in grain † and wheat mixed. Their argument is this: suppose that 10 bighas wheat and 10 bighas grain were sown separately, if either the grain or wheat failed, there would only be 10 bighas full and 10 empty; whereas in the other case the whole 20 bighas would be under a crop, and although thinly sown it would spread and fill the whole field, and give a much better crop than a thickly sown one of 10 bighas; they have no crop that could be sown on the empty field, so that there is no probability whatever that this practice will be abandoned; at present 6 punchseeries of wheat to 3 of grain is sown, and the produce is in a favourable season 18 maunds wheat 5 maunds grain. ‡ At the time of selling grain to the mahajun or travelling bepari the custom is to clean a measure of wheat, to take the dust and earth out of this quantity and add it to the weight they are weighing with, usually a punchseeri, and in this way the bepari buys the clean grain only. If the bepari had instructions from his mahajun to buy clear grain only, then the whole

Mixed crops.

* Lands adjoining the village-site.

† Chick pea.

‡ Per local bigha = $\frac{2}{3}$ of an acre.

would be cleaned, and there would be very little mud or dirt left in it. All that is required to secure clean wheat is therefore a combination among the exporting firms in Calcutta not to purchase wheat unless it is clean, say, 1 per cent. refraction or whatever is found a practical percentage. The cultivators will then supply clean wheat; no machinery is required by them; they will clean it by a sieve and by soop,* and the mahajun will at the same time clean his wheat before despatching it by rail; many of them do so now, and if the exporting firms in Calcutta would only insist on clean wheat, clean wheat would be the rule. Ordinary wheat brought as it comes from the district contains 6 per cent. on an average of impurities, 3 per cent. being grains and seeds of kinds, and 3 per cent. earthy particles; the whole of this can be taken out of it at a cost of 6 pies per maund, and there will be a gain of 3 seers of grain and seeds, which will bring 3 pies, so that the actual cost is not more than 3 pies per maund for labour, and the cost of 3 seers less grain, which at 18 seers for the rupee would cost 2 annas 8 pie per maund, making the total cost 2 annas 11 pie per maund, or in round figures 3 annas per maund. The grain-dealers in Arrah say that it is already the custom to clean the wheat before despatch to Calcutta, and in the case of linseed, the custom is universal, and no uncleaned linseed is despatched; there are two large godowns in Arrah where the linseed is cleaned by European appliances imported at considerable cost in order to get it thoroughly cleaned, and if this has been done for linseed, it follows that the same could be done for wheat. Even the travelling bepari who buys the linseed from the cultivators has it cleaned before buying it, not as in the case of wheat taking an allowance for the dirt. The grain-dealers in Arrah and the cultivators declare that there is no difficulty whatever in cleaning wheat, and that if clean wheat was purchased and no other, the whole would be cleaned. One advantage in despatching clean wheat, is the percentage given by the railway for wheat put up in double bags ready for export. Nothing will be done unless the merchants themselves supply the motive power by refusing to purchase anything but clean wheat; this done, all the rest will follow. I do not think the export of wheat or any other grain could be facilitated by any measures that Government could undertake; the custom is for the bepari to go round the villages and collect the wheat from the cultivators and carry it off on pack-bullocks, and he has therefore to leave the roads entirely and carry it across country to the railway, and roads of any kind cannot affect the trade to any great extent. At present there is no good metalled road leading to the black clay soils which I have described above as being the largest wheat-producing tract in this district; and if the present road leading from Chowra to Jehanabad on the Grand Trunk Road was metalled, it might do good. The traffic at present is entirely by pack-bullocks. The scheme proposed by Reinhold Brothers is more applicable to large stations than to the small stations in this district; but of late years the natives are building golas near all the railway stations, and if land was made available on easy terms, they would be still more largely used, and at these golas the cleaning and packing would be carried on as at present preparatory to despatch by rail. Government might through the officers give facilities for taking up lands in the vicinity of stations on the line of railway for the purpose. Beyond this, I do not know of anything that could be done. I had an opportunity, while at Dumraon Exhibition, last cold weather, of going over the exhibits of wheat at the show, and was very pleased to see that some of the samples of wheat were of a very high quality, and compared favourably with the wheat from other districts, and I feel sure that if good wheat for seed purposes could be made easily available, say at sub-divisional head-quarters, some good might be effected. The eagerness with which the ryots present at Dumraon asked for small samples of improved varieties of seed was very marked, and I find the koeries in this district very much alive to the advantages of good seed."

Pure wheat procurable for better prices

Cleaning of wheat.

Government measures for improvement of wheat trade.

4. The best wheat in India takes its name from Buxar (Buxar club No. 1). Mr. Jenkins reports as follows:—

"Attention is drawn first of all to the necessity of obtaining a clean wheat for export. The principal causes of impurity are stated to be—

- (a.) The practice of growing two or more crops on the same lands.
- (b.) Imperfect methods of winnowing grain.
- (c.) Adulteration by traders.

As regards the *first* point, it is the practice here to sow *sarso* (mustard), *kasum* (safflower), linseed, and grain with white wheat, but at the same time in villages where the latter kind is especially grown, it is also sown as a single crop by big cultivators.

Grains sown with wheat.

* Winnowing fan of bamboo, tray-shaped usually.

Detailed statistics could be procured near *rabi* season as to the area under wheat only. The cultivators are alive to the advantage of growing it singly, but from fear of drought or blight they are afraid to trust to one crop only. Again as long as the standard of refraction in Calcutta is 5 per cent., the cultivators would not gain by sending cleaner grain because the traders would at once adulterate it up to the authorised standard. The admixture of *kankar* is especially objected to, because it damages the mills in England. Linseed is objected to in a lesser degree, while other grains, like gram and barley, are hardly objected to at all, because they can be absorbed in bread-making. To avoid the admixture of *kankar*, Messrs. Ralli Brothers (who buy wheat as far as Moghul Sarai) insist on absolutely clean parcels—a condition which forces beparis and cultivators to take more pains in cleaning their grain. As regards the *second* cause of impurity, as long as the present method of winnowing by a scoop, *i.e.*, basket exposed to the wind is the cheapest, it is out of the question to try and induce the cultivators to adopt any other method. It is for the trade to introduce winnowing machines.

Winnowing
machine.

Trade op-
posed to
clean wheat.

Thirdly, as regards adulterations, beparis and traders deliberately practice this. If a bepari or trader buys from cultivators wheat with only 3 per cent. of admixture of extraneous matter, he would lose 2 per cent. in exporting to Calcutta, unless he added more dirt to meet the 5 per cent. allowance. Again, as the grain must necessarily be often imperfectly tested in Calcutta, traders add dirt which will be equivalent to 7 or 8 per cent. on the chance of not being found out. It is at present the interest of most traders not to export clean grain, and consequently they are not in favour of cleaning godowns at stations. The only remedy is to lower the standard of refraction or for the merchants in London to buy only clean grain. I believe that it is the policy of Messrs. Ralli Brothers only to export clean parcels.

Warehouses.

Lastly, as to the question of establishing warehouses at stations.

It has already been pointed out that as long as the standard of refraction is 5 per cent. in Calcutta, it is not to the interest of the petty trader to send clean grain at a lower rate of refraction; consequently petty traders, besides objecting to pay any charges, would prefer not to clean the grain that they export. Again, large firms like Messrs. Ralli Brothers, who do export cleaner grain, prefer to make their own arrangements. The matter is really in the hands of the trade, to whom it should be left."

5. Sasseram sub-division has been noticed in the general remarks on the district. Mr. Macpherson gives the following detailed facts:—

Wheat
growing in
Sasseram.

"The extension of canal irrigation in this district has led to the growth of winter rice at the expense of wheat, especially where the soil is of a light loam or sandy. The western half of the Sasseram sub-division consists, however, of a black heavy loam or clayey soil known as *karail*, which, when wet, is difficult to work for paddy cultivation; but its retentiveness of moisture renders it admirably adapted for the growth of wheat, which accordingly forms the staple crop of that part of the country. The land intended for wheat is for the most part ploughed up about the beginning of the rains and allowed to be in open fallow until they cease, several additional ploughings being given in the interval. It is, however, sometimes grown after a crop of early rice, or, where the soil is light, as in the north of the district, after maize; but in such cases it naturally does not succeed so well. Manure is not used, except sometimes by koeries, who apply old cowdung about the beginning of the rains. The seed is sown by drill, about $1\frac{1}{4}$ pucca maund to the acre. There are two varieties of seed sown, the white (*dandia*) and red (*lalka*). They are generally grown mixed together. The white seed, owing to the character of the soil in the Sasseram sub-division, is apt to turn red in time, and has to be replaced by fresh white seed every few years. On the heavy *karail* lands the seed is not often mixed with that of other crops, but linseed is often grown round the borders of the fields, and in strips here and there through them. Barley and wheat are often grown together as a mixed crop on the lighter soils, and sometimes grain and peas are also sown with the wheat. The crop hardly requires any irrigation at all on the heavy soil characteristic of the west of the sub-division, as the soil itself is so retentive of moisture. The crop is benefited, however, by showers, just before it comes into flower. Thereafter the west winds of March are very beneficial to it. Reaping is done by the sickle, and the sheaves carried to the threshing floor when they have thoroughly dried; the grain is trodden out by bullocks,

and afterwards winnowed by being shaken in a basket (soop), of the shape of a household dust shovel, exposed to the high west wind which usually prevails at that season. From the above description, it will be observed that there is every chance of the grain, when it comes from the threshing floor, being found to be a mixture of white and red wheat, and also to have a large admixture of the dust of the threshing floor. Both form serious defects in grain intended for the European market. The winnowing basket, however, removes a very large portion of the dust of the threshing floor, and it is almost hopeless to expect that it will ever be replaced in the hands of the cultivator by any of the winnowing machines now available. The cheapest and best of these—the Cawnpore Farm combined winnower and grain separator—is too dear; the additional price obtained for clean grain from this district would not recoup its cost. As for the mingling together of different varieties of wheat, even the grain dealers here would not buy the red wheat by itself. They say that they could get no sale for it in the Calcutta market. It is true that the red variety is more prized for local consumption, being considered more palatable, but in view of the unsuitability of the soil to white wheat, it would be impossible for the cultivator to dispose of all his red wheat so long as it does not command a remunerative price by itself in the Calcutta market. The higher value of white wheat for export—two annas a maund more than for red—is well enough known; but considering the competition of the white wheat sent from up-country, where the soil is better adapted for its growth, the cultivator would not secure a price for his white wheat if grown by itself that would compensate him for the loss he would incur in disposing of the red. The best quotation for wheat in this locality is for a mixture of 25 per cent. red and 75 per cent. white; no doubt a smaller percentage of red would command a higher price, but, as already observed, it is not practicable for the cultivator to send less to the market, so long as there is no demand for it on the part of the local agents of the Calcutta merchant. The grain exported from this sub-division is all sent to Calcutta, and chiefly to Messrs. Ralli Brothers. There is little admixture of grain or other cereals with wheat exported from this sub-division. On the heavy soils, it is generally grown by itself except for some strips of linseed, which are separately gathered without difficulty. From what has been said, it may be gathered that any measures taken to secure a purer grain must receive their initiative from the Calcutta export merchants. Until they offer a remunerative price for red grain from this district, it is hopeless to expect the cultivator to grow red and white grain separately from one another, or to take any trouble to separate them after threshing. If these merchants think that they themselves would secure a price for each class of wheat separately which would cover the cost of having them separated from one another by their own agents or employers, there is no reason why they should not have the process carried out either in Calcutta or at warehouses established at the principal railway stations to which the wheat is brought. They would probably find it cheaper to have the process carried out at the railway stations, as with it could be combined the cleaning of the grain from all admixture of dirt, which would lower the cost of transport to Calcutta, and labour and warehouse room could be obtained cheaper than at Howrah. But so long as they themselves do not see their way to doing this remuneratively, it is, I think, hopeless to expect that the cultivators themselves will. There is no need to take account of the intermediaries through whose hands the grain passes. If the different varieties of wheat are not grown separately by the ryots themselves, and separated by them from all admixture of dirt and other impurities, the separating and cleaning process can best be carried out at the railway warehouses either up-country or in Calcutta. In this matter, I think Government officers can do nothing to improve the quality of Indian wheat exported to European markets. In the matter of communications also Government can do little that is feasible to assist the export of wheat from this sub-division. The whole of the wheat sent from this is exported on cargo boats by canal to Arrah. The merchants say none of it goes by road. There is a metalled road all the way to Dumraon, the nearest railway station to this, but none is sent there. They do not even send the wheat to Buxar, although they can do so by steamer or cargo boat direct. They find that the saving in railway freight makes it most profitable to send all the grain to Arrah. What they are extremely anxious to get is direct steamer communication between Bedadih beside Sasseram and Arrah. They say this would greatly facilitate their trade. The canal steamers have now been given in contract to a private individual, and no doubt if he considers that it would pay him to run a steamer direct between Bedadih and Arrah during the grain export season, the thing will be done.

Cultivators cannot afford winnowers.

Merchants should clean grain at warehouses.

6. Not having been in the district during a cold season yet, I do not feel called on to add any remarks of my own to the information supplied by the officers before mentioned beyond expressing an opinion in concurrence with theirs, viz., that if the merchants want clean wheat, they must lower the standard of refraction.

18.

OFFICIATING COMMISSIONER, Bhagulpore and Sonthal Pergunnahs, to GOVERNMENT,
Bengal, No. 1047 C.T., dated 31st January 1886.

Bhagulpore.

I have the honour to submit the following report, after taking the opinion of the District Officers of this division, who in their turn report that they have consulted the Municipal Committees in their respective districts.

Impure condition of Indian wheat due to crude methods.

From the reports received from the District Officers, it appears that the mixture of wheat with dirt and other inferior grains is caused by the crude method of cultivation followed by the agriculturists. They are too poor to afford expensive improvements, as well as conservatives in their principles. But there is no reason to suppose that they would fail to grasp the advantage to be obtained by an improved selection of seed and an improved system of winnowing, provided such improvements were demonstrated to be beneficial and the cost were not beyond their means. The Collector of Monghyr reports that wheat is sown in his district with other crops, such as gram, oil-seed, &c., in the same field, but the mixed varieties of wheat are not sown. The cultivators are not careless as to the selection of seeds, but they prefer to grow mixed crops with a view to secure a better outturn, and at the same time to guard against the risk of failure, to which they would be liable by growing an unmixed crop. In some localities the cultivators do not grow mixed crops. The Collector of Bhagulpore gives the following reasons for the mixed varieties of wheat grown in his district:—

- (1.) That the cultivators, with all their experience, find it difficult to decide whether certain land would yield a good outturn of pure white wheat. In such cases they sow jamili or soft red wheat and dudhea or soft white wheat together.
- (2.) That when the ryots fall short of their stock of seeds, they do not hesitate to mix red with white to the extent of the shortcoming, and when the proportion of the admixture is not great, they generally entertain a hope of passing the whole produce as white wheat.

The Collector reports that instances have been brought to light in which the middle dealers in grains mix 5 per cent. of red wheat, dirt, &c., with the white wheat without any fear of being detected. Efforts are, however, being made in this district by explaining to the ryots the necessity of taking more care for the production and storage of pure and clean grain for export. The fact that the club or soft wheat commands a higher price in the market is particularly explained.

Warehouses not likely to be beneficial.

Almost all the District Officers are of opinion that the provision of warehouses near railway stations or other central depôts for cleaning of grain impurities will not produce any beneficial results. In the districts of Monghyr the wheat trade is chiefly in the hands of the Bengali mahajan and Marwaris. They have their principal places of business and golas or storehouses in towns, and several places in the interior of the district, where the produce is stored after being cleaned and weighed until sent off by boat or rail in bags. The Bengali mahajans generally transport their goods by country boats, which take about 14 or 16 days on the voyage down to Calcutta. This is a cheaper means of transport than the railway. The Marwaris, on the other hand, generally dispatch their merchandise by railway. Their business is, however, not so extensive as that of the other traders. The Collector reports that, as far as the wheat and grain trade of his district is concerned, the introduction of the scheme of warehouses near railway stations, for the purpose of cleaning and classifying the wheat, would not be likely to succeed, as so much of the wheat transport is by river route. In the district of Maldah, at the beginning of the harvest, the mahajans themselves go to the interior, collect the wheat, and store it in convenient places till they load their boats for export, which then go direct to their destinations from those places. The wheat before being exported to other districts is not brought to the sudder station or to any other mart, and the establishment of warehouses in this district will therefore

be of little or no advantage. The Collector of Purneah reports: "I do not think the plan suggested of making provision of warehouses near railway stations or other central depôts for cleaning wheat from impurities would do near here, as it would be expensive and throw too much responsibilities on the railway, besides interfering too much with traders." The wheat export in the district of the Sonthal Pergunnahs is too small to require warehouses. The only District Officer who is in favour of the establishment of warehouses near railway stations is the Collector of Bhagulpore, who says that such a measure will produce good results; but I do not think that the scheme will be successful in his district, as much of the wheat is sent by river route, like in the district of Monghyr.

19.

ASSISTANT TO DIRECTOR, to DIRECTOR, Department of Land Records and Agriculture, Bengal, No. 255, dated Bhagulpore, 30th November 1885.

2. Of the three causes to which the impurity of Indian wheat is generally attributed, the first one, viz., the mixture of other grains, due to the practice of growing two or more crops on the same land and at the same time, does not appear to be very serious. This practice is not very common. Oilseeds and gram are sown with wheat, but not very largely; and I agree with you in thinking that the advantage likely to be gained by the cultivator by the production of pure grain will not compensate him for the risk he would incur in trusting to his wheat crop alone. In *dearaks* chiefly this practice is to some extent followed; and as *dearakh* wheat is of inferior quality, being *jumali* and *burgolma*, and should therefore be used for home consumption, this practice ought not to have any influence on its export trade.

Mixed crops not serious cause of impurity.

With the rise in the trade of wheat, it is hoped grain of the fine, soft variety alone will be exported, and with this quality of wheat foreign grains are not often grown. In *bhita* (high land) and *chour* lands, where best *dudhea* is grown, the practice of growing mixed grains is seldom resorted to.

3. The second cause alleged for the impure condition of Indian wheat is the imperfect arrangements for winnowing the grain. The present class of cultivators or ryots are unable to introduce a more expensive method of winnowing grain than is in vogue as present. Possessing small holdings, they are hardly in a position to improve the existing mode, unless some cheap winnower is invented, which has not yet been done. The Cawnpore winnower, not much within the means of average ryots, has withal been pronounced a failure. I am afraid a cheap, and at the same time an efficient, winnower cannot be obtained, and expensive winnowers are beyond the means of individual cultivators. Spirit of combination is not much known out here. Grain dealers or exporters of grain are the only persons on whom, in the present state of affairs, the work of cleaning and winnowing grain naturally devolves. Then the question is whether this work should be done in capital towns, or in the mofussil from where the grain is originally sent. The railway freight on goods sent by rail is not inconsiderable, and therefore it would be of much importance if the winnowing be done in the mofussil, perhaps at principal *golas* at sudder stations. The saving in railway freight to be effected by removing dirt and foreign grain before the goods are sent by rail will reduce the incidental expenses of taking the grain to the English market, and thereby increase the export trade. This work can best be done by the *goladars* and mofussil *mahajans*, or by a special firm, and I have no doubt the Agricultural Department can do much in inducing them to undertake the work. Another plan would be to have a thrashing machine sent out from England, and on hire system the crop may be thrashed. The cost of thrashing by machine will not be much more than under the native trading system.

Winnowing should be done by local traders.

In England the cost of thrashing wheat comes to about 2s. a quarter, and in India it would be as much. If coal is dearer, labour is cheaper. Then the same operation will thrash corn and winnow it. Under the native system the exact cost of thrashing and cleaning can with difficulty be obtained. From the "Field and Garden Crops of the North-Western Provinces," issued by the Department of Agriculture and Commerce, I find the cost of thrashing and cleaning wheat for 20 maunds is put down at Rs.3-6. A quarter is equal to six maunds, and therefore the cost of thrashing under the native system is about Rs.1 per quarter, or 2s. per quarter.

Systematic
adulteration
not practised.

4. Dealing with the third alleged cause of the impurity of the Indian wheat, I have the honour to remark that with better knowledge it is hoped this cause will cease to exist of itself. From inquiries made by me, I cannot say that any systematic adulteration is attempted by traders.

20.

ASSISTANT to DIRECTOR, to DIRECTOR, Department of Land Records and Agriculture,
Bengal, No. 322, dated Bhagulpore, 15th December 1886.

Messrs.
Reinhold's
scheme un-
suitable.

In continuation of my letter No. 255, dated 30th November 1885, I have further the honour of stating as follows.

Adverting to your paragraph 7 of the letter under reply, I have the honour to submit that the scheme of inspecting and grading wheat, advocated by Messrs. Reinhold of Cawnpore, is not at all suited for the condition of the trade now carried on in Bhagulpore and Monghyr. The *goladars*, through whom this trade is carried on, have tiled sheds for storage of grain. The accommodation, though not very good, is nevertheless sufficient for purposes of giving temporary protection to the grain. The *goladars* are both brokers and warehouse-keepers. I do not think they can be induced to undertake to winnow the grain or otherwise prepare it for the English market. It is hoped something in this direction may be done in future, and perhaps the market prices supplied to us by the Chamber of Commerce, and the translation of which is distributed among the *goladars*, will have some effect in inducing them to pay some attention to the export of clean grain.

21.

COMMISSIONER, Presidency Division, to GOVERNMENT, Bengal, No. 7 M.A., dated
27th January 1886.

With reference to your letter No. 113, dated the 22nd instant, I have the honour to submit the following report on the cultivation of, and trade in, wheat in this division.

2. This report contains information with regard to four only out of the five districts in this division. I will, however, submit a supplementary report on receipt of the report from the Collector of Moorshedabad.

3. There is no cultivation of, or trade in, wheat in Khoorna. The report for that district is therefore blank.

Wheat trade,
24-Per-
gunnahs.

4. The cultivation of, and trade in, wheat in 24-Pergunnahs is very limited. Only a small area in the northern part of it, near Goberdanga, thana Habra, is under wheat cultivation, and the yield is of a coarse sort, generally called red wheat. The whole of the outturn is exported to Dum-Dum for the consumption of the troops there. The opening out of the Bengal Central Railway has given ample facilities for the transit of the wheat to Dum-Dum, and no special provision seems to be necessary for its storage after it has been brought to the railway station. At present the wheat is bagged and brought to the railway wagons on carts and taken down to Dum-Dum. The wheat thus brought to Dum-Dum contains an admixture of indigenous matters, but here it is cleaned, winnowed according to the native system, ground by small millstones, and reduced to flour. The Collector thinks that some improvement in the processes of grinding and winnowing the wheat is feasible if portable thrashing-machines could be invented for the purposes; but considering the small area under wheat cultivation, Mr. Paul is not sanguine that the cultivation will improve, or that the trade in wheat in his district will develop.

Wheat trade,
Nuddea.

7. In Nuddea a large quantity of wheat is grown in the sudder sub-division, about a hundred thousand maunds being annually exported to Calcutta by river. The sub-divisional officers of Meherpore, Kushtea, and Chuadanga report that only small

quantities of wheat are grown in those parts, and that nearly the whole of the produce is wanted for local consumption. The cultivation of wheat in the Ranaghat sub-division appears to be somewhat larger, and there is some exportation of the grain to Calcutta from that sub-division.

8. The local mahajans cannot say how much of the wheat which they send to Calcutta is consumed in the country, and what quantity, if any, finds its way to the English market. The latter alone, of course, would come under the purview of the resolution of the Punjab Government.

* * * * *

11. The average outturn per bigha is 3 maunds, and the price varies according to quality from Rs. 2-4 to Rs. 2-8 a-maund. Mr. Hopkins observes that there does not seem to be much ground for Government interference for providing a cleaner grain for exportation. As a rule, the seeds of the different varieties of wheat are sown separately, and whatever may be the case in the Punjab or elsewhere, neither the actual cultivators nor the middlemen in Nuddea appear to be in the habit of *intentionally* mixing the wheat with other seeds or with dirt. Considering, however, that the thrashing is done by making cattle tread on the grain on a mud floor, and that the winnowing is effected by merely exposing it to the action of the wind, there cannot but be some impurities. But, as remarked by the Director of Agriculture, North-Western Provinces and Oudh, even with these rude and simple means "the cultivator can, and often does, clean down to two per cent. of impurities, but the consignees insist on deducting four per cent. on this account from the purest samples they receive, thereby occasionally making a not wholly deserved profit."

12. None of the mahajans or middlemen of Krishnaghur who send wheat to Calcutta seem to have direct dealings with the merchant shippers to England. They state that they have not been hitherto called upon by the mahajans of Calcutta, with whom they have dealings, to supply a cleaner grain; and if there is such a demand, the supply would, no doubt, be forthcoming.

