

EAST INDIA WHEAT.

PAPERS

RELATING TO THE

INTRODUCTION INTO INDIA

OF THE

SYSTEM OF GRAIN-ELEVATORS

IN VOGUE IN THE UNITED STATES OF AMERICA AND IN CANADA

1890—91.

Presented to both Houses of Parliament by Command of Her Majesty



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EAST INDIA WHEAT.

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P A P E R S

RELATING TO THE

INTRODUCTION INTO INDIA OF THE SYSTEM OF GRAIN ELEVATORS IN VOGUE IN THE UNITED STATES OF AMERICA AND IN CANADA.

1.

The GOVERNMENT of INDIA, to LOCAL GOVERNMENTS and ADMINISTRATIONS, Circular
No. 122-127 C.—(Agri.), dated 6th January 1890.

I am directed to forward, for information and consideration, the accompanying copy of a despatch and of its enclosure, received from Her Majesty's Secretary of State for India, relating to the formation of a Company for the introduction of grain-elevators into India. Circular forwarding papers for opinion.

2. His Excellency the Governor General in Council will, in the first instance, be glad to be favoured with the views of as to the encouragement which may properly be given to the Company, and I am to suggest that the opinions of the Directors of the Department of Land Records and Agriculture, the Chambers of Commerce and of other authorities, official or non-official, whom may think it advisable to consult may be obtained and forwarded to the Government of India with as little delay as possible.

2.

GOVERNMENT of INDIA, Revenue and Agricultural Department, to the SECRETARY
to the GOVERNMENT of INDIA, Public Works Department, No. 129 C.,
dated 7th January 1890.

The undersigned is directed to forward, for information and consideration, a copy of a despatch,* and enclosure, received from the Secretary of State, relating to the formation of a Company for the introduction of grain-elevators into India, and to say that this Department will be obliged if the Public Works Department will obtain the opinion of the Railway Companies mentioned in page 3 of Mr. Smith's letter.

3.

From LORD CROSS, to the GOVERNMENT of INDIA, No. 116, dated 28th November 1889.

I forward herewith a copy of a letter, and its enclosure, of the 17th September last, received from Mr. James G. Smith, of the firm of Messrs. Ritchie, Stewart & Co., Bombay, relating to the formation of a Company for the introduction of grain-elevators into India. It is unnecessary for me to dwell upon the very great importance of this matter; and I shall be glad to be furnished with the views of your Excellency's Government on Mr. Smith's proposals for State assistance to the Company, and on the subject of his letter generally. It is clearly impossible that the Government should assist the present project to the extent suggested in Mr. Smith's letter, but some aid might perhaps be given, and if your Government is disposed, as I presume it will be, to promote Mr. Smith's undertaking, I shall be ready to consider any recommendation that you may think fit to make. Forwards Mr. Smith's proposals for introduction of grain elevators.

2. I enclose, for your Excellency's perusal, a copy of the Board of Trade Journal for October 1889, in which, at page 399, will be found an account of the steps taken by the Russian Government to promote the erection of elevators along the lines of railway leading to Odessa.

JAMES G. SMITH, Esq., of Ritchie, Stewart & Co., Bombay, to the UNDER-SECRETARY OF STATE FOR INDIA, dated 17th September 1889.

I have the honour to inform you that I desire, in connexion with a few others, to form a "Grain Cleaning and Elevator Company" for India, and we beg the favour of your laying our representation before the Secretary of State in Council, who, we trust, may be pleased to afford us his support and assistance in the directions necessary.

We beg to invite a reference to the accompanying memoranda on the subject laid unofficially before you last month by Colonel Filgate, R. E., from which you will observe that our aim is to introduce into India a system of cleaning, grading, and handling wheat, based upon that universally adopted in the United States and Canada, and now being extended to other countries.

In putting the scheme before you we do not consider it necessary to recapitulate in detail the many valuable opinions recorded in favour of some such system, as we believe the Secretary of State to be fully acquainted therewith.

Objects of the scheme. Our primary object is to clean and raise the grade of the grain received from the producer, and to prevent the subsequent adulteration of Indian wheat which now prevails. By this, among others, the following advantages should be gained:—

- (1.) The improvement of the reputation of India as a wheat-growing country.
- (2.) The extension and the improvement of the cultivation of wheat by the above, and by putting the business on a more satisfactory footing.
- (3.) The improvement of the position of the producer by depriving others of the opportunities of mixing, carrying, and profiting by an adulterated or dirty sample which was subsequently, at considerable expense and trouble, to be brought to a clean state before it can be used.
- (4.) The reduction of the expense of carrying and handling, by sea and by land.
- (5.) Facilitating the storage, purchase, and sale of, or the borrowing and lending of money on, the grain crops.
- (6.) Opening the trade to all acquainted with the markets as opposed to the present state, under which it is confined to grain experts, and to those who can or will pass off an adulterated article.

The effects which may be expected are:—

Benefits to be expected.

- (1.) Benefit to India as a wheat-producing country, in increasing the demand for, by removing the objections to, its produce.
- (2.) Benefit to all concerned by putting the Indian wheat trade on a firmer and more satisfactory footing.
- (3.) Benefit to the State and other railway owners from increased traffic due to a better demand for and extended cultivation of Indian wheat by relieving them of the custody of grain at stations, and by the more rapid loading, unloading, and release of their waggons.
- (4.) Benefit to the trade generally in reducing charges for handling, &c.
- (5.) Benefit to the Port Trusts in concentrating the traffic at the port storage elevators.
- (6.) Benefit to the shipping in increased traffic and the more rapid loading of vessels.
- (7.) Benefit to the trade by introducing more reliable samples of wheat.
- (8.) Benefit to the consumer in supplying a pure and graded article.
- (9.) Increased facilities for storing grain.
- (10.) Increased facilities for dealings in wheat on documents.
- (11.) Improvement in the position of the producer from the increased value of his product when cleaned and graded.

Concessions required.

That the proposed Company may start with reasonable prospects of success, it appears to us that the assistance of Government would be necessary in the following actions:—

- (1.) Arrangements for the countersignature of certificates by Government officials.
- (2.) The free provision of land for the Company's purposes, either within or adjacent to the railway and Port Trust premises, and connected with the lines by sidings.
- (3.) A guarantee that similar facilities will not be afforded to a competing Company or individual for a term of 25 years.

- (4.) That the grant of concessions as above extend to every grain-shipping port, and along every line of railway, built or to be built, through the grain-producing districts of the Indian Empire.
- (5.) A guarantee of interest at the rate of 4 per cent. per annum for the first 5 years of the Company's operations, such advances being, however, repayable, without interest, from half of surplus profits in excess of 6 per cent.

The rights for which we would ask are as follows:—

- (1.) To erect elevators, cleaning or other machines for the cleaning, grading, and storage of wheat at all ports and railway stations connected with the grain trade.
- (2.) To levy charges (which may be under the control of Government) for the cleaning, grading, loading, and storage of grain.
- (3.) To issue certificates for the grain under the Company's charge.
- (4.) To act as agents for producers and others for the disposal of their grain.
- (5.) To act as agents for merchants and others for the purchase of grain.
- (6.) To make advances of money against grain held in the Company's elevators.
- (7.) To advance money to the ryots on the security of their land, crops, &c.
- (8.) To act generally as warehousemen, forwarders, shippers, and agents in all matters connected with the grain trade.
- (9.) To charge for any or all of these conveniences to the trade according to usage, and subject to the control of Government.

The adoption of the scheme at starting in its entirety, even at a few stations, is we are inclined to think, a step too advanced for immediate consideration, and we now propose that the first operations be conducted so as to disturb as little as possible the existing arrangements. In this view, we would propose to select a few stations on some of the principal grain-carrying railways, and to conduct thereat simple cleaning and grading operations, returning the grain into bags, properly secured, and covered by certificates as to the quantity and quality, thus discarding for the present the idea of the elevator proper.

In the English markets our efforts would be directed to securing a demand for the clean and graded article, and further development of the scheme would be dependent upon the results obtained. We have reason to believe that in the English grain centres, accustomed to the American system, the certificates above referred to will speedily receive the credit they deserve, and, so soon as they become recognised in the English markets and thus act to the benefit of the producer, the steady development of the scheme may be confidently anticipated.

The railways on which it is proposed to commence are:—

The Great Indian Peninsula Railway,
The Bombay, Baroda, and Central India Railway,
The Bengal-Nagpur Railway,

these being contributory to the one shipping centre of Bombay, between which place and Liverpool the trade is considerable, while Liverpool is a port already accustomed to the American system of clean and graded grain.

The authorities of the above-named railways have been addressed, and, so far as at present ascertained, the scheme will be favourably received and supported by them.

The stations at which machinery is proposed to be erected will be selected in communication with the Companies.

It is probable that in all, some fifteen stations at the outset will be provided with cleaning, grading, and weighing apparatus and with some elevating machinery, all of which will have to be sheltered from weather by buildings sufficiently strong to withstand the vibration of the machinery, and constructed with some regard to their future uses.

The machinery may be worked by bullock or steam power, as circumstances may require. It appears to us that the undertaking will necessitate the sending to India of a few qualified men to commence, conduct, and instruct in the operations, but we would desire to avail ourselves of the assistance of the Railway Companies' staffs to the utmost extent possible.

£

Probable
cost.

We believe that the whole of the machinery required in the first instance is readily obtainable in England, and including freight, railway charges in India and other expenses we estimate its cost at - - - - -	7,500
The buildings at fifteen stations, with cost of fittings and erecting machinery, would probably cost - - - - -	10,000
The pay and allowances of staff, preparatory to the commencement of work, may be taken at - - - - -	5,000
And preliminary and contingent expenses at - - - - -	2,500
Making a total of - - - - -	£25,000

Besides keeping the capital expenditure within the narrowest limits, it would be our object to keep down the working expenses and charges as low as possible. In the more advanced stages of the undertaking the charges to be made will, beyond doubt, be far more than covered by the saving in cost of handling, &c., but during the preliminary operations just described the charges for cleaning and grading must be reduced to a minimum, to be covered by the enhanced value of the clean grain, and still leave the ryot sufficient inducement to avail himself of the advantages afforded.

During this period of education and experiment, we can hardly expect the machinery to do more than pay the expenses of its working, but each subsequent step in advance should put our operations on a more satisfactory footing.

So soon as a demand for clean and graded wheat is secured in the United Kingdom a demand on the part of the producers or owners for the cleaning and grading of their wheat will certainly follow, and as this increases, so will the present scheme progress towards the erection of a complete system of elevators, and as success becomes assured on one or more lines of railway leading to one port, so will other lines of railway and other ports be supplied with similar advantages.

Guarantee of
interest.

All extensions of operations involving expenditure beyond the amount of 25,000L. referred to in this paper, would be submitted for the sanction of the Secretary of State for India in such manner as he may direct, and we confine our present request for a guarantee of interest to a half-yearly payment, calculated at the rate of 4 per cent. per annum on the 25,000L. already indicated and on the subsequent sums sanctioned from date of such sanction, for a period of five years from that of the acceptance of the proposals which we have the honour to make.

The capital of a Company sufficiently important to deal adequately with the subject of our representation must necessarily be large, but at starting the amount to be called up would be limited to 25,000L. and during the continuance of the guarantee, further calls must be restricted to amounts necessary to cover extensions duly sanctioned.

5.

MEMORANDUM by Colonel FILGATE, R.E., on the proposed introduction into India of the American Elevator system of handling wheat.

The proposal to deal with Indian wheat after the manner, more or less modified, in which the wheat crop of the American continent is handled, under what is known as the Elevator System, is put forward in the belief that it will commend itself to those high authorities conversant with the present serious defects of the trade and interested in remedying them.

The promoters of this scheme believe themselves, as a body, to be cognizant with the Indian wheat trade as at present carried on, both in India and England, with the system in India of handling and adulterating the wheat, from the time of its growth until its sale in England, and with the American system, under which pure and graded wheat only is put upon the English market. They claim that their experience, supplemented by their study of the subject, both from the published views of high authorities (e.g., Her Majesty's Secretary of State for India, the Government of Bombay, the Bombay Chamber of Commerce, the Association of British and Irish Millers, Sir F. W. Watkin, Mr. McDougall, and others), and from inquiries of others connected with the trade (as merchants and millers), puts them in a position to deal practically with the subject.

Before proceeding to describe the proposed undertaking, it is desired to represent the advantages to be derived therefrom—advantages which will be shared by all except the middlemen, whose presence is considered the worst feature in the trade as it now exists. How Government is interested.

The Government in this matter may be likened to a large American Railway Company whose object it is to render most valuable, by cultivation or reputation, the lands in its ownership. It is due to this interest in the land and its produce, in America that the Elevator System has not only come into existence but has become universal and indispensable along the railroads of the wheat belt of the American continent, and so highly do the railways value the advantages of the system that, where the grain crop is the principal commodity the Companies decline to carry grain which has not been passed through the elevator. The advantages here indicated are that, by means of the elevator a perfectly pure and reliable sample is obtained directly it leaves the farmer's hands, and the reputation of the district is not risked by the producer being allowed to place upon the market grain which has not been subjected to this recognised process of cleaning and grading.

It must not be imagined that the farmer suffers from this apparent restriction in the forwarding regulations, for as he has found in practice it works entirely to his advantage as the superior cleaning machinery in the elevator raises the grade of the sample.

The advantages to the Government, as the possessor of land, as interested in the principal Indian railways, may be considered under those claimed in connexion with the transport of the grain. The railways concerned would be relieved of the responsibility and cost of receiving and guarding the wheat at their stations; as this would be done for them by the elevators, they would be relieved of the cost of loading and unloading their waggons, their rolling-stock would be more rapidly freed, and the fact of their carrying only the pure article would doubtless lead to their securing higher freights than when compelled to charge also for the conveyance of dirt. It should be added that when the carriage of grain in bulk is arrived at, the existing closed waggons (invariably used for the purpose in America) can be loaded and emptied by means of elevators in the space of a few minutes, no change whatsoever being therefore necessary in the waggon stock of existing railways.

To the various Port Trusts the proposed undertaking presents the advantage of concentrating the export grain traffic at the port storage and shipping elevators. By means of sidings the railway cars are run into these and instantaneously unloaded, while the ship to be loaded, when brought alongside, can receive its complement of grain in a few hours. Port Trust and Shipping.

The shipping interest is secured, in the first instance, like that of all others concerned, by the improved footing on which the grain trade is to be placed, but also in the more rapid and less costly loading of the vessels and by their being enabled to carry a greater quantity of grain in bulk than in bags. For this purpose the Atlantic steamers are usually fitted with bulkheads, the addition of which is no inconvenience and of little expense, the divisions so made being capable, as a rule, of holding 1,000 quarters of grain each.