13. The suggestions made by Messrs. Reinhold Brothers, of Cawnpore, to have a cleaning shed at that station, where certificates regarding quality would be granted by a Committee comprised of a railway officer and an officer of Government from the Agricultural Department, could, Mr. Hopkins observes, be hardly meant to apply to any of the railway stations or other central depôts in his district. The importation of wheat from Kushtea, Chuadanga, or Ranaghat is small, and there is at present no railway to Krishnaghur.

14. Generally speaking, Mr. Hopkins concurs with the Director of Agriculture, North-Western Provinces, in thinking that, should it really be anywhere necessary to take steps for obtaining a cleaner grain, it is "precisely the kind of thing which ought to be done by private agency, and Government should not interfere unless the Chamber of Commerce find that they are unable to insist on proper arrangement being made."

15. The Collector of Jessore states that his district cannot be regarded as a wheat-producing district in any sense of the term * * * So far as Jessore is concerned, the question of the advisability of erecting warehouses for cleansing the grain from impurities need not be discussed. It may be mentioned here that some time ago, in accordance with a suggestion from the Government of Bengal, the sub-divisional officers in this district were instructed by the Collector to impress on the cultivators the importance of preventing the admixture of any foreign substance with wheat in order that they might realise the proper value for their produce.

Jessore
wheat trade.

FROM COVENANTED DEPUTY COLLECTOR in charge Moorshedabad, to COMMISSIONER,
Presidency Division, No. 2310G., dated 30th January 1886.

I have the honour to submit the following report regarding the cultivation of, and Moorsheda-trade in, wheat in this district, called for in your No. 13M.A. of the 10th August 1885. bad.

2. A statement showing, thana by thana, the area under this crop, and the total outturn, is annexed.* The quantities are fairly large, but there are no data for ascertaining how much of the produce is consumed at home, and how much is exported elsewhere. The latter quantity, however, cannot be so large as to require special regulations, nor can the trade be so extensive as to render warehouses of the kind suggested necessary.

3. Three varieties of the grain are grown in this district, viz., *gungajali*, *jamali*, and *khore*. They are named in order of quality.

Causes of
impurity of
wheat.

4. Wheat is grown on *mutter* land and is cleaned by winnowing. It is sown in October and November and reaped in March and April. It is quite free from impurities when brought from the cultivators by the traders, but the latter are in the habit of adding to it an admixture of other matter in order to increase the weight. If people would take none but clean wheat, this practice of adulteration might cease; but this cannot be hoped for so long as purchasers continue to look more to the cheapness than to the purity of the grain they buy.

23.

FROM BENGAL CHAMBER OF COMMERCE, to GOVERNMENT, Bengal, dated 13th November
, 1885.

I am desired by the Committee of the Bengal Chamber of Commerce to acknowledge receipt of your letter, dated 25th July, with its accompanying papers, on the subject of the wheat trade of the Punjab, with regard to which you request an expression of opinion on the bearing of these papers on the wheat trade in Bengal, with such practical suggestions as the Committee may wish to offer.

2. In reply, I beg to say that the attention of the Chamber has, as requested, been particularly given to paragraphs 7 and 8 of the Resolution of the Punjab Government, which deal with the action of small middlemen in the matter of adulteration, and discuss the question of establishing cleaning depôts at selected stations. The Committee are now enabled not only to express their own views on these points, but also those of the Committee of the Wheat and Seed Trade Association, to whom the papers have been referred for opinion.

Cultivators
should be
advised not
to sow mixed
wheat.

3. As regards paragraph 7 of the above Resolution, it is the opinion of the Chamber that Government officers should be instructed to continue to impress upon the cultivators and middlemen the importance of keeping their wheat as clean as possible, and of sowing, as far as practicable, different descriptions of produce in separate fields. It might also be explained to them that No. 1 club wheat, or the Delhi and Buxar varieties of soft white grain, and No. 2 club, consisting of Cawnpore-Lucknow grain, command a higher price than other descriptions, and efforts might be made to introduce these varieties into districts where only the inferior qualities of grain, difficult of sale for export, have hitherto been cultivated.

No remedy
against
wilful
adulteration.

4. The mixing of dirt or inferior grains by mofussil dealers is a matter against which the Chamber is unable to suggest any remedy; but, no doubt, when these dealers realise the loss sustained by the reduction of weight paid for due to express refraction, they will see their advantage in sending to the market wheat fit for immediate export, thus saving additional charges at the port of shipment.

Extension of
cart-roads
advocated.
Cleaning
depôts un-
necessary.

5. With reference to paragraph 8 of the Resolution of the Punjab Government, it is the opinion of the Chamber that much good would possibly be done in the direction of the development of the wheat trade by improving communications between the districts of growth and the different railway stations by means of cart-road feeders. It is considered that central cleaning depôts are neither necessary, advisable, nor practicable, as the expense that would be incurred in using them for cleaning an article of such low primary value as wheat would increase the cost out of proportion to the improved price which might be obtainable for the cleaned grain in the home markets.

* NOTE.—The statement, which is not reproduced, shows the total acreage for the district as 236,183, and the estimated outturn as 923,223 maunds.

24.

From DIRECTOR, Department of Land Records and Agriculture, Bengal, to GOVERNMENT, Bengal, No. 692, dated 27th July 1886.

In continuation of my letter No. 391 T., dated the 7th instant, submitting a report on the subject of the cultivation of, and trade in, wheat, I have the honour to forward, for the information of Government, a copy of the correspondence with the Bengal Chamber of Commerce, on the question of the reduction of the per-centage of refraction allowed by the trade in wheat.

From DIRECTOR, Department of Land Records and Agriculture, Bengal, to SECRETARY, Bengal Chamber of Commerce, No. 134, dated Calcutta, the 16th April 1886.

I send herewith a rough draft of portion of a letter on the subject of wheat, about which I sent you a letter on a former occasion. You will see that the opinion strongly held by Mr. Allen and others who have made special inquiries on the subject is that the only remedy for the admixture of dirt with Indian wheat is one which lies in the hands of the merchants themselves. If this be so, I should be glad to be able to add that the Chamber will take the subject into consideration with a view to apply the remedy suggested. If, on the other hand, the opinion expressed is incorrect, I should be obliged for any correction which your Committee may suggest before officially expressing the view suggested in the draft.

Interference of Chamber of Commerce suggested.

From SECRETARY, Bengal Chamber of Commerce, to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated the 11th June 1886.

My Committee have consulted with those most directly interested on the export trade of this city as to the reduction of the per-centage of the refraction allowed in wheat. It would be an advantage to have wheat as pure as possible, and to impress upon cultivators the desirability of their sending their grain to market with the least possible admixture of foreign substances; but in the present circumstances of the trade, my Committee do not feel themselves in a position to recommend an alteration in the standard of refraction for wheat.

Alteration of refraction impossible at present.

From DIRECTOR, Department of Land Records and Agriculture, Bengal, to SECRETARY to the Bengal Chamber of Commerce, dated Darjeeling, the 14th June 1886.

In your letter of the 3rd May, it was stated that the Committee of the Wheat and Trade Association agreed with the tenor of my draft letter, and were prepared to consider the suggestion to reduce the rate for refraction. In your present letter you do not say whether the Committee still agree with the tenor of the draft, but you say the Chamber think that it would be an advantage to impress on the cultivators the desirability of producing grain with the least possible admixture of foreign matter. If the facts and arguments mentioned in my letter are correct, the inference from them would appear to me to be that Government officers, so far from impressing on cultivators the desirability of producing clean grain, should, on the contrary, point out to them the fact that they will derive no benefit from producing entirely clean grain, but that it is to their interest to mix at least five per cent. of dirt. I should be much obliged if you would kindly let me know whether there is any fallacy in this view of the case, and if not, perhaps you may induce the Committee to re-consider their decision.

Then Government cannot intervene to secure pure wheat.

TELEGRAM from SECRETARY, Bengal Chamber of Commerce, to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated the 1st July 1886.

Decision that of Trade. Chamber cannot alter custom.

25.

GOVERNMENT, Bengal, to DIRECTOR, Department of Land Records and Agriculture,
No. 1899-304, dated 10th August 1886.

I am directed to express the thanks of the Lieutenant-Governor for the careful report on the cultivation of wheat in these provinces contained in your letter No. 391 T., dated 7th July 1886.

Cleaning
wheat.
Chamber's
inaction
regretted.

The Lieutenant-Governor regrets to observe from the correspondence subsequently forwarded under cover of your letter No. 692, dated 27th July 1886, that the Chamber of Commerce has declined to re-open the question of an alteration in the standard of refraction for wheat. Sir Rivers Thompson trusts, however, that if the prospects of the trade improve, it may be possible for the Chamber to take action in this important matter, and in this hope has again addressed that body on the subject.

Warehouses
to be left to
private
agency.

2. The establishment of warehouses for cleaning and grading grain is a matter which should be left to private agency, and the Lieutenant-Governor concurs in the opinion expressed by you and the majority of the officers consulted on the subject that Government interference in this respect is clearly undesirable.

26.

From GOVERNMENT, Bengal, to CHAMBER OF COMMERCE, No. 1896-301,
dated 10th August 1886.

Further refer-
ence to
Chamber of
Commerce.

I am directed to forward for information copy of a letter No. 391 T., dated 7th July 1886, and enclosures from the Director of the Agricultural Department, Bengal, reporting on the wheat cultivation and trade in Bengal, and to invite the attention of the Chamber of Commerce to the remarks made therein regarding the present deduction of 5 per cent. made for impurities in wheat, irrespective of the cleanness or otherwise of the samples. The matter is one of great importance to all engaged either in the cultivation of wheat or in the wheat trade; and although the Lieutenant-Governor understands that the present time is unpropitious for any action in the direction indicated by the Director of Agriculture, he trusts that the Chamber of Commerce will be able at no distant date to bring about so desirable a reform.

27.

From CHAMBER OF COMMERCE, to GOVERNMENT, Bengal, dated 15th September 1886.

The Committee of the Chamber of Commerce instruct me to acknowledge your No. 1896-301-Agri., dated 10th August, in which the attention of the Chamber is invited to the present deduction of 5 per cent. made for impurities in wheat, irrespective of the cleanness or otherwise of the sample, and in which a hope is expressed that the Chamber of Commerce may be able at no distant date to bring about a reform which His Honour the Lieutenant-Governor agrees with the Director of Agriculture in considering desirable.

Reasons why
refraction
cannot be
altered.

In reply, I am to say that in again discussing the question of the refraction of wheat the Committee of the Chamber have availed themselves of the views and opinions of the Calcutta Wheat and Seed Trade Association. The Chamber of Commerce is quite as desirous as the Government to secure that Indian wheat shall be exported as free from admixture as possible, and keeps this result steadily in mind in all discussions bearing on this subject. But although parcels of fairly clean wheat do reach Calcutta, they are so small as to have no effect on the market. An exporting merchant is precluded from giving a better price for such parcels, because he will reap no corresponding advantage in the home market. If clean wheat were delivered in Calcutta in large quantities, the case would be different.

The system
explained.

The Director of Agriculture remarks that, "a minimum of 5 per cent. refraction is deducted by exporters in Calcutta;" this is a misapprehension. No deduction of weight is made unless the impurities in a parcel exceed 5 per cent. It is because experience shows that wheat can seldom be delivered in Calcutta with a less amount of admixture than 5 per cent., that the Committee do not see their way to recommend an alteration of the standard of refraction. The officers of Government may render the

trade most valuable service by steadily impressing upon the cultivators that, what is most objectionable in Indian wheat in the eyes of home buyers, is the presence in a parcel of other grains and seeds, such as barley, pulses, linseed and the like. Mud and earthy matter can be eliminated without very great difficulty, but it is next to impossible to separate other grains and seeds from the wheat. So long as Indian cultivators grow wheat crops carelessly, or along with, or side by side with, other grain or seed crops, so long will it be difficult to obtain wheat in quantity of a purity which would enable exporters to alter the standard of refraction. But real service would be done both to the trade and the cultivators if the officers of Government kept steadily before growers of wheat that it is principally the admixture of foreign grains and seeds which maintains the 5 per cent. standard of refraction, and also impressed upon them that to obtain a better price for clean wheat, such wheat must be sent into this market in large quantities.

Connected with the question of the condition in which wheat reaches this market, is the very important question of the accommodation for it provided at up-country stations, especially on railways other than the East Indian line. It is hopeless to expect to improve the hold of Indian wheat on the European market so long as there is nothing at certain times to prevent its reaching Calcutta weather-damaged. The absence of proper and sufficient accommodation at railway stations for receiving wheat has mulcted shippers in very heavy allowances, and is one of the main causes of bringing Indian wheat into disfavour with home consumers. The wheat season extends from April to October, and as soon as the rains set in the lack of proper accommodation results in a portion of nearly every parcel arriving damaged. Not only is the shelter insufficient, but in many cases the railway platforms are not raised to the point of safety from casual inundations. The railways endeavour to protect themselves by granting to a consignor clear railway receipts against his indemnity note. This practice, when regard is had to the short time allowed at Howrah for the examination of wheat by consignees, and also to the limited facilities they enjoy for such an examination, results in large quantities of damaged goods passing undetected to the manifest and serious loss of shippers.

Condition of railway storage accommodation.

Reform in railway storage much needed.

The Committee of the Chamber of Commerce would in the best interest of the wheat trade bring this question of the accommodation at up-country stations very strongly to the attention of His Honour the Lieutenant-Governor.

28.

From DIRECTOR, Department of Land Records and Agriculture, Bengal, to GOVERNMENT, Bengal, No. 1265, dated 18th August 1887.

I have the honour to acknowledge the receipt of your memorandum No. 1258 T.—R., dated 29th of September last, forwarding, for any remarks I may wish to make, a letter from the Secretary to the Chamber of Commerce, dated 15th idem, in which comment is made on certain remarks made by me on the subject of wheat refraction, in a report submitted with my letter No. 391 T., dated 7th July 1886.

2. The remarks made as regards refraction in that report were the following :—

“The real reason why Indian wheat is adulterated by admixture of foreign substances lies, not in defectiveness of winnowing arrangements, but in the fact that it is not to the cultivator's interest to produce entirely clean grain; for so long as a minimum of 5 per cent. refraction is deducted by exporters in Calcutta, it is evident that it is the interest of the producer to mix dirt with the grain to that extent at least. It was suggested that the remedy therefore lies not in the introduction of better winnowing arrangements so much as in the alteration of the present system of deductions for refraction.

Real cause of impurity the refraction system.

Mr. Allen confirms these views by saying :—

“Similar arguments apply to adulteration of mud, &c. These, I believe, the ryot does not add wilfully, because the bepari or petty trader to whom he sells would detect them in his small consignment and pay him an inferior price. On the other hand, the petty trader does not insist on cleaned grain, for he will not himself sell grain containing less than 5 per cent. of impurities, which, if deficient, he will add; for so long as the Calcutta merchants accept 5 per cent. as refraction, it would not pay the bepari to sell grain with only 1 or 2 per cent. of adulteration. This brings me to the real

point of the whole question. It is purely a case of supply and demand. If the Calcutta merchants insisted on cleaned grain, they would get it. They do insist on clean samples in the case of linseed, and the result is that linseed is cleaned by the actual cultivators before being sold to the petty dealers. The same result would, I believe, follow in the case of wheat. As matters now stand, wheat in Patna is freely adulterated. Ralli Brothers in Patna City deal only with the petty dealers, and these refuse to give any guarantee with the wheat sold. Each lot has to be tested both for impurities and for the per-centage of red grain before the price is fixed. If the samples tested happen to be superior to the bulk, the bepari gains. If they should be inferior, the bepari can refuse to deal, and so he cannot lose either way. The cultivators never get a fair price, for the brokers and the aratdars have each to get their commissions on each transaction between the bepari and Ralli Brothers. In some marts, where the grain comes chiefly from the neighbourhood, it might be possible for Ralli Brothers to deal directly with the actual cultivators; but in Patna, where the grain comes largely from Gorakhpore and Fyzabad, this is impossible, and the agent for Ralli Brothers is compelled to deal with the petty dealers whose interest it is to cheat him if they possibly can.

Better prices
denied for
clean wheat.

“Since writing the above, I have had a remarkable confirmation of these views from the manager of the Dumraon Raj, the Honourable Jai Prokash Lall. The statements he made were so significant that I took a note of them at the time, and at the same time informed him that I should embody them in this report. The manager said that, about two years ago, when the prospects of the wheat trade were apparently good, he seriously thought of cultivating wheat on a large scale. He estimated that on the Rajah's estates there were 300,000 acres of land capable of growing wheat, and he proposed commencing operations with a capital of two lakhs. His idea was to induce the ryots to grow wheat alone by means of advances in coin and seed, and he intended purchasing machinery, such as he had seen at the Calcutta Exhibition, for cleaning the grain. All that he now required was a remunerative market. Last year, when in Calcutta on Council business, he called at the office of Ralli Brothers, and after telling them his plans asked what price they would give for clean grain. *Ralli Brothers informed him that owing to the action of the merchants in England they could not afford to pay more for a clean sample than they now did for grain with 5 per cent. refraction. Upon hearing this the manager abandoned the idea of growing and cleaning wheat on a large scale.* It is difficult to over-rate the significance of this anecdote, which appears to prove conclusively that so long as merchants will not pay a higher price for clean grain, it is useless for Government to think of inducing cultivators to change their present practice.

Wilful
adulteration :
why practised.

“I then asked the manager about wilful adulteration. He said that he had a gola at Itarsi, near Buxar, from which he used to sell wheat on rather a large scale to the agent of Ralli Brothers at Buxar. The wheat as he got it did not contain 5 per cent. of foreign matter. Accordingly his servants were directed to mix two maunds of earth with every 100 maunds of grain, so as to bring the adulteration up to the required standard. This earth was treated with water and specially prepared for the purposes of adulteration. The suggestion for adulterating the grain in this way came, as the manager says, from the employes of Ralli Brothers. This fully bears out what Major Boileau says, that grain-dealers in Dinapore wilfully adulterate their grain, adding about two maunds and thirty seers of dry clay, bhusee, and other grains to every hundred maunds of wheat. Mr. T. Gibbon, C.I.E., the manager of the Bettiah Raj, told me that wilful adulteration was practised by the petty dealers in Chumparun, and Mr. Carnduff, writing from Hajipore, a large grain mart, says:—‘In the hands of the middlemen, when the grain is lodged in their golas, such grains as *akla pipra* are, I understand, intentionally added with a view to adulteration.’ Mr. Jenkins from Buxar, who has clearly paid a good deal of attention to the subject, is of the same opinion.

“Messrs. Mylne and Thompson have pointed out to me that the adulteration of *gúr* is analogous to the adulteration of wheat. When their sugar-mills were first introduced, they were valued by the purchasers on account of their saving labour and not because they turned out a cleaner article. Even now the Bunniah in Jagdispore refuse to pay a higher price for *gúr* free from adulteration, and though the cultivators can produce clean *gúr*, and will do so if required, it does not pay them to clean the *gúr* they sell in open market. There is now, however, a tendency among European firms to pay a higher price for purer *gúr*; similarly, if the merchants would reduce their standard of refraction, they would get cleaner samples of wheat. This question is treated exhaustively in the report from Shahabad, and it is so difficult to make

extracts without omitting something of interest, that I venture to suggest that the whole report be sent in original. The possibility of cleaning grain with the ordinary tray-shaped pan (scoop) is pointed out by the Collector of Sarun and in the report from the Patna district.

“As regards, then,” I added, “the alleged imperfection of present arrangements for winnowing, it will thus be seen that the mixture of dust from the threshing-floor forms a very small portion of the impurities found in Indian grain, and that the present arrangements for winnowing are as good as can be hoped for under present conditions. It will of course be desirable to effect improvements in winnowing and threshing, should any be found possible; but the root of the evil complained of can only be reached by the abolition of the system of allowing a minimum refraction of 5 per cent., a remedy which lies in the hands of the merchants themselves. The facts mentioned by the manager of the Dumraon Raj shows conclusively that clean grain will be forthcoming if the merchants pay for it, and that it will not be forthcoming, however perfect the winnowing and threshing arrangements may be, so long as a minimum of 5 per cent. is allowed for impurities, be the samples ever so clean.

“These facts and arguments have been brought to the notice of the Calcutta Chamber of Commerce, who, while not denying their force, express regret that they are unable in the present state of the trade to alter the existing practice in this respect. As long as that practice continues, it would appear to me to be futile for Government officers to talk to cultivators of the advantages of producing entirely clean grain. On the contrary, if Government officials interfere at all in the matter, it should be by explaining to the cultivators that it is to their interest to mix at least 5 per cent. of foreign matter with clean grain before offering it for sale.”

3. The Chamber, in reply to the remarks above quoted, observed that:—

“In again discussing the question of the refraction of wheat, the Committee of the Chamber have availed themselves of the views and opinions of the Wheat and Seed Trade Association. The Chamber of Commerce is quite as desirous as the Government to secure that Indian wheat shall be exported as free from admixture as possible, and keeps this result steadily in mind in all discussions bearing on this subject. But although parcels of fairly clean wheat do reach Calcutta, they are so small as to have no effect on the market. An exporting merchant is precluded from giving a better price for such parcels, because he will reap no corresponding advantage in the home market. If clean wheat were delivered in Calcutta in large quantities, the case would be different.

“The Director of Agriculture remarks that ‘a minimum of 5 per cent. refraction is deducted by exporters in Calcutta;’ this is a misapprehension. No deduction of weight is made unless the impurities in a parcel exceed 5 per cent. It is because experience shows that wheat can seldom be delivered in Calcutta with a less amount of admixture than 5 per cent. that the committee do not see their way to recommend an alteration of the standard of refraction. The officers of Government may render the trade most valuable service by steadily impressing upon the cultivators that what is most objectionable in Indian wheat in the eyes of home buyers is the presence in a parcel of other grains and seeds, such as barley, pulses, linseed, and the like. Mud and earthy matter can be eliminated without very great difficulty, but it is next to impossible to separate other grains and seeds from the wheat. So long as Indian cultivators grow wheat crops carelessly or along with, or side by side with, other grain or seed crops, so long will it be difficult to obtain wheat in quantity of a purity which would enable exporters to alter the standard of refraction. But real service would be done both to the trade and the cultivators if the officers of Government kept steadily before growers of wheat that it is principally the admixture of foreign grains and seeds which maintains the 5 per cent. standard of refraction, and also impressed upon them that to obtain a better price for clean wheat, such wheat must be sent into this market in large quantities.”

Calcutta Chamber's explanation of refraction system.

4. I have hitherto refrained from making any comment on the Chamber's remarks, because it appeared to me that the object which the Chamber and Government alike had in view, namely, that of promoting the interest of producers and traders in Indian wheat, by the adoption of measures for prevention of adulteration of wheat by admixture of foreign substances with it, would not be served by entering on a discussion which could lead to no substantial results. It was therefore thought desirable to endeavour to take some such action as would bring the questions at issue to a practical test, and it is rather with a view to report the results of this action, than

from a desire to criticise the letter of the Chamber of Commerce, that I now address you.

5. One or two remarks may, however, in passing, be here made on the Chamber's letter.

Practical effect of the system.

It may at once be admitted that the phrase "a minimum of 5 per cent. refraction is deducted by exporters in Calcutta" is misleading. Five per cent. is not deducted from the actual weight of wheat when it arrives in Calcutta, but prices are fixed on the assumption that all wheat contains at least 5 per cent. of foreign matter; and given say 100 maunds of best Buxar wheat landed in Calcutta free from dirt, my contention was that the price per maund which such wheat would realise was not more than that same grain would fetch if mixed with 5 per cent. of dirt. I do not understand, from the discussions which have taken place on the subject, that the correctness of this statement is disputed, and if this be so, it would appear that the practical effect of the system as regards encouragement of adulteration is the same as if 5 per cent. were deducted from every 100 maunds of clean grain. I admit, however, as already remarked, that the phrase used was somewhat misleading; but I may perhaps be allowed to plead in excuse for it that the report in which it occurred was laid before the Chamber before it was published, that criticisms were invited upon it, and that attention was specially called to the remarks on the subject of refraction, but no exception was taken to them; on the contrary, the accuracy both of the statements of facts and of the conclusions deduced from them would appear from the correspondence which took place to have been admitted.

Efforts to get better price for clean wheat.

6. Coming to the real subject-matter of this letter, I now beg to report what measures have been taken to bring the question at issue to a practical test, and the degree of success which has attended those efforts. It will be remembered that the Honourable Jai Prokash Lal, manager of the estates of the Maharajah of Dumraon, had stated that he had at one time formed a plan to induce his ryots to grow wheat on a large scale alone without admixture of other crops, but that he abandoned the idea because he found that he could not obtain a higher price for clean wheat than for the same grain mixed with 5 per cent. of dirt or other foreign substance. This gentleman came down to Calcutta in March last and expressed his willingness to reconsider his decision.* Accordingly I addressed certain Calcutta firms named in the margin and inquired whether they would guarantee a higher price for clean wheat than for the same quality of grain mixed with 5 per cent. of dirt. It will be seen from the correspondence which is annexed that none of these firms were at that time in a position to offer higher prices for clean grain than for the same grain mixed with 5 per cent. of dirt; but they expressed their willingness to send samples of pure wheat to England if supplied with it by the manager of the Dumraon Raj or Government, with a view to ascertain whether it would there fetch an adequate price.

Experiment with steam thresher.

Messrs. Marshall Sons & Co., Gainsborough, England, about this time proposed to bring one of their steam wheat-threshing machines from Bombay, and by means of it to clean wheat down to 2 per cent. of impurities, and also to purchase some wheat thus threshed and cleaned, and send a small consignment of 200 to 300 tons of it to England in order to ascertain whether it would command a higher price than ordinary Indian wheat mixed with dirt. They asked Government to co-operate by making a grant of Rs. 1,000 towards defraying the charges of carriage of the machine. This grant was made, and the machine was accordingly brought from Bombay and tried at Dumraon in May last.

Valuation of results.

7. It was found that the machine failed to separate wheat from *bhut* or gram, and it was then too late to obtain a sufficiently large quantity of wheat which had been grown alone to permit of the original plan of sending 200 or 300 tons to England being carried out. Experiments were, however, made on a limited scale, and samples of the steam-threshed grain were sent to the Chamber of Commerce, to the Agricultural Society, and Messrs. Ralli Brothers for appraisement. The reports of the Chamber of Commerce and of Messrs. Ralli Brothers are annexed. According to the report of the latter the grain threshed in the ordinary way contained $5\frac{1}{2}$ per cent. of impurities; the steam-threshed wheat contained only $1\frac{7}{8}$. But the steam-threshed wheat, on the other hand, was to some extent chipped and broken. Messrs. Ralli Brothers point out that it is impossible to fix the relative values of the two samples, and add that if the steam-threshed sample were delivered against a contract, allowing 5 per cent. refraction, the seller would derive no advantage from the superior purity

* Messrs. W. Vale King & Co.; Messrs. Petrocochino Brothers; Messrs. Ralli Brothers.

of the sample. The Committee of the Wheat and Seed Trade Association say that the bullock-threshed grain contained 9 per cent. of foreign matter, and was practically unmerchantable, while the steam-threshed wheat refracted only $3\frac{1}{4}$ per cent. The value of 100 maunds of the former they put down at Rs. 279, and of the latter at Rs. 290-10.

8. It will thus be seen that these experiments, though they show that wheat can be cleaned down to 2 or 3 per cent. of refraction, yet are not decisive on the question whether wheat so cleaned will command an adequate price.

9. It will, however, be satisfactory to Government and to the public to learn that Messrs. Ralli Brothers have, as will be seen from their letter dated 21st July 1887 (reproduced as an annexure to this letter), lately shipped to Marseilles two samples to be there sold on their merits one with 6 per cent. refraction, the other cleaned down to 3 per cent. The former cost Rs. 2-14-4 per maund, the latter Rs. 2-15-11, including cost of cleaning at three pies per maund; and it remains to be seen whether the latter will command such a price as would make the repetition of the experiment on a large scale profitable. I entirely agree with Messrs. Ralli Brothers "that improvement in the condition, or rather impurities which are contained in Indian wheat, will result in accordance with the requirements of the consuming countries; if they wish to receive cleaner wheat and pay for it accordingly, cleaner wheat will be exported, because exporters will adapt themselves to the requirements of consumers." But I differ from them when they say "at the same time this result will also be obtained by the endeavours of the Agricultural Department in the way of impressing on cultivators the necessity of supplying wheat as free of the admixture of other grains as they possibly can." I think there is a tendency to attach too much importance to the influence of Government officers in such matters—at least in Bengal. Ryots, if urged by Government officers to do anything which it is their interest or inclination to do, are only too willing to accept such advice and to shield themselves behind it; but when there is a question of doing something which it is not their interest nor their inclination to do—for instance, payment of public cesses—the advice of Government officers goes for little, and their interference in matters which do not fall within their province, when not necessary, does more harm than good. Concerning the question under discussion, I have heard of a case in point in which ryots having been urged by their Sub-divisional Magistrate to sow wheat without mixture of other grains, showed their appreciation of his interference by dropping the cultivation of it altogether.

Messrs. Ralli Bros.' views.

Government influence exaggerated.

10. It appears to me that it is as unreasonable to dictate to the growers of wheat in this matter, as it would be to dictate to the shippers in Calcutta what their pecuniary interests may be, or to expect them to act in a manner opposed to those interests. But it is also as futile to blame the producers for growing other crops with wheat if they find it profitable to do so, as it is to impute blame to merchants in Calcutta for purchasing and shipping wheat mixed with dirt so long as there is a demand for dirty wheat in Europe, and adequate profit cannot be obtained by shipping clean grain. The experiment now being made by Messrs. Ralli Brothers will tend to show whether such profit can be obtained. If it should turn out that a remunerative price can be got for clean grain, then there can be little doubt that Messrs. Ralli Brothers would ship clean wheat, that the example set by them would be followed by others, and that the refraction would thus be soon reduced. If, on the other hand, it is found that consumers in Europe prefer dirty wheat, and will not pay for a clean article, then, as the "Economist" pointed out in a note in its issue dated 16th October 1886, from which an extract is quoted below,* the fault (if fault it be) will have been brought home to the right parties, and if remonstrance is to be addressed or pressure is to be

Government cannot dictate to growers

Clean wheat will follow on better prices.

* "The report is in answer to a Government circular in which, amongst other things, attention was directed to the necessity of obtaining clean grain for export. It appears that at present the grain is mixed with dirt, &c, and it has also been ascertained that this is a fault that could be rectified were it not for a peculiar trade custom. The Calcutta merchants (who in their turn declare that they act under the compulsion of the merchants in England) insist, when buying wheat, upon making a 5 per cent. deduction for impurities, no matter how clean the samples may be. Consequently, the intermediary who sells takes good care that this percentage of impurity is attained, and if it should be the case that the grain he has to dispose of comes to him clean from the cultivator, he at once sets about to adulterate it by mixing two maunds of earth with every 100 maunds of grain. Although this result of their rule has been pointed out to them, the Calcutta merchants have the boldness to ask that the Government should come to their assistance. Speaking for themselves and for the Committee of the Wheat and Seed Trade Association, the Bengal Chamber of Commerce ask that 'Government officers should be instructed to impress upon the cultivators and middlemen the importance of keeping their wheat as clean as possible.'

"And no doubt it would be very pleasant for the members of those Associations and for merchants here as well, if they were enabled to get their full 100 per cent. of clean wheat while paying only for 95 per cent. of wheat and 5 per cent. of dirt. The cultivator or native dealer, however, naturally takes a different view of the

Remedy lies with exporters and European consumers.

brought to bear by Government on any of the parties concerned, such remonstrance would have to be addressed by Her Majesty's Secretary of State to merchants in Europe. It must, however, be remembered that it was not Government or any of its officers who first moved in this matter, but that it was the Bengal Chamber* which drew attention to the evil complained of and requested Government to take action, and that all Government has done in reply is to point out that the action suggested is not legitimate, and that the remedy for the evil lies in the hands of the merchants either here or at home, or in the hands of the consumers in Europe. In this connexion I would take this opportunity to remark that when in a former report it was said by Mr. Allen that the employes of Messrs. Ralli Brothers had told the Manager of the Dumraon Raj to mix two maunds of dirt with every 100 maunds of wheat, it was not meant to imply that Messrs. Ralli themselves, or any of their European assistants, recommended anything of the kind, though some of their subordinates certainly did so. So far from imputing any objectionable practices to Messrs. Ralli or their principal assistants, I have to acknowledge my thanks to them, as well as to the Chamber of Commerce, for the valuable advice and information in my inquiries on this question. With regard to the experiment in shipping clean samples, now being made by Messrs. Ralli Brothers, it may be here observed that as nineteen-twentieths of the wheat shipped is sold before it is bought by Calcutta shippers, the result of the sale of a small parcel of clean wheat *after arrival in Europe* must not be too readily expected to upset the conditions under which the trade has hitherto been worked. As all shipments of Indian wheat are now either approved or disapproved by home buyers after comparison with a standard sample of average shipments made up monthly by the London Corn Trade Association, the sales of clean wheat must either be made on small samples sent home from here—or wheat, like seeds, must be analysed at home. In either case it will be slow and difficult work to introduce a marked and sudden innovation into a well-established trade.

Obstacle imposed by system of forward contracts.

Comparison between steam and bullock threshing.

11. With a view to test the relative merits of steam-threshing and threshing by having grain trodden out by bullocks in the ordinary native fashion, one ton of wheat was carefully weighed and passed through the steam-threshing machine at Dumraon. It took 40 minutes to pass through, but the engine was not working with full power. Mr. Scott, the mechanic in charge, was of opinion that with full power the work would have been finished in half an hour. Besides Mr. Scott, a native mechanic and six coolies were employed in working the steam thresher.

When threshed the crop was weighed, and the results were—

	Cwt.	qrs.	lbs.
Of clean grain - - - - -	8	3	3
Of cattle food - - - - -	0	1	13
Of straw - - - - -	5	3	14
Of chaff - - - - -	4	3	20
	<u>19</u>	<u>3</u>	<u>22</u>

12. One ton of the same wheat was next threshed in the native system. With 10 bullocks this work took eight hours to complete. Four coolies were employed in threshing for eight hours and the same number in winnowing for four hours.

The cost of threshing in this case came to Rs. 1-11, thus—

	Rs.	a.	p.
Hire of 10 bullocks, at 1½ anna each - - - - -	0	15	0
Wages of four coolies for eight hours - - - - -	0	8	0
" " " four " - - - - -	0	4	0
	<u>1</u>	<u>11</u>	<u>0</u>

or, say, two annas per maund of threshed grain.

transactions. If you want wheat, he says, you must pay for it, and if you only pay for dirt, then dirt you will have. This is only reasonable, and Mr. Finucane is quite right when he expresses the opinion that so long as the rule of the merchants remains as at present, 'if Government officials interfere at all in the matter, it should be by explaining to the cultivators that it is in their interest to mix at least 5 per cent. of foreign matter with clean grain before offering it for sale.' It is a pity, however, that the Indian wheat trade should be hampered by such absurd rules, and it is desirable that it should be clearly understood here where responsibility in the matter mainly rests.—*Economist* of 16th October 1886.

* *Vide* their letter dated the 24th July 1883, to the address of the Government of India, Revenue and Agricultural Department.

When threshed the weight of grain and straw was as follows:—

	Cwt.	qrs.	lbs.
Grain -	9	2	15
Straw -	9	3	0
	<u>19</u>	<u>1</u>	<u>15</u>

Taking the value of the steam-threshed grain, as estimated by the Chamber of Commerce, at Rs. 290-10 per 100 maunds, and the bullock-threshed grain at Rs. 279 per 100 maunds, the financial results stand thus—

	Rs.	a.	p.
100 tons of unthreshed corn if threshed by steam machine will yield—			
1,200 maunds of grain with $3\frac{3}{4}$ per cent. refraction, valued at Rs. 290-10-0 per 100 maunds by Chamber of Commerce (omitting fractions)	3,487	0	0
100 tons of unthreshed corn if threshed by bullocks will yield—			
1,316 maunds of grain with 9 per cent. refraction, valued at Rs. 279 per 100 maunds	3,671	0	0
Difference in favour of bullock-threshing and dirt per 100 tons of unthreshed corn	184	0	0

Against this balance in favour of bullock-threshing must, however, be set off—

	Rs.
(a.) Cost of carriage of 116 maunds of extra dirt from Dumraon to Calcutta, at Rs.39 per 100 maunds	45
(b.) Extra cost of bullock-threshing as compared with steam-threshing, at one anna per maund, on 1,316 maunds	82
	<u>127</u>

{The difference in favour of bullock-threshing is Rs.57.

It thus appears that even after making all reasonable deductions for carriage of dirt and for saving of labour by steam-threshing, the balance of advantage to the ryot, according to the figures furnished by the Chamber of Commerce, would still be on the side of bullock-threshing and admixture of dirt. I have taken the cost of steam-threshing at one anna per maund, as estimated in Bombay; but as labour is cheaper in Behar, this would possibly be above the mark there. It is, however, to be remembered, on the other side of the account, that the initial cost of the machine, the interest on the capital outlay on it, the difficulty of obtaining skilled men to work it, the difficulty of providing other suitable employment for such men when the machine is not at work, have all been left out of consideration.

13. These results are only of interest in making a comparison between the relative merits of steam-threshing and threshing by bullocks, and do not affect the question of refraction. As regards the latter point it is immaterial whether clean wheat is produced by steam-threshing or in any other way. The crucial question is, will clean grain, however produced, fetch a remunerative price as compared with unclean grain, and the answer would appear to be in the negative so far as wheat threshed with Messrs. Marshall and Company's machine in Behar is concerned, at least so long as the present system of refraction continues. Further experiments with the steam-thresher will, however, be made under more favourable conditions next year, and meanwhile it is hoped that improvements will be made by which, with suitable arrangement of sieves and screens, the machine will separate wheat from gram and oilseeds. There is not, however, in my opinion the remotest chance of these machines coming into general use by ryots individually or collectively, though it is possible that large landholders here and there may purchase a few of them if a portable machine, carefully adapted to the conditions of Indian agriculture, can be supplied. Indeed one such landholder, who grows wheat largely in Bhagulpore, has expressed a strong desire to obtain a machine of this kind, and has explained that the loss he suffered this year, by being unable to have his wheat threshed in due time before it became damaged by a fall of rain, would more than pay for one of Messrs. Marshall and Company's machines.

Advantage in favour of bullock threshing.

No likelihood of general use of steam threshers.

14. "Connected with the question of the condition in which wheat reaches this market is," the Chamber went on to remark:—

Storage
accommoda-
tion on
railways
defective.

"The very important question of the accommodation for it provided at up-country stations, especially on railways other than the East Indian line. It is hopeless to expect to improve the hold of Indian wheat on European market so long as there is nothing at certain times to prevent its reaching Calcutta weather-damaged. The absence of proper and sufficient accommodation at railway stations for receiving wheat has mulcted shippers in very heavy allowances, and is one of the main causes of bringing Indian wheat into disfavour with home consumers. The wheat season extends from April to October, and as soon as the rains set in the lack of proper accommodation results in a portion of nearly every parcel arriving damaged. Not only is the shelter insufficient, but in many cases the railway platforms are not raised to the point of safety from casual inundations. The railways endeavour to protect themselves by granting to a consignor clear railway receipts against his indemnity note. This practice, when regard is had to the short time allowed at Howrah for the examination of wheat by consignees, and also to the limited facilities they enjoy for such an examination, results in large quantities of damaged goods passing undetected, to the manifest and serious loss of shippers.

"The Committee of the Chamber of Commerce would, in the best interest of the wheat trade, bring this question of the accommodation at up-country stations very strongly to the attention of His Honour the Lieutenant-Governor."

15. The complaints to which reference is here made relate, I believe, principally to up-country stations beyond the territories subject to the Lieutenant-Governor of Bengal; but it would no doubt be very desirable to provide further accommodation at Howrah, and to allow greater facilities there for examination of wheat by consignees. The authorities of the East Indian Railway are fully alive to the importance of this question, and are, it has been ascertained, in correspondence with the Government of India regarding it.

Superiority
of Buxar
wheat.

16. In my report, dated 7th July 1876, attention was called to the superiority of Buxar wheat to that locally grown in Bhagulpore.

Buxar seed was accordingly tried in many districts, and samples of the grain thus produced were sent to the Chamber of Commerce, together with samples of local grain, and their values were appraised. The results* are not everywhere as satisfactory as might have been expected, but the quality of the Buxar grain is, it will be seen, almost everywhere superior to that locally produced. Further supplies of this seed are now being asked for. The best grain produced in Bengal and Behar is, it will be observed, that sent by the Manager of the Deo Raj in Gya, who will be asked to furnish more of this grain for seed.

29.

From DIRECTOR, Department of Land Records and Agriculture, Bengal, to Messrs. RALLI BROTHERS, VALE, KING, and Co., and PETROCCHINO and Co., dated 2nd April 1887.

Inquiry as
to prices for
clean wheat.

It has been proposed to introduce wheat steam-threshing machines, in Dumraon, by which clean wheat can be produced. The Manager of the Dumraon Raj is willing to try one of these machines and produce pure wheat, if he can obtain a higher price for it than he would receive for the *same* grain mixed with dirt. I beg to inquire whether you are prepared to give a higher price for perfectly clean wheat grain than for the same quality of grain with an admixture of 5 per cent. of dirt. I should be glad to discuss the subject with any person whom you may depute to my office to-day between 3 and 4.

30.

From MESSRS. RALLI BROTHERS, to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 2nd April 1887.

Ralli Bros.'
reply.

We are in receipt of your letter of date, and in reply beg to inform you that the Manager of the Dumraon Raj had a long interview with us two or three months ago, when we explained the matter fully to him.

* See Table, p. 56.

We told him that the most practical way for him to dispose of this question is to send us large samples of wheat with various admixtures, when we would make him our offer for each quality.

In a general way, we say that the clean wheat could obtain a higher price than the dirtier one; but the price paid will also depend on the special outlet which may exist at the time for the clean wheat. If the Manager of the Dumraon Raj is ready to offer us to-day clean wheat, stating the admixture and quality, then, if the price asked for is not too high as compared with the price asked for 5 per cent. stuff, we might see with our home friends whether there is any chance of doing business in wheat thus cleaned down.

31.

MESSRS. VALE KING, AND Co., to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 2nd April 1887.

In reply to your favour of date, we shall be pleased to forward to London a sample of pure wheat with the object of being able later on to offer you a better price for such wheat than we can at present. Vale, King,
and Co's
reply.

We must either sell in London on standard sample of No. 2 club, &c., or, for a specially good quality, on a sample submitted by the seller.

Our experience goes to show that the home buyers prefer buying on the ordinary standards to paying an extra price for a special quality; but we shall willingly try and introduce the better quality you proposed into the London market.

We regret that Mr. Petrie cannot wait on you to-day; but if you will appoint a time next week, other than on Tuesday, Wednesday or Friday afternoon, he will be happy to discuss the subject with you.

[Mr. Petrie afterwards did discuss the subject, and informed me that he could not guarantee a higher price, and added that Government might do something towards getting merchants in England to give higher prices for clean grain by introducing a new brand of wheat cleaned to 2 per cent. Messrs. Petrocochino referred me to the Chamber of Commerce and gave no further reply—M.F.]

32.

MESSRS. RALLI BROTHERS, to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 23rd May 1887.

We have received the two samples you mention in your letter dated 18th May, and have to report on them as follows:— Ralli Bros.'
report on
wheat
samples.

1st.—*Wheat threshed by the ordinary native method.*—This sample contains too many red grains, viz., 35 per cent., and 65 per cent. white whilst good Buxar quality should contain about 20 per cent. red and 80 per cent. white.

This sample would be worth to-day Rs. 2-13-6 per maund, whilst good quality wheat would be worth about Rs. 2-14-6.

The refraction of this sample is $5\frac{1}{8}$ per cent., so that if a seller delivers such wheat against a contract with 5 per cent. refraction, he would have to pay an allowance for the $\frac{1}{8}$ per cent. excess refraction.

2nd.—*Steam-threshed wheat.*—This wheat is spoiled by the machine, many grains being broken, and we would not ship such wheat, as it would pay an allowance at home.

The refraction is $1\frac{7}{8}$ per cent.; but if this wheat were delivered against a contract allowing 5 per cent. refraction, the seller would obtain no advantage from the lower refraction it contains.

If, however, the wheat were sold on a sample, and it did not contain the broken grains above referred to, it would obtain a higher price than the sample containing $5\frac{1}{8}$ per cent. refraction.

It is impossible to fix exactly the relatively higher value of the clean wheat until the requisite records have been received from the consuming countries; and all we can say

at present is that, in a general way, the wheat, if not broken, would fetch a better price if sold on a guaranteed sample, or if the seller guaranteed by contract the lower refraction which the sample contains.

We do not know what opinion you will receive from the Association as we are not members. The above is our opinion.

33.

WHEAT AND SEED TRADE ASSOCIATION, Calcutta, to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 2nd June 1887.

Wheat and Seed Association's report on samples.

I am desired by the Committee of the Wheat and Seed Trade Association to acknowledge receipt of your letter of the 18th ultimo, to Mr. Clarke, and also receipt of the two bags of wheat produced at Dumraon in the Buxar sub-division, one steam-threshed and the other the same grain threshed by the ordinary native process.

In your letter you ask the Committee to appraise both and to let you know their relative values with their opinion on them generally.

In reply, I beg to say that the Committee have carefully examined the wheat in each of the two bags, and I am directed to send you the following report which embraces their opinion upon each of the two descriptions.

The bullock-threshed sample refracts 9 per cent., of which $8\frac{3}{4}$ per cent. is mud and other grain, and $\frac{1}{4}$ per cent. damaged and withered grains. Wheat with such an admixture is practically unmerchantable for export, and it is difficult to put a value on it as it is.

The sample of steam-threshed wheat refracts $3\frac{3}{4}$ per cent. according to the usual system of refraction, but of this $1\frac{5}{8}$ per cent. only consists of damaged grains and substances other than wheat, and $2\frac{7}{8}$ consists of grains crushed and broken by the machinery. This broken and crushed wheat is very unsightly in the sample, and would probably detract considerably from its value in the home market.

The colour is considerably inferior to good Buxar No. 1 club, being very yellow, and the sample is much mixed with red grains. This wheat would not pass in this market as average Buxar No. 1 club, and it is difficult to place an exact value on it; but, if sold on sample, it would probably fetch about one anna per maund less than average Buxar, or say in the present market Rs. 2-14-6 per maund. It is doubtful whether with its present admixture of crushed and broken grains this wheat would sell for a better price than the same quality with an ordinary admixture of five to six per cent.

With reference to your inquiry as to what difference in price would a hundred maunds of the steam-threshed grain fetch over the sample threshed in the ordinary way, I am directed to give you the following figures:—

	Rs.	a.
100 maunds steam-threshed, at Rs. 2-14-6	-	290 10
100 maunds ordinary threshed, at Rs. 2-14-6	-	—
Less 4 per cent, excess refraction	-	279 0
		11 10
Difference	-	11 10 per 100 maunds.

I return the bag of wheat as requested, and I also send you, by desire of the Committee, a sample of a good delivery of Buxar No. 1 club, and a sample of the Committee's standard of May shipments of No. 2 club, Cawnpore-Lucknow quality, which may be of use for purposes of comparison.

34.

MESSRS. RALLI BROTHERS, to DIRECTORS, Department of Land Records and Agriculture, Bengal, dated 21st July 1887.

Ralli Bros.' experiments.

In reply to your last inquiry, what we have done is this:—

We wished to see in a practical way the comparative value on this side and at home of cleaner wheat as compared to the average run of the dirtier stuff which is procurable.

As this cannot be so satisfactorily ascertained by bulky samples only, we instructed our agency at Buxar to purchase a parcel of wheat and despatch to us, one portion of it in its natural uncleaned state and the other portion after having reduced the refraction contained in it (*viz.*, everything which is not wheat) as much as they could.

Our agency has done this, and they sent us down two parcels, thus handled, of some 100 bags each.

At the same time we have received the respective invoices, and the result is the following :—

The wheat bought contained about 6 per cent. refraction.

The parcel despatched in its original state, *viz.*, with 6 per cent. refraction, costs us, arrived at Howrah, Rs. 2-14-4 per bazar maund.

The parcel despatched after having been cleaned down to about 3 per cent. costs us, arrived at Howrah, Rs. 2-15-11 per bazar maund.

The extra cost therefore of the cleaner wheat came to 1 anna 7 pie per maund, which is equal to about 10 $\frac{3}{4}$ d. per quarter at home.

The expense of cleaning, taken by itself, is not a very heavy one, because it comes to about 3 pie a maund; but the final expense is so very much enhanced on account of the incidental expenses in the shape of importing into godown, storing, repacking, exporting, &c., &c., which are incurred, and which, but for the cleaning, would be saved, and of course also by the loss of weight incurred, *viz.*, 3 per cent., whilst the expenses saved by not shipping this 3 per cent. are small only.

The original parcel was cleaned by hand labour and was cleaned twice; but in spite of this the refraction was not reduced to less than 3 to 3 $\frac{1}{4}$ per cent. on account of the food-grains which it contained, chiefly kessary and mussoory, which cannot be got rid of because they are of about the same size and weight as the wheat.

If we were to apply extensively the system of cleaning wheat, we might be able to improve matters somewhat, but not to any really appreciable extent.

The above parcels we are shipping to Marseilles, and when they arrive there they will be sold on their merits, and we shall know then what the actual result of the experiment will be; but as the extra cost of the cleaned wheat which I give you above is equal to quite half a franc per 100 kilos, we do not expect to obtain in Marseilles a higher price such as to compensate for the higher cost, and besides this, though the experiment made is a very practical one, it would require to be repeated so as to form a definite conclusion. Besides we cannot depend on having always a regular outlet for this wheat.

As I know that you take much interest in this question, I thought that you would like me to explain to you what we have done in a detailed way.

As regards the general question of Indian wheat on this side of India, nothing fresh has been done lately, and wheat continues to be shipped in the same way as previously.