The advantages to the producer are as follows: on delivery of his grain to the elevator it is cleaned, graded, and weighed, and a receipt therefor at once granted to him. This receipt may be held, sold, or transferred by him at his pleasure, it being negotiable in all banking transactions just as is a bill-of-lading or railway or warehouse receipt, and possessing the additional security that it represents a certified quantity of pure grain of a certain grade or grades. By this system it is further secured to the producer (or other owner of the wheat) that the proper value for his grain will be obtained, as it remains in the custody of the Elevator or Railway Company (as his agents) until placed on board ship. Advantage to producer.

Means are afforded to him of holding the grain so long as he likes until prices suit, the Elevator Company being responsible for its condition.

Grain ultimately deposited at the seaport storage elevator, is under this system, sold and resold on the American continent through the medium of the elevator receipts without delivery. The whole system as affecting the producer is one calculated to secure to him the maximum value of his product, and to encourage him to grow more and better grain year by year.

Turning to the trade generally, it is, on the face of it, a very unsound condition of things that a large per-centage of dirt should be carried from the Indian wheat fields to the English market, but what can be said of a policy which permits, in addition to Advantage to trade.

this, the existence of middlemen, who, for selfish ends, concoct mixtures which ruin the reputation of the country as one capable of producing good wheat? But this is not the only important evil done to the trade, for, under the existing circumstances, which lead to such mixtures becoming recognised samples, the business is necessarily confined to those who can or will pass off as Indian wheat upon the English markets a sample which just passes muster, and inflicts upon the miller a mixed and dirty article, tending to depress, year by year, the reputation of Indian wheat. That such men should oppose any such scheme as that suggested may of course be accepted at the start, but what is to their disadvantage in this matter reacts to the advantage of the producer, for the clean wheat, which is the basis of the trade, must necessarily suffer in price in proportion to the extent to which adulteration by middlemen is carried on.

As opposed to this, the Elevator System throws the trade open (thereby increasing competition) to all acquainted with the markets, although not necessarily grain experts, for they buy and sell on recognised certificates, which bear on the face of them the quality and quantity of the grain.

The trade also directly benefits by the saving of the charges which must necessarily be incurred in mixing and conveying dirt.

The proprietors of the proposed Elevator Company believe that, under certain favoured arrangements, which will be hereafter described, they can, by small charges for cleaning, grading, and storing wheat, secure to themselves a fair return on their outlay, and that the economy of the system will lead to their charges being covered many times over by the existing cost of handling, sampling, &c.

The undertaking may be commenced upon by selecting, in concert with Government, one line of railway for its operations, and these operations may be limited at the outset to a few favourable stations, at which wheat, after cleaning, might even be returned to the bags. In this manner the risk might be reduced to a minimum, until the demand for the pure article had been ascertained. In this connexion it must be borne in mind that, disregarding London for the moment, there are many important markets which demand clean wheat, and millers who protest against or refuse to take, except at low prices, the mixtures now offered to them, and so troublesome and expensive to them to clean and to separate.

If successful in finding a market for its cleaned and graded article (which success it has no reason to doubt), the Company would be prepared to extend its operations by the erection of elevators wherever deemed necessary, and to such a point as to secure that it will become a recognised institution as in America.

Government
assistance
and control.

The Company would be prepared to submit to the regulation of its charges by Government, and their first request would be that their cleaning and grading be so conducted to the satisfaction of Government that they would allow an officer, appointed by themselves, at each station to countersign the certificates issued by the Company, the Company undertaking to hold the Government harmless for the proper delivery of grain of the proper description. The promoters would stipulate for this, and be prepared to bear the cost of it, as at once placing them in a position above suspicion as to the value of their certificates. Possibly, this might be effected at first by local officers in addition to their duties.

The assistance required from Government in order to secure the formation of a Company of character and strength sufficient to deal with such a problem as this must take a form which will enable the Company safely to await the gradual development of the scheme. From the producer to the miller every one has, more or less, to be educated to the benefits of the system, and the proposed Company could not risk the undertaking of this education without some security that if so far successful, they would be freed from the immediate opposition of others who had not undertaken this initial trouble and expense, but were ready to take advantage of the opening secured.

The Company would require, as already stated, the assistance of Government officers in the matter of its certificates.

It would require land for the erection of its elevators both at the ports (on Port Trust land) and in or connected with the railway premises at each station where an elevator is to be erected.

The elevators would have to be connected with the railway lines by sidings. And it would require that similar facilities should not be afforded to a competing Company or to individuals for a term of say twenty-five years. These concessions to extend to every grain-shipping port, and along every line of railway built or to be built into or through the grain-producing sections of the Indian Empire.

The Company would also require that interest at the rate of 4 per cent. per annum be guaranteed by Her Majesty's Secretary of State for India on their paid-up capital during the first five years of their operations. Such advances to be repaid, without interest, from half of surplus profits earned by the Company in excess of 6 per cent. It is believed that the concessions asked for are reasonable and legitimate.

For over ten years now it has been recognized that the future of India, as regards its farming interests, depend upon the introduction of the Elevator System as applied to the American continent.

The grant of land by Government free to Companies calculated to work out a public benefit is not an unusual favour.

The grant of the exclusive privilege for a limited period is also similar to what has been secured to Railway Companies in the past by their contracts with Government.

The grant of a guarantee also, for so short a time as five years, is not unreasonable considering the State interests at stake.

The rights required by the Company would be much as follows:—

To erect elevators for the cleaning, grading, and storage of wheat at all ports and railway stations connected with the grain trade.

To levy charges, as authorized by Government, for the cleaning, grading, storage and loading of grain.

To issue certificates for the grain under their charge.

To act as agents for producers and others for the disposal of their grain.

To act as agents for merchants and others for the purchase of grain.

To make advances of money against grain held in the Company's elevators.

To advance money to ryots on the security of their land, crops, &c.

To act generally as warehousemen, forwarders, shippers, and agents in all matters connected with the Indian grain trade.

And to charge for any or all of these conveniences to the trade according to usage, and subject to the control of Government.

But the Company will not be permitted, under any circumstances, to act as merchants or owners of grain.

The details connected with the working of this scheme are numerous, important, and interesting, but it is probably not necessary that many of them should find a place here.

An elevator may be seen at work at more than one place in England. It consists of a building of considerable height, and of varying floor space according to its capacity, the length invariably increasing with the latter. The "handling elevators" at the railway stations in America usually possess a capacity of from 30,000 to 40,000 bushels, and occupy a ground space of about 30 feet X 40 feet, and run to a height of from 60 feet to 75 feet. The "port storage elevators" run from 250,000 up to 1,000,000 bushels and over. The ground space occupied by these would be, say, 50 feet to 60 feet in width, and from 100 feet upwards in length according to capacity. The "first Russian grain elevator" recently erected was for a capacity of 275,000 bushels, and measures 63 feet X 128 feet, and is 82 feet high to the roof. It cost 214,000 roubles, which is probably 30 per cent. to 40 per cent. more than it would have cost in America.

Elevators
described.

The machinery in connection with an elevator consists of steam or other motive power, together with weighing, elevating, conveying, cleaning, separating, and fanning machinery. A good deal of information, including dimensions and prices, can be obtained about these in this country. It is believed that the "elevator" machinery generally has been brought to such perfection that, in spite of its simplicity, it performs its work with great efficiency, expedition, and economy, and is not liable to get into any serious disorder with ordinary care. In many out-of-the-way places, on the American frontier settlements, the elevators are hundreds of miles away from foundries or mechanical workshops.

The elevator in America is usually made of wood, but there is no reason why the building should not be of any other material. The cost of an elevator in America is usually calculated at its bushel capacity, including all appliances, and ranges from 25 cents per bushel for the smaller elevators to as little as 18 cents per bushel for the largest size of storage elevators. Elevators are frequently built on an undeveloped plan, and added to in length as their capacity requires to be increased.

The cost of working an elevator is comprised of the price of fuel, the salary of the manager, and the pay of a small number of "hands," varying from 2 to 12, according to the size of the elevator. The cost of fuel at the "handling" or up-country

Cost of
working and
charges.

elevators is considerably reduced by the fact that the weed seeds (often very abundant in oil) and other refuse, extracted in process of cleaning the grain, are made use of for this purpose.

The general rule for years past at the up-country elevators, has been to charge half a cent per bushel for cleaning, grading and weighing, and 2 cents per bushel for a minimum of one month's storage, weighing, and loading into cars. It seldom happens that grain is stored in these for so long as one month, for they are used for cleaning and passing on the grain to the port storage elevators.

At the latter, other storage charges are made for longer periods at reduced rates, a small specific charge being made, if it is necessary, during the storage of the grain, to pass it through the fanning machinery in order to secure its condition.

Experience on the American continent has shown the business to be a thoroughly safe one from the fact that the Elevator Company takes no risk in connection with the grain market, but merely acts as warehousemen and agents for farmers or grain merchants, the charges being a first claim upon the grain passing from the Company's hands. It is very necessary so to locate and construct each elevator that it shall, as nearly as possible, equal the demands at the point, but provided this is seen to, every elevator should necessarily return a fair dividend upon the cost of construction and the yearly cost of working.

If the proposed Company's operations be restricted, at the start, to up-country operations at a few stations, it is believed that a sum of 50,000L. would suffice, to be increased by a similar sum so soon as circumstances justify and Government permit extensions to some other stations, and to a storage elevator at the port concerned. It is hardly likely that the Company's expenditure, during the first five years of its existence will exceed 100,000L., but thereafter, presuming that the benefits of cleaning will then be thoroughly appreciated, both in England and in India, the capital expenditure will increase to a large figure.

6.

GOVERNMENT OF INDIA, Public Works Department, to GOVERNMENT OF INDIA, Revenue and Agricultural Department, No. 104 R. T., dated 1st May 1890.

With reference to correspondence ending with Revenue and Agricultural Department endorsement No. 226 C., dated 31st January 1890, the undersigned is directed to forward, for information, a copy of a letter No. 477 T., dated 13th March 1890, and enclosures, from the consulting engineer to the Government of India for Railways, Central Division, regarding the formation of a "Grain Cleaning and Elevator Company for India."

2. A further communication on the subject is expected from the Government of Bombay and will be forwarded on receipt.

7.

OFFICIATING CONSULTING ENGINEER TO THE GOVERNMENT OF INDIA FOR RAILWAYS, Central Division, to GOVERNMENT OF INDIA, Public Works Department, No. 477 T., dated 13th March 1890.

In reply to Public Works Department No. 0189 R. T.,* of 4th February 1890, I have the honour to forward copies of a letter, No. 2166 of 8th March, from the Agent and Chief Engineer, Bengal-Nagpur Railway enclosing copies of a letter from Major W. T. LeBreton, Retired List, a promoter of the Cleaning and Elevator Company, to the Bengal-Nagpur Railway Company, and of the reply to it, by the Board.

2. The requests for assistance made by Major LeBreton appear reasonable and such as the Bengal-Nagpur Railway might grant on its own interest.

8. The proposals of the New Company embrace two perfectly distinct things, viz. :—

- (a) a system of receiving dirty or adulterated grain, cleaning, bagging, and storing it, and issuing it again under a system of certificates signed by a Government official; and
- (b) the introduction of the American Elevator System.

* R. T., March 1890, Nos. 99 to 110 A.

4. To take the second first, the American Elevator System is a mechanical system of loading and unloading and weighing grain in bulk by the action of gravity and is the outcome of the peculiar conditions of the grain trade in parts of the United States of America, where manual labour is costly and where very large quantities have to be received or delivered at great centres like Chicago in the shortest time and at the smallest cost possible. A sketch of the mechanical part of the system will be found in the Proceedings of the Institute Civil Engineers, Volume LXXVII, page 237. The system is only adapted for dealing economically with very large quantities of grain in bulk, not in bags, and where the grain is carried both by rail and by ship, in bulk and not in bags.

These conditions do not exist in India. Here manual labour is cheap. The quantities to be dealt with at any up-country railway station cannot be called very large; they are necessarily brought to the railway station in bags, not in bulk, and neither the rolling stock of Indian railways, nor, I believe, the ships frequenting Indian ports are adapted for carrying grain in bulk. However, as the Company do not propose at first to adopt the Elevator System, it is unnecessary to say more here, than to observe that the Government of India could not give them a monopoly to use any kind of machinery in which the Company did not possess a patent right of invention obtained in the usual way under the Patent Laws.

5. As regards the other proposal of the new Company to establish cleaning machinery at several centres, as set forth in Messrs. Ritchie Stewarts' letter to the Under-Secretary of State for India, the advantages and beneficial effects will be disputed by no one.

6. As regards the countersignature by Government officials of certificates of the quantity and quality of the grain bagged by the Company, it is not apparent how any arrangement could be made. No Government official could be held responsible for his signature to the certificates unless he had complete means, in time, opportunities and technical knowledge, of verifying their correctness, and without such responsibility his signature would be of no value.

7. To carry out the proposal, it would be necessary to appoint special experts to the depôts, who would have to reside constantly on the premises and see all the grain cleaned, bagged and weighed. They would fill a position and perform duties closely analogous to those of the Excise officers attached to breweries and distilleries in the United Kingdom. Government could not thus accredit the certificates without becoming responsible for their contents. Were the experts paid by the Company, they would not be Government officials even if they were appointed and dismissed by Government, and there appears to be no reason why the State should assume any responsibility or incur any expense to further the objects of a private mercantile company.

8. It would probably be expedient in most cases in the interests of the railways to allow the Company the use of land and sidings at some of the principal stations, but this could not be promised to the Company free of cost, and each case should be dealt with on its merits.

9. It would not seem expedient, even if possible, to grant a monopoly to any Company of any advantage or assistance which Government could properly give. It is not clear how the State could guarantee any interest on capital to a Company over whose operations they could exercise no control, and if the great and wealthy firms now engaged in the wheat trade in India and who ostensibly clean their wheat at the railway stations do not really clean it, it is not clear why it should be expected that they would make it over to another Agency to clean for them.

10. The nine rights for which the Company ask appear to be rights already possessed by all British subjects without any control from Government.

11. I do not think the staffs of the railways could be properly employed in erecting buildings to be the property of the grain Company, and the Company should not look to the railways for other assistance than what the railway workshops could give on the usual terms of payment.

12. The proposed Company would no doubt have to contend with the most formidable opposition from all those people who at present find it more to their interest to deal in adulterated rather than in clean grain, but I think they could and should rely for success, not on Government patronage, but on their own just dealing, like any other commercial firm who propose to succeed by producing and selling a better article than their competitors, and by establishing a reputation for doing so.

8.

AGENT AND CHIEF ENGINEER, Bengal-Nagpur Railway, to CONSULTING ENGINEER FOR RAILWAYS, Central Division, No. 2166, dated 8th March 1890.

In reply to your No. 307 T., dated 17th February 1890, enclosing copy of Government of India No. 0189 R. T., dated 4th February 1890, I have the honour to forward copies of correspondence sent me by my Board with their general letter No. 66 of 1st November last.

The letters contain all I know on the subject at present, but I understand the Board to mean that they are quite prepared to give any facilities in their power that the Government of India would agree to.

9.

MAJOR W. T. LeBRETON, to MANAGING DIRECTOR, Bengal-Nagpur Railway Company, dated 17th September 1889.

Some friends with whom I am associated in the matter have under consideration a scheme for placing the Indian grain trade upon a more satisfactory footing than at present.

We purpose ultimately to establish in India a system very similar to that known in America as the Elevator System, and we believe that one of its most important advantages will be that which will accrue to the railways carrying on the operations in the grain-producing districts.

Objects and advantages of the scheme.

You will be well aware that the existing system is detrimental to the reputation of India as a wheat producing country, and to the extended cultivation of this product, in placing upon the English market adulterated and inferior samples hampered with charges and illegitimate profit, and depressed in value to the consumer by his expenses and trouble in rendering it fit for milling purposes. These circumstances necessarily re-act upon the producer and discourage him from improving and extending his operations, the result being that the areas under cultivation show a tendency to diminish rather than to increase.

With a proper system of cleaning, grading, and storing and handling, we believe that we may calculate on results the opposite of this, and when our ulterior object is arrived at, the railways concerned should benefit in an improved traffic and reduced expenses in handling and in the provision of waggon stock.

A system of elevators properly equipped and situated would relieve the railways of much of the detail and expense of receiving and dealing with grain consignments, and would free the waggons much more expeditiously than under the present system. Even where a break of gauge or necessity for transshipment occurs, a transfer elevator will perform the necessary duty more advantageously than the employment of manual labour. The present intention of my friends is, however, to approach this end gradually, and, as a commencement, their purpose is to establish cleaning operations at a few of the principal stations on some of the most important lines of railway, returning the grain, after cleaning and grading, into its own bags, to be handled by the Railway Companies in the usual way.

In the representation to the India Office it is provided that the clean and graded grain be covered by a certificate countersigned by a Government official, and it is beyond doubt that in European grain centres accustomed to the American system such certificates will receive the credit they deserve, and so soon as they become recognised in the English market, a steady development of the scheme may be confidently anticipated.

We have every reason to believe that the scheme will receive the support of the Indian Government, and my object in now addressing you is to inquire to what extent we may hope for the valuable assistance of your Company.

We would desire to be informed if your Board would desire to see our operations extended to your line of railway, and, if so, would ask the favour of your naming two or three of the most important grain centres which you would suggest for our preliminary cleaning operations.

Assistance required from the Railway.

It is important that the cleaning should be carried on as near as possible to the existing goods-sheds and sidings, and it would be a great assistance to us if your Company would allow us to carry on the work within its own premises. The cleaning

machinery proposed in the first instance would occupy but little ground space, and might be sheltered by an extension of, say, 25 feet of any existing goods-shed.

The other directions in which the assistance of your Company would be valuable may be denoted as under:—

- (1.) The hearty co-operation of your staff, especially at stations concerned, in affording such assistance that lay in their power.
- (2.) Possibly some extra care at the outset in the handling and conveyance of certificated consignments.
- (3.) A favourable rate for the conveyance of the necessary plant and machinery.
- (4.) The assistance of your engineering staff in the erection and construction of any buildings.
- (5.) The supply to us of any old engines, material or fuel required for our purposes.

For all such services and supplies we would of course be prepared to pay. At this moment I can but ask you kindly to lay before your Board this general sketch of our plans and wants, and should it meet with a favourable reception, a few of us will be happy to meet you for the purpose of discussing details.

10.

MANAGING DIRECTOR, Bengal-Nagpur Railway Co., Ltd., to Major W. T. LeBRETON, dated 11th October 1889.

I have submitted to the Board of Directors your letter of the 17th September, relative to a scheme for placing the Indian grain trade upon a more satisfactory footing than it is on at present, by the establishment of a system of cleaning, grading, storing, and handling grain in India similar to that known in America as the Elevator System.

The Board fully recognize the probable beneficial results of a system which would effect the improvements you contemplate.

When your friends are in a position to commence operations, the Board will be glad to place them in communication with our Agent in India, at the same time forwarding him a copy of your letter and instructing him to afford them facilities for giving your system a fair trial.

Co-operation promised.

11.

GOVERNMENT OF MADRAS to the GOVERNMENT OF INDIA, No. 1323, dated 24th February 1890.

With reference to Mr. Under-Secretary Muir-Mackenzie's Circular, dated the 6th ultimo, No. 122-227 C. (Agri.), I am directed to forward copies of the papers noted below,* and to state that His Excellency the Governor in Council concurs in the opinion expressed by the Board of Revenue, that the proposals do not call for consideration in this Presidency, as the area of wheat cultivation is very small and is not likely to increase materially.

12.

CHAMBER OF COMMERCE, Madras, to GOVERNMENT. Madras, dated 7th February 1890.

I have the honour to acknowledge receipt of the order of the Madras Government, dated the 21st ultimo, Mis. No. 445, forwarding to the Chamber for remarks, copy of a despatch and its enclosures, from Her Majesty's Secretary of State for India, relating to the proposed formation of a company for the introduction of grain elevators into India.

In reply, I am desired to say that it seems to the Chamber that, when those concerned in the wheat trade of India are satisfied that an elevator system would be beneficial, there would be sufficient enterprise in Bombay and elsewhere to introduce that system without the elaborate guarantees that are asked for by Mr. James G. Smith. The need for official interference in the matter has yet to be made out, and the Chamber especially deprecates the creation of a semi-official monopoly, but it is right to add that the scheme does not directly concern the Presidency of Madras.

Official interference deprecated.

* From the Board—Proceedings dated 29th January 1890, No. 411 Mis. From the Chamber of Commerce—Letter dated 7th February 1890.

13.

PROCEEDINGS of the BOARD OF REVENUE, Madras (Revenue Settlements, Land Records and Agriculture),—No. 411 Mis., dated 29th January 1890.

Scheme not
required in
Madras.

RESOLUTION.—With their letter communicated in the G. O. read above, the Government of India forward papers detailing a scheme for providing grain elevators at certain stations in India in order to clean and raise the grade of the wheat at present exported. As the area of wheat grown in Madras is very small, and as it does not appear likely to increase materially, the Board is of opinion that the proposals do not call for consideration in this Presidency. Nor is there sufficient information available here to admit of their forming an opinion on the merits of the proposal generally.

14.

GOVERNMENT OF BOMBAY to GOVERNMENT OF INDIA, No. 7197, dated 9th October 1890.

I am directed to acknowledge the receipt of Mr. Muir-Mackenzie's Circular letter No. 122—127 C. (Agri.), dated 6th January 1890, and memorandum No. 221 C., dated 31st idem, with their accompaniments, on the subject of the formation of a Company for the introduction of grain elevators into India.

2. In reply, I am directed to forward herewith, for the information of the Government of India, copies of the reports received from the Chambers of Commerce, Bombay and Karachi, the Director of Land Records and Agriculture, and the other officers, &c., mentioned below,* who were consulted by this Government on the subject, and to communicate the following observations of His Excellency the Governor in Council.

3. It will be observed that the majority of the officers, &c., consulted are either opposed to the scheme propounded by Mr. Smith, or support it in a very lukewarm manner when shorn of the onerous conditions stipulated for by that gentleman.

State aid not
required.

4. As it is not proposed, for the present at least and for some time to come, to construct elevators, the operations of the projected Company would be limited to cleaning and grading wheat at some few principal trading and railway centres. For such an undertaking no State aid is needed, no monopoly should, or indeed, in the opinion of His Excellency the Governor in Council, without special legislation, could be granted, and no concessions in the form of free land and guaranteed interest on capital should be given. The matter is one purely of private enterprise; it is a mere trading venture, and has no special claim on direct Government assistance.

5. That the wheat grown in the corn-producing tracts of India should reach Europe clean and free from adulteration and admixture of dirt and impurities is indeed a circumstance much to be desired. His Excellency in Council, however, greatly doubts whether the scheme now propounded would secure this desideratum.

Want of in-
ducement to
clean wheat.

6. That Indian wheat is despatched from this country with a considerable admixture of substances which are not wheat is the result of the action of the middleman and the merchant quite as much as, if not more so than, it is the consequence of the negligence or dishonesty of the actual grower. It is clear that the grower cannot be compelled to take his grain to the cleaning and grading depôts of the proposed Company; and he is not likely to do so if he finds that he has to pay for having it cleaned and graded, and that at the end of the process he has returned to him as genuine wheat a less quantity than the produce he brought to the depôt. It is also clear, in the opinion of the Governor in Council, that in the existing circumstances of the trade, the middleman and the exporter will put no pressure on the grower to induce him to have his wheat graded and cleaned. The probabilities, therefore, are that if the Company established its depôts it would find that they remained idle and unused.

Certificates:
objections to.

7. The Governor in Council also considers that it is obviously most undesirable that any certificates concerning wheat which has been cleaned and graded at a station or depôt should be countersigned by Government officials. There is nothing whatever to

* The Political Agent, Kolhapur and Southern Maratha Country. The Political Agent, Kathiawar. The Commissioner, Northern Division. The Commissioner, Central Division. The Commissioner Southern Division. The Commissioner in Sind. The Public Works Department, Railway Branch.

prevent wheat so cleaned and graded from being adulterated and mixed with inferior wheat, or weighted with dirt and weed seeds in Bombay or elsewhere after it left the depôt, and the certificate would then be rendered false and misleading.

8. The project now brought forward appears to the Governor in Council to be very different from such a scheme as one for the construction of a railway. It practically is a project for obtaining Government assistance in lending money to cultivators in competition with the local banker. The latter, however, at present holds the field, and would take every care to prevent the proposed Company from interfering with his business and securing his clients.

15.

CHAMBER OF COMMERCE, BOMBAY, to GOVERNMENT OF BOMBAY, dated 19th February 1890.

I have the honour to acknowledge the receipt of your letter, No. 748 of 29th ultimo, giving cover to a letter from the Government of India, Revenue and Agricultural Department, with accompanying papers relating to the formation of a Company for the introduction of grain elevators into India, respecting which you request the opinion of this Chamber.

Opinions
adverse.

2. The subject has received the most careful consideration of the Committee, who have also obtained, in addition, the views of other members of the Chamber largely interested in, and conversant with, the wheat trade of India, both as up-country buyers and exporters; and I am directed to say that the opinions expressed are unanimously adverse to the proposed scheme as being unsuited to the requirements of the country, and impracticable financially.

3. In America, where large tracts of land are under cultivation with the same description of wheat, which can be graded according to the quality of the season, as No. 1 or No. 2, elevators situated at suitable centres of rail and water communication afford to growers, dealers, and speculators a safe, cheap, and convenient means of marketing and storing their produce, which is practically a necessity in an uncertain and rigorous climate. Similar requirements and conditions, however, do not exist in this country. The descriptions and qualities of wheat produced are far too numerous and varied to admit of the system of classification and grading prevailing in America, while the absence of transit facilities prevents the trade concentrating at interval centres in sufficient volume to afford employment for elevators. No doubt, this latter difficulty will be materially lessened as railway communication is extended and improved; but the climatic objections for the use of elevators are permanent and apparently insuperable. For seven or eight months of the year grain can be safely kept in the open air without expense for either rent, fire insurance, or other charges incidental to warehousing; while, during the other four or five months, the native system of storage in pits is not only inexpensive, but gives immunity from weevils which no mode of warehousing ensures. The loss in weight from this cause alone, during the monsoon, would probably not be less than 5 per cent., not to speak of the still more serious damage to quality which results, and for this reason alone, if no other objection existed, the members of the Chamber consider that elevators would prove unsuitable and impracticable. The low cost of manual labour in India, moreover, is an important factor in estimating the working prospects of such a scheme; and except in the mere process of cleaning, where possibly mechanical appliances would be an advantage, little, if any, economy could be obtained in handling wheat by means of elevators.

American
conditions
different.

4. To the cleaning and improving the quality of Indian wheat, this Chamber has always attached the utmost importance; and any means of a practical character likely to attain or further that end would be welcomed by those interested in the trade of Bombay. It is not apparent, however, how the introduction of another intermediary between the grower and the exporter is likely to give any beneficial results. This Chamber has always contended, and still maintains, that given proper conditions of sale in the consuming markets, no difficulty exists in obtaining sufficiently clean wheat at present; but if that were not so, it is evident that the measures to obtain greater cleanliness and freedom from impurities must be taken at the time of threshing, as adulteration or dirt once introduced is beyond a certain point irremediable.

Clean wheat
should and
can come
from
threshing
floors.

16.

KARACHI CHAMBER OF COMMERCE to GOVERNMENT OF BOMBAY, dated 28th February 1890.

I have the honour to acknowledge receipt of your Revenue Department letter No. 743, dated 29th ultimo, forwarding copy of a letter from the Government of India, No. 122 Agriculture, dated 6th January 1890, with accompaniments, on the subject of the "introduction of grain elevators into India," and asking the views of this Chamber on same.

In reply, I am directed to say that, in the opinion of this Chamber, while they consider the scheme is a desirable one, the guarantees required seem to them to be unduly advantageous to the Company, and they think that when the time for its execution arrives it will probably be on more favourable terms to Government.

17.

POLITICAL AGENT, Kolhapur and Southern Maratha Country, to GOVERNMENT OF BOMBAY, No. 141, dated 2nd April 1890.

Scheme unsuitable.

With reference to Government Resolutions Nos. 747 and 1269, dated respectively, the 29th January and 18th February last Revenue Department, I have the honour to state that, although the scheme of introducing grain elevators into India is doubtless an excellent one, where wheat is grown in large quantities, it is, in my opinion, unsuitable to the present condition of the Kolhapur and Southern Maratha Country States. In none of these States is wheat cultivated in large quantities, and the grain elevators would find little, if any, work.

18.

POLITICAL AGENT, Kathiawar, to GOVERNMENT OF BOMBAY, No. 367, dated 10th April 1890.

With reference to Government Resolution No. 747 of 29th January last (Revenue Department), and accompaniments, I have the honour to forward copy of a note* by Mr. A. Whittle, an expert, resident in Kathiawar.

Kathiawar not a great wheat-producer.

2. Kathiawar is not one of the great wheatfields of India, though the production for export is believed to be increasing. Most of the grain goes by country boat to Bombay—a fact which would somewhat complicate the introduction of the proposed elevator system.

The chief practical difficulty.

3. The chief practical difficulty at the outset would be the local *bunya*, who almost always has a lien on the crop, and who would recognise the new system as fatal to his position and oppose it accordingly. Over the greater part of Kathiawar he is the master of the ryot, and would probably be strong enough to upset the scheme.

4. It can scarcely be expected that the States owning the Kathiawar Railways will share in the initiative of the scheme; but if it succeeds on the great British lines of rail, it is probable that a progressive State like Bhavnagar might take it up, and grant land for buildings, thought it could perhaps scarcely be asked to guarantee interest on the capital invested.

5. The limited quantity of wheat grown in the province for the European market, and the general helplessness of the cultivators make the subject of less importance in Kathiawar than elsewhere.