As you know, my opinion on this subject is that an improvement in the condition, or rather in the amount, of impurities which are contained in the wheat shipped will result in accordance with the requirements of the consuming countries, *viz.*, if they wish to receive cleaner wheat and pay for it accordingly, cleaner wheat will be exported, because exporters will always adapt themselves to the requirements of the consumers.

Ralli Bros.'
opinion how
improvement
may be
effected.

At the same time, however, this result will also be obtained by the endeavours which the Agricultural Department will continue in the way of impressing on cultivators the necessity of supplying wheat as free of the admixture of other grains, &c. as they possibly can, because, as you will see also from what I write above of the experiment we made at Buxar, it is quite clear that whilst dust and such like matters can be extracted from the wheat, the edible grains, &c. which the wheat contains cannot be equally so, and these grains constitute a great proportion of the admixture.

In conclusion, my opinion is that the supplying of cleaner wheat cannot be forced upon either shippers or cultivators; but that whilst the former will conform themselves to the requirements of trade, the tendency of which is to receive purer wheat, the latter should continue to be urged by Government to bring down their wheat in a purer condition by restricting, as much as possible, the present system of sowing mixed crops and the like.

I shall be obliged by your informing me whether the information I give you is all that you require at present.

35.

APPRAISEMENT OF WHEAT SAMPLES FROM VARIOUS DISTRICTS BY THE CHAMBER OF COMMERCE, BENGAL.

Locality.	Wheat growing to any extent or not.	Variety of Wheat.	Value as appraised by the Chamber of Commerce.	Remarks.
I.—Bhagulpore:—			Rs. a. p.	
Experimental farm -	Wheat growing -	Buxar -	2 14 6	
		Local -	2 14 0	
Rungalal's farm -	Ditto -	Buxar -	2 15 6	
		Local -	2 14 6	
Surjanarayan Singh's farm. }	Ditto -	Buxar -	2 15 6	
		Local -	2 15 0	
II.—Monghyr ---				
Durgadas' field -	Wheat growing -	Buxar -	2 14 6	
		to		
		Local -	2 14 9	
Nawal Singh's field -	Ditto -	Buxar -	2 11 6	
		Local -	2 15 6	
Sham Sing's -	Ditto -	Local -	Uncertain	
		Buxar -	2 14 6	
		Local -	2 11 0	
III.—Pubna - - -	No wheat growing	Buxar -	- - -	Lost its character as Buxar wheat.
		Local -	2 10 0	
IV.—Dinagapore - - -	Ditto -	Buxar -	2 11 6	
		Local -	- - -	Ditto Ditto.
		Buxar -	2 15 0	
V.—Bogra - - -	Ditto -	to		
		Local -	2 4 9	
		Local -	2 9 6	
VI.—Tipperah - - -	Ditto -	Do. -	Uncertain -	Unlike anything shipped from Calcutta; soft, but greasy in appearance.
VII.—Gya - - -	Wheat growing -	Local dandi -	3 0 0	A fine wheat, superior to No. 1 club.
		Do. red -	2 12 0	Best soft red,
VIII.—Cawnpore - - -	Buxar -	- - -	Sample not received.	Came, it is reported, to maturity at least 10 days earlier than Mozuffernagur variety, and was remarkably free from rust. The outturn was also good.

36.

GOVERNMENT OF BENGAL to DIRECTOR, Department of Land Records and Agriculture, Bengal, No. 3421-608, dated 16th November 1887.

Views of the Bengal Government on the question.

In acknowledging receipt of your letter No. 1265, dated 18th August last, and enclosures, on the subject of the refraction of wheat, I am directed to express the Lieutenant-Governor's satisfaction at the efforts made by you for the improvement of the quality of the grain exported from Bengal by the supply of the best seed, by aiding in experiments for introducing cleaning machinery, and by drawing attention to a trade custom which, even if adapted to immediate circumstances, must in the long run act as a bar to progress. The subject is one of the greatest importance from a commercial and agricultural point of view, as a slight improvement in the quality of the wheat exported from Bengal would probably lead to considerable increase in the price offered, and enable this province to compete on more equal terms with European and American countries. At the present moment there seems to be no opportunity for offering advice to the cultivators as to the admixture of foreign substances with wheat, and, until the conditions of trade alter, Sir Steuart Bayley agrees with you in thinking that the Government would not be justified in urging the ryots to accept the present loss involved in growing wheat without admixture of other crops. Cultivators are probably aware of the conditions of the trade which affect them immediately, and in particular know what price can be expected in the local market for grain of a particular quality, or in a particular state. But should the experiment tried by Messrs. Ralli Brothers in exporting wheat cleaned down to 3 per cent. refraction prove successful, and lead to a demand at paying rates for grain of that quality, or should a similar alteration in the trade be produced by other causes, it may be advisable to make the facts known to producers. It is doubtless true that an effective demand for grain of an improved quality must in the first instance be created, but should such a demand arise, its continuance will probably depend on the quality of wheat of the desired description which can be brought for sale.

NORTH-WESTERN PROVINCES AND OUDH.

37.

GOVERNMENT, NORTH-WESTERN PROVINCES AND OUDH, TO GOVERNMENT OF INDIA,
No. 1172—I. 85, dated 6th July 1885.

I am directed to acknowledge the receipt of your letter, No. 67A.—42-4, dated the 16th May 1885, forwarding copy of a resolution recorded by the Punjab Government on the subject of the wheat trade of that province.

2. With reference to paragraph 11 of the resolution, I am directed to say that the general question of warehousing grain, and also Messrs. Reinhold's special representation, have already been considered by this Government, and his Honour the Lieutenant-Governor and Chief Commissioner sees no reason to dissent from the views already expressed in paragraph 33 of Mr. Benett's letter, No. 48T., dated 25th July 1884, a copy of which is appended to your letter under reply. The proposal of the Punjab Government to erect store-godowns at railway stations where octroi would not be levied, in the hope that traders would readily use them for storage of their grain, does not seem called for by the conditions of trade which exist in these Provinces, nor so far has the want of such store-godowns been generally expressed or felt by traders of the North-Western Provinces and Oudh. For purely storage purposes it is believed that such warehouses are not required except in times of very exceptional pressure, and on these rare occasions such accommodation as could reasonably be provided would prove insufficient. For ordinary traffic the railway companies have made and are making sufficient provision. Traders would be deterred from using warehouses scattered along the lines of rail, by the difficulty and expense of maintaining proper supervision and control over their stocks at a distance from their places of business, and in some degree also by the loss of secrecy of their trade involved in the use of public warehouses. It has yet to be proved that the grain trade is diverted or indeed influenced by the presence of an octroi tax. The general experience on the subject, moreover, is believed to be adverse to the success in India of the warehousing plan, which has more than once been tried.

North-
Western
Province
Govern-
ment's views.

Warehouses
not required.

38.

NOTE by the DIRECTOR, Department of Land Records and Agriculture, North-Western Provinces and Oudh, dated 14th January 1887.

The following remarks are offered in compliance with a reference made by the Government of India on the 24th December 1885. Copies of certain correspondence between the Government of Bengal and the Calcutta Chamber of Commerce were sent to me. Special attention was directed to the views expressed by the Chamber of Commerce in paras. 3, 4, and 5 (marginally noted)* of their letter, dated 13th November 1885, to the Government of Bengal. I was asked to obtain the opinions of the leading merchants in Agra and Cawnpore and forward them with such remarks as I might have to offer.

Report by
Director,
Agricultural
Department.

2. I consulted Messrs. Reinhold, of Agra and Cawnpore, Mr. Wishart (representing Messrs. Begg and Sutherland, Cawnpore), and also a number of the principal traders in Meerut and Muzaffarnagar, both of which places are large wheat-exporting centres.

* "3. It is the opinion of the Chamber that Government officers should be instructed to continue to impress upon the cultivators and middlemen the importance of keeping their wheat as clean as possible, and of sowing, as far as practicable, different descriptions of produce in separate fields. It might also be explained to them that No. 1 club wheat or the Delhi and Buxar varieties of soft white grain, and No. 2 club, consisting of Cawnpore-Lucknow grain, command a higher price than other descriptions, and efforts might be made to introduce these varieties into districts where only the inferior qualities of grain, difficult of sale for export, have hitherto been cultivated.

"4. The mixing of dut or inferior grains by mofussil dealers is a matter against which the Chamber is unable to suggest any remedy; but no doubt, when these dealers realise the loss sustained by the reduction of weight paid for, due to excess refraction, they will see their advantage in sending to the market wheat fit for immediate export, thus saving additional charges at the port of shipment.

"5. It is the opinion of the Chamber that much good would possibly be done in the direction of the development of the wheat trade by improving communications between the districts of growth and the different railway-stations by means of cart road feeders. It is considered that central cleaning depôts are neither necessary, advisable, nor practicable, as the expense that would be incurred in using them for cleaning an article of such low primary value as wheat would increase the cost out of proportion to the improved price which might be obtainable for the cleaned grain in the home markets.

Messrs. Reinhold had already, in 1883, laid before the Local Government a scheme for cleaning and classifying wheat at Cawnpore and at such other central marts as might be selected. On being asked for an opinion on the points raised by the Calcutta Chamber of Commerce, they referred to their project of 1883 as embodying their views. Mr. Wishart favoured me, in April last, with an expression of opinion on the points raised, and I cannot do better than quote his own words. Mr. Wishart writes as follows:—

Mr. Wishart's
opinion.

“As regards the first point, whether clean wheat is to go to England or not, this depends on the London and Liverpool Wheat Associations and not on us in India. Cleaned wheat has been shipped time and again, and the experiment has always resulted in a loss, the reason being that the standards are fixed by the average quality of the first few shipments of the season, and if wheat free from small and damaged grain and containing (say) 2 per cent. of impurities only as against the customary 5 per cent. is shipped, it is a special article and can only be sold as such. Again, standard wheat may change hands half a dozen times before it reaches England, while a lot of special quality could only be sold on samples drawn after arrival, thus making the shipper take all the risk of fluctuation both in the wheat market and the rate of exchange. If the London merchants will demand wheat containing only 2 per cent. refraction, it can be supplied easily, as there is no grain that is easier to clean.

* * * * * There are too many practical objections to the successful working of cleaning depôts to make it worth while to discuss the project seriously; the costs of the enormous area of buildings necessary, the difficulty of cleaning innumerable small lots separately, and the disposal of 50 or 60 different qualities. If anything of the sort is attempted, I think the best plan to follow would be the Chicago grain elevator system. They class wheat in three or four different standards only. When wheat is tendered to them, it is graded according to its quality and refraction and weighed off, and then run up into the room containing wheat of that standard, and a warrant is given for the quantity received. If damaged grain or grain containing anything like 5 per cent. refraction is tendered, it would simply be refused as ‘below class.’ This has had the effect in America of making both farmers and middlemen clean and store wheat properly, and it would have the same effect here.

“I do not think much good could be done by trying to induce cultivators to change the class of wheat which they sow, as the description grown in each district has in nine cases out of ten shown itself suitable for that district, and cultivators do not like being experimented upon. Could anything be done, however, to induce them to use seed that did not contain the usual percentage of barley, it would be a good thing, as it can only be cleaned out by the expensive machinery which the English mills have for this work. The Calcutta shippers have no one to thank but themselves for the fact that wheat is mixed with dirt and inferior grain by mofussil dealers. For reasons of their own they have established 5 per cent. as the standard of refraction, and if a dealer was to send down wheat containing 2 per cent., they would not make him a pice of allowance for its extra purity. Again, it would not pay them if the wheat was brought down absolutely free from foreign matter, as many of them make their profit on the refraction—that is to say, consignments that they class, in taking delivery from the up-country dealers, as containing 6 and 7 per cent. (refraction) and pay for accordingly, will pass in London and Liverpool very often as below 5 per cent. Paragraph 5 of the Chamber's letter seems to me to be most unreasonable. It is admitted that the grain has to be cleaned in the home market before it can be milled, and it is unreasonable to maintain that it is cheaper to ship it home dirty, paying extra railway and steamer freight, insurance and labour at English rates, than to dispatch it clean from up-country, provided a system can be introduced which will make it to the interest of either the cultivators or the middlemen to clean it.”

On a subsequent reference made to him in June, Mr. Wishart writes:—

“Native and European dealers up-country maintain (in a falling market particularly) that, however clean the grain may be, an allowance is always claimed for refraction. In the North-Western Provinces and Oudh, the Calcutta shipper is supposed to instruct his staff to get some allowance from the up-country dealers in both weight and refraction, and the dealers, to save themselves, are said to keep men down there (in Calcutta) to bribe the shippers' employés to pass the consignment on favourable terms, the consequence being that some are let off easily, while others are cut heavily. If there is any truth in these statements, it is quite easy to understand that the shipper in the long run does not now gain much by refraction, while his action has had the effect of greatly demoralising and lowering the tone of the trade. My statement that ‘many

' of them make their profit by refraction ' was based on an admission to that effect made to me some two or three years ago by a large Calcutta shipper, and I was under the impression that the practice was still in force

" The general opinion up-country appears to be that were there an independent or reliable body in Calcutta, to whom questions of quality and refraction could be referred, business would be greatly facilitated. All the men I have spoken to agree that a great deal of bribery goes on at Howrah in connexion with the giving and taking delivery of oilseeds and wheat, and this has had a very demoralising effect on the trade."

3. The native traders whom I consulted in Meerut and Muzaffarnagar were chiefly commission agents, with no real stake in the wheat trade. They had no suggestions to offer. The only instructive remark which nearly all of them made was that they were afraid to venture to trade in wheat on their own account, because they felt themselves completely at the mercy of the Bombay and Calcutta dealers; that no matter how clean and pure the wheat they sent, they were certain to be micted heavily for refraction at the ports, and that, therefore, they preferred to act merely as middlemen between the producer and the exporter, making a small commission, and safe from loss.

Statement by
native
traders.

I am bound to say that all the evidence which I have been able to obtain in the North-Western Provinces and Oudh goes to confirm the views expressed by Mr. Wishart.

4. I shall now state my own opinions on the points raised by the Calcutta Chamber of Commerce and on one or two cognate matters in regard to wheat production and export, and shall make, with all diffidence, some suggestions which have occurred to me as, perhaps, worthy of some consideration. My remarks must be regarded as referring, primarily, to the North-Western Provinces and Oudh.

First, then, with regard to the impurity of the wheat, the consequent high rate of refraction, and the proposal to establish local cleaning depôts for purifying the wheat, with a view to reducing the rate of refraction and enabling shippers to send a pure, clean article to the European market.

Director's
opinion.

There is no doubt whatever that, although considerable improvement has of late taken place, the wheat sent from these provinces to Calcutta and Bombay is still very far from pure. It generally contains a mixture of barley, peas, straw and chaff, and dirt varying from 3 to 6 per cent. It goes down by rail in bags. It is sorted at Howrah; if it shows impurity greater than 5 per cent., the excess (up to 7 per cent.) is deducted from the seller's invoice; if the impurities are over 7 per cent. the buyer has the option of refusing the consignment. For example: a bargain is struck between a Calcutta merchant and a Cawnpore trader for delivery of 500 maunds of wheat at Rs. 2-8-0 per maund. This price, it is understood by both parties, is really for 475 maunds of pure wheat and 25 maunds of impurities. The Cawnpore trader sends down 500 maunds containing impurities to the extent of (say) only 2 per cent., i.e., 490 maunds of pure wheat and 10 maunds of impurities. The Calcutta merchant therefore gets 15 maunds of pure wheat for nothing and thereby makes, what may be called, an unearned profit of nearly Rs. 40, or over 3 per cent. I do not say this is a common occurrence; but it has happened so, and it will, from time to time, happen again under the existing arrangement. On the other hand, it cannot be denied that the Calcutta shipper has sometimes to pay, in London, allowances for excessive admixture which he cannot recover from the country dealer.

Practical
working of
refraction
system.

5. Now this is an evil, but it is an evil that may, perhaps, be said to be inseparable from the Indian trade as at present carried on. Prices are struck on the basis of a 5 per cent. refraction, and this fact is known to all who engage in the business. An up-country trader knows that he must either adulterate the wheat which he sends to Calcutta up to the 5 per cent. limit, or if he sends a purer article, suffer a loss in proportion to its purity, which loss may be a gain to the Calcutta shipper. The natural consequence is that the country trader in probably nine cases out of ten does adulterate the grain. But this is not all. It is a regrettable fact that, as stated by Mr. Wishart and confirmed by undoubted testimony, agents of the Calcutta shippers do, in their negotiations with country dealers, particularly when the market is falling, often strive successfully to obtain unfair allowances both in weight and in refractions; and that the country dealers, on the other hand, frequently protect themselves from excessive loss by bribing the underlings at Howrah to pass their consignments on.

Evil effect on
up-country
traders.

more favourable terms than they are entitled to. It is these tricks of the business which are most damaging, for they give rise to uncertainty and insecurity which cannot fail seriously to obstruct the free course of the trade. In June 1885 the Calcutta Wheat and Seeds Association passed a resolution that all wheat purchased during the succeeding month of July should be on the basis of 5 per cent. refraction instead of 6 per cent., which is the customary rate for consignments coming after the 30th June in each year. The country dealers at once combined to defeat this movement on the part of the Association and to restore the 6 per cent. rate; they would not sell a bag of wheat at the 5 per cent. rate. The shippers held out for a time but eventually had to yield. This case has, I believe, been cited by interested parties to show that it is not the Calcutta merchants, but the country dealers who prevent pure grain coming to the market. Now I venture, subject to correction, to suggest that the reason why the native dealers refused to accept the 5 per cent. rate of refraction may have been, not because they were unable or unwilling to supply wheat of that degree of purity, but because they felt that any such reduction would still further increase the insecurity and risk of their business; for, as they doubtless reasoned, the lower the rate of refraction the more easy it is to assert and the more difficult to disprove excessive impurity.

Reason why refraction cannot be abolished.

6. In the present state of Indian agriculture the refraction difficulty cannot be altogether removed. The mass of Indian cultivators will for many years to come grow mustard seed or barley in their wheat fields, and the grains must get mixed to a greater or less extent at harvest time. Then the grain is threshed out by cattle on the bare ground, when it must get mixed with earthy matter. The custom of sowing mixed seed is, I hope and believe, not so universal as it used to be, and every effort is being made to introduce a pure and high quality of seed, but still the custom largely prevails. Under these circumstances refraction will always have to be considered in the course of the wheat and seed trade. The *real* evil to be got rid of is the insecurity felt by traders and the consequent risk to the trade from the abuse of refraction at the ports. There is, so far as I can see, only one remedy, and that is the establishment at the ports of an independent authority to determine all questions of refraction and classification. The present system of arbitration by members of the Calcutta Wheat and Seeds Association is a laudable effort to solve the difficulty. But apparently the up-country traders want something more independent than this. A committee of mercantile men, aided by an expert appointed by Government, would probably be a sufficient guarantee to all parties and would restore confidence.

Abuse of the system the real evil.

Obstacles against cleaning depôts

7. The question of local depôts for cleaning the wheat is a difficult one. If the tendency of the trade in these provinces was to concentrate at a few large central marts on the line of rail I would be disposed to recommend establishment of cleaning depôts at these marts, because by such an arrangement the local exporters would be enabled to clean their wheat down to a certain refraction standard and thus satisfy themselves that their consignments were strictly up to the quality required for export. But the tendency of the trade is exactly the other way. Instead of concentrating at large marts it is daily becoming more and more scattered. The concession by the railway companies of special freight rates for minimum consignments of 10 tons has encouraged export by dribbles, and now during the season, local export goes on from almost every railway station. It would scarcely be possible to establish cleaning depôts at all stations. The expense, both in prime cost, maintenance, and supervision (which is indispensable), would probably be too great. Therefore in lieu of small local cleaning depôts, I would recommend establishment at the ports of large cleaning and storing depôts,

8. This brings me to the most important of the suggestions which I venture to offer in this note.

Comparison of Indian and American freights and prices.

America is India's most dangerous rival in the wheat trade. She has limitless resources, a fertile soil, a magnificent railway service, the cheapest freights in the world both by land and sea, and she compensates herself for the costliness of manual labour by the extensive use of machinery. India, too, has enormous resources, a productive soil, and she has, what her rival has not, cheap labour. But the natural expansion of her trade is hampered by her comparatively limited means of communication by road and rail and by high freights of land carriage. The following figures will illustrate the advantage which America has over India in the competition for the wheat trade with the United Kingdom :—

One quarter (496 lbs.) of wheat is carried from Chicago to New York at the rate of 6·25*d.* per 100 miles.

One quarter (496 lbs.) of wheat is carried from Cawnpore to Calcutta at the rate of 7·80*d.* per 100 miles.

The Indian rate would thus appear to be about 25 per cent. higher than the American rate.

The American wheat which is carried from Chicago to New York is pure and clean and in exportable condition. The Indian wheat which is carried from Cawnpore to Calcutta is weighted with 5 per cent. or more of pure ballast.

The American wheat is carried in bulk, loose in the cars. The Indian wheat is carried in double bags. The American wheat receives the least handling possible.

The Indian wheat is handled in a multitude of ways both at starting and at its destination.

Thus then, as the above figures show, India is burdened in her struggle with America (1) with a primary railway freight about 25 per cent. higher, (2) with an extra railway freight on 5 per cent. ballast, (3) with a further extra railway freight on bags, (4) with excessive handling, and (5) finally she comes into the English market with an article inferior in appearance, although, on the whole, not much inferior in quality to that of her rival.

Indian disadvantages; high freight; successive handling; impurity.

The cost of raising one quarter (496 lbs.) of wheat in America is about 14*s.* The cost of raising the same quantity in the North-Western Provinces and Oudh is (at the present rate of exchange) about 11*s.* 9*d.*

It is not, therefore, in the prime cost of wheat that India is at a disadvantage. For the same outlay she can raise nearly 20 per cent. more grain than America and of not much inferior quality; and, moreover, she has resources, in area and labour, to raise sufficient wheat to supply the entire demand of the British market. America, by her protective policy, is inflicting severe losses on the British manufacturing industry. India possesses within herself the means of compelling America to withdraw her hostile tariffs, and open her market to the products of British industry.

9. To enable India to successfully meet American competition in the wheat trade, effort should be made—

What is needed.

- (i.) to send the best Indian wheat in the best condition to the London market;
- (ii.) to reduce to a minimum all charges between the producer in India and the consumer in England.

In other words, the wheat exported should be of the best quality, pure and clean, and freight and handling charges should be reduced to the lowest figure possible. As regards the quality of the grain, I shall have something to say afterwards. Meanwhile, what we have to do is to see that the grain sent to England is in a condition which will enable it to take an independent place in the home market, and that its cost landed in London is such as to enable it to defy foreign competition.

10. The first step which appears to me to be necessary is to change the present system of carriage in bags to carriage in bulk—*i.e.*, loose in the waggons.

Carriage in bulk

By carriage in bulk the following charges will be saved per quarter of 496 lbs. between Cawnpore and Calcutta:—

(a.) Cost of bags	-	-	-	-	12 annas.
(b.) Bagging, marking, and sewing	-	-	-	-	1·5 "
(c.) Freight on bags	-	-	-	-	2·5 "

or a total saving of Rs. 1. equivalent at present exchange to 16·5*d.*

If the grain were carried by sea in bulk also, the further saving in freight of bags would be 75*d.*, raising the total saving in freight to London to 17·25*d.* or 1*s.* 5¼*d.* The present cost of landing one quarter of wheat in England from Cawnpore (including price in India) is 31*s.* 10 93*d.* The reduced cost would be 30*s.* 5·68*d.* If by an arrangement which I shall shortly describe the grain is cleaned down to 2 per cent. refraction at the port, a further saving on sea freight of 2·5*d.* will be made, raising the total saving in freight to 19·75*d.* or 1*s.* 7¾*d.*, and reducing the cost of one quarter of wheat landed in London to 30*s.* 3·18*d.*

The quarter of wheat from Cawnpore (No. 2 club) fetches in London 32*s.* to 33*s.* 6*d.*

The competing American wheat costs 33*s.* 6*d.* landed in London, but fetches 36*s.* to 37*s.* per quarter.

11. The arrangements necessary on the Indian railway lines to enable wheat to be carried in bulk would neither be difficult nor costly. I am indebted to Mr. J. R.

Muirhead, Traffic Inspector on the Oudh and Rohilkhand Railway at Benares, for the following suggestions in regard to these arrangements and their probable cost.

The railway companies have generally abundant spare ground at their stations. Let them set aside a portion of the ground, so that the grain can be brought direct to the station, instead of to the local market, and there taken over by the agents. Let shelter sheds be run up for receiving the grain in bulk, and let each agent have a compartment or bin for keeping his consignments separate.

Let the grain be loaded up into the waggons in bulk by baskets.

At most stations covered sheds already exist, so that the only expenditure would be for the bins or separate compartments. Each bin would cost, probably, not more than Rs. 100.

Alteration in
waggon.

Certain adaptations of the existing waggons for carrying the grain loose would be necessary. Each waggon would require to have (say) six openings in the floor with sliding shutters, manipulated at the ends of the waggon, to open and close the holes; such an alteration would not interfere with the adaptability of the waggon for carriage of any ordinary goods when not required for grain traffic. A load-line would require to be painted inside each waggon, indicating the height to which the grain could be heaped.