*Grain-cleaning and Elevator Companies, Limited.

A Company with the objects proposed above has become a necessity to enable the Indian grain trade to compete with America, Russia, and other grain-producing countries.

The long leads and frequent handling, as well as the bagging of all Indian wheat seriously impede the trade; and the obstructions can only be removed by proposals somewhat similar to those set forth in Mr. Smith and Colonel Filgate's memoranda.

The system of conveying in bulk and ready handling in all shifts from the district market to the ship's hold, I estimate, would effect a saving of at least 18 per cent. on the net cost value of all wheat and grain.

The difficulties in face of the Company would be the middlemen and the rolling-stock of the main lines of railways, which are utterly unsuited to carry grain or seed in bulk.

Elevators could not profitably be applied in Kathiawar save at the proposed sea terminals of the Bhavnagar-Gondal, and Ahmedabad-Dholera Railways, simply because Kathiawar is neither a seed nor a wheat-producing country.

19.

ACTING COMMISSIONER, Southern Division, to GOVERNMENT OF BOMBAY, No. 1268, dated 20th April 1890.

Referring to Government Resolutions, Nos. 747 and 1269, dated respectively, 29th January and 18th February last, I have the honour to submit that the officers consulted in this Division, while unanimously of opinion that, were it possible to induce the people to use grain elevators, it would be an undoubted improvement to the trade of the country, are opposed to granting such exclusive concessions as are asked for by the Company, and deprecate any Government interference with the course of trade.

2. Mr. Fleet, Collector of Bijapur (the district with a very large wheat-growing area), would limit any monopoly, if any be given, to ten years. Mr. Muir makes the sensible suggestions that the Railway Companies being chiefly interested, any concession should be made to them, and that if any such system as that proposed be introduced, Government should leave it to them to work it, giving them every facility and guaranteeing interest on the additional capital. Such native officers as have been consulted are opposed to the whole scheme, as being in advance of the intelligence and wishes of the people.

3. My own opinion can be of little value. I think it would be a mistake to give any Company a monopoly which might practically place the whole wheat trade of the country in its hands; but should it be thought necessary to do so, Government should reserve to itself the option of buying the Company's plant and business at the end of a limited number of years. I agree with Mr. Muir that the Railway Companies should be the corporations with whom the proposed Company should deal rather than with Government, and that any land required and subsidiary work in the way of sidings, &c., in connexion with their lines, should be acquired or executed through their agency.

Government interference deprecated.

4. I am averse to Government servants being mixed up directly in the management of any business, and it would be better that Railway, and not Government, officials should countersign or guarantee any certificates.

5. I observe it is not proposed at present to erect any elevators on the Southern Maratha Railway, so that local opinion has really little bearing on the question.

20.

COMMISSIONER, Northern Division, to GOVERNMENT OF BOMBAY, No. 1246, dated 22nd April 1890.

With reference to Government Resolution No. 747, dated 29th January last,* on the subject of the introduction of grain elevators, I have the honour to forward the reports, as per footnote, of the Collectors of Ahmedabad, Kaira, Panch Mahals, (including Mr. Maconochie's), and Broach, and for my own views to refer to my report as Collector of Ahmedabad. Beyond assisting the first Elevator Companies to a grant of land as they do to railways, I think Government should not interfere.

*Ahmedabad, No. 478, dated 24th February 1890. Kaira, No. 1479, dated 19th March 1890. Panch Mahals, No. 681, dated 24th March 1890, with Mr. Maconochie's No. 161, dated 24th February 1890. Broach, No. 543R., dated 10th March 1890.

21.

COLLECTOR OF AHMEDABAD to COMMISSIONER OF THE NORTHERN DIVISION, No. 478,
dated 24th February 1890.

Scheme
valuable,

In reply to your No. 482, dated 18th instant, I have the honour to state that I believe the establishment of the grain elevators would be very valuable and materially assist the wheat trade of India.

but not the
business of
Government.

2. But it seems to me that Government should not be called upon to assist in establishing them either by money or by the service of their officers. Government, at the instance of the Export Cotton Firms, Bombay, some years ago, did irreparable injury to the ryot by abolishing the Cotton Frauds Act, which prevented good cotton being adulterated with bad, and the repeal of which at this moment is deplored by many of the soundest merchants. The same Government could not consistently lend their officers' services to countersign grain certificates. Why should the quality of grain be certified to any more than cotton? The exports of wheat from Bombay only are 6 crores, as against 12 crores the value of the cotton.

3. The construction of grain elevators, again, seems to me no more the duty of Government than of spinning mills. Government might, perhaps, as an encouragement, give the first Company a grant of land, if they need it, as they do to railways. But even that seems superfluous. If the management of the Port Trust, or the East India or the Great Indian Peninsula Railways, or the private enterprise of European merchants are not equal to constructing and managing grain elevators without assistance from the State, the matter might as well be left alone. In former days, before the extension of railways, Government started gins in Dharwar, and they have aided in starting the tea industry. But these precedents do not apply to the construction of mere magazines for the storage of produce. I should have thought that European mercantile enterprise could and would provide for such a thing without coming to the State for assistance. As, however, it pays apparently the great grain-exporting firms deliberately to adulterate their wheat, I can only assume that they prefer not to use elevators, just as cotton exporters prefer adulterated cotton to cotton kept pure by the interference of the State. If that is the case, why should Government assist in constructing buildings where purification and not adulteration is the object? I note that only 25,000% is needed to commence with. Surely a syndicate could provide such a flea-bite as this.

4. In conclusion, I am quite of opinion that grain elevators are needed and would be most useful, but at this time of day private enterprise should supply them. I admit that our paternal Government ought in some respects to help trade. It ought, in the interests of the cultivators and the owner of the land (the State), to prevent adulteration or mixing, either of wheat or cotton, and enable a pure article to be obtained. But it has no more to do with the classification or the storage of wheat than with that of piece goods; at least that is my humble opinion.

22.

COLLECTOR OF KAIRA to COMMISSIONER, Northern Division, No. 1479, dated
19th March 1890,

Elevator not
required at
Kaira.

With reference to your No. 482, dated the 18th ultimo, forwarding, for opinion, Government Resolution No. 747 of the 29th January last, Revenue Department, on the subject of introduction of grain elevators into India, I have the honour to report that there is no sufficient production of wheat in this neighbourhood to justify the establishment of a wheat elevator anywhere in Kaira Collectorate, otherwise than as an experiment on its own merits. I do not think it will pay, and I deprecate any encouragement being given to it other than perhaps free use of a site for a short term of years.

23.

COLLECTOR, Panch Mahals, to COMMISSIONER, Northern Division, No 681,
dated 24th March 1890.

With reference to your endorsements Nos. 482 and 808, dated, respectively, the 18th ultimo and 15th instant, forwarding for opinion correspondence regarding.

the introduction of grain elevators into India, I have the honour to forward the accompanying letters containing the views of my Assistant and District Deputy.

2. In such matters one chief object of the State as landlord is to secure that the best and most carefully grown produce gets its full special price. And though I cannot admit that the history either of the cotton or wheat trade shows that European merchants have been in any way less unscrupulous adulterators than native merchants, I think that the balance of the effect of introducing the proposed system of cleaning and grading may help the more skilful and scrupulous wheat-grower, and perhaps benefit the wheat trade of India as a whole.

3. At the same time I incline to agree with Mr. Pranalal that the proposed change, if suddenly introduced on any considerable scale, would cause serious loss and distress to large classes of local traders. If Government see fit to encourage the Company's proposals by granting certain of the concessions asked for, I trust care will be taken that, in the first instance, the proposed system is introduced into only a few of the largest centres of the wheat trade. To establish elevators in outlying places would dislocate the present system of trade, and, so far as I can judge, cause greater local loss than gain. I think also that, as has happened to a great extent with cotton presses, elevators in outlying places are not likely to be able to bear the heavy charges for machinery and for European management. As regards the Company's proposal to make advances to cultivators, I would deprecate the grant of any concession that would place the Company in a specially favourable position as a creditor. Any interference with the present system of money-lending, specially when such interference has the object of aiding a Company of English merchants at the expense of local traders and money-lenders, seems to me an injustice which Government cannot too jealously guard against. In its present condition, and, so far as I can judge, for several years to come, I think that the introduction of an elevator into any part of the Panch Mahals is likely to cause more evil than good.

Disturbance
of trade.

24.

ASSISTANT COLLECTOR, Panch Mahals, to COLLECTOR, Panch Mahals, No. 161, dated
24th February 1890.

In reply to your reference No. 423 of 21st instant, I have the honour to say that I should regard the establishment of such a Company as one of the greatest benefits which could be conferred upon India. Hampered and injured as it is by the present absurd system of deliberate adulteration, the wheat trade of this country has in a few years attained such enormous dimensions that its exports already exceed those of Russia, and dispute, not unsuccessfully, the hitherto uncontested supremacy of America. Under a system which will ensure the delivery of perfectly clean wheat at a minimum of cost and trouble to all concerned, the trade must advance by leaps and bounds, and at no distant day place India in the proud position of the chief wheat-exporting country in the world. It is a notorious fact that the virgin soils of America are rapidly becoming exhausted. Tens of thousands of acres in the Western States, which a few years ago bore heavy annual crops of wheat, are now devoted to inferior kinds of cultivation—it does not pay to grow wheat on them any longer. Now then is the time by freeing the Indian wheat trade from all disadvantageous conditions to enable it to strike a deadly blow at the already tottering predominance of the wheat trade of America.

Scheme
supported.

2. Government no doubt will do all in reason that it can to assist such an immensely important undertaking. At the same time it will probably consider that it is not advisable to grant all the privileges asked for by Mr. Smith. The assistance of the local officers of Government in the matter of the Company's certificates, for instance, is unnecessary and unadvisable. In the first place, the local officers have more to do already than they can well get through; in the second, Government superintendence would have absolutely no effect in inducing the ryot and the trader to take advantage of the Company's system. Both the ryot and the trader think, very naturally, that they know better than Government what is good for them, and I am certain that a Government certificate would be practically inoperative. As soon as these classes realise the advantages of better prices and less trouble afforded them by the Company, they will hasten to avail themselves of them without any Government interference, and may safely be left to do so. The free grant of land at ports and railway stations and

Undesirable
concessions.

the monopoly of twenty-five years are, in view of the vast importance of the scheme and its initial difficulties, reasonable. There remains the guarantee of interest for five years. About this some doubt may be felt. Yet, if absolutely necessary for the floating of the Company, this too, should be conceded. As is very justly remarked by Mr. Smith, it is not only the Company, but also the State, which is interested in the success of the scheme; five years is not a long time; 4 per cent. is not a high rate of interest; while there is a good prospect of the profits being eventually so largely in excess of 6 per cent. that the Company will easily be able to repay any money Government may have advanced, which can in no case exceed 20,000l. Is the prospect worth the outlay? I feel sure that it is, and that Government will never have occasion to regret having generously aided the inception of an undertaking so important to the welfare of the people of this country.

25.

COLLECTOR OF BROACH TO COMMISSIONER, Northern Division, No. 543R., dated 10th March 1890.

I have, in reply to your No. 482 of the 18th ultimo, the honour to inform you that I have had those interested in the wheat trade in Broach consulted, and the opinion seems to be that, though the introduction of grain elevators would eventually be profitable to the country, the cultivators and the men who deal in wheat in this district would not take advantage of them; that the dealings are not extensive, and that they would not subject themselves to the extra risks and detention in taking the wheat to stations where there were grain elevators and obtain the requisite certificates; that it would be well, in the first instance, to try the experiment in Bombay.

2. My opinion differs, and I think that if one or two dealers began to use the elevators, all would before long be practically compelled to use them, and if a monopoly for a long term to be given, strict precautions would have to be taken to prevent exorbitant charges being possible or a serious damage might be done to the growing wheat trade of the whole country.

26.

MEMO. by ACTING COMMISSIONER in SIND, No. 1486, dated the 7th May 1890.

Government
intervention
not wanted.

With reference to Government Resolution, No. 747 of the 29th January, on the subject of certain proposals for the establishment of a State-aided Grain Elevator Company, the Acting Commissioner in Sind has the honour to observe that, in his opinion, no sufficient reasons at present exist for the intervention of Government in a matter which belongs properly to the domain of ordinary trade enterprise.

2. The dirty condition in which the bulk of the wheat exported from India, and especially from Karachi, is at present shipped, is no doubt a matter for regret, and the influence of speculators who have an interest in maintaining conditions of trade which make it unprofitable to ship wheat cleaner than the season's average has for some time delayed the application of a remedy.

Question of
clean wheat
may be left to
the trade.

3. It is the interest of the exporters, however, to develop the trade, and of the consumers, on whom its development ultimately depends, to get clean wheat suited to their needs, and these two interests working together may safely be trusted in due course to bear down opposition and find a way out of the difficulty for themselves. Indications are not wanting that an earlier and more natural solution will be found than the establishment by Government aid of a Company which aims at forcing an enormous existing trade into new channels. From the correspondence printed as Appendix H. H. to the Report of the Bombay Chamber of Commerce for 1889, it appears that the opposition to a substantial reform in the standard which forms the basis of shipping and delivering contracts is now practically limited to the London Corn Trade Association. All other bodies concerned, notably the Liverpool Corn Trade Association, which deals with two-thirds of the import of Indian wheat, are in favour of a fixed refraction of 2 per cent. as a maximum of impurity to be accepted without allowance. The London Association has itself come round to the view that a fixed standard should be substituted for the average of the season, and the only question

now is the percentage to be fixed as the standard, which was still under discussion between the Bombay Chamber of Commerce and the London Corn Trade Association when the report was issued. Apart from this, successful attempts have been made during the past year in Karachi to establish direct relations between the shippers and the millers. Several large consignments of clean wheat have been shipped and sold direct or through factors acting for the millers *on sample*, and this system of business seems likely to extend and prove the best possible solution of the difficulty.

4. The elevator system is admirably adapted to the needs of countries where, as in America, it can keep pace with railway development and the colonisation of new tracts, the produce of which would be unable without it to find a market. Whether it is equally well suited to the conditions generally obtaining in India, is not quite so clear. The Collector of Hyderabad, however, whose long experience of Sind and its people entitles his opinion to some weight, thinks that "the establishment of elevators" would, in a very short time, be thoroughly appreciated, and the whole of the wheat "produced be brought to the elevators to be cleaned, stored, and despatched, and that it would be worth while for a Company to start business in Sind and the Punjab alone with more moderate assistance than Ritchie, Stewart & Co. ask for, for all India." He adds that "it would be essential that merchants should at first have agents at the stations where the elevators are established to purchase the grain, as a system of certificates would not be understood for a little while."