The alteration could be made for Rs. 20, and the painting for Rs. 2 per waggon, or Rs. 22 in all. The waggons will need to be supplied with 12 plate springs, in order to enable them to carry $12\frac{1}{2}$ tons in bulk instead of, as now, 10 tons in bags. But as the railway will gain by saving in haulage about Rs. 150 on every 50 ton lot from Cawnpore to Calcutta, this item should not be taken into consideration.

Delivery
through
cleaning
shoots.

The waggons, on arrival at the port of shipment, should be run on elevated lines and the grain should be shovelled out of the waggons, through the openings in the floor, into shoots which should be constructed with alternate screens or sieves on the inside. The grain, while passing over these screens or sieves, will cleanse itself of dirt and small seeds, leaving the clean wheat to pass out at the base, either into bins for storage or into cargo-boats for immediate conveyance to the ship or steamer.

I am not in a position to say what the cost of the elevated lines would be, but the shoots with alternate screens would probably not cost over Rs. 500 each.

The saving in freight and handling effected by an arrangement of this kind would amount, as I have already shown, to Rs. 1 per quarter, or 2 annas 8 pie per maund. The Benares railway bridge will cost, I am told, over 70 lakhs of rupees, and it will, when open to traffic, effect a saving of about 2 annas 10 pie per quarter. If this be so, surely the expenditure which I have described would be well worth incurring, seeing it would effect a saving in carriage of Rs. 1 per quarter.

Advantages
from carriage
in bulk.

12. The important results which would accrue from carriage in bulk in the way described are:—

- (1) a large saving in freight and handling;
- (2) greater carrying capacity in the railways;
- (3) partial cleansing of the grain in the very course of its loading and carriage in bulk;
- (4) complete cleansing of the grain at the terminal station through the shoots;
- (5) reduction to a uniform *minimum* of the refraction;
- (6) consequent highly improved condition of the grain sent to the London market.

The full saving of 1s. $7\frac{3}{4}d.$ per quarter landed in England would, of course, greatly depend on the shipping companies consenting to carry the wheat in bulk. But if the trade took a decided turn in that way, and the advantages of the new departure became apparent, the shipping companies would not be slow to make arrangements to suit the advancing trade.

Reduction in
refraction
per-centage.

13. It is, however, of primary importance that the London market should definitely fix the degree of purity, *i.e.*, the refraction of Indian export wheat. London is the buyer, but she is in reality in ignorance of the capabilities of this country. The London merchants imagine that nothing under a 5 per cent. refraction is possible, and they determine the standards from the first few shipments of the season. What is required is that the London trade should send out a competent representative to this country, who will, on behalf of the British trade, authoritatively fix the degree of refraction of the Indian wheat. It is idle to expect the Calcutta merchants to do this; and the up-country dealers have not sufficient confidence to risk a standard of refraction which could be easily and safely abused.

If the London trade were aware that a 2 per cent. refraction was not only possible, but under a system of carriage in bulk and self-cleaning at the port, cheap and easy, it is not to be doubted that they would fix the standard at 2 per cent., and that Indian wheat would rise in the European market. A very direct stimulus to higher-class cultivation in this country would be given; and *the one thing needful* would be supplied, *viz.*, the motive of self-interest in up-country traders would be brought into active operation, and would re-act on the Indian cultivator in a way that no Department of Agriculture or any other power on earth can act. Let the desire and certainty of gain from trading in a high quality of wheat once firmly get possession of the Indian village trader, and it will not be long before the Indian cultivator takes to sowing pure seed, cultivating the best varieties, keeping his wheat separate from other grains, adopting improved methods and economies in his cultivation and developing into what no unaided Department of Agriculture can ever make him—a keen, enterprising, intelligent, clever, thrifty farmer.

14. Still Departments of Agriculture can do something if they only set about their business in the right way. And here I come to the points noted in paragraph 3 and the first part of paragraph 5 of the Calcutta Chamber's letter. As to preaching to cultivators on the necessity of sowing their wheat separately and inculcating the duty of not mixing, all I have to say is that the best sermon that can be preached is the hint to them by the village trader that, unless their wheat is very nearly quite pure, he will not buy it as wheat at all, but as a mixed grain at a low rate like gram and barley. If (as it would be) this hint were followed up by action at harvest, and the cultivators felt the loss they had sustained by not heeding the trader's warning, they would soon mend their ways and take to those better habits which the Chamber desire them to be lectured about by officers of Government. I venture to assert that if 2 per cent. refraction were authoritatively fixed by the London trade, and if the Calcutta trade (as they would be obliged to) demanded accordingly, pure wheat would be got, and this would be the best sermon to the Indian cultivator. The two essential points are:—

- (i.) that London should fix the standard, and that the whole Indian trade should be aware of its having been so authoritatively fixed;
- (ii.) that every question of refraction and classification should be disposed of by an independent authority at the port.

In this way alone can confidence be restored to the country traders, and unless there is confidence, it is vain to expect improvement. Once country dealers know that if they send wheat of 2 per cent. refraction as required in London, they will get the full price of this standard wheat and not be mulcted by intriguing agents from whose decisions about impurity they have no appeal, and in whose fairness they have no trust, they will see to it that the wheat sent is of the best and cleanest.

15. But, as I have said, Departments of Agriculture can do something. They can arrange for supply of the best seed at easy rates to cultivators all over the country, and they can encourage cultivators who sow it carefully by offering prizes for good samples exhibited at agricultural shows. It is in this way, perhaps, that the Department of Agriculture can best act on the mass of cultivators, and in so far as lay in my power with the means at my disposal I have acted in this way in the United Provinces. For the last two years quantities of from 800 to 1,000 maunds of specially selected and cleaned soft white seed have been annually distributed all over the country to cultivators whose names have been registered; prizes have been offered and adjudged to cultivators who have produced the best samples of grain from this and other seed; and most favourable terms for repayment, either in money or in kind at pleasure, have been arranged. The demand for pure seed from districts is constantly and largely increasing and will soon more than tax the powers of this Department to satisfy. Accordingly, I am now engaged in negotiating with members of the recently-founded Agricultural Association in these provinces for the establishment by them of a joint-stock company for supply of pure seed to all districts, the management being subject to the control and supervision of this Department. His Honour the Lieutenant-Governor has shown the Association that he expects active and intelligent co-operation from them; he has given them much encouragement, and has recognised the good that such an institution is capable of doing. I have, therefore, every hope that success will attend it. But it is difficult to work without the co-operation of District Officers. Some look on all attempts to effect improvements as doomed to failure, refuse their sympathy, and decline to co-operate. Fortunately, however, there are many officers who view such efforts in a different light, and admit that be the success great or small, it is the duty and

Probable effect on cultivators.

What the Agricultural Departments can do.

Supply of pure seed.

interest of the Government to do all it possibly can to foster the agricultural industry of the country, on which everything—revenue, trade, administration—absolutely depends.

Co-operation
on Court of
Ward's
Estates.

In the matter of supply of good seed and encouragement to the growers, District Officers can do a great deal. Words and acts of District Officers are powerful levers. If the Collector of a district showed that he wished a better class of seed sown, started in a small way a competition among growers, promoted the establishment of agricultural shows, awarded prizes for the best grain, and publicly recognised the most meritorious cultivators and zemindars much good would be done, and if the Collector were only allowed to stay in his district and sustain the same personal interest for a few years instead of as now a few months, matters would improve rapidly.

Extension of
railway com-
munication.

16. As regards road and railway communications, to which the Chamber of Commerce allude, it is gratifying to find that the North-Western Provinces and Oudh are probably now foremost of all the Indian provinces. During the last three or four years railway extension has made rapid strides, and at the present moment there is no province in India so well served by railways as the North-Western Provinces and Oudh. Every rupee saved has been sunk in rails, engines, and waggons, and export goes on with astonishing rapidity and freedom at numerous points all over the country.

Still there are, doubtless, tracts where railways would be both remunerative and useful. Here the Department of Agriculture ought to make itself useful in advising on those routes where railway communications would be most beneficial and therefore remunerative.

Feeder
roads.

17. As to road feeders the same thing may be said. There are parts of these provinces (*e.g.*, from Banda to Rájapur) which are still sadly in want of permanent road communications, practicable for wheeled traffic all the year round; and perhaps the matter of good feeder roads needs more attention now than do the railways. But it seems to me, from what I have seen and heard of the state of things elsewhere, that the outlets by good roads to the railway lines for the produce of these provinces are more numerous and more complete than those of any other province in India.

Initial
impetus to
improvement
must come
from English
importers.

18. I would only repeat, in conclusion, that in my opinion endeavour in India to develop the wheat trade will be comparatively infructuous unless backed up by influence in England. It is the London merchants who must give the initial impetus. That impetus once given will be communicated rapidly from the ports to the large country marts, from the marts to the villages, and from the villages to the millions of cultivators who raise the wheat, which, if it only can get a fair chance will, ere long, outstrip its American and Russian rivals, and firmly establish itself in the principal markets of Europe.

Since writing this Note the following case has been brought to my notice:—

In June, 1886, three bags of old wheat belonging to a native agent of a well-known European firm were seized in Muzaffarnagar by order of the Magistrate and samples sent for examination to the local medical officer. The medical officer pronounced them to be quite unfit for human food. The agent, on examination by the Magistrate, stated that he had bought 24 maunds of the condemned grain, and had used it for mixing with other wheat in the proportion of about 1 to 10. He added that before doing so he had reported to his employers that he was unable to buy wheat for them at the rate at which they had allowed unless he was permitted to mix old wheat with new; and that he sent a sample of the mixture for approval. The agent produced copies of correspondence before the Magistrate, which showed that the Bombay firm had approved of the sample, and ordered their up-country branch to purchase accordingly. The agent further stated that the wheat he used for mixing was purchased by him, at 33 seers per rupee, at a time when good wheat was selling at from 16 to 18 seers per rupee.

It will be admitted that facts like these go far to confirm the opinions expressed in paragraphs 4 and 5 of my Note. If, as seems certain, a large European export firm gave its sanction to an admixture of 10 per cent. of rotten grain—pronounced by medical authority to be unfit for human food—with good wheat for the Bombay market, what wonder is it that native dealers in the interior follow the example?

PUNJAB.

39.

GOVERNMENT OF THE PUNJAB to the GOVERNMENT OF INDIA, No. 259, dated 23rd
December 1886.

Adverting to correspondence ending with Mr. Bayley's letter No. 409A., dated 16th May 1885, on the subject of the construction of warehouses for the storage of wheat, and with special reference to paragraph 3, I am directed to forward, for the information of the Government of India, a copy of the correspondence noted below,* and to say that the Lieutenant-Governor concurs in the opinion of the Financial Commissioner, expressed in paragraph 5 of his letter of 26th November, that as attention has been drawn to the advantages of providing sufficient storage for grain and other commodities at the principal exporting stations on the railway, and a commencement has been made towards providing suitable accommodation at places where it is likely to pay, and where the local and municipal authorities are in favour of establishing warehouses, nothing more in the direction appears feasible at present.

Report by
Punjab Go-
vernment.

40.

FINANCIAL COMMISSIONER (Honorable Colonel G. W. DAVIES, C.S.I.), Punjab, to
GOVERNMENT, PUNJAB, No. 1,025, dated 26th November 1886.

On receipt of your letter No. 227, dated 29th July 1885, asking for a report on the subject of the construction of warehouses for the storage of wheat, enquiry was made from the Manager of the North-Western Railway as to the stations from which the greatest export of wheat and other grains takes place, and where in his opinion it is most desirable that warehouses should be constructed. In reply† he gave a list of the following stations :—

Action taken
in providing
warehouses
for storage.

- | | | |
|---|--|--|
| <ol style="list-style-type: none"> 1. Ludhiána. 2. Ferozepore. 3. Kasúr. 4. Lahore. 5. Amritsar. | | <ol style="list-style-type: none"> 6. Dinanagar. 7. Gujar Khan. 8. Mooltan. 9. Gujránwála. |
|---|--|--|

2. On receipt of this reply the Commissioners of Lahore, Jullundur, and Ráwalpindi in whose divisions these stations are situated, were addressed and were requested to obtain from the Deputy Commissioners of the several districts in which the stations mentioned in the Manager's letter are situated reports as to the advisability of erecting warehouses at these places, after consulting the Municipalities adjoining the stations, the commercial public, and the railway authorities.

The result is given in the original correspondence herewith submitted as detailed below,‡ of which a précis also is appended to this letter.

3. From this correspondence it will be seen that arrangements are already in train for erecting warehouses at Lahore, Kasúr, Batálah, and Pathánkot; that at Amritsar a warehouse is considered unnecessary, as Messrs. Ralli Brothers have erected large sheds of their own for cleaning and storing grain; and that at the remaining stations mentioned by the Manager, North-Western Railway, the construction of warehouses is, for the reasons given by the local officers, not considered feasible in the present state of feeling on the part of the traders.

4. At Gujar Khan, which is the largest exporting station on the Lahore and Peshawar Branch of the North-Western Railway, there is no municipality, and if further accommodation than that already in existence is required for the storage of grain, it must be provided by the railway administration itself. But the question at Gujar Khan must remain in abeyance until it is decided whether any change in the

* Financial Commissioner's No. 1,025, dated 26th November 1886, and enclosures.

† Manager, North-Western Railway, No. 656, dated 1st March 1886, to this office.

‡ Commissioner, Lahore, No. 682, dated 24th August 1886. Commissioner, Rawalpindi, No. 557, dated 14th September 1886. Commissioner, Jullundur, No. 3,179, dated 16th October 1886. Commissioner, Jullundur, No. 8,194, dated 19th October 1886.

direction of the line will result from the surveys which are now in progress with the object of reducing the severe gradients at present existing on portions of the line.

5. I am to add that the wishes of the Government of India have now been complied with. Attention has been drawn to the advantages of providing sufficient storage for grain and other commodities at the principal exporting stations on the railway, and a commencement has been made towards providing suitable accommodation at places where it is likely to pay, and where the local and municipal authorities are in favour of establishing warehouses. Nothing more in this direction appears feasible at present.

41.

PRÉCIS OF CORRESPONDENCE forwarded by FINANCIAL COMMISSIONER, Punjab.

Commissioner, Lahore's No. 682, dated 24th August 1886.

- Reports of local officers. In reply to our No. 1,604 of 11th March 1886, forwards reports of Deputy Commissioners, with whose views he agrees.
- Mooltan. *Deputy Commissioner, Mooltan.*—After consultation with Municipal Committee is of opinion that no bonded warehouse is necessary, the total amount exported being only 16,000 maunds.
- Lahore. *Deputy Commissioner, Lahore.*—Construction of a bonded warehouse at Lahore has been sanctioned. Site alone remains to be settled. Construction of a bonded warehouse at *Kasúr* is pending the sanction of a design.
- Amritsar. *Deputy Commissioner, Amritsar.*—No bonded warehouse required, more especially as Ralli Brothers have lately erected a large shed close to the goods shed of the station for cleaning and storing grain.
- Gurdáspur. *Deputy Commissioner, Gurdáspur.*—No godown necessary at *Dinanagar*, the accommodation at railway station being sufficient. Accommodation is required at *Patháńkot* and *Batála*. Exports at *Patháńkot* amount to four lakhs of maunds per annum. It is proposed to convert the sarai into a warehouse for storing grain and sugar. At *Batála* the Municipal Committee have recognised the necessity of some accommodation, and a sub-committee has been appointed to prepare plan and estimate.

Commissioner, Rawalpindi's No. 557, dated 14th September 1886.

Forwards letter from Deputy Commissioners, Gujráńwála and Ráwalpindi. The most important point on the line in the district is Gujar Khan, where a warehouse is required, but the place not being a municipality no funds are forthcoming. Moreover as that part of the line is being resurveyed with a view to possibly altering its course, no definite proposals can be made till the result of the survey is known. The Municipal Committee, Gujráńwála, thinks the proposal a good one, but cannot say whether it would pay. Apparently there is no urgent need.

Commissioner, Jullundur's No. 3,179, dated 16th October 1886.

Forwards letter from Deputy Commissioners, Ferozepore and Jullundur.

- Ferozepore. *Deputy Commissioner, Ferozepore.*—Is of opinion that such warehouses would be little used. Mr. Coates, grain merchant, has a large godown of his own, but has never had applications from native traders for the use of it.
- Jullundur. *Deputy Commissioner Jullundur.*—Neither the Deputy Commissioner, Municipal Committee, or the traders are in favour of erecting a warehouse.

Commissioner, Jullundur's No. 3,194, dated 19th October 1886.

Forwards report from the Deputy Commissioner of Ludhiana. Deputy Commissioner and municipality are of opinion that bonded warehouses would not be used. There are two empty ones close to the station already. Commissioner suggests that warehouses divided into compartments, of which the hirer could keep the keys, within the railway yard might be more popular.

42.

CHAMBER OF COMMERCE, Karachi, to GOVERNMENT OF INDIA, dated 26th October 1886.

I have the honour to acknowledge receipt of your letter No. 767—59—12A., Agricultural Department, dated Simla, the 30th September, with its accompaniments, on the subject of the wheat trade of the Punjab, and asking the views of the Chamber on the question of constructing warehouses at railway stations for the storage of grain. Opinion of Karachi Chamber of Commerce.

In reply, I have the honour, by desire of the members, to say that this Chamber is of opinion that the construction of warehouses near railway stations for the storage of grain is a very desirable measure, and one calculated to promote and facilitate the trade passing from the cultivating districts to the port of export. The stations where such warehouses are erected should, however, be decided by the Local Government and railway officials on the spot, who are better able to say where such godowns are needed, and are also able to state the approximate extent to which the warehouses, if constructed, would be utilised.

43.

GOVERNMENT OF INDIA Public Works Department, to GOVERNMENT OF INDIA, Revenue and Agricultural Department, No. 753 R. T., dated 22nd August 1885.

With refence to Revenue and Agricultural Department endorsement No. 67A.—42-4 dated the 16th May 1885, forwarding, for an expression of opinion, copies of correspondence on the subject of the necessity for providing facilities for the development of the wheat trade of the Punjab, the undersigned is directed to forward for information copies of reports by the Managers of the Punjab Northern and Indus Valley State Railways, on the questions of the demurrage charges levied by these railways and of the provision of warehouses, and to say that the Government of India in the Public Works Department endorses the opinions expressed by these officers. Demurrage charges on Punjab railways.

2. The attention of the Revenue and Agricultural Department is, at the same time, invited to the remarks in paragraph 3 of the report of the Manager, Indus Valley State Railway, regarding the warehouses at Larkhana and the imposition of octroi duty.

44.

OFFICIATING MANAGER, Punjab Northern State Railway, to DIRECTOR-GENERAL OF RAILWAYS, No. 3,113, dated 17th June 1885.

As directed in your letter No. 329T., dated 13th June 1885, I have the honour to report on the questions raised in paragraphs 10 and 11 of Resolution No. 95, dated 19th March, by the Honourable the Lieutenant-Governor of the Punjab.

2. As regards the remark that railway freights to Karachi must run high, I would observe that wheat is carried over the Punjab Northern State Railway at a rate of $\frac{1}{8}$ pie per maund per mile, lower than which there is no rate for the carriage of wheat by railway in India. I should be very glad to see this made the through rate to Karachi, and trust that the through charge will be reduced next year. Wheat freights on Punjab Northern State Railway.

3. The charge for demurrage on goods is no doubt unpopular among the native community, but it can be altogether avoided, and considering that 48 hours or more is allowed for the removal of goods, it should seldom be incurred. The trader would like to leave his goods at the station at the risk of the railway for an indefinite period in many cases, hoping to dispose of them without any cost for cartage or storage. The general adoption of such a practice is obviously objectionable. The chance of theft would be greatly increased, and necessarily accommodation would have to be greatly enlarged. Demurrage

4 The question of warehouses as depôts of trade is of the first importance, but the establishment of these has not been considered as falling within the duties of railway administrations. On this subject I would invite attention to Resolution in the Home, Revenue, and Agricultural Department, No. 5,667, dated 30th April 1881. The establishment of such godowns on a proper system would do much to develop the grain trade of the Province, and would, in some measure, mitigate the want of feeder roads; but I am inclined to think that they would have the contrary effect to that mentioned in paragraph 2 of the Resolution, as on any sudden rise of the market rate all the traders having grain in the warehouse would desire its immediate despatch by Provision of warehouses.

rail. Be this, however, as it may, I am convinced that this question is in the first rank of importance, as regards the grain trade of the Province, but that it cannot be considered as a legitimate function of railway enterprise.

Your letter under reply and the connected papers have, as desired, been sent on in original to the Manager, Indus Valley State Railway.

45.

MANAGER, Indus Valley State Railway, to DIRECTOR-GENERAL OF RAILWAYS, No. 370, dated 3rd August 1885.

I have the honour to return your No. 329T., dated 13th June 1885, and enclosures, and to report as follows on the question of demurrage and warehouses.

Demurrage
on Indus
Valley State
Railway.

2. It would, no doubt, be highly popular among the trading community if the railway charge for demurrage were abolished, until in a rush of traffic the railway had entirely to stop carrying goods until its premises were cleared, which would be the inevitable result of allowing the railway premises to be converted into store yards. Two clear days, not counting the day on which goods arrive, are allowed free of demurrage on this and connected lines. This seems a very liberal allowance. It compels a railway to find room free of charge for as much as it can bring in during three days; it acts as a powerful stimulant to traders to remove their goods rapidly, thereby allowing the railway to work to its full carrying capacity, and the amount received by a railway for demurrage is usually a very inadequate compensation for the loss, delay, and limit of its carrying power, caused by accumulations of goods during a rush of traffic to any particular station.

Warehouses
and octroi.

3. Warehouses in the vicinity of stations would seem to be chiefly wanted as a means of avoiding the trouble and loss connected with the payment and refund of octroi. This was one of the principal objects which induced the local authorities at Larkhana to build bonded warehouses. This is one of the chief exporting stations on this line; the warehouses in question are very convenient, being close to the station, and are rented at a fair interest on their cost. In similar circumstances they might be useful elsewhere. But if octroi were abolished on all items of which local consumption bears but a small proportion to the export trade, we should, I think, hear very little of the want of warehouses.

4. The want of storage room at Sukkur is a very special case. Enormous quantities of grain and seeds now come to Sukkur by boat and take the rail at Sukkur for Karachi. Storage room is therefore required along the river front, which is close to the boats and the railway. This river frontage is limited; more ground requires to be occupied and served by fresh sidings at great cost; whereas perhaps in a few years, as railways extend in the Punjab, the amount brought into Sukkur by river may greatly diminish.

Freight rates.

5. The above two matters of demurrage and warehouses are the only ones referred to the Public Works Department, but I may perhaps be permitted to add a few remarks on some other points in the Punjab Government Resolution No. 95. Paragraph 10 admits and deplores that railway freight to Karachi must be high. This seems rather unfair to this railway, which first introduced the present low standard of rates for grain and seeds in 1882, afterwards followed by the lines to the other ports, so that now the rates are almost the same, viz. :—

	Miles.	Rate per maund.
		R A. P.
Delhi to Bombay - -	888	{ 0 11 0 grain.
		{ 0 11 6 seeds.
Lahore to Karachi - -	821	0 11 9 grain and seeds.

The low rates on this line are maintained notwithstanding a very poor passenger traffic as compared with other lines and an absence of traffic which can bear high rate, so that the average sum received for carrying one ton one mile is lower on this line than on any other line in India.

6. That, as stated in paragraph 14 of the Resolution, the Sukkur bridge will give a great impetus to export trade and effect a saving in time and money, is a fallacy so well known to you that I should not allude to it if it did not seem desirable to notice it when laid down on such high authority. The export trade suffers very little delay and no charge from the want of a bridge, and the rates to and from Karachi are already quite as low as in the case of the other ports.

CENTRAL PROVINCES.

46.

CHIEF COMMISSIONER, Central Provinces, to GOVERNMENT OF INDIA, No. 9,038, dated 28th October 1886.

Referring to your letter, No. 768—59—11, dated 30th September 1886, on the subject of the construction of warehouses near railway stations for the storage of wheat, which was brought to the attention of this Administration in Circular No. 67—42—4A., dated 16th May 1885, I am directed to forward a copy of a letter* recently addressed to the Government of Bombay, which will indicate what steps have been taken in this direction in these Provinces.

2. Mr. Fitzpatrick agrees with Mr. Crosthwaite in thinking that the action which has been taken in acquiring plots of ground in the vicinity of railway stations may be anticipated to effect all that can be expected of this Administration in this matter. It appears to be entirely in accordance with the views of Government regarding the co-operation of Government with private enterprise. This Administration has undertaken to provide sites for storage godowns at the places where they may be required. It rests for private enterprise to construct the godowns.

Acquisition
of land for
warehouses.

47.

CHIEF COMMISSIONER, Central Provinces, to GOVERNMENT OF BOMBAY, Public Works Department, No. 753, dated 10th September 1886.