5. These remarks appear to the Commissioner practically to contain the key to the situation. The merchants at present buy direct from the cultivators and arrange as suits themselves for cleaning, sorting and despatching what they buy. If elevators were established, the cultivators would probably soon find it to their interest to interpose the Elevator Company between themselves and the merchants, whose functions would thereby be reduced to buying and shipping such wheat, ready clean and graded, as the cultivators might not choose to ship on their own account through the agency of the Elevator Company. It might suit the merchants to accept this system of doing business, and the success of any Elevator Company which had their support and good will would be reasonably certain, without any assistance at all from Government. Without that support and good will, however, its success would be long deferred, if it succeeded at all, and would involve a struggle which it would hardly be fair to determine by the weight of Government influence.

6. When the trade is ripe for them, persons will no doubt come forward to establish elevators wherever there is a prospect of their success, and it may then be politic to encourage their establishment by the grant of free sites and such general countenance as is given to other private attempts to introduce improved methods to the notice of the public concerned in them. But, in the opinion of the Commissioner, it would be very undesirable for Government, at the present stage of the question, to enter into engagements which would certainly hamper the free development of the system when need for it really arises, should that day ever come.

27.

DIRECTOR, Department of Land Records and Agriculture, Bombay, to GOVERNMENT OF BOMBAY, No. 755, dated 12th May 1890.

With reference to Government Resolutions noted below* on the subject of the introduction of grain elevators into India, I have the honour to submit the accompanying memorandum and copy of an interesting letter received from Mr. E. R. Calthrop.

MEMORANDUM by E. C. OZANNE, Esq., Director, Land Records and Agriculture, Bombay, dated the 12th May, 1890.

I fully appreciate any attempt to improve the wheat trade and to assist the cultivator to obtain the price which he deserves for his produce. I think, too, that it is the duty of Government to give ready assistance to any person whose object is to remove the obstacles which prevent the producer from securing the shipment of his grain in as

Scheme
deserves en-
couragement.

* 1. Government Resolution No. 747, dated 28th January 1891. 2. Government Resolution No. 126f, dated 18th February 1890.

clean a state as that in which he sells it, and to help the producer to obtain a cleaner sample than that which his rude methods of threshing and winnowing enable him to show. It is gratifying to find that the producer is no longer charged falsely with wilfully sowing mixed seed or with mixing dirt to increase the bulk of his outturn, but that it is recognized that the middleman and the merchant and the home buyers are responsible for nearly all the impurities in Indian wheat.

Experience
of steam-
thresher
periments.

It cannot be forgotten that a few years ago an enterprising firm sought to obtain all the desired benefits and improvements by introducing steam wheat threshers. That firm did not ask for any concessions or guaranteed interest or for a monopoly; and yet it proved that its method of improving the wheat trade was suited to the conditions of the country, and indeed, it must be admitted, that it not only showed how a pure sample can be secured, but further how the cost of production can be diminished by eliminating the existing expensive manner of preparing the crop for the market. I need not detail the results of the steam-thresher trials, carried out at their own cost by Messrs. Marshall and Sons of Gainsborough, for they were fully reported and are on record. I refer to that trial more to show that the reasons why steam-threshers did not succeed are just the reasons why grain elevators will not easily succeed, *viz.*, the absence as yet of a real demand for pure wheat, the greater profit to others than the cultivator as long as the manipulation of the comparatively pure sample sold by the producer can be secured, and the total inability of the cultivator to get a higher price for fairly clean than for very dirty wheat.

2. I am saved from the necessity of giving a detailed opinion on the question by the enclosed letter from Mr. Calthrop. That gentleman took an intense interest in the steam wheat-thresher trials, and saw personally the difficulties with which any improvement of the kind has to contend. He has for years studied the wheat trade and the means for improving it. His experience makes his opinion valuable. His views are in accord with my own, and I agree in detail with the comments he has made on the various concessions asked for by the Grain Elevator Company, *viz.* :—

Extent of
Government
assistance.

- (1) that to give confidence to the people the certificates should be countersigned by Government officers for a limited time;
- (2) that Government should provide the land required for the operations of the Company, even if such land has to be acquired under the Land Acquisition Act;
- (3) that the guarantee to the Company that similar concessions should not be given to any other Company should certainly not be for so long a period as twenty five years, but that the guarantee, as far as Government is concerned, may be allowed for, say, five years;
- (4) that no guarantee of interest on the capital outlay should for a moment be granted.

Scheme to be
tried first at
shipping
ports.

3. The elevator system, in my opinion, ought to be tried first at the shipping ports and nowhere else till it has secured success there. It is true that the alleged advantage of reduced freights by rail by the elimination of dirt before loading would be diminished; but I am sure that this diminution would practically be inappreciable. If the middlemen know that at the port the dirt will be taken out, the temptation to add to the impurities will no longer exist. This is a point for the consideration of the Grain Elevator Company.

28.

From E. R. CALTHROP, Esq., Agent, Indian Light Railways, Limited (London), &c., &c.,
to DIRECTOR, Land Records and Agriculture, Bombay, dated the 7th April 1890.

I have the honour to reply to your letter No. 215 of 6th February 1890, enclosing, with accompaniments, Government Resolution No. 747, dated 29th January 1890, R.D., requesting my opinion relative to the introduction of grain elevators into India, and also to your subsequent communication No. 297 of 20th February 1890, forwarding copy of Government Resolution No. 1269 of 18th February, and accompaniments. I must apologise for the lateness of my reply, but extreme pressure of business prevented me from dealing with this matter earlier.

With reference to Mr. Smith's letter, dated 17th September 1889, I am completely in accord with the views expressed by Mr. Smith as regards the advantages (numbered 1 to 6 inclusive) claimed for the system of cleaning and storing grain in grain elevators, and also as regards the effects (numbered 1 to 11 inclusive), which may be expected after the introduction of the system into India.

With reference to the proposals (numbered 1 to 5 inclusive) as to the nature of the assistance which Government should bestow on the proposed Company, I beg to offer the following remarks :—

- (1.) Arrangements for the countersignature of certificates by Government officials.

This seems to me to be a reasonable request, and the assent of Government would confer the advantage to the public of local inspection by Government officers, and the consequent additional security of the maintenance, locally, of grades to certificated standards; while, at the same time, it would be of assistance to the proposed Company in overcoming the prejudice and distrust with which its operations at the commencement of its business are certain to be regarded by the uninitiated. Government inspection and the countersignature of certificates would be necessary only for a limited period, as full confidence in the Company would be established as soon as the character and scope of its business came to be generally understood.

Government
certificates.

- (2.) The free provision of land for the Company's purposes either within or adjacent to the Railway and Port Trust premises, and connected with the lines by sidings.

I would advocate all possible assistance being given in this direction. Unoccupied land should be given free of cost. Where that is not available, occupied Government land or private property should be acquired and made over under the terms of the Land Acquisition Act. As regards land belonging to State and Guaranteed Railway Companies, the land might be leased at a pepper-corn rent, provision being made for reoccupation in the event of its being unavoidable for the extension of sidings, station buildings, &c., &c., the cost of removal being borne by the proposed Company.

Provision of
land.

- (3.) A guarantee that similar facilities will not be accorded to a competing Company or individual for a term of twenty-five years.

Monopoly.

From the point of view of public advantage, the grant of guarantee that this Company should be free from any form of competition for a term of twenty-five years would be most undesirable. In my opinion, if a monopoly of the whole country for such a long period were to be conferred on an individual Company, it would be little short of a calamity to the trade. The modification of the practice and customs of trade, in response to external and internal pressure, is at the present moment so much more rapid than it was even five years ago, that, taking into consideration with the fact that capital for investment in industrial enterprises is also much more readily forthcoming, both from England and in India, it is rendered a certainty to my mind that such terms, if granted now, would appear in another five years to be altogether unreasonable. Every indication tends to support the view that, before the close of the century, opportunities for the remunerative investment of capital in India will be as eagerly sought for as they are now unreasonably disregarded. Year by year the accumulating wealth of England is compelled to go further afield for remunerative investment, and India cannot expect to escape for long the scrutiny that her undeveloped resources are courting.

It may be reasonably expected that in a short time the system of grain elevators, gaining ground as it is everywhere and becoming daily more indispensable, would be brought forward as regards India on terms which, as they would admit of free competition, must be much more favourable to the trade than the proposals under discussion.

The conferring upon this Company a guarantee of the monopoly of the whole country will have much the same effect as the granting of such a guarantee to a Railway Company for the same period would have on the construction of railways in a country where railways did not previously exist. It would result in an undesirable restriction of operations. If the Company, from lack of capital or through being guided by too cautious a policy of extension, did not act up to the legitimate needs of development, the result would be that certain localities possessing no elevators would be placed at a disadvantage to those so provided, nor when the system became almost indispensable, would it be in their power to secure the advantages of the system to themselves by local enterprise, if the directors deemed it undesirable to extend their

business, since, under the terms of a monopoly, none but the Company could provide the elevators and carry on the business.

I would not at all desire, however, that no protection whatever should be given to the promoters of the undertaking. All new enterprises of public welfare in India are deserving of, and most need, assistance to secure a foot-hold; but I consider that a period of five years, certain, with leave to apply for an extension for a further period of five years, should Government then deem it advisable, in the interest of the trade and the public to entertain such an application, would be reasonable and sufficient to give the Company a start, which would enable it to maintain a predominating position over all succeeding competitors, provided that in the meantime its business were to be conducted with ordinary energy and acumen.

- (4.) That the grant of concessions as above extend to every grain-shipping port and along every line of railway, built or to be built, through the grain-producing districts of the Indian Empire.

It would be reasonable to grant this concession for a term of five years, with liberty to apply for an extension over a further period of five years, due cause being shown; but no Railway or Port Trust should be permitted to make any agreement for any longer term, for the exclusive right to construct elevators on its premises, with this Company.

Interest
guarantee.

- (5.) A guarantee of interest at the rate of 4 per cent. per annum for the first five years of the Company's operations, such advances being, however, repayable without interest from half of surplus profits in excess of 6 per cent.

A guarantee in India of interest on capital almost invariably results in a diminution of activity, and I am, therefore, opposed to it in this case on principle; any assistance given to the Company should take, therefore, another form. Coming from a Company which proposes to maintain a grasp of the entire wheat trade from Bombay to Calcutta and from Peshawar to Tuticorin, this application for a guarantee of interest appears to me to betray a singularly slender confidence in its ability to deal successfully even with the picked portions of it; and if the promoters lack the courage to cast such a morsel as 25,000% upon the waters, in view of the great advantages a monopoly of this extensive character would confer upon the Company, it does not bode very well for their enterprise or ability to provide the enormous capital which would be necessary to keep pace with the legitimate demands for the full development of the system throughout the entire country.

At the present moment the conditions of the grain trade are changing. One firm at least is engaged in the shipment of perfectly pure graded wheat to Liverpool, and care should be taken in granting any concessions to this Company; those who are already engaged in a portion of the same business should not be dispossessed of the advantages they have earned by their enterprise and foresight in breaking through, at their own risk, the trade restrictions which have acted so unfavourably on the power and the trade in general.

As regards the grant of rights to the Company, those asked for are the terms usual to the business, and are in accordance with the requirements of the trade in India.

In conclusion, I may state that it would give me great satisfaction on public grounds to see this Company brought into existence and at work, provided that the terms of their contract were in accordance with the views expressed in this letter. I have confidence that the Company would be a success commercially, and that, under an enterprising management and with adequate capital, it would obtain a predominance in five years that would render competition by any separate agency impossible, except under the circumstances of subsequent mismanagement, gross inefficiency, or continued inability to meet the reasonable requirements of the trade.

29.

From COMMISSIONER, Central Division, to GOVERNMENT OF BOMBAY, No. 2411R.,
dated 31st May 1890.

With reference to Government Resolution, No. 747, dated 29th January last, I have consulted the Collectors in this Division. Those of Poona, Nasik, Khandeish, and Ahmednagar are all of opinion that the concessions asked from Government, or some of them, could not be made, and right No. 7 of those asked for is also objected to in more than one quarter.

2. I think it sufficient to append a copy of Mr. Loch's letter, as I concur, generally, in his views. So far, however, as my own knowledge goes, and with reference to his last paragraph, I should very much doubt the expediency of guaranteeing any interest. The question is, no doubt, one to be considered by the Government of India with reference to large wheat-growing tracts such as do not exist in our Presidency. It is probably in such tracts that this business pays, but Western India has no such feature in common with the United States and Canada, nor is it likely to have, even under such encouragement as might result from increased demand for Indian wheat.

Concessions
should be
reduced.

3. The inexpediency of making concessions (1), (2), and (3) is sufficiently shown by Mr. Loch. As to right (7), the Company would possess it in common with all capitals; but if successful in that branch of business, they would undoubtedly become dealers in grain, whether that be a primary object with them or not.

30.

From COLLECTOR OF KHANDEISH, to COMMISSIONER, Central Division, No. 1267,
dated 22nd February 1890.

With reference to your memorandum, No. 551 R. of the 5th instant, forwarding papers regarding the establishment of a Grain Elevator Company, I have the honour to state that, though the operations of the Company will no doubt be eventually very useful, and though it will, in all probability, be at first difficult to make the venture a paying one, still the demands for assistance from Government, appear to me to be excessive. If the Company were to confine itself to what I may call its proper functions of cleaning, grading, and giving certificates for wheat, there would not be much harm in a connexion between it and Government; but from the list of rights for which the promoters ask it is clear that the operations of the Company will be much more extensive; that it aims at supplanting the existing middlemen, and though Colonel Filgate, in his memorandum, says that it is not to act as a merchant or owner of grain, still, if it is not to make advances to ryots on the security of their land and crops, it will inevitably have to deal in grain. It must also come in contact with the present small traders, and the question arises whether it is desirable for Government actively to support a body which has these aims. I think that it is not desirable for Government to support a trading and money-lending society against other classes of its own subjects.

Concessions
demanded
excessive.

2. I will now deal with the different points on which assistance is asked, and first, with the request that Government officials should countersign the Company's certificates. The officials in this Presidency would no doubt be the long-suffering mamledars, and they would have to countersign in the dark; they would have to take the assertions of the certificate to be true, for they could not possibly check them, and in this case their signatures would be a fraud on the public; for the public would believe that the signatures meant that Government officers had themselves ascertained that the certificates were correct, whereas they have done nothing of the sort. If special Inspectors were appointed the case might be different, but I presume that Government do not contemplate the establishment of a new class of officials for the benefit of the Elevator Company.

Certificates.

3. As regards the provision of land for the elevators, Government would have to buy it at a considerable cost in most cases, and I cannot see why the Company should expect to have the public money spent for them. There is very little unoccupied land near the larger railway station, and the occupied land is very valuable. The holders of it might not be willing to part with it, and it would not be possible to take it up under the Land Acquisition Act.

Provision of
sites.

4. Clauses 3 and 4 of the suggestions for assistance refer to a monopoly to be granted to the Company for 25 years, for this is what their object is. It appears to me that if the benefits to be derived from the elevator system are so great, this assistance ought not to be required, and that competition would be for the benefit of the country.

Monopoly.

The last request is for assistance in the way of a guarantee of interest. I think that some such guarantee might be made to a Company which, as I remarked above, confined itself to the elevator business alone; but the propriety of giving such a guarantee to a Company, which is also to be a money-lending Company, appears to me doubtful.

Interest.

31.

MEMORANDUM by ACTING SECRETARY to the GOVERNMENT of Bombay, Public Works, Department, No. 1690, dated 16th July 1890.

With reference to resolutions Nos. 747 and 1269, Revenue Department, of 29th January and 18th February respectively, the undersigned has the honour to remark that the question of the formation of a "Grain-cleaning and Elevator Company" for India, and the amount of encouragement and concessions the Indian Government might give to it, may, as far as this Department is concerned, be considered under the following heads:—

- (1.) The benefit to the Railway Companies and the State consequent on its introduction.
- (2.) The concessions and assistance the Railway Companies may fairly be expected to make or can make.
- (3.) The encouragement and concessions the Government may reasonably be asked to give in the provision of land within or adjacent to railway station premises.

It must be noticed that the ultimate aim of the Company is a grand one, involving large capital expenditure, but that a very modest commencement is proposed, viz., to conduct at a few selected railway stations simple cleaning and grading operations, returning the grain into bags, thus discarding for the present the idea of the elevator.

The opinions of the agents of the railways under this Government on the first two points, and the question generally, were invited; their replies, together with a letter from the Secretary of the Bombay Port Trust, have been printed and accompany this memorandum.

The railway agents generally agree in the desirability of any measures tending to improve the quality of Indian wheats, and express willingness to give all reasonable facilities to the projected Company; but when the practical side of the question is taken up, the agent of the Great Indian Peninsula Railway states his reasons for thinking it impracticable at present in this country, and he does not think a place for such a business could be conveniently provided within station limits. The traffic managers of the Bombay, Baroda, and Central India state that the establishment of grain elevators or warehouses is unlikely to prove profitable on the Bombay, Baroda, and Central India Railway proper, that is, on the broad-gauge section of the undertaking; and that on the Rajputana-Malwa or metre-gauge section there are no stations where the scheme would have much chance of success; but that as an experiment could do no harm; Sirsa, Hathras City, and Delhi are suggested as stations most suitable for a trial.

The Bombay Port Trustees confine their remarks to the question of erecting elevators at the docks, and they think they are not required on their property.

At a meeting held at Agra a side issue was raised in regard to the preferential aspect of the question of giving a private Company facilities on railways which were not or could not be given to other undertakings, and it was concluded that the intervention of Government in the form of a private Bill, entitling the Grain Elevator Company to certain privileges, as an undertaking for the public benefit, would be necessary in dealing with this matter.

A perusal of the printed correspondence will show that the project is not warmly received and its prospects are not considered very promising. The matter has been treated more in regard to the scheme in its entirety than to the simple commencement proposed, and should possibly be so treated, for any concessions made by Government in the matter of the small beginning would necessarily be demanded as the scheme enlarged.

Many of the objections made in the printed correspondence are based on the final intention of carrying grain in bulk; it is only proposed at the start to clean and grade and return the grain into bags. No Railway Company could have the slightest objection so far. The places of business for such operations could possibly be conveniently situated outside station limits, and the construction of sidings, whether at the railway or the Elevator Company's expense, would follow when the traffic in grain demanded it.

There seems no reason why Government should be asked to countenance an enterprise such as is proposed, except the statement of the projectors that it cannot be undertaken without certain concessions.

The amount, if any, of assistance of Government officers in the matter of its certificates will be considered in other Departments. The matter has, however, been touched upon in the last letter of the printed correspondence. It is doubtful whether Government should be expected to give land free to a trading Company of this description when it is not given to other undertakings, also serving to develop trade and improve the country; but, perhaps, an arrangement might be made by which Government would get some share of the profit after the first five years as a set-off against the value of the land supplied. The land, if supplied, should not be in the railway limits of a Government Railway Company, to whom land for railway purposes has been given free by its contract; but if any land can be spared within railway limits it should be relinquished by the Railway Company and connected, if necessary, by sidings as in the case of cotton mill and other companies.

The opinions of large companies, such as Messrs. Ralli Brothers, to whom allusion has been made in the printed correspondence on the general question, would be of great value.

32.

From AGENT AND CHIEF ENGINEER, Southern Maratha Railway, to CONSULTING ENGINEER FOR RAILWAYS, Bombay, No. 6284—1764, dated 3rd March 1890.

Replying to your No. 1184, dated 10th February 1890, I have the honour to forward copy of letter No. G—78536, dated 25th idem, from the Traffic Manager on the subject of grain elevators.

The advantages that must accrue from any measures tending to promote the reputation of Indian wheat, both at the centres of the export trade and in the European markets, are so well known that it is not necessary to discuss them here, and a system of cleaning and grading up-country with unquestionable certificates of standard of purity would in my opinion fully secure that very desirable object.

The introduction of the elevator proper is but a secondary consideration. By its means much of the labour and expense connected with the operations of handling and bagging would be obviated, and to me it seems that such facilities must inevitably result, when once confidence in Indian wheat is established, to such an extent as to create a steady demand in the European markets.

The concessions asked for by the promoters are no doubt very great, but considering the vital importance of the subject, I should be inclined to assist them, so far as possible, within reasonable limits.

33.

From TRAFFIC MANAGER, Southern Maratha Railway, to AGENT AND CHIEF ENGINEER, Southern Maratha Railway, No. 78536 G., dated 25th February 1890.

In returning the original papers received from you on this subject, I beg to inform you that I highly approve of the proposal to introduce grain elevators into India. The competition between Indian wheat and that grown in America and Russia is not unlikely to be exceedingly keen in future, and everything which can be done to promote a demand for Indian wheat should be done in the interests of the country at large. The quality of Indian wheat would be greatly improved by the cleansing process to which it would be subjected in the elevators, and facilities for dealing in wheat of known grades would be much increased. It is to be hoped that the Government will countenance the proposal and so help in placing the grain trade, on which the prosperity of Indian railways so much depends, upon a sound and satisfactory footing.

34.

From AGENT, Great Indian Peninsula Railway Company, to CONSULTING ENGINEER FOR RAILWAYS, Bombay, No. 24 I—3082, dated 18th March 1890.

I am desired to acknowledge receipt of your No. 1182 of the 10th ultimo, covering papers regarding the introduction of grain elevators into India.

The object of the promoters is stated to be the cleaning, grading, and handling of wheat, based upon the system adopted in the United States.

The conditions attending the growth and export of wheat from India are so entirely different from anything in America that the success of elevators in the States is worthless as an argument for their success here.

The Agent does not consider the grading of wheat by a public Company is the simple thing suggested; to his mind the scheme is at present impracticable; in this country the various qualities, small parcels, and want of large trade centres would, owing to present difficulties of transit, present insuperable difficulties.

Unsuit-
ability of
American
system.

The elevator system in America is connected with owning, selling, and speculating in grain. unsuited, the Agent would think, in every sense to the wants of trade here, and the inducements would certainly have to be considerable before the ryot stored grain with an Elevator Company. At present he can do it himself without cost in fine weather, and in the rains he pits it and preserves it; while a Company, such as is suggested, would find a large loss at the end of the wet season from weevils; but on this the opinion of the Chamber of Commerce will be far more valuable.

Regarding the railway, a place for such a business could not be conveniently provided within station limits; beyond that the railway is glad to receive produce from all for transshipment, and willing to do all in its power to facilitate business with this port.

35.

From SECRETARY, Bombay Port Trust, to CONSULTING ENGINEER FOR RAILWAYS, Bombay, No. 2021, dated 7th May 1890.

Your letters of 10th and 27th February last (Nos. 1185 and 1645) and their accompaniments have been submitted to the Trustees, and I have been directed to forward the accompanying copy of the Docks Superintendent's report on the question of erecting grain elevators at the Trustees' Wet Docks, and to intimate that in the opinion of the Trustees grain elevators are not required on their property.

36.

From DOCKS SUPERINTENDENT to SECRETARY, Bombay Port Trust, No. 165, dated 7th April 1890.

Existing
facilities at
Bombay
docks.

In considering the question of introducing the elevator system at this port, it seems necessary, in the first place, to notice that some portion of the facilities that the proposed scheme is expected to provide for the trade, already exists at the docks.

Sidings connect the docks with the railway lines, warehouses are provided for the storage of goods, and warrants are issued for goods deposited in the Trustees' charge, by means of which, like the certificates of the elevator system, goods may be transferred from hand to hand and advances obtained.

The facilities might have been extended and improved to meet the further needs of the trade had there been any indication on the part of the trade to take advantage of them.

But so far as the grain trade is concerned the facilities referred to have never been used. The same cause that has hindered their use will also hinder the introduction of elevators, namely, that the common practice is not to ship grain direct as it arrives at the railway terminus or boat wharves by land or by sea, but to remove it into the town to be there stored, sold, cleaned or repacked, and at the time of shipment it returns to the docks in the shape of complete consignments.

All the grain dealt with at the port is also, as is well known, received in bags and shipped in bags. Under the elevator system it is intended to deal with grain in bulk.

With regard to the shipment of grain in bulk it has to be pointed out that in Bombay shipments are made to a dozen different ports in Europe, and that a number of different consignments of various descriptions of grain, seed, &c., are nearly always carried in the one vessel. It may be practicable, when comparatively large parcels are carried, to take it in bulk, but a number of small consignments must be bagged in order to keep them separate.

A large number of vessels that take exports have come with coal, and the cleansing of the holds for the reception of grain in bulk will take longer than the simple process of sweeping them out when grain is being carried in bags.

The means are also already provided for the rapid loading of vessels in an abundant supply at the docks of the most improved style of hydraulic cranes, by the use of which vessels may easily be loaded well within the number of lay days that it is customary to allow in the charter-parties at this port.

The expenses of the vessel would be increased by the provision of the various fittings, such as cross bulkheads, shifting and covering boards, feeders, &c., that are required in the conveyance of grain in bulk, and would have more or less to be renewed on each voyage.

The Trust is mostly concerned with the part of the scheme that refers to the establishment of port storage elevators, for which it is expected that land will be provided free and connected with the lines by sidings.

It is supposed that the Trust will benefit from the concentration of the traffic at the proposed elevators; but if elevators be provided at all it would be at the docks, and the whole of the export traffic to Europe now goes there.

The intervention of a private company in the arrangements for dealing with goods at the docks is so obviously undesirable as to require no remark. There has been no hesitation on the part of the Trust in providing whatever facilities the trade may require, and if the elevator system of cleaning and grading wheat be generally adopted by the trade, any alteration that might in consequence have to be made in the arrangements at the port would be carried out by the Trust.

37.

From AGENT, Bombay, Baroda, and Central India Railway, to CONSULTING ENGINEER FOR RAILWAYS, Bombay, No. 6,663 T., dated 29th May 1890.

In reply to your letters Nos. 1,183 and 1,643, of 10th and 27th February last, respectively, I have the honour to forward herewith copies of reports submitted by the General Traffic Manager of this Company regarding the proposed introduction of grain elevators in India. This Company fully recognises the necessity of improving the condition of grain as it is at present exported from India, and will be prepared to give all reasonable facilities that lie in its power for the establishment of elevators at stations on this Company's system.

38.

From GENERAL TRAFFIC MANAGER, Bombay, to AGENT, Bombay, Baroda, and Central India Railway Company, No. 7,050, dated 18th February 1890.

Anything calculated to lay down Indian grain in the home market in a clean and creditable condition would no doubt increase its value and help to establish the reputation of India as a grain-growing country.

2. I am not, however, sure that the establishment of grain elevators or warehouses would prove a profitable undertaking on the broad-gauge section of our railway, and it is to this district that I desire to confine my remarks.

3. There are no large grain-growers or persons largely engaged in agriculture, but on the contrary, all are on a small scale, and grain is almost invariably brought from the producers by middlemen and is packed off to market in the state in which it is purchased; any cleaning that takes place being done by the retail dealer. Practical difficulties.

4. Very little grain grown in the districts through which our line passes finds its way seaward, as nearly the whole of it is consumed locally or within the districts served by our line.

5. So far as the railway is concerned, elevators or bonded warehouses could not, I think, help our arrangements, but on the contrary they might be found inconvenient for the following amongst other reasons:— Possible inconvenience to railways.

(a.) If grain is brought to our stations in bags it can be loaded wherever waggons happen to be standing, and a cart can get near them, or bags can even be

carried from carts if waggons cannot be placed where carts cannot approach them.

- (b.) In like manner on arrival at destination the bags can be easily treated, and if required to remain in our custody for some time, waggons can be readily unloaded and the bags stacked.
- (c.) If elevators were used there would be trouble in shunting waggons to them, and a siding or sidings would have to be set apart for easy access to where they were.
- (d.) If grain was loaded in waggons in bulk, a particular class of waggons would be necessary, and such waggons might not be eligible for the general purposes, or to convey the class of traffic going to grain-sending districts. Open waggons, of which we have a considerable number, would not be suitable to carry loose grain.
- (e.) On arriving at destination grain would have to be, for ready transit in carts, loaded in bags, which would be a great tax upon our station resources on account of the time occupied and the extra area necessary, and wastage would ensue. We at present find it necessary to charge grain, when sent loose, a higher rate than when sent in bags for these reasons.

Shipping
difficulties.

6. I do not see how benefit can be derived when grain has to be shipped in docks, as it would be a difficult matter where there are several miles of wharves to get ships alongside a particular elevator, and they are not generally unmoored from the time they commence unloading cargo until they finish taking in their return cargo, nor will it be convenient for a ship to load grain in bulk only, or to confine its load to a particular class of goods, or with cargo for a particular firm.

- (a.) Any attempt to shunt waggons containing general merchandise alongside a particular ship, even if rails were placed along each wharf, would be attended with much inconvenience, as where ships, thirty or forty or more in number, alongside wharves were giving out or taking in goods, it would be next to impossible to get to each or any particular one with waggons. One ship might load or unload forty or fifty waggons daily, another might load two or three, another might contain goods for Bombay City only.
- (b.) We can, and do occasionally get near ships with waggons when there are heavy consignments of, say, railway material, but we never or rarely ever get alongside them.
- (c.) Our docks in Bombay are, I think, as well suited for trade as most docks, but we could not make a distribution or collection of goods to and from ships even if there were two lines of rails and numerous turntables for which there is not space along the wharves.
- (d.) Most of the grain that arrives in Bombay is sent by men who purchase from the grower to middlemen or agents in Bombay who sell to merchants who export it.

There is at least one firm of merchants, the largest to be found anywhere, who have salaried agents throughout India who purchase grain, cotton, and other produce to a very great extent. Such a firm might carry out grain-cleaning arrangements at stations where goods are first placed on the railway; but whether or not they could command a higher price for their purified article so as to cover expenses is somewhat doubtful. If this colossus firm who have the means of getting as near the grower of grain as it is possible, have unlimited capital, and their own houses in England and on the Continent of Europe and elsewhere do not think it worth their while to try and improve the quality of Indian grain, and adopt the very best means for its transit; I cannot imagine anyone else, or any Company of persons making a successful experiment.