Referring to your letter, No. 1,678, dated 27th July 1886, with annexures, on the above subject, I am directed to inform you that it was decided by this Administration some time ago to acquire a plot of ground in the close vicinity of every railway station in the provinces which would serve as a site for warehouses should these at any time be required, and already a plot has been selected and taken up at nearly every station except those at which the existing traffic is quite insignificant. It is proposed to allot sites to private persons for the erection of warehouses on these plots either without charge or at a very low charge, and the Officiating Chief Commissioner, as at present advised, does not consider that he would be justified in incurring expenditure in order to do more than this, or that large sums should be spent either from provincial or local funds in erecting warehouses, especially at this time of financial pressure. In providing sites which traders might have a difficulty in acquiring for themselves, Mr. Fitzpatrick thinks that the Government is doing all that can be expected of it. The warehouses should be erected by the traders themselves, and they will certainly be erected when they are really required.

Warehouses
should be
erected by
traders.

2. I am to add that it is by no means easy for the Government to determine beforehand at what places storage accommodation is likely to be made use of. The experience which Mr. Fitzpatrick has had of the well-meant efforts of himself and other officers in cases more or less similar has been that in a considerable proportion of cases buildings have been erected which have been but little used.

BERAR.

48.

RESIDENT, Hyderabad, to GOVERNMENT OF INDIA, No. 454, dated 13th December 1886.

The Resident considers that although careful selection of pedigree wheat for seed is not yet either the practice or even the aim of the cultivator in Berar, yet the correspondence under transmission shows generally that the presence of purchasers for the European market is bringing home to the people the benefit of attention to this point. What can be done in the way of instruction and advice in the shape of circular orders appears to have been imparted in the same spirit as that advocated by the Government of the Punjab. The Resident concurs in the Commissioner's view that the effect of prizes has so narrow a range that it hardly remunerates the cultivator for

Action taken
in Berar.

* No. 753S., dated 10th September 1886.

the expense and trouble of competition; and the exhibition of specimens is small, if not made compulsory, and in that case such a system does more harm than good. Mr. Cordery is not prepared to press for any more direct measures of encouragement than have already been effected; but the result of experiments with new varieties of seed now going on will be watched with much interest and reported upon.

49.

COMMISSIONER, Hyderabad Assigned Districts, to RESIDENT, Hyderabad, No. 5,913, dated 22nd November 1886.

* * * * *

Prizes for wheat cultivation of little utility.

3. The Agricultural Association at Amraoti suggest among other things for the improvement and encouragement of wheat cultivation that prizes should be offered. I am of opinion that no good would result from offering prizes. The ryots now fully understand the mischief done by sowing wheat mixed with other grains, and buyers give them practical illustrations of the disadvantages of offering dirty wheat for sale in the market by offering lower prices for it, and accounting for so doing by the sale of the wheat. A lesson thus learnt does the ryot more good than any amount of prizes would do, and he is keen enough to profit by the lesson when it so closely concerns his pocket.

4. In 1883 a circular was issued advising cultivators to take care to sow nothing in the same field with wheat, and impressing on them the importance of keeping both the hard and soft varieties of wheat quite distinct in preparing their seed for sowing; also in seeing that their floors are perfectly clean before they commence to thresh or winnow wheat, to put nothing but clean wheat into bags, and to see that on the way to the market dirt does not get into the bags. It was also explained that if these precautions are observed, the result will be an increase of the price at which their wheat will be bought. I do not think that we can do more than advise cultivators.

Improvement will result from influence of trade demand

5. District Officers in Berar have also not been unaware of the importance of improving the quality of the wheat crop. Experiments instituted with this object have been made in almost every district. The Deputy Commissioner, Ellichpur, obtained from the Nerbudda Valley as seed some of the best quality of wheat from there, but found that it utterly failed in Berar. All necessary change in this direction will no doubt be brought about by the mere fact that European buyers are in the market to offer higher prices for one quality of wheat than another. The cultivators are quite alive to their own advantages. Formerly no particular attention was given to the different qualities of wheat, but since buyers for the European market have arrived, the value of these qualities has been distinguished.

6. As regards the improvement and development of the wheat trade, the first great requirement in providing good roads is not lost sight of. The main lines of communications, which extend to over 655 miles, are kept in excellent condition. The several branch lines of district roads leading to the railways in each district, which extend to over 3,000 miles, are kept in good repair.

Warehouses sufficiently provided for.

As regards warehouse accommodation, storage sheds have been erected at Mulkapur, Nandura, Murtizapur, and Dhamangoon. Those at the three places first named from local funds, and at Dhamangoon by Messrs. Ralli Brothers, who are amongst the largest importers of grain in the province. Messrs. Ralli Brothers have also rented a piece of ground near the railway station at Amraoti, where they intend to store grain in sheds. The sheds erected at the railway stations above named are only used by the people in the monsoon months, when the grain traffic is nearly over. At other stations on the line of railway the want of sheds is not felt, as the towns are close to the stations, and traders store their grain in pits in the towns. Besides, during eight months in the year people can store their grain in the open ground with safety. During the other four months there is generally little doing, as roads are generally impassable, and when there is, the accommodation available at the stations as a rule suffices, for during these four months the cotton season is over, and the wheat trade has the whole railway accommodation to itself.

50.

DEPUTY COMMISSIONER, Buldana District, to COMMISSIONER, Hyderabad Assigned Districts,
No. 1,611, dated 25th June 1885.

In acknowledging the receipt of your letter No. 2,923, dated 19th June 1885, I have the honour to state that there are no municipalities in this district, but the Deputy Commissioner, from local funds, has erected sheds at the two principal stations, viz., Mulkapur and Nandura, the right to collect the fees in which were lately sold by auction for the current year (1885-86), and fetched only R.26. Buldana.

2. These sheds are, in Berar at least, not required. The people can store their grain on the open ground with safety during eight months in the year. During the other four months there is generally little doing, and when there is, the accommodation available at the stations as a rule suffices, as during those four months the cotton season is over, and the wheat trade has the whole railway accommodation to itself.

3. I am requested to "submit proposals for the encouragement and increase of wheat cultivation and for the improvement and development of the wheat trade."

In reply, I have the honour to state that I have little to recommend except that on our roads broken stone metal be used instead of moorum, which will not stand the traffic, and that when this has been done all over the district, that then bridges be built instead of causeways as at present.

The railway returns for Berar, when compared with even those of the Central Provinces, will show that we are but little behind in our exports, which proves that we are doing very well and only require high rates in Bombay to again export wheat in almost limitless quantities.

51.

DEPUTY COMMISSIONER, Ellichpur District, to COMMISSIONER, Hyderabad Assigned Districts, No. 1,863, dated 18th August 1885.

I am uncertain if a reply is expected of me so far as measures in this district are concerned to your Circular No. 2,923, dated 19th June last, *in re* the improvement and development of the wheat trade. for we are not on the rail and the city municipality is not called on to do anything. Ellichpur.

2. In case it is, following the classification of the difficulties that present themselves in such matters under the two heads given in the resolution* accompanying your letter, viz., as—

Firstly—Economical.

Secondly—Administrative and physical.

I would say that the removal of the first lies chiefly, if not wholly, in the hands of the trade and in the hands of those whose personal interest is connected with wheat culture. Government, as Government, so far as my experience goes, can seldom in this direction usefully interfere. If the abuses or difficulties stand in the way of profits, trade instinct will certainly sooner or later clear them away. If they do not touch profits, they practically do no harm to those most interested, however theoretically undesirable they may appear to outsiders to be. Government interference with cultivation or trade deprecated.

For example, to take the case of the delivery of dirty and mixed grain which is deplored in the resolution,† what keeps the practice alive? Nothing but that the traders or their middlemen-representatives in the market make no difference in the price they offer between the sifted and clean and the dirty article. No body of men *in their own interests* are keener or sharper, I believe, than our kunbis, and as long as they see that they can get as good a price for the dirty and adulterated as for the cleaner and purer stuff, they will never take the extra trouble and expense that securing the latter obviously entails: why should they? The real fact is trade on the platform and in the press—trade, pushing the Government to do this and that—preaches a morality which in the market-place it does not practise.

3. As to the second class of difficulties, the administrative and physical, I am not in a position as to the administrative to discuss the bearing of the Great Indian Peninsula Physical and administrative difficulties.

* Paragraph 4.

† Paragraph 5.

Railway freight charges on our wheat trade, nor to assert that relief in this direction is either desirable or possible. Our physical difficulties, however, are gradually being overcome as the Public Works forecast drawn up some years ago is being worked out, opening feeders* to the main system of the Province, viz., the Great Indian Peninsula Railway. It is not necessary in this letter to re-discuss the forecast proposals since work is annually being pushed on as rapidly as funds permit. All districts cannot be served at once; projects must of course take their turn in order of apparent merit, and they have also to wait on the departmental exigencies of the Department Public Works. For these reasons what was proposed here for the Duriapur taluk and in part for the Mailghat as more immediately desirable remains in part to be accomplished.

52.

Amraoti. DEPUTY COMMISSIONER, Amraoti District, to COMMISSIONER, Hyderabad Assigned Districts, No. 544, dated 11th September 1885.

Warehouses at Amraoti. The next question is as to the facilities for storage of grain at railway stations; the Amraoti Municipality have discussed the subject on a former reference and arrived at the conclusion that there was no necessity for any godowns here, and that it would not pay them to erect them.

Messrs. Ralli Brothers, who are the largest exporters here, have rented a piece of ground near the station, where they intend to store grain in sheds; other traders here store grain, I believe, in cellars in the town, and I have never noticed any inconvenience from want of sheds, except perhaps during a scarcity.

I erected a small shed at Murtuzapur, which is, however, at present not much used; I have placed it under the local committee, and I intended if it was used to make another.

53.

Akola. DEPUTY COMMISSIONER, Akola District, to COMMISSIONER, Hyderabad Assigned Districts, No. 1478, dated 18th October 1886.

In reply to your No. 2,923 of the 19th June 1885, on the subject of the improvement of the wheat trade and the construction of warehouses near railway stations for the storage of wheat, I have the honour to report as follows:—

Encouragement and advice to cultivators. Instructions have long ago been issued to all the tehsildars in the district in the spirit of those contained in the printed Resolution of the Punjab Government, copy of which was received with your letter under reply, and it now only remains to be seen whether the action taken will be productive of any satisfactory results. Cultivators in this province are, as a rule, alive to their own interests, as proved by the fact that favourable seasons have always been accompanied by extended cultivation of the staple; while seasons believed to be unfavourable have been attended with a large diminution of the area under the crop.

All that needs to be done is to encourage the cultivators to raise a better and more superior description of wheat than that usually raised in most parts, and in this direction the tehsildars have been asked to exert themselves.

Provision of warehouses by municipalities. Referring to paragraph II. of your letter under acknowledgment, I regret that nothing has yet been done either by municipalities or local committees in the matter of construction of warehouses near railway stations for the storage of wheat. The action taken in this district on receipt of Resident's Book Circular No. XII. of 1881, and the subsequent letters from your office was duly reported in the letters from this office marginally noted.†

From this correspondence it will be seen that none of the municipalities feel justified in moving in the matter just yet. The fact is that local circumstances, and the

* Paragraph 7 of the Resolution.

† No. 114, dated 24th January 1882, with endorsement No. 1,301, dated 9th October 1885, with enclosures.

carrying and removing capacity of the Great Indian Peninsula Railway at the stations in this district have hitherto been such that the want of a warehouse has never been keenly felt; and until such want arises, it can hardly be expected that any definite action will be taken by municipal or other local bodies in the direction of investing their funds in warehouses.

A copy of your present letter has, however, been circulated to all the municipalities in the district, in view to the subject being borne in mind whenever an opportunity should occur for giving effect to the proposals of Government in the matter.

54.

DEPUTY COMMISSIONER, Basim District, to COMMISSIONER, Hyderabad Assigned Districts, No. 3,045, dated 31st October 1885.

Basim.

The wheat in this district grows so short that it has to be cut close, and this causes many roots with the mud sticking to them to be gathered; hence there is sometimes a certain amount of dirt that gets introduced with the grain. The threshing floors are what the people have always used, and no amount of talk or persuading will make them change these.

Natural difficulties in cleaning wheat.

It will be years, if ever, before we can induce the ordinary cultivator to thresh wheat on a wood, canvas, or matting floor, or cleaning the grain with a fan.

The arrangement suggested in paragraph 5 of stacking wheat in sacks would be very expensive and inappropriate, as the sacks would have to be stored in some room and the wheat in them would be much more liable to injury from insects and rats than in the *poes* and *kangees* of the present day.

Machinery for cleaning grain at present is too costly to be introduced by private persons.

The admixture of other grains, such as "kardi" (rai) mustard, into wheat has been put a stop to as much as possible, but those cultivators who have only a field or two find it very difficult, owing to insufficiency of land for other minor produce.

The low price of wheat and its constant fluctuations compared with the high and steady price of linseed makes the latter a much more favourite crop in this district.

There are no large merchants in this district; all are petty traders.

If cultivators could get good prices for the fine kinds of wheat, and merchants would combine and refuse to take any but good and well cleaned wheat, the cultivators would soon learn that it is worth their while to grow the finer sorts and to clean their wheat more thoroughly; but as long as there is this great competition among merchants, and the *kunbis* can sell their dirty wheat and baser sorts for the same or nearly the same price as the finer and clean, they naturally will not put themselves out of the way to grow the finer sort or take the extra trouble in cleaning. The only remedy lies in the hands of merchants themselves.

How clean wheat might be obtained.

55.

SECRETARY, Agricultural Association, Amraoti, to COMMISSIONER, Hyderabad Assigned Districts, No. 111, dated 10th August 1885.

I find that the wheat trade of India suffered chiefly from four causes; (1) that the wheat prepared for markets here is mixed with soil and other smaller grains. This dirty condition of our wheat cannot command to it a high price; (2) that want of cheaper communication and export throughout the interior and exterior of the wheat-producing parts of this province; (3) that any such system or measure has not as yet been adopted by which the wheat-grower and traders might be always kept informed of the high rates paid to Indian wheats of the best description, of the classes of wheats preferred by foreigners, and of the measures and weights used in foreign markets; (4) that in the wheat-producing districts of India no large centres of trade are established and none of the large centres at present existing are in proximity to any large railway station. Moreover, at such centres of trade no large and accommodating warehouses have been built.

Four causes injuriously affecting the wheat trade.

All these defects have been demonstrated in the annexed Punjab Government resolution, and measures for remedying these defects are also ably and exhaustively suggested. In addition to them I have to make a few remarks respecting each of them, which I hope shall be useful to promote the wheat trade of this province—

Remedies
suggested.

- 1st. Brokers or middlemen of grain trade should be specially requested to refrain themselves from receiving dirty or mixed grains, or at least to rate it at a very low price, or all grain brokers should be compelled to take licenses as is done by the cotton-market brokers. A set of rules for granting such licenses be framed and passed by the sanction of the Resident. In the body of these rules a section of the following purport be inserted:—that no license holder should ever encourage the sale of dirty or mixed grains under penalty of fine. The fund collected by the sale of these licenses be made over to the proposed Association, or the work of issuing such licenses be better entrusted to it. The Association should see its way at its earliest convenience and with the strictest economy to purchase from its savings some steam-threshing and cleaning machines.
- 2nd. Want of cheaper communication be supplied by extension of branch railways or tramways where possible. These branch railways or tramways should traverse all the places, small as well as large, throughout wheat-producing parts of this province. The proposals and plans for constructing such branch railways or tramways be made by the Association.
- 3rd. The Association, if formed, should be requested to prepare the statistical and other information which shall prove beneficial and encouraging to growers of as well as to traders in food grains.
- 4th. For the sake of experiment at present the following four railway stations be selected as centres of trade in Berar. Amraoti, Dammergaum, Khamgaum, and Mulkapur. Warehouses, if practicable, be also built there. They may be built either by Government or by municipalities where they exist, or by the proposed Association.

With a view to develop and improve the wheat trade, &c., I have suggested four means above referred to. I have also connected the Association with each of these measures in its execution. For I am of opinion that if such a useful body be organised, and if the Local Government shall cordially assist and co-operate with it, a new era shall be opened in the history of commerce of this province.

In addition to all the measures, I also think that if the *export duty on grains* at least be lessened, it shall give a great stimulus to the exportation of grains from India.

Competition
of linseed
with wheat.

Native merchants argue that the linseed production has, for the last few years, been making rapid strides, as higher rates than wheat per khandi are being secured for it, and that, unless either the wheat should command the higher rate than linseed, or the linseed cultivation should decrease, production of wheat shall not be increased or encouraged; consequently, until any of the two things should happen, the wheat trade should neither be developed nor improved.

Ajmere.

56.

From CHIEF COMMISSIONER, Ajmere Merwara, to GOVERNMENT OF INDIA,
No. 742—20, dated 11th July 1888.

With reference to your office endorsement No. 1,765 L., dated the 1st June 1885, forwarding, for information and guidance, copy of Revenue and Agricultural Department Circular No. 67A—42—4 regarding the provision of increased facilities for the wheat trade, I have the honour to enclose, for such orders as the Government of India may deem necessary, copy of a letter No. 1,656 R., dated the 2nd July 1888, and of its enclosures, from the Commissioner Ajmere-Merwara, from which it will be seen that the wheat trade of the district is very insignificant and the means of transport more than sufficient.

57.

FROM COMMISSIONER, Ajmere-Merwara, to CHIEF COMMISSIONER, Ajmere-Merwara,
No. 1656 R., dated 2nd July 1888.

With reference to the circular of the Government of India noted below,* which forwarded a resolution by the Government of the Punjab on the subject of the wheat trade of that province, I have the honour to submit the following report.

2. Before leaving Ajmere Mr. Whiteway, settlement officer, noted that "the terms of this circular do not seem applicable to Ajmere-Merwara. These districts," he observed, "are small in area, they produce but little wheat, and their export trade is "practically inappreciable."

3. A return supplied to me by the Traffic Department of the Rajputana-Malwa Railway last year does not show what export of wheat there was by the railway, grain and pulses, including wheat, being all lumped together; but the Assistant Commissioner of Ajmere was informed by the Agent of the Railway last January that wheat was then being imported into Ajmere, and there can be no doubt as to the accuracy of Mr. Whiteway's remarks just quoted. A reference to the statement of crops cultivated in Ajmere-Merwara, appended to the administration Reports from 1880-81 to 1885-86, shows that the area under wheat increased considerably in 1882-83 and 1883-84 and decreased considerably in 1884-85. In 1885-86 it was under 5 per cent. of the total area under cultivation in Ajmere. The figures for Merwara are not available.

4. The result of the inquiries made and action taken in respect to the circular under notice may be seen from the reports attached from the Assistant Commissioners, the Deputy Magistrate of Kekri and the Tehsildar of Ajmere. I agree with what Mr. Bayley writes on the subject. There seems to be no need and very little scope for administrative action at present. I will see what can be done to introduce the white wheat recommended as opportunity offers. When the cultivation of wheat is extended measures for cleaning it should engage attention. As to facilities of transport, there is no ground for complaint at present. The suggestion made by the Tehsildar of Ajmere that the main points treated of in the Resolution of the Punjab Government might be embodied in a pamphlet and circulated in the vernacular, so as to keep before the cultivator the objects aimed at in it, appears to be worthy of adoption. It is possible that some simple directions on the subject have been circulated in the Punjab. If so, I should be glad to have copies of them.

58.

FROM ASSISTANT COMMISSIONER, Merwara, Beawar, to COMMISSIONER, Ajmere-Merwara,
No. D.—122 M., dated the 7th June 1888.

With reference to your letter No. 68 R., dated the 7th March 1887, calling for my remarks on the subject of providing facilities for improving the wheat trade in India, I have the honour to report that little wheat is cultivated in Merwara in comparison with other crops, owing to its being subject to a disease known locally as "roli," a kind of red blight or rust, which first attacks the stem of the plant, and sometimes the ear, and injures the growth of the grain. There are two descriptions of wheat grown in this district, viz., *baja* and *kata*. *Baja* is a soft red grain, and is used for making into *atta*. *Kata* is a hard white grain, and is suitable for *dullea*, *soojee*, flour, &c.

2. *Baja* is principally grown in the Beawar Tehsil, while *kata* wheat is more general in the Todgurh Tehsil. *Kata* is not so subject to "roli" as *baja*; on the other hand it does not fetch quite so high a price.

3. During the last year I found that in the Todgurh Tehsil, owing to the damage sustained by the opium crops from frost, and a fall in the price of opium, the zemindars were cultivating wheat where they used formerly to grow poppy.

4. The trade in wheat in the Beawar market has lately become brisk, and although most of the wheat comes from Marwar, yet this will also effect, to a certain extent, the cultivation of this grain in the district. Improvement of the means of communication

* No. 67A—42-4, dated 16th May 1885, in the Revenue and Agricultural Department.

within the district would tend to facilitate the trade in this as well as the other products of the district, for which a ready and brisk market exists at Beawar; and this being an imperial question, I would venture to suggest for your consideration in this connection whether the main road running down Merwara should not be kept up as an imperial road. If the road were made easier for traffic it would reduce the cost of transport and thus facilitate trade.

59.

From ASSISTANT COMMISSIONER, Ajmere, to COMMISSIONER, Ajmere-Merwara, No. 63, dated 16th January 1888.

In acknowledging the receipt of your letter No. 67R., dated the 7th March last, I have the honour to enclose a translation of a report by the Deputy Magistrate of Kekri and a copy of a note by the Tehsildar of Ajmere on the subject of wheat. The result of the experiments which it was proposed to try and which are, I presume, now being carried out in Kekri may be awaited, but it will be observed that the Tehsildar practically agrees with Mr. Whiteway in thinking that no action on the part of the district authorities is likely to be of much use, as Ajmere is not, to any great extent, a wheat-producing district, and it is hardly a wheat-exporting district at all. At the present time, I was recently informed in a conversation by Major Bissett, wheat is being imported into Ajmere from the southern districts of the Punjab. The area of irrigated land is small, and is generally as fully cultivated as the amount of irrigation possibly admits. The cultivation is fairly careful, and the zemindars may be trusted to cultivate the crop that pays them best. If they can profitably produce more wheat they will do so; if other crops pay better, they will and ought to cultivate the latter. There is no want of facilities for export. The roads no doubt are not good in many places, but they are everywhere passable, and cotton at present finds its way from all parts of the district to the various presses at Beawar, Kekri, Nusseerabad, and Kishengurh. A sufficient rise in the price of wheat would, I have no doubt, be followed by an extension of cultivation of any sort for which there is a demand; until this occurs, I doubt whether Government can usefully take any action.

TRANSLATION of a RUBKAR from the DEPUTY MAGISTRATE of KEKRI, dated 13th June 1887.

Having assembled the traders and lambardars of Kekri together, the contents of Circular No. A. 67—4,204, dated 16th May 1885, of the Government of India, Revenue and Agricultural Department, were announced to them. On inquiring into the condition of progress of wheat cultivation, they unanimously said that in that part of the district the average yield of wheat per acre of *chahi* (land irrigated by well) was from 2 to 4 maunds, and that of land irrigated by tank was from 5 to 12½ maunds. The nature of the soil did not admit of the cultivation of white wheat, as it turned wheat of any sort sown into it in a sort of hard red wheat, but the zemindars would be instructed to cultivate white wheat. The zemindars would not at once adopt the cultivation of the white wheat because the seed is not obtainable here immediately, but some big zemindars will be persuaded to make an experiment to sow white wheat in two or three heds of their respective fields. If the experiment proves successful, the cultivation of white wheat will be extended. Attention will be paid to the matter of cleaning the wheat. The traders say that if the wheat is not properly cleaned they can have it cleaned so as to make it fit for export. Government should arrange for the godown, &c., and I also agree with this proposal.

NOTE by TEHSILDAR of AJMERE.

I have consulted the chief traders and lambardars on the subject. The produce of wheat in this district is very scanty. It is hardly sufficient for the requirements of the place, and consequently very little, if any, is ever exported. There is no doubt that the advantages to be derived from turning out a clean sack of wheat are considerable, and in most parts of India people will be much benefited by the suggestions contained in the above circular. But the case is quite different in Ajmere. Apart

from there being a scanty produce of wheat, there are no big agriculturists here in the khalsa villages, where people are involved in debts and are entirely at the mercy of the middlemen. There are no big zemindars like those in the North-West Provinces and the Punjab, who would undertake the heavy expenditure of purchasing winnowing machines with a view to cleaning grain for export. The simplest mode suggested in the circular, that of cleaning wheat on a wood, canvas, or matting floor, could with advantage be adopted here, but in the khalsa villages I am afraid it would be rather difficult, considering the state of the agricultural class in general. Almost all men of these classes live from hand to mouth, and can hardly afford to make any improvement in the system whatever. Should it, however, be considered desirable to make an experiment in the district, the best course would, I think, be to induce some of the well-to-do istimrardars, such as the Rajah of Bhinai or the Rao of Masuda, &c., to make a commencement. For instance, an experiment might in the first place be made in places like Jalia and Barl where the soil is very fertile and could grow better sort of grain. As a rule people in general grow red wheat here, and the soil of this place is, I understand, adapted for such sort of grain. The soil being generally rather hard, soft white wheat would not grow. The ground being rockish, the grain in these districts is often mixed with stony substance and is seldom found clean. The attention of the people will be drawn to this very important subject. The circular under reference is no doubt a very valuable acquisition, and with a view that the people grasp the subject thoroughly, I would propose that an abstract of the main points requiring special attention might be translated, and about 500 copies printed for circulation, provided it is thought expedient to make an experiment in some of the istimrari estates. But with the scanty produce of the grain in the district such a course would not be necessary.