39.

From TRAFFIC SUPERINTENDENT, Rajputana-Malwa Railway, to GENERAL TRAFFIC MANAGER, B. B. and C. I. Railway, Bombay, No. 757 H., dated 6th February 1890.

It is difficult for an Executive Officer whose time is very fully occupied, to form an opinion worth having upon the very complex problem presented in these papers. Personally I have no experience whatever of the grain elevators which are said to be so successful in Russia and America; it seems to me, however, that the conditions of

production in India are so entirely different to those in America, that any calculation based upon comparison of the two countries will be apt to lead one astray.

2. The great bulk of our export trade in wheat and seeds is in the hands of a few large merchants of Bombay, Karachi, or Calcutta; these have their agents in all the districts of India. Ralli Brothers, for example, are met with by their agencies all over the Continent, wherever grain is produced; they have their own cleaning yards at important centres, as at Nagpur, &c., and have a firm hold upon produce as ready purchasers, that would not be easily shaken.

3. The idea of the promoters of the present movement seems to be to introduce a system of central mart to which producers should send their produce in exchange for negotiable receipts of the same utility as bills of lading, and it is probable something of this kind may eventually come to pass; but until the Gujarat cultivator is educated up to something like the standard of intelligence of the Yankee farmer, the Government of this country more nearly approaches the Russian system of administration, I doubt if much will be done.

Obstacles.

4. The Indian ryot deals with his village *bunya*, without whose advances for seed and current expenses he would be powerless; and the *bunya* again deals with the agents of the large exporting firms, and these latter could hardly be expected to view the introduction of a kind of third class of middleman in the Grain Elevator Company with very much favour.

5. In the language of a cultivator I should say grain elevators will answer when they are a product from the plant of "Indian Export," but as a graft they will be a failure.

6. It seems to me in any case that if these elevators are to have much chance of success, they must be located in the very heart of wheat-growing centres; neither Hathras nor Agra are exactly the places where wheat may be termed the staple commodity of the surrounding district; whereas Gujranwala on the North-Western line and Raipur on the Nagpur-Bengal Railway are exactly the places adapted to the purposes of this experiment. Both Hathras and Agra are rail centres of importance, but are both too far from the home of production to quite meet what is required. I shall be glad to meet Mr. Holderness at Agra if you wish me to do so. Director, Land Records' No. L.S.—5 of 1st February 1890, with accompaniments, are enclosed. Please return with instructions.

40.

From TRAFFIC SUPERINTENDENT, Rajputana-Malwa Railway, to GENERAL TRAFFIC MANAGER, B. B. and C. I. Railway, Bombay, No. 1,679 H., dated 26th March 1890.

With reference to your memorandum No. 933 of 12th February, and to your subsequent memorandum No. 1,297 of 4th instant, both of which, with accompaniments, are returned herewith, I beg to inform you that I met Mr. Holderness at Agra on the 22nd instant; Mr. Finlay, the collector, and also the municipal secretary, were present at the interview.

2. It was considered that the view taken of the position in my memorandum 757 H. of 6th February referred more particularly to the financial prospects of the Grain Elevator Company, and that we were desired to consider the question of concessions to such a Company, which the Government or the Railway might be expected to give; I said that the railway would, I believed, be disposed to assist at well-selected stations, under certain conditions, in the matter of sidings and sites for cleaning sheds, but that a serious difficulty arose in regard to the preferential aspect of the question. Mr. Finlay was doubtful whether the railway could give to any one private undertaking facilities it was unwilling or unable to give to others, and instanced cotton presses, &c., as undertakings worked with a view to profit, which had not hitherto been specially assisted either by Railway Companies or Government. It was concluded that the intervention of Government would be necessary in dealing with this matter, and that such intervention might have to take the form of a private Bill, entitling the Grain Elevator Company to certain privileges as an undertaking for the public benefit.

Agra conference.

3. Mr. Holderness considered that a monopoly might be conceded on certain lines of railway for a term not exceeding 10 years, and that where such monopoly existed, it should be held that the Grain Elevator Company must construct cleaning and storage go-downs when required by Government, or in default should have no right to prevent other people from doing so.

4. He further held that Government from its position and multifarious duties would be unable to undertake this work of grading and classifying wheat; that the railway companies would be travelling beyond the limits of their legitimate work if they were to undertake it; and that the only persons who could do it would be an assisted firm or private company, working somewhat on the lines of that suggested by the promoters of the present movement.

5. There were other details of concession referred to in more or less undecided terms which did not concern me, but I think Mr. Holderness will be inclined to recommend his Government to support the movement to a certain extent.

Stations
suggested.

6. As an experiment no harm would be done, and I was asked to suggest three stations on this line which seemed most suitable for a trial; I thought Sirsa, Hathras City, and Delhi appeared to be about the best; the latter might, I considered, be an adjunct of the new line to the Gunj near Lahore Gate.

7. Nothing very definite was recorded and on the general question it was, I think, felt to be a doubtful point whether anything was really needed. I was able to tell the meeting that Ralli Brothers' agent at Ferozepore had informed me that in London, before coming out to this country, he had contracted on behalf of the firm to deliver Bombay wheat with 94 per cent. white, 4 per cent. red, and 2 per cent. *only of extraneous matter*; these figures, it will be seen, fall very short of the standard arrived at by Mr. Cradock, Secretary of the London Corn Trade Association (*vide* papers which accompanied your memorandum 1,297 now gone on to the Engineer-in-Chief as desired).

41.

GOVERNMENT OF BENGAL to GOVERNMENT OF INDIA, No. 2,713-279 Agri., dated 31st July 1890.

With reference to Mr. Muir-Mackenzie's circular letter No. 122-127C, dated the 6th January 1890, and subsequent communications, I am directed to submit, for the information of the Government of India, the accompanying copy of a letter from the Director of the Department of Land Records and Agriculture, Bengal, No. 1,603 Agri., dated the 14th July 1890, and of its enclosures, reporting on the proposed formation of a company for the introduction of grain elevators into India.

2. The Lieutenant-Governor agrees with Mr. Finucane in the conclusions at which he has arrived. The creation of a market for pure Indian wheat in England is most desirable, and very favourable terms may properly be granted to any company which can operate effectively in that direction. But the alteration of the methods by which wheat is cleaned is not shown to be an enterprise meriting special support at the cost of the State. It is a matter which in the Lieutenant-Governor's opinion, may very properly be left to private enterprise.

42.

DIRECTOR OF THE DEPARTMENT OF LAND RECORDS AND AGRICULTURE, Bengal, to the GOVERNMENT OF BENGAL, No. 1,603 Agri., dated the 14th July 1890.

I beg to acknowledge the receipt of your No. 386-48, dated 23rd January 1890, calling for report on certain proposals made by Mr. James G. Smith of Bombay, relative to the formation of a Company for the introduction of grain-elevators into India. In reply, I have the honour to report that I have consulted the public bodies, firms, and individuals, named below,* on the subject, and now forward their reports.

* 1. Secretary, Bengal Chamber of Commerce; 2. Secretary, Agri-Horticultural Society of India; 3. Vice-Chairman of the Port Commissioners; 4. Shipping Master, Calcutta; 5. Collector of Customs, Calcutta; 6. Managers of State Railways; 7. Messrs. Ralli Brothers; 8. Messrs. Moran & Co.; 9. Secretary, Brokers' Exchange; 10. Messrs. Anderson, Wright & Co.; 11. Messrs. Gladstone, Wyllie, & Co.; 12. Messrs. Balmer, Lawrie & Co.; 13. Messrs. Lorraine, King & Co.

2. It will be seen that the preponderance of opinion is much against the proposals made by Mr. Smith. The Bengal Chamber of Commerce write thus—

The Committee of the Chamber of Commerce have given their best attention to the papers forwarded with your docket No. 463-Agri., dated 4th March, and I am now directed in reply to state that in their opinion any attempt to introduce the grain elevator system into this country would be at least premature. Mr. James G. Smith, in his letter to the Secretary of State, dated 17th September 1889, after enumerating the benefits that would result from the system, and pointing out directions in which the assistance of Government would be necessary, suggests a tentative commencement of operations by the "Grain Cleaning and Elevator Company," pending which the efforts of the promoters would be directed to securing a demand for the clean and graded wheat.

The result of the agitation of last year in favour of clean Indian wheat does not encourage the Committee in the belief that the efforts alluded to by Mr. Smith would meet with any great amount of success. But should a real demand arise for clean Indian wheat, they are of opinion that private enterprise will be equal to the occasion without requiring either the assistance of or a guarantee from Government.

It is not necessary to discuss the suitability of the elevator system to the conditions of the grain trade, at least on two sides of India, further than to say it is open to doubt whether, considering the heavy expenses which the proposed Company would incur, such a Company could successfully compete with the simple but effective methods of cleaning already known to those who deal in grain. The committee, moreover, consider that the proposal that the Company should hold grain for the owner for an indefinite time, and accept the responsibility for its condition, is scarcely one suited to India, owing to the risks attending keeping wheat in this country for any length of time.

The Committee would point out that the scheme contemplates concentrating the grain trade at a few important stations on the principal wheat-bearing railways, and to this extent is diametrically opposed to the policy pursued for the last eight or ten years by Government, a policy which, by abolishing the special reduced rates allowed by the railway administration, for large consignments, aimed at giving petty stations equal facilities with the larger depôts for sending produce to the coast ports. The Committee understand from the principal exporters of wheat that the opening up of these petty stations is largely responsible for the deterioration in the cleanliness of the wheat brought to this port, for whereas this produce was formerly concentrated at some few important stations, there piled and rebagged, it is now forwarded direct, without any piling, handling, or cleaning, to the coast port. While the Committee are of opinion that it is now impossible to nullify the results of this policy and revert to the old system of special rates for consignments of 200 tons, they would urge most strongly upon Government the necessity of permitting the railways to raise the limit for special class consignments of wheat and seeds intended for export, from the present limit of a wagon load to a minimum load of 50 tons.

This will have the effect of making a broad line between wheat intended for export and that for local consumption.

It would assist in raising the standard of cleanliness.

It would place the trade in the hands of men of some little means, instead of opening it up, as at present, to impecunious gamblers.

It would lessen the work needful to be done at the shipping port, and permit of the grain being properly sampled and examined, and so put a check to the false packing and swindling which is encouraged by the system of petty consignments.

The Committee have reason to believe that if this slight reform were introduced, the benefit resulting to the trade would be so great as to leave little to be desired in the condition in which rail-borne wheat would reach the home market.

2. The Agri.-Horticultural Society say—

As the different Chambers of Commerce have been consulted, and as the views of the commercial community will thus be laid before Government, the Society deals with the question wholly in its relation to the cultivators.

The establishment of the elevators for the purpose of cleaning grain for export is, the Society consider, not likely to be of any direct benefit to the grower, for the reasons set forth in the following paragraphs.

The conditions under which wheat is grown in India, the small quantities each grower places on the market, the poverty of the people necessitating their selling

Bengal
Chamber.

Agri.-Horti-
cultural
Society.

their produce without delay, and other causes, preclude any chance of their being able to avail themselves of the facilities for cleaning offered by the system.

As a rule Indian wheat is not purposely adulterated by the growers. The impurities which exist in it when it leaves their hands are due to the system of cultivation and thrashing which are too well-known to need description here.

The growers winnow and clean their wheat to the extent their crude appliances will admit, and undoubtedly some of the earth from the threshing-floor and an admixture of other grains must remain in the crop. This is estimated at 2 to 3 per cent. of earth, peas, and barley. But as the Calcutta contract is for 5 per cent. up to August and 6 to 7 per cent.* after that, it therefore pays the seller to adulterate his batch up to 2 per cent. over the guarantee, or he will lose on the average. This is such a well-established custom that a regular market price for suitable adulterants exists in the exporting districts, and the seller purchases such materials and mixes it with his wheat. The shipper has the lot examined and makes the best bargain he can as to allowance with the seller and sells "fair average" at home; practically his profit is what he gets in this way.

It is probable that even the buyers who collect grain, buying the small quantities sold by individual growers at *hats* and bazars, and selling again to dealers and merchant's agents, are not likely to be able to deal directly with exporters through the elevators.

There is one feature in what is known as the elevator system which would probably affect the grower prejudicially.

The system is that all grain passing into the elevator is graded and bulked, and a receipt given to each constituent, who, when he requires his grain, receives his quantity from the bulk.

The bulking of such large quantities gives a more even standard than at present exists in India, and these recognised standards again being fixed, their relative prices are fixed.

As a matter of partial convenience, the number of standards or grades will have to be limited, and the present elasticity done away with, so that a superior sample falling into a given class will fetch no more than an inferior sample which is just good enough to pass the standard.

There will therefore be no incentive to buy the best quality of a certain class; the endeavour will be to get the cheapest grain which will pass the standard. This may not matter to the merchant, but the grower who produces a better sample of grain of the same class as his neighbour's, will be no gainer.

I am directed to say that for the reason already given this Society does not enter into the question of the effect which the introduction of elevators would have on the trade in wheat. The Society is aware that there is much to be said from a commercial point of view for the establishment of fixed grades of clean wheat, and for other results of the elevator system. Without offering an opinion on these points or on the system as a whole, I am to point out that in India the existence of the weevil pest would have to be taken into consideration as a factor against the collection and storing of grain in the manner proposed, and special means would have to be contrived to guard against its ravages, more especially where wheat held over for any time.

The Society is aware that the papers before them contain merely an outline of the scheme proposed. They think, however, that there being no allusion to one of the greatest evils with which Indian wheat has to contend is a serious omission.

I am to submit that, if the object of the Government in entertaining the scheme under consideration is to put a stop to the intentional adulteration of wheat in India, a simple remedy exists, viz., to enact that no contract for purchase or sale of wheat will be considered valid unless the price agreed upon is held to be for pure grain. As long as sellers can go into Court and enforce a contract for wheat with 5 per cent. to 10 per cent. adulteration, the evil cannot be stopped. If the price paid was for pure wheat only, no one would expend money on the railway carriage of adulterants which would be deducted from the price, and no exporter would pay freight and charges, unless he got from the seller the full equivalent of what he would lose for any adulterations.

3. The Port Commissioners are of opinion that "the scheme contemplated is not one which is suited to this country, or one which should have the support of Government of the kind asked for." It, however, seems to them that if the requirements

* Should be 5 per cent. up to 30th June, afterwards 6 per cent.—M.F.

of trade necessitated the introduction of such a system, and there was a prospect of its proving remunerative, it would be taken up by private enterprise.

Messrs. Anderson, Wright and Company, remark—

The application of the American system to India is, in our opinion, not what is wanted. Indian wheat is all shipped in bags, whilst American goes to a large extent in bulk, and the elevator is of no use where the bagged article is the rule. This Messrs. R. S. and Company really concede when they come down to proposing to open at a few stations, and conduct thereat simple cleaning and grading operations, returning the grain into bags properly secured.

We think most firms having up-country connections have tried this, but home buyers and brokers are too powerful and will not allow settlement to be made based upon the clean wheat. With an ordinary graded netting and a few coolies, 100 tons daily can be turned out in any godown at a nominal expense without a Government guarantee, and up-country firms, both Native and European, would gladly see a market for clean wheat forced on exporters. This can be accomplished by Government enacting, both here and in England, that no contracts will be recognised in a court of law unless based on a price for the pure wheat. We have pointed out again and again that there is no justification for the acknowledgment in Court of a contract for wheat with 5 per cent. or 10 per cent. adulteration. The only basis of sale recognised by law should be that of pure wheat, and were this the case, no up-country dealer would risk paying railway carriage on five tons of dirt for every 95 tons of pure wheat, and no buyer would accept of wheat without getting the full equivalent of the loss he would sustain on the refraction by sending the parcel to Europe. As long as the law recognises contracts for adulterated wheat, so long will the trade in it continue.

4. Messrs. Ralli Brothers have no experience of the working of elevators in America, and they are not in a position to express a decided opinion on the subject, further than to say in a general way that, viewing the distinct nature and diversity of quality of the Indian grain compared with American, they very much question whether the introduction of any such system in the handling of Indian grain would be successful.

Of the agents and managers of railways, the agent of the East Indian Railway says that until the elevators are introduced, the purity of Indian wheat and seeds for export cannot be guaranteed. At the same time, he remarks that until a proper understanding is arrived at between seller and buyer, it would be useless to attempt to introduce them.

The manager of the Eastern Bengal State Railway states that the railway traffic in wheat and seeds on that line is small, and it is unlikely that an elevator would be required at any of the up-country stations on the Eastern Bengal State Railway. He adds that if higher railway freights could be obtained for wheat dealt with in elevators, the consignor would consider that he paid the Elevator Company the cost of handling his grain, and would probably call for a corresponding reduction in the rates. The railway would effect no practical saving in being relieved of the cost of receiving and watching the grain. He further says that the free grant of land at metropolitan stations and on Port Trust property is a very large concession, but the demands of the promoters appear to him generally to be exorbitant. If they have any real belief in the effects to be produced from the introduction of the elevators, on which so much stress is laid, the Company should be assured of the success of the project on its own merits without calling on Government to guarantee interest and to grant free land. He further adds that the venture is a novel one in this country, and if the promoters were prepared to erect elevators on one railway, and at one port, they might reasonably be given a monopoly for 25 years, and land free of rent until such time as the undertaking paid over a certain per-centage, when arrears could be made good. But as regards the proposals for cleaning, grading, and storing wheat without incurring expenditure on elevators, it seems to him that if such a course could be commercially undertaken at a profit, it would have been introduced long ago without any company or guarantee.

5. The manager of the Tirhoot State Railway is strongly in favour of the scheme of having elevators at large and important stations, but he doubts very much their giving any return on the capital outlay on a line like the Tirhoot State Railway, where the stations are situated so closely together. He is of opinion that the railway staff should not have anything to do with the working of the elevators from a mercantile point of view, such as sampling, &c. The railway might give lands and sidings, but he is opposed to giving any guarantee or granting a monopoly to any one firm or Company.

Nalhati
Railway.

The manager of the Nalhati State Railway is of opinion that the scheme is one which deserves the encouragement and support of Government.

Scheme as
described
cannot be
entertained.

6. My personal opinion is that the general scheme described in paragraph 1 of Mr. Smith's letter, dated 17th September 1889, is one which cannot be seriously entertained, and need not be considered or criticised in detail. It would be obviously out of the question to provide land free of cost for the Company's purposes at or near every railway station on every line "built or to be built" in the grain-producing districts, or to guarantee that similar facilities will not be afforded to competing Companies, or to guarantee interest at 4 per cent. on any amounts which the Company may deem it desirable to expend, and it is very doubtful whether arrangements can be made in India for countersignature, by Government officials, of certificates of the grading of wheat. As pointed out by Viscount Cross, it is clearly impossible that Government could assist Mr. Smith's project in these matters to the extent suggested, and the only practical question for consideration, at present, is, whether any, and, if so, what support should be given to the specific proposals described in the latter part of Mr. Smith's letter thus—

"In this view, we would propose to select a few stations on some of the principal grain-carrying railways, and to conduct thereat simple cleaning and grading operations, returning the grain into bags properly secured and covered by certificates as to the quantity and quality, thus discarding for the present the idea of the elevator proper.

In the English markets our efforts would be directed to securing a demand for the clean and graded article, and further development of the scheme would be dependent upon the results obtained. We have reason to believe that in the English grain centres, accustomed to the American system, the certificates above referred to will speedily receive the credit they deserve, and so soon as they become recognised in the English markets, and thus act to the benefit of the producer, the steady development of the scheme may be confidently anticipated.

The railways on which it is proposed to commence are—

The Great Indian Peninsula Railway,

The Bombay, Baroda, and Central India Railway,

The Bengal-Nagpore Railway,

these being contributory to the one shipping centre of Bombay, between which place and Liverpool the trade is considerable, while Liverpool is a port already accustomed to the American system of clean and graded grain.

The authorities of the above-named railways have been addressed, and, so far as at present ascertained, the scheme will be favourably received and supported by them.

The stations at which machinery is proposed to be erected will be selected in communication with the Companies.

It is probable that in all some 15 stations at the outset will be provided with cleaning, grading, and weighing apparatus and with some elevating machinery, all of which will have to be sheltered from weather by buildings sufficiently strong to withstand the vibration of the machinery, and constructed with some regard to their future uses.

The machinery may be worked by bullock or steam power, as circumstances may require. It appears to us that the undertaking will necessitate the sending to India of a few qualified men to commence, conduct, and instruct in the operations, but we would desire to avail ourselves of the assistance of Railway Companies' staffs to the utmost extent possible.

We believe that the whole of the machinery required in the first instance is readily obtainable in England, and, including freight,

railway charges in India, and other expenses we estimate its cost at

The buildings at 15 stations, with cost of fittings and erecting machinery, would probably cost

The pay and allowances of staff, preparatory to the commencement of work, may be taken at

And preliminary and contingent expenses at

Making a total of

Besides keeping the capital expenditure within the narrowest limits, it would be our object to keep down the working expenses and charges as low as possible. In the more advanced stages of the undertaking, the charges to be made will, beyond doubt,

be far more than covered by the saving in cost of handling, &c., but during the preliminary operations just described the charges for cleaning and grading must be reduced to a minimum, to be covered by the enhanced value of the clean grain, and still leave the ryot sufficient inducement to avail himself of the advantages offered.

During this period of education and experiment, we can hardly expect the machinery to do more than pay the expenses of its working, but each subsequent step in advance should put our operations on a more satisfactory footing.

So soon as demand for clean and graded wheat is secured in the United Kingdom, a demand on the part of the producers or owners for the cleaning and grading of their wheat will certainly follow, and as this increases so will the present scheme progress towards the erection of a complete system of elevators, and as success becomes assured on one or more lines of railway leading to one port, so will other lines of railway and other ports be supplied with similar advantages.

All extensions of operations involving expenditure beyond the amount of 25,000*l.* referred to in this paper would be submitted for the sanction of the Secretary of State for India in such manner as he may direct, and we confine our present request for a guarantee of interest to a half-yearly payment, calculated at the rate of 4 per cent. per annum on the 25,000*l.* already indicated, and on the subsequent sums sanctioned from date of such sanction, for a period of five years from that of the acceptance of the proposals which we have the honour to make.

The capital of a Company sufficiently important to deal adequately with the subject of our representation must necessarily be large, but at starting the amount to be called up would be limited to 25,000*l.*, and during the continuance of the guarantee further calls must be restricted to amounts necessary to cover extensions duly sanctioned."

7. It will be observed that the proposal here is to abandon at first the American principle of the grain elevator, to return the grain in bags, after cleaning, to the owners, and let them dispose of it as best they can. But if, as is alleged, an adequate price cannot now be obtained for clean grain, and if it pays, as it certainly does, to have the grain as produced from the threshing-floors, mixed with dirt, the question arises why should the owners bring their wheat to the elevators to be cleaned, and if they did bring it, why should the fact of its having been cleaned secure for it an adequate price, seeing that clean grain does not fetch an adequate price? Wheat can now be cleaned at a very low cost, and machinery was introduced for the purpose by Messrs. Ralli Brothers and others, but it was found that the clean grain, when exported, did not realise a relatively better price, and it is not clear how the fact of its having been cleaned by an elevator will cause it to do so, especially as the process of cleaning by elevators will, according to Messrs. Ralli Brothers and others, be more expensive than cleaning by native agency with sieves. For these reasons I am of opinion that ryots and traders will not bring their grain to the elevators to be cleaned, if the grain, when cleaned, is to be returned to them, and they are left to do the best they can in obtaining an adequate price for it. But if Mr. Smith's Company were to buy the grain from the cultivators and traders on the best terms they can, and were then to clean, grade, and export it at their own risk, and were thus to endeavour to create a market for clean grain at home, it is a question for consideration whether Government would not, in that case, be justified in giving land for the buildings free of cost at or near 15 selected railway stations on the lines named, and in guaranteeing interest at 4 per cent. for five years on the outlay for buildings and machinery, up to a maximum of 1,000*l.* per annum. On this point I have consulted, at a meeting (the record of proceedings of which is annexed), Messrs. Ralli and Petrocchino, who as merchants are largely interested in the wheat trade, and Mr. Pallachi, who is one of the principal brokers interested in the trade from the point of view of Native dealers. It will be seen that Messrs. Ralli and Petrocchino are of opinion that Government even in the case supposed would not be justified in giving to the Company the limited assistance suggested, because the scheme of grain elevators has, in their opinion, no chance of success. Mr. Pallachi thinks that this plan is worth a trial, provided that no monopoly is given to the Company. If the Company believes in the efficacy of their elevators in reducing the cost of cleaning grain, and if they believe they can get an adequate price for clean wheat, then they should, he thinks, be prepared to try the experiment on these terms. Mr. Pallachi does not, however, himself believe that the elevators will pay or that the promoters will be able to obtain a remunerative price for clean grain.

8. I am of opinion that if any assistance is to be given to the Company it should be in the way above suggested. If the Company are willing to run the risk of erecting elevators at 15 railway stations, at a maximum cost of 25,000*l.*, and if they will

make their own arrangements for the purchase and disposal of their wheat, and thus endeavour to create a market for clean grain in Europe, Government may, I think, having regard to the importance of the object in view, encourage them to the extent of guaranteeing interest of 1,000*l.* a year for five years, and of giving free sites for their buildings. If the Company succeed in creating a market at home for clean grain at remunerative prices, they may be left to extend their operations without Government interference, and if they fail, the loss to Government can in no case be more than 5,000*l.*, and would probably be less.

9. It will be observed that the Chamber of Commerce (which originally moved Government to impress on cultivators the necessity of producing clean grain) hold that the system of elevators is unsuited to India, and from what has been said it is clear that the introduction of them cannot, at best, have much effect for some time to come.

Legislation
against
adulteration.

10. The question then arises, can nothing be done towards stopping the system of deliberate adulteration now practised, and towards securing a supply of clean grain for export? Messrs. Anderson, Wright, and Company, and the Council of the Agri-Horticultural Society suggest that the only basis of sale recognised by law should be that of pure wheat, and were this the case, no up-country dealer would, they say, risk paying railway carriage for five tons of dirt for every 95 tons of wheat, and no buyer would accept dirty wheat without getting the full equivalent of the loss he would sustain by sending the parcel to Europe. They propose that an enactment be passed, both here and at home, to the effect that no contract will be recognised in a Court of law unless based on a price of pure wheat. The result of such an enactment would be, that not only would there be no inducement to adulteration left, but growers would have an incentive to produce clean grain, which they now have not, and in a short time they would probably do so. Mr. Ralli says the Calcutta merchants would have no objection to such an enactment if the home merchants have none. The Calcutta merchants are, he says, the servants of the home merchants, they can and will send pure grain if it is wanted and paid for; it is because it is not wanted that it is not sent. Mr. Ralli is, however, at the same time of opinion that the proposed enactment would be objectionable on general grounds as being an unnecessary interference on part of Government with trade.

11. The Chamber of Commerce are also of opinion that there is no need for legislation on the subject, and regard the enactment of a law on the terms proposed as a most undesirable interference with freedom of contract. I also am of opinion that the time has not yet come for legislation of this kind, which should not be had recourse to unless and until the evil complained of is clearly shown to be injurious to the public interests, and until all other remedies have been tried and failed.

12. The question then is what other remedies are possible? In my letter No. 1,265, dated 18th August 1887, paragraph 10, it was suggested that wheat might, like oil-seeds, be sold on analysis at home. This proposal was discussed at the conference between Viscount Cross and the gentlemen interested in the wheat trade, held at the India Office on the 8th May 1889, and it was stated by Mr. Todd, on behalf of the London Corn Trade Association, that the proposal was impracticable for the following reasons:—

“That wheat might be sold at home on analysis like seeds (Mr. Finucane's report, page 13). That the Corn Trade Associations might be asked to fix the refraction on all sale contracts of wheat at not over two per cent. (Mr. Forbes Adam's letter to His Excellency the Governor of Bombay, paragraph 26).

“This question of selling wheat on a per-centage rate of refraction has on various occasions occupied the attention of the Sub-Committee (Indian section) of the London Corn Trade Association, and had also been discussed by the General Committee of the London Corn Trade Association, but the principle so far has been considered impracticable.

“There is a great difference between selling seeds and wheat on analysis.

“1st. The quantity of any description of seeds sold is very considerably smaller than that of wheat.

“2nd. Seeds, especially linseed (by far the largest trade in seeds), show little variation in quality, and hence it is practicable in large parcels of linseed to have the analysis made on *one* average sample to determine the whole shipment. This, with the variations in quality, admixture, &c., &c., in wheat, almost from bag to bag, is

impossible, and therefore it would be necessary for every small parcel of 50 tons or 100 tons to have separate average samples drawn, and have them analysed.

“3rd. In seeds, owing to the above slight variation in quality, a comparatively small sample is analysed; whilst in wheat a considerably larger sample will have to be analysed, and thus the cost will be greatly increased.

“The charge for analysing a sample of linseed is 5*s.*, whereas on wheat we believe it has not yet been done under 2*l.* 2*s.*, a very heavy charge on 50 tons or 100 tons of a poor article like wheat.

“4th. The quantity analysed being larger, it naturally will take much longer to analyse, and when in a large parcel of 2,000 to 2,500 tons of wheat, something like 20 or 25 analysis will have to be made, it can easily be understood that delay must follow, rendering the final settlements protracted and unsatisfactory.

“5th. Lastly and chiefly, seeds are not liable to weevil. Wheat is, and sometimes