APPENDICES TO PART I.

APPENDIX A.

Correspondence in 1886, 1887, and 1888 between the Bombay Chamber of Commerce and the various Corn Trade Associations in the United Kingdom regarding measures for the improvement in cleanliness of Indian wheat. (Reprinted from the Chamber's Annual Reports.)

1.

CHAMBER of COMMERCE, Bombay, to CHAIRMAN, Corn Trade Association, London, Liverpool, Glasgow and Hull, dated 12th November 1886.

Reduction of
"refraction"
proposed.

I am directed by the Committee of the Chamber to invite the co-operation and assistance of your Association towards securing, if possible, an improvement in the cleanliness and condition of Indian wheat as shipped to European markets.

The results of a recent conference with the leading firms engaged in the trade here seem to indicate that the movement would require to be initiated on your side, and my Committee trust you will be disposed to place their suggestions before the members of your Association with the advantage of your countenance and support.

From the information which the Chamber has been able to obtain there seems no reason to doubt that wheat as originally cleaned by the farmer seldom contained more than about 1 per cent. of admixture. Owing to the practice having sprung up of allowing 4 per cent. as the basis on which arrival contracts are effected, the custom of increasing the refraction up to that point has gradually been established, and from the keen competition which exists, the probability is that the tendency is rather to exceed that limit than otherwise. A shipper under an arrival contract, in fact, has no inducement to insist on his sellers delivering wheat with a lower refraction than 4 per cent., but if your buyers were to base their purchases in future on contracts which stipulated for an admixture not exceeding 1 or 2 per cent., the grain would require to be cleaned up to that standard, and the addition of dirt by the farmer, or after the produce left his hands, would in a short time practically cease.

To the miller or consumer no arguments are required to demonstrate the numerous advantages of being able to obtain clean grain, but to others less closely affected the direct benefit may not be so readily apparent. All will admit, however, that any material reduction in the first cost of the article must be not only for the benefit of the producer and the country at large, but also for that of others interested, either as exporters, importers, or dealers; and the following figures, showing that an admixture of 4 per cent. of dirt means a burden of something like 1½ per cent. on the Indian wheat trade in its competition with other countries, afford of themselves a conclusive proof of the desirability of instituting a reform:—

Railway fare from Delhi on 4 per cent. of 492lbs. was equal at	
1s. 6d. exchange to	2½d. per quarter.
Steam freight at 20s. per ton of 18 cwt. was equal on 4 per	
cent. to	2½d. "
	—
TOTAL	5 "
	—

Shipments from Bombay in 1885 were 602,000 tons, or 2,470,000 qrs., which at 32s. 6d. per qr. amounted to 4,010,000l. Five pence per qr. totalled 51,000l. or, as nearly as possible, 1½ per cent. of 4,010,000l.

As already remarked, my Committee have taken care to ascertain the views of those most largely connected with the exports of wheat from this port, and the opinion of the majority is that the suggested improvement in the cleanliness of shipments would be a great advantage, as also that the movement, to be successful, should originate on your side, and take the form of basing all arrival business from a date hereafter to be fixed on an admixture of dirt not exceeding 2 per cent.

2.

LIVERPOOL CORN TRADE ASSOCIATION. to CHAMBER of COMMERCE, Bombay,
dated 3rd December 1886.

Reply of Liver-
pool Corn
Trade Asso-
ciation

Your favour of 26th ultimo is duly to hand and I am instructed to state it is with much pleasure that my Directors receive this support to a reform which they have advocated for some time. Your letter has considerably strengthened their hands, and you may rest assured that they will do their best to have your views carried into effect at an early date.

I shall have much pleasure in reporting progress in due course.

3

LONDON CORN TRADE ASSOCIATION, to CHAMBER of COMMERCE, Bombay,
dated 11th February 1887.

Referring to your letter of the 12th November last addressed to my Chairman, I am desired by him to reply that the Committee of this Association, while fully alive to the importance of Indian wheats coming forward as clean as possible, is of opinion that the character and value of Bombay wheats must depend mainly on the efforts of the Chamber of Commerce to check the admixture of foreign substances. Reply of
London
Chamber

It has been the custom of the East India Wheat Committee when making up standards to exclude all samples showing an undue admixture of dirt which has been emphasised by the Resolution of the Executive Committee consequent upon your letter, copy of which I enclose.

By adhering to this rule, and enforcing it as strictly as possible, the Committee is of opinion it will best assist the Bombay Chamber of Commerce in the object it has in view.

COPY OF RESOLUTION.

"That it be an instruction to the East India Wheat Committee to exclude any samples containing excess of dirt from the standards, and that a letter be written to the Bombay Chamber of Commerce informing it of the action the London Corn Trade Association had taken, and requesting it to use its efforts to prevent, as far as possible, the shipment of dirt in Indian grain of all kinds."

4.

EXTRACT from the REPORT of the BOMBAY CHAMBER of COMMERCE for the year 1888.

In February last the Liverpool Corn Trade Association adopted a resolution to the effect that "no standards of choice" or No. 1 white Bombay wheat be made up for the coming season, but that the words "Liverpool standard" as applied to these descriptions shall mean— Summary of
action taken
by Bombay
Chamber.

- (a) In the case of "choice" white Bombay wheat, containing not less than 93 per cent. of soft white club wheat and not more than 4 per cent. of soft and hard red, nor more than 3 per cent. of dirt, seed and grain other than wheat.
- (b) In the case of No. 1 white Bombay wheat containing not less than 85 per cent. of soft white club wheat, and not more than 12 per cent. of soft and hard red, nor more than 3 per cent. of dirt, seeds and grain other than wheat.

This resolution having been brought to the notice of your Committee they deemed it desirable to discuss it in conjunction with a full meeting of the members of the Chamber most largely interested in the trade; and on 9th April a meeting was held at which the following gentlemen were present:—

The Honorable F. FORBES ADAM, C.I.E., in the Chair.
H. W. ULOTH, Esq., P. & O. S. N. Co.
A. F. SIMPSON, Esq., New Oriental Bank.
Major W. S. S. BISSET, R.E., C.I.E., B. B. & C. I. Railway.
A. PALLIS, Esq.,
M. SCOULUDI, Esq., } Messrs. RALLI BROTHERS.
A. F. BEAUFORT, Esq., Messrs. LYON & Co.
H. C. WRIGHT, Esq., The Bombay Company, Limited.
W. M. MACAULAY, Esq.,
J. M. RYRIE, Esq., } Messrs. EWART, LATHAM, & Co.
W. LANG, Esq., Messrs. LANG, MOIR, & Co.
L. BERGL, Esq., Messrs. DREYFUS, & Co.
J. STEINER, Esq., Messrs. VOLKART BROTHERS.
P. LEUTHARDT, Esq.
W. A. BANKIER, Esq., Messrs. FINLAY, MUIR, & Co.
L. R. W. FORREST, Esq.,
R. L. STEWART, Esq., } Messrs. KILLICK, NIXON, & Co.
VIZBUCANDAS ATMARAM, Esq., Messrs. NARANDAS RAJARAM & Co.
H. W. PATRICK, Esq., Messrs. SAMUEL SANDAY & Co.
R. A. WILLIS, Esq., Messrs. C. H. B. FORBES & Co.
R. S. CAMPBELL, Esq., Messrs. W. & A. GRAHAM & Co.
J. FACHIRI, Esq.

As the result of a somewhat prolonged discussion the following resolutions were passed:—

- I. That the refraction on "choice" and No. 1 club wheat shipped to Liverpool shall be fixed at not over 2 per cent.
- II. That the admixture shall not exceed in "choice" 6 per cent. of other than soft white, and in No. 1, 13 per cent. of other than soft white.
- III. That a copy of the resolutions passed to-day be sent to the London Corn Trade Association by the Chamber, adding that as shippers are anxious to improve the quality of Indian wheat they hope the London Association will be willing to limit the refraction on Bombay wheat to 2 per cent.

In accordance therewith the Committee addressed the Liverpool Corn Trade Association and the London Corn Trade Association respectively. The former replied that in order to meet the views of this Chamber the Directors had adopted the following analysis as the basis of the Liverpool standards of Bombay wheat:—

For CHOICE WHITE BOMBAY WHEAT.

Not less than 93 per cent. of soft white club wheat.
Not more than 5 per cent. of soft red and hard wheat.
Not more than 2 per cent. of dirt, seeds and grain other than wheat.

For No. 1, BOMBAY WHEAT.

Not less than 85 per cent. of soft white club wheat.
Not more than 13 per cent. of soft red and hard wheat.
Not more than 2 per cent. of dirt, seeds and grain other than wheat.

They did not, however, see their way to reduce the per-centage of white wheat in the standard of "choice," more especially as contracts had already been made on the basis of 91 per cent. of white wheat.

The London Corn Trade Association did not apparently perceive the necessity of adopting this Chamber's suggestion, their reply being to the effect that as no demand had been made on the part of buyers to alter the terms of the existing form of contract for Indian wheat, and as there was also a difference of opinion on the subject on the part of sellers, the Committee of the Association did not see their way to carry out the resolutions of the Bombay Chamber.

Your Committee cannot but regret that their efforts to obtain a legitimate basis for the trade have thus proved practically unavailing, convinced as they are that the only sure means of improving the cleanliness of the wheat shipped from this country is for buyers in Europe to insist upon getting a cleaner article. Shippers could with little difficulty comply with any reasonable standard of cleanliness, but so long as home consumers are willing to contract for wheat containing a certain per-centage of refraction to ship anything better would mean so much absolute loss.—(Appendix X.)

5.

CIRCULAR OF BOMBAY CHAMBER OF COMMERCE to its MEMBERS, dated 15th March 1888.

I am directed by the Committee of the Chamber to circulate, for the information of members, and for the favour of opinion, the accompanying copy of a letter which has been addressed to a number of the firms interested in the wheat trade between Bombay and Liverpool.

If the conditions of the proposed terms of contract are not such as commend themselves to exporters from this side, the Committee will be prepared to make a representation on the subject to the Directors of the Liverpool Corn Trade Association.

6.

LIVERPOOL CORN TRADE ASSOCIATION to BOMBAY CHAMBER OF COMMERCE, No. 123, dated 15th February 1888.

DEAR SIRS,—I am instructed to hand you the annexed copy of a resolution adopted at a recent meeting of the Standards Committee of this Association, and to ask whether, in the event of its being confirmed by my Directors, you would be prepared to make contracts on the basis indicated by the resolution.

COPY OF RESOLUTION.

"That no standard of choice or No. 1 white Bombay wheat be made up for the coming season, but that the words 'Liverpool Standard,' as applied to these descriptions, shall mean—

- (a) *In case of Choice White Bombay*—Wheat containing not less than 93 per cent. of soft white club wheat, and not more than 4 per cent. of soft and hard red, nor more than 3 per cent. of dirt, seeds and grain other than wheat; and
- (b) *In the case of No. 1 White Bombay*—Wheat containing not less than 85 per cent. of soft club wheat, and not more than 12 per cent. of soft and hard red, nor other than 3 per cent. of dirt, seed and grain other than wheat."

7.

BOMBAY CHAMBER OF COMMERCE to LONDON CORN TRADE ASSOCIATION, dated 20th April 1888.

DEAR SIR,—At a general meeting of the representatives of firms engaged in the export wheat trade from Bombay, held under the auspices of the Chamber on the 9th instant, the following resolutions were adopted as the basis on which future contracts should be made for wheat shipped to

Liverpool; and I am directed by the Committee of the Chamber to await upon you with copies of these resolutions and at the same time to add that as shippers from Bombay are anxious to improve the quality of Indian wheat, they hope your Association will be willing to join the Liverpool Trade in limiting the refraction on shipments from Bombay to 2 per cent.

RESOLUTIONS.

- I.—That the refraction on "choice" and No. 1 club wheat shipped to Liverpool shall be fixed at not over 2 per cent. Revised
Bombay
standard.
- II.—That the admixture shall not exceed in "choice" 6 per cent. of other than soft white, and in No. 1, 13 per cent. of other than soft white.
- III.—That a copy of the resolutions passed to-day be sent to the London Corn Trade Association by the Chamber, adding that as shippers are anxious to improve the quality of Indian wheat they hope the London Association will be willing to limit the refraction on Bombay wheat to 2 per cent.

8.

BOMBAY CHAMBER OF COMMERCE to LIVERPOOL CORN TRADE ASSOCIATION,
dated 20th April 1888.

SIR,—I am directed by the Committee of the Chamber to wait upon you with copies of resolutions passed at a meeting of firms interested in the export wheat trade from Bombay, held under the auspices of the Chamber, to discuss the proposals regarding standards, accompanying your Circular letter of 15th February. My Committee trust that the Directors of your Association will see their way to adopt the slightly modified terms which have been approved by the trade here. The only differences from the basis which your Association has laid down consists in "choice" being allowed an admixture of 6 per cent. of other than soft white in place of the 4 per cent. soft and hard red proposed by you; and in the case of No. 1, 13 per cent. of other than soft white in place of 12 per cent. of soft and hard red, the refraction in both qualities to be 2 per cent. instead of the 3 per cent. proposed. The general feeling of the trade here is that with these alterations business would be much more practicable than on the per-centages suggested by your Association, and the reduction in the refraction would have the tendency to produce a cleaner article, which there seems little doubt is obtainable here if a proportionate price can be got for it from buyers on your side. Acceptance of
above solicited.

9.

LONDON CORN TRADE ASSOCIATION to BOMBAY CHAMBER OF COMMERCE,
dated 11th May 1888.

DEAR SIR,—I beg to acknowledge receipt of your favour of the 20th ultimo, which has been laid before the East Indian Grain Committee, and the members, having given your request full consideration, direct me to say, in reply, that as no demand has been made on the part of the buyers to alter the terms of the existing form of contract for Indian wheat, and as there is no difference of opinion on the subject on the part of sellers, the Committee does not see its way to carry out the resolutions adopted by your Chamber of Commerce. Refusal of
London Corn
Trade Associa-
tion.

10.

LIVERPOOL CORN TRADE ASSOCIATION to CHAMBER OF COMMERCE, Bombay, dated
12th July 1888.

DEAR SIR,—I am instructed to inform you that your letter of 20th April has been carefully considered by my Directors, and that in order to meet your views as far as possible, they have adopted the following as the analysis of the Liverpool standards of Bombay wheat:— Standards
finally adopted
by Liverpool.

(a)—For Choice White Bombay Wheat—

Not less than 93 per cent. of soft white club wheat;
Not more than 5 per cent. of soft red and hard wheat, and not more than 2 per cent. of dirt, seeds and grain other than wheat; and

(b)—For No. 1 Bombay Wheat—

Not less than 85 per cent. of soft white club wheat;
Not more than 13 per cent. of soft red and hard wheat, and not more than 2 per cent. of dirt, seeds and grain other than wheat.

They do not see their way to reduce the per-centage of white wheat in the standard of "choice," more especially as contracts have been made on the basis of 94 per cent. of white wheat.

APPENDIX B.

ABSTRACT of a Series of Notes interchanged in 1886 between two gentlemen interested in the trade.

Causes of
impurities and
remedies.

"A"—Shipment of pure wheat depends on the Associations at home. They fix the standard on first samples of the season, and any cleaner parcels sent subsequently sell at a loss.

Cleaning depôts are impracticable on the score of expense and for various other reasons. Cleaning down to 2 per cent. can easily be done with native appliances.

Introduction of improved seed is not required, but mixed wheat and barley sowings should be discouraged, as barley can only be separated by expensive machinery.

Calcutta shippers make their profit on the refraction, and have fixed 5 per cent. refraction in their own interest. The Calcutta Chamber's contention that it is cheaper to ship dirty wheat than clean is unreasonable.

Export business cannot be carried on direct by up-country dealers in present state of trade arrangements.

"B"—agrees that cleaning depôts would be too expensive and difficult, and that buyers at home must take the initiative by lowering refraction, but doubts whether it would be wise for shippers to press for it at present.

Denies that profits are made by shippers out of the refraction; they more commonly lose on the deduction made at home.

However unreasonable it may appear, shipment of dirty wheat suits present conditions. Linseed is shipped refracting 30 per cent., yet the trade has gone on and improved. When the miller finds it cheaper to get clean wheat than to clean it himself, the trade will right itself without Government interference. At present millers make no demand for cleaner wheat.

Government should improve railway arrangements.

"A"—Linseed cannot be cleaned below 3 per cent. and 5 per cent., and the bulk of the trade (which is small in comparison with wheat) is done on this standard. Wheat can be easily cleaned to 1 per cent. or 2 per cent.; and to clean it would reduce the cost of wheat landed in the English market.

Had proof [apparently the voluntary admission of some Calcutta shippers] some years ago of profits made by Calcutta buyers by charging up-country dealers with excess refraction on wheat which passed in London as below guarantee. All up-country dealers complain that the Calcutta shippers do not deal fairly in the matter of refraction, and that much bribery and corruption goes on among subordinates in adjudging the quality of consignments.

Up-country dealers advocate a reversion to the old rule of the East Indian Railway limiting special class rates to large consignments; so that the consignments might be concentrated at trade centres before despatch to the port. The present arrangements extending low rates to small consignments has scattered the trade and made it difficult of supervision, although reducing cost of carriage.

An independent body of judges for wheat and seeds is much needed at Calcutta. The Calcutta Wheat Association have not the confidence of up-country dealers.

"B"—The statement as to the linseed trade is inaccurate. The bulk of the shipments to Liverpool are now on a 30 per cent. basis. American shipments have risen from a 3 per cent. to a 4 per cent. or 5 per cent. basis. London buyers contract on a 4 per cent. basis, and will not give credit for anything under, though they used to at one time. Formerly the bulk of the seed sold on a 4 per cent., 2 per cent. and 2½ per cent. basis, and this might be done again if buyers were agreeable; but they are not, and the case is a good illustration of buyers preferring a dirty article. Last year the shippers refused a new contract because the crushers refused to buy on a basis of purity. The seed trade is of more importance than wheat to Calcutta, and has prospered in spite of the refraction system.

In the case of wheat, "experience has shown that the bulk of this produce available for shipment cannot be procured under 5 per cent. refraction. In April and May the refraction of the greater portion of wheat received is about 4 per cent., in June and July 5 per cent. and 6 per cent., and from August onward from 6 per cent. to 9 per cent." Deliberate adulteration does not exist to any extent. The refraction found in wheat consists of—1st, dirt; 2nd, peas gram, barley, straw, &c., 3rd, shrivelled grains; and (after July) 4th, weevilled grains. After 1st August shippers have to buy at 6 per cent. on account of weevils, because sellers (in India) insist on it.* No good can result at present from lowering the rate of refraction; it would only lead to increased wrangling, and dealers cannot afford to use expensive cleaning machines, while millers in England have devised machinery for handling it properly. Any freight saved on dirt would be more than swallowed up by cost of cleaning, so that argument is as broad as it is long.

Up-country dealers have nothing to do with the loss or gain in connexion with refraction of Calcutta shippers in their dealing with home buyers. They contract with the shippers on a 5 per cent. basis and up to 7 per cent.; if the consignment be over that it may be refused. Shippers deal with consignments from all parts of the country, and in some cases make, and in others lose, on the refraction at home; but that is no concern of the up-country seller. Any firm depending on refraction for its profit would soon fail.

Dishonesty at Howrah is admitted, but it is the shippers whose sircars are bribed who suffer. The allegation that shippers instruct their agents to get an unfair advantage of sellers when the market is adverse is not accurate; and the remarks regarding the Calcutta Association are unjust. Formerly

* Roughly speaking from the beginning of the season to end of May refraction consists of ½rd dirt, ½rd shrivelled and dead wheat, and ½rd other grains."

when there was a dispute as to quality the seller not infrequently bribed a broker to adjudicate in his favour by a promise of employment, and it was to prevent this that the present practice of arbitration was adopted. Buyers and sellers both draw a sample from the consignment in dispute and forward it to the Secretary to the Wheat Association, who appoints the arbitrators and communicates their decision. Neither buyer nor seller knows who the arbitrators are and *vice versa*.

"Jalpani" and "Mugi," which an up-country dealer was, according to "A's" statement, charged at the rate of R5 per 100 tons, appears to be a kind of "dasturi" paid to Calcutta shippers or their agents.

The want of proper accommodation on the Bengal and North-Western Railway is much felt. Every consignment which came down during the rains was more or less damaged. Finally, if Government can get cultivators to produce their wheat free from admixture of other grains the speedy reduction of the standard of refraction is predicted.

"A"—Special machinery may be able to clean linseed down to 2 per cent. but more than 3 per cent. for bold and 4 per cent. for small cannot be done with appliances available up-country. Bombay shippers credit up-country dealers with refraction below guarantee, and it is much due to the fairer system on which business is done there as to its natural advantages that increasing quantities of linseed are going to Bombay.

It is true that the bulk of grain sent into the market by the cultivator and *bania* contains 5 per cent. admixture; but this is not due to defective appliances, but done deliberately to suit the refraction system. Barley cannot be sifted out in this country, but other seeds can at any large up-country market at a cost of 6 pies per maund. At Cawnpore some time ago thousands of tons of linseed received with 6 and 8 per cent. were cleaned down to 3 per cent. and 4 per cent., and it is much easier to clean wheat (peas and barley excepted).

There is no reason why a 2 per cent. refraction for wheat should cause more disputes than 5 per cent.

Up-country dealers insisted on a 6 per cent. refraction during the weevil season, as they were not going to stand the loss on that account, and it would not pay to clean large quantities simply to remove 1 per cent., but dealers would be ready to clean down to 2 per cent. if buyers were prepared to give a better price.

Cases have occurred where the Calcutta test has shown the per-centage of impurities to be greater than the test applied in London, and the Calcutta shippers have made an unfair profit. If native sircars are unreliable, European assistants should be employed at Howrah. The English import firms are understood to be connected with the Indian export houses, and it is in their power, if it were their interest, to demand cleaner wheat. Comparatively pure wheat would and could be supplied at a cost over present rates not exceeding half an anna per maund for the labour employed in cleaning the grain, and the value of the loss in weight caused by the removal of impurities.

The bad arrangements on the Bengal and North-Western Railway are notorious, but the Calcutta Chamber should represent the matter to the London Board of the Company.

APPENDIX C.

1.

From VISCOUNT CROSS to the GOVERNMENT OF INDIA, No. 128 (Revenue),
dated 26th December 1889.

In continuation of my Despatch No. 116 (Revenue) of the 28th ultimo, enclosing a copy of a letter, with its accompaniments, from Mr. James Smith, relating to the introduction of corn elevators into India, I herewith forward a copy of a letter of the 27th idem, on the same subject, received from Mr. John McDougall, and also a copy of a letter, with its enclosure, of the 14th November last, received from the London Corn Trade Association, reporting the action taken by them in concert with the Liverpool Corn Trade Association in establishing a revised reference standard of purity for Indian wheats, which they hope will lead to an improvement in the quality of the grain imported from Calcutta, Bombay, and Karachi into the United Kingdom.

2. It is desirable to give the widest official publicity to this communication. Mr. McDougall's letter, while dealing with the new standards of the London and Liverpool Corn Trade Associations, will be chiefly useful in connexion with the proposals made by Mr. James Smith, already before your Excellency's Government.

2.

From JOHN McDOUGALL, ESQ., to the SECRETARY OF STATE FOR INDIA,
dated 27th November 1889.

I have the honour to inform Your Lordship that the London and Liverpool Corn Trade Associations have (after considerable discussion) come to an agreement in reference to the terms of contract regarding impurities in Indian wheats.

They have had the average samples of the 1888 crop tested, and the results show the impurities to be somewhat higher than the analysis I made of the 1887 crop for Your Lordship.

Having divided the total shipments of the year into two portions, *viz.*, the *ante-monsoon* (new crop to 30th June) and *post-monsoon* (1st July to the end of the season), the average impurities have then been taken as the limit that will be allowed.

This will not in any way cause a higher standard of purity in Indian wheats. In fact, it allows a greater degree of impurity in the earlier shipments, although it may prevent the occasional shipment of parcels of gross admixture.

It is with extreme regret that I report this lame result of all that has been done by the India Office in the endeavour to encourage the merchants and millers of the United Kingdom to demand a higher standard for Indian wheats, and I would suggest that attention should now be given to what may be done in India.

The great facilities provided in America and South Russia for the cheap stowage and transit of grain has been most beneficial to the development of their immense trade.

In the United States and Canada elevators are erected at almost every railway station in the neighbourhoods where grain is produced. This not only provides for cheap stowage, but also for the grading into standards, qualities, and the issuing of warrants, which enable the holder to readily sell his parcel of grain without the necessity of carrying or showing samples.

At a railway or other depot an elevator is erected, its capacity being regulated by the necessity of the neighbourhood. An official is appointed with the necessary standard samples for comparison. The farmer instead of having to erect a barn or store, takes his grain to the elevator, where it is received, classified, and stored, and a warrant given him stating the quantity and quality; and he can then go to his market, sell or hold as he may see best, or he may get an advance from his banker or merchant on the security of his warrant. The official is responsible to deliver the quantity of wheat, &c., of equal quality, but not necessarily the exact wheat that was delivered to him.

In America the wheat trade is all done in bulk, labour being very costly, and elevators of great capacity are used.

In India nearly all the wheat trade is in bags, and labour being cheap, the need for machinery, &c., to save labour is not so necessary, and a floor space to gather together a few hundred tons, so as to make a fair average sample, would probably be all that would be required.

But the principle involved in having a public store where each parcel of wheat would be classified, and the issuing of warrants to avoid the showing of samples at market, would do much to cause the grower to take care in the harvesting and thrashing of his crop, so as to justify its being placed in the highest grade of its class.

I cannot advise as to whether this matter should be conducted by Government officials or by the agents of firms. If by the latter, there should certainly be no monopoly. But as the Government has so large an interest in the railways, it would probably be desirable that they should keep the handling of the grain in their own hands.

It would very soon be decided if it would be necessary to erect machinery for the cleaning of grain, and when the natives found a clear distinction made between clean and unclean grain, they would themselves soon find the means of producing clean grain.

I consider the question of pure wheat of such vital importance to India and also the labouring classes of the country, that I have no hesitation in submitting these suggestions to Your Lordship, and in asking your best consideration of them.

3.

LONDON CORN TRADE ASSOCIATION to the SECRETARY OF STATE FOR INDIA, dated 14th November 1889.

I have the honour of enclosing you copy of a letter which has been addressed by this Association to the Bombay Chamber of Commerce, the Calcutta Wheat and Seed Trade Association, and others connected with the trade, with regard to the "impurities" in Indian wheats.

I am requested to say that it will thus be seen that this Association has not been unmindful of the hope expressed by Your Lordship at the meeting last May at the India Office, that some endeavour should be made to reduce the "impurities" in Indian wheats.

4

LONDON CORN TRADE ASSOCIATION to the SECRETARIES, BOMBAY CHAMBER OF COMMERCE, to CALCUTTA WHEAT AND SEED TRADE ASSOCIATION, &c., dated 14th November 1889.

At a meeting held last May at the India Office, at the invitation of Viscount Cross, who took the Chair, it was felt that an effort should be made to improve, if possible, the "impurities" in Indian wheat. With this view this Association has had the standard samples of the various qualities of the crop of 1888 of Indian wheat analysed by Mr. Bernard Dyer, with results as per his report enclosed.

Taking into consideration the statement of the East Indian Wheat Committee of this Association which was read at the said meeting in reply to the reports and papers issued by the India Office, this Association, in conjunction with the Liverpool Corn Trade Association, have had several meetings

Action of
London Corn
Trade, new
standard.

with a view to an improvement compatible with the exigencies of the trade here, and the actual condition in which wheat is grown and gathered in India; and it has been agreed by the two Associations that two reference standard samples shall be made up of each of the descriptions of wheat named in the annexed table, solely for the guidance of the East Indian Wheat Committee of this Association in making up the standards as to "impurities" only.

Ante-monsoon and post-monsoon reference standard samples will be made up, and the arrangement will come into force with the new crop of 1890.

It is hoped that this will lead to an improvement in the cleanliness of Indian wheat, and this Association trusts you will use your influence to bring about this much-to-be-desired result.

Description of Wheats.	Ante-Monsoon.		Post-Monsoon.	
	Impurities.	Of which may be dirt.	Impurities.	Of which may be dirt.
No. 1 Club Calcutta	4 per cent.	1½ per cent.	4½ per cent.	2 per cent.
No. 2 " "	4 "	1½ "	5 "	2 "
Hard Calcutta	3 "	1½ "	3½ "	2 "
Soft Red Calcutta	4½ "	2 "	5½ "	2½ "
No. 1 Club Bombay	3 "	1½ "	3½ "	2 "
Red Club Bombay	3 "	1½ "	3½ "	2 "
Soft Red Bombay	3 "	1½ "	3½ "	2 "
Hard Red Bombay	3 "	1½ "	3½ "	2 "
Hard White Bombay	3 "	1½ "	3½ "	2 "
Soft Red Delhi	4 "	1½ "	5 "	2 "
Soft White Delhi	4 "	1½ "	5 "	2 "
White Jubbulpore	3 "	1½ "	3½ "	2 "
Atbara	3 "	1½ "	3½ "	2 "
Soft Red Kurrachee	5 "	1½ "	7 "	2 "
Soft White Kurrachee	5 "	1½ "	7 "	2 "

N.B.—Ante-Monsoon shall mean shipments of the New Crop to 30th June.

Post-Monsoon shall mean shipments from 1st July to remainder of the season's shipments.

With the exception of Soft Red and Soft White Kurrachee, when the period for these qualities shall mean shipments of the New Crop—

Ante-Monsoon to 30th September.

Post-Monsoon from 1st October to the remainder of the season's shipments.

No. 4.

ANALYSES of INDIAN WHEATS (*vid* Canal) of the Crop 1888, by Mr. BERNARD DYER, B.Sc. (Lond.), F.I.C., F.C.S., F.L.S., Analyst to the Essex, Leicester, Devon, and West Glamorgan Agricultural Societies; the Notts and Sevenoaks Chamber of Agriculture, &c.; Official Analyst to the Association.

Month of Shipment.	CALCUTTA.									BOMBAY.																		
	No. 1 CLUB.			No. 2 CLUB.			HARD.			SOFT RED.			No. 1 CLUB.			RED CLUB.			SOFT RED.			HARD RED.			HARD WHITE.			
	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	
April	—	—	—	4'27	1'02	3'36	3'38	3'04	3'12	5'16	3'23	—	—	—	0'08	0'59	0'67	0'91	3'35	3'26	—	—	—	—	—	—	—	
May	1'63	3'27	3'89	4'13	—	—	—	1'76	3'82	4'58	6'55	0'75	3'19	3'94	0'09	3'23	3'32	—	—	—	—	—	—	—	—	—	—	
June	3'65	1'85	4'50	5'76	1'92	3'42	4'34	1'77	3'70	5'47	3'75	0'64	1'60	3'24	0'17	3'79	3'96	—	—	—	—	—	—	—	—	—	—	
July	—	—	—	5'27	—	—	—	3'21	3'26	4'47	3'51	—	—	—	1'28	1'26	3'54	—	—	—	—	—	—	—	—	—	—	
August	3'38	3'18	4'56	5'66	1'05	1'18	3'23	3'77	1'95	4'72	3'84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
September	3'25	3'05	4'30	4'52	1'15	1'76	2'91	3'07	2'65	4'72	3'35	—	—	—	1'42	1'28	3'70	—	—	—	—	—	—	—	—	—	—	
October	—	—	—	4'84	0'94	1'51	2'45	1'81	3'10	4'91	3'23	—	—	—	—	—	—	0'18	3'61	2'79	0'26	2'76	3'02	—	—	—	—	
November	—	—	—	7'50	1'11	4'28	5'39	3'19	3'31	4'50	4'66	—	—	—	1'16	1'10	3'26	0'15	3'12	3'27	0'13	2'95	3'08	—	—	—	—	
December	—	—	—	4'96	—	—	—	1'40	3'24	4'73	3'39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
January	—	—	—	4'30	—	—	—	—	—	—	2'76	—	—	—	0'24	5'33	5'57	—	—	—	—	—	—	—	—	—	—	
February	—	—	—	—	—	—	—	—	—	—	2'71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
March	—	—	—	—	—	—	—	—	—	—	3'19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Average	2'22	2'09	4'31	5'12	1'20	2'25	3'45	2'01	2'79	4'80	3'68	0'69	2'39	0'63	0'63	2'23	2'86	0'41	2'36	2'77	0'18	2'77	2'96	—	—	—	—	—

ANALYSIS OF INDIAN WHEATS—cont.

Month of Shipment.	KURRACHEE.						DELHI.						JUBBULPORE.			ATBARA.		
	RED			WHITE			SOFT RED			SOFT WHITE.			WHITE.			—		
	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.
April - - -	5.68	0.78	6.46	8.11	1.38	9.49	—	—	—	—	—	—	—	—	—	—	—	—
May - - -	2.40	1.34	3.74	7.27	1.44	8.71	—	—	—	2.54	1.43	3.97	1.25	3.01	4.26	0.41	3.53	2.94
June - - -	6.44	0.92	7.36	3.81	0.93	4.54	—	—	—	4.44	1.08	5.52	3.18	1.47	3.65	—	—	—
July - - -	—	—	—	5.70	1.59	7.29	—	—	—	3.85	2.20	6.05	1.48	2.70	4.18	—	—	—
August - - -	—	—	—	5.49	1.38	6.87	—	—	—	3.31	2.97	6.28	3.95	1.14	3.09	—	—	—
September - - -	6.11	1.42	7.53	5.79	1.29	7.08	2.88	1.03	3.91	3.09	2.57	5.66	0.66	2.58	3.44	0.33	3.57	2.00
October - - -	6.73	1.03	7.76	6.14	0.86	7.00	3.28	0.99	4.27	2.62	2.35	4.97	—	—	—	0.40	2.59	2.99
November - - -	6.46	0.94	7.40	6.20	2.37	8.57	—	—	—	2.90	1.98	4.88	1.11	1.56	2.67	—	—	—
December - - -	5.73	1.29	7.02	6.19	1.24	7.43	—	—	—	2.72	2.11	4.83	—	—	—	—	—	—
January - - -	7.25	1.06	8.31	5.41	1.75	7.16	3.45	1.14	4.59	3.23	3.05	6.28	—	—	—	0.26	3.40	2.60
February - - -	8.39	0.96	9.35	7.02	1.01	8.03	3.75	0.98	4.73	2.68	1.68	4.36	—	—	—	—	—	—
March - - -	7.41	2.70	10.11	6.51	1.27	7.78	2.64	1.91	4.65	3.85	2.90	6.75	—	—	—	—	—	—
Average - - -	6.26	1.24	7.50	6.12	1.37	7.49	3.20	1.91	4.41	3.20	2.21	5.41	1.64	2.08	3.72	0.35	2.62	2.87

N.B.—The term "Barley, &c" used above, includes all grain of intrinsic value, such as barley, oats, peas, linseed, &c. The term "Dirt" includes earth, chaff, and miscellaneous weed seeds.

17, Great Tower Street, London,
2nd October 1889.

BERNARD DYER,
Public Analyst.

5.

Nos. 220–225 C. 19-3, dated 31st January 1890.

Endorsed by the REVENUE AND AGRICULTURAL DEPARTMENT.

COPY of the Despatch No. 128, dated 26th December 1889, from the Secretary of State, and of its enclosures, forwarded to the Local Governments and Administrations noted below* for information, in continuation of Circular No. 122–127 C.—Agriculture, dated 6th instant.

No. 226 C.—19-3.

Copy forwarded to the Public Works Department for information, in continuation of Office Memorandum No. 129 C., dated 7th instant.

APPENDIX D.

1.

EXTRACT from the REPORT of the BOMBAY CHAMBER OF COMMERCE for the year 1889.

Summary of
action taken
1889.

As the result of the agitation initiated by this Chamber in 1886, and consistently supported by His Excellency the Governor of Bombay, a conference of those interested in the question of the improvement in the cleaning of Indian wheat was held at the India Office on 8th May last under the auspices of Her Majesty's Secretary of State for India. At that conference a statement was read on behalf of the London Corn Trade Association which, in the opinion of your Committee, contained so many mis-statements both as to fact and theory, and was so misleading in purport, that they decided to address His Excellency the Governor on the subject, with the view of recording their protest against the arguments and figures used, and, if possible, leading to further action with the view of improving the cleanliness of Indian wheat. Owing, no doubt, to the promptitude with which the matter was taken up and discussed by your Committee, and the unanswerable character of their arguments, the London Corn Trade Association have so far modified their views that in a circular, dated 14th November, they have intimated that they had taken measures to get the various qualities of Indian wheat analysed, and as the result of that analysis had prepared a table showing the extent of impurities in the standard samples which the Association would recognise as allowable in shipments made before and after the monsoon. This table, however, so distinctly recognised a larger proportion of impurities than there was any necessity for doing, that your Committee

* Madras, Bombay, Bengal, North-Western Provinces and Oudh, Punjab, and Central Provinces.

addressed the London Corn Trade Association on the subject by the return mail, pointing out that in nearly every description of Bombay wheat, with the exception only of No. 1 Club and Red Club, the impurities allowed, even for *ante*-monsoon shipments, were in excess of the adulteration shown by their own analyses. This the Committee showed, simply amounted to recognising a standard of impurity in excess of existing conditions, and so far therefore from assisting the movement towards greater cleanliness would really be retrograde in effect. The Committee strongly urged the London Corn Trade Association to reconsider the subject and advocated a 2 per cent. refraction as one which would induce efforts being made to attain greater purity and one at the same time which would be perfectly attainable without the necessity of extensive mechanical appliances for cleaning purposes. To this communication there has not as yet been time for receipt of a reply, but the Committee trust that this matter will not be allowed to rest, and that future Committees will continue to agitate for the introduction of a basis of contract which will ensure Indian wheats being exported in a cleaner and therefore more merchantable condition than has hitherto been the case.—(*Appendix III.*)

2.

BOMBAY CHAMBER OF COMMERCE to the GOVERNOR OF BOMBAY, dated 14th June 1889.

MY LORD,—Sensible of the active interest you have always taken in, and the efforts you have made to, aid the development of the wheat trade of this port, the Committee of the Chamber of Commerce take the liberty of addressing you regarding the conference on the subject of impurities in Indian wheat held at the Indian Office on 8th May, a report of which, although not yet officially published, Your Lordship has doubtlessly observed in the public press.

Protest against London Corn Trade statements at India Office Conference.

From a perusal of the proceedings it is apparent that the adoption of a proposal—which originally emanated from this Chamber—that all arrival contracts made in England for the sale of Bombay wheat should be based on a refraction of not exceeding 2 per cent. of dirt and other impurities was not carried owing to the opposition of the London Corn Trade Association, who stated their objections in a paper of some length, but of which, for the purpose of this letter, it will be sufficient to quote only the concluding summary of reasons. These, for convenience of reference, my Committee have numbered as follows:—

- (1) Seeing, therefore, that the natural condition at present of Indian wheats is to contain about 4 per cent. of admixture on the Bombay side and 5 per cent. on the Calcutta,
- (2) That, under the circumstances, it is not practicable to induce the Indian shippers to change their system of purchasing, and instead of buying on the above natural refractions, to introduce an artificial basis of a 2 per cent. refraction;
- (3) That buyers, *practically*, are not prepared to pay a proportionately higher price for cleaner wheats;
- (4) That the system of selling of analysis here is altogether impracticable and unadvisable;
- (5) That the conditions of the Indian wheat trade although slowly are gradually improving;
- (6) That India ships all her wheat available for export year by year;
- (7) And that her development—in this branch at least—is not prevented by the present condition of wheats;
- (8) That interference of Government in questions of contract as between seller to buyer is unadvisable—
- (8) Our opinion is that it is not advisable or desirable to try and force sudden and radical changes in the natural condition of a trade; but that it is preferable to let the improvement come gradually out of the trade itself, taking it for granted that merchants, sellers, and buyers, shippers, and consumers, &c., are too keenly alive to their interests to allow any opportunity for improvement in their trade, when such becomes advisable, to pass by.

Were the Committee addressing only the members of this Chamber, experts in the trade and practically familiar with its basis and conditions, it would be sufficient to point out that these reasons are one and all contrary to ascertained facts and experience, and that the conclusions drawn from them are necessarily erroneous and misleading. But that the arguments of the London Corn Trade Association may not find official record without criticism, my Committee deem it desirable to deal with each separately, though as concisely as possible—

- (1.) The statement that the natural condition at present of Indian wheats is to contain about 4 per cent. of admixture on the Bombay side and 5 per cent. on the Calcutta, is, so far as Bombay is concerned, absolutely incorrect, and, judging from the evidence officially collected, is equally erroneous as regards Calcutta. These figures no doubt represent the admixture as shipped—practically under the compulsion of the objectionable form of contract maintained by the London Corn Trade Association—but the Committee of this Chamber unhesitatingly assert that even under the primitive mode of preparation hitherto prevalent, and without special cleaning machinery, the natural condition of the bulk of Bombay wheats as they could be delivered by the farmers would show less than 2 per cent. of admixture.
- (2) The misleading nature of reason (1) relegates this to the same position, but how it is open for the London Corn Trade Association to allege that “it is not practicable to induce Indian

- shippers to change their system of purchasing" in face of the unanimous request of the entire body of exporters from Bombay that the trade should be based on a 2 per cent. refraction, my Committee are unable to explain.
- (3) That buyers are not prepared to pay a proportionately higher price for cleaner wheats, may be partially correct, so far as speculators are concerned. For their purposes, no doubt, the widest form of contract giving purchaser the most limited possible power of rejection on the score of quality is the easiest to manipulate, but the replies received to the India Office circular of the 31st December 1888 afford most overwhelming evidence to the contrary from the millers of the United Kingdom, who must be regarded as the real or ultimate buyers.
 - (4) The proposal that 2 per cent. shall be the limit of admixture does not necessarily imply the analysis of every shipment, as practical experience enables experts to arrive at an exceedingly close estimate without the necessity of having recourse to exact analysis. But independently of this, if the Liverpool Corn Trade, who handle three fourths of the Bombay wheat imported into the United Kingdom, find no difficulty in adopting a 2 per cent. refraction, why should London find it impracticable to deal with one fourth? Moreover, the trade in Bombay itself, so far as future delivery contracts go, is entirely based on exact analysis which works well and without special friction.
 - (5) That the conditions of the Indian wheat trade although slowly are gradually improving is not an argument, even if entirely correct, strictly applicable to the real point at issue, but neither recent statistics nor the other reasons advanced by the London Corn Trade Association themselves bear this out. In relation to the latter, in fact, the statement embodies an obvious contradiction. If the conditions are gradually improving they are susceptible of further immediate and accelerated improvement which reason No. (2) says in effect they are not.
 - (6) That India ships all her wheat available for export year by year, is equally irrelevant. No statement to the contrary, so far as my committee are aware, has ever been advanced. What this Chamber of Commerce asserts as representing the wheat exporters of Bombay is, that India does so export but at less than the legitimate value of the produce, both by the lower average price which dirty as compared with clean wheat commands and also by the loss incurred in transporting and dealing with a large per-centage of dirt and other impurities. It is scarcely necessary to point out that the deficiency in value which thus ultimately accrues to the producer must tend to restrict production.
 - (8) Calls for no special remark from the Bombay Chamber of Commerce, as it has never advocated Government interference between buyer and seller in this connexion.
 - (9) To deal with the final conclusions arrived at by the London Corn Trade Association, my Committee are quite at one with them that it is not desirable to force sudden and radical changes on trade, but that it is preferable to let the improvement come out of the trade itself, taking it for granted that merchants, sellers and buyers, shippers and consumers, are too keenly alive to their interests to allow any opportunity for improvement in their trade—when such becomes advisable—to pass by. This the Committee of the Chamber venture to say, most accurately describes the character and origin of the movement for a modification of the terms of London arrival contracts in Indian wheats. The demand originates not in one section of the trade but from the majority, who are most deeply and vitally interested, the shippers who virtually also represent the producers on the one side and the ultimate buyers or consumers on the other. The objection to the improvement comes only from a minority of the middlemen, and it is not surprising if the character of this obstruction should have given rise in some quarters to suggestions of legislative interference. These suggestions, however, this Chamber has never countenanced, but still holds that Government have it in their power to enormously facilitate and benefit trade by collecting and furnishing information and affording means of discussion in matters of leading interest and moment to the general welfare of the country. It is notably so in this instance. As Your Lordship is aware, this Chamber addressed the London Corn Trade Association direct representing the advisability of altering the form of contract, so as to afford an inducement to improve the quality of wheat shipped from India. In declining to accept the suggestions of the Chamber the Association gave no reason for so doing, but their reasons having been evolved at a conference held recently under the auspices of Her Majesty's Secretary of State for India, the Committee of the Chamber trust Your Lordship may have an opportunity of recording these criticisms on them in the same quarter.

Thanking Your Lordship for the extreme courtesy and attention with which the representations of the Chamber on this and other subjects have hitherto been received, and venturing to hope that Your Lordship will continue unabated your interest in and exertions for the improvement in the quality of Indian wheat,

I have, &c.

F. FORBES ADAM,
Chairman.

JOHN MARSHALL,
Secretary.

3.

BOMBAY CHAMBER OF COMMERCE to the LONDON CORN TRADE ASSOCIATION, dated 6th December 1889.

DEAR SIR,—I am directed by the Committee of the Chamber to acknowledge the receipt of your circular letter of the 14th ultimo, enclosing a tabulated statement of the result of analyses by Mr. Bernard Dyer of various descriptions of Indian wheat, and stating that it has been agreed by your Association, in conjunction with the Liverpool Corn Trade Association, that two reference standard samples shall be made up of each description of Indian wheat for the guidance of the East India Wheat Committee in making up standards as to impurities. You further annex a statement showing, my Committee presume—although your letter does not definitely say so—the extent of impurities which these standards shall be assumed to contain; and you conclude your remarks with the hope that this will lead to an improvement in the cleanliness of Indian wheat, and requesting the influence of this Chamber in bringing about this much-to-be-desired result. As this Chamber was the first to take the initiative in the endeavour to promote additional cleanliness in Indian wheat, you may rest assured that everything it can do will be done to promote that object. At the same time my Committee regret to say that they cannot consider the action of your Association likely to contribute materially to that end.

Further appeal to London Corn Trade Association.

I am directed to point out to you that, in the case of nearly every description of Bombay wheat the extent of the impurities, which your standards are intended to recognise, considerably exceeds the result of Mr. Bernard Dyer's analyses. In other words, so far from the standards being likely to enforce greater cleanliness, they allow a margin for an increase per-centage of dirt and other impurities. This is very apparent from the following comparison showing, in the first column, the average total impurities as compared with the per-centage fixed:—

	Impurities as per analyses.	Proposed per-centages in ante-monsoon shipments.	Proposed per-centages in post-monsoon shipments.
No. 1 Club Bombay - - -	3.68	3	3½
Red Club Bombay - - -	3.08	3	3½
Soft Red Bombay - - -	2.86	3	3½
Hard Red Bombay - - -	2.77	3	3½
Hard White Bombay - - -	2.95	3	3½

You will perceive that, with the exception of No. 1 Club and Red Club, the average analyses give throughout smaller total quantity of impurities than the minimum allowed in your table for ante-monsoon shipments, which is surely an unnecessary margin to give.

My Committee are strongly of opinion that for ante-monsoon shipments at least the per-centage of impurities should not be fixed at over 2 per cent, as there can be no question that wheat can be easily cleaned down to that point, and, indeed, could now be bought easily, were there any inducement for shippers to adhere to that limit.

I am, &c.
JOHN MARSHALL,
 Secretary.

4.

EXTRACT from the REPORT of the BOMBAY CHAMBER OF COMMERCE for the year 1890.

As mentioned in the last Annual Report, the previous Committee of the Chamber had carried on a vigorous correspondence with the representatives of the Liverpool and London Corn Trade Associations and the Government of Bombay, respecting the desirability of raising the standard of cleanliness in contracts for Indian wheat at the ports mentioned. The Liverpool Association, as already reported, made no difficulty about meeting the views of this Chamber, but, in London, after a series of analyses, a table was prepared by the Corn Trade Association which, this Chamber considered, allowed a much heavier refraction on Indian wheat than the actual condition warranted. The Committee accordingly represented their views to the London Association in December 1889, and it was not until February 1890 that any reply was received. In their letter, the Committee regret to say, the London Corn Trade Association state that after having carefully considered the question of impurities in the various kinds of Indian wheats, and after hearing the evidence of sellers and buyers, they did not see their way to move further in the matter at present. There seems very little hope, therefore, of any advance being made in this important subject for some time to come, as until buyers at home insist upon being supplied with the cleanest possible wheat, shippers from this side have no inducement to export anything superior in cleanliness than the refraction provided for the regular contracts current in the trade.—(Appendix S.)

Summary of action taken in 1890.

5.

LONDON CORN TRADE ASSOCIATION to the BOMBAY CHAMBER OF COMMERCE,
dated 7th February 1890.

Refusal of
London Corn
Trade Associa-
tion.

DEAR SIR,—I am directed by the Committee to acknowledge the receipt of your letter of the 6th December, and to state, in reply, that they carefully considered the question of impurities in the various kinds of Indian wheats, and after hearing the evidence of sellers and buyers, they did not see their way to go further in the matter of refraction at present.

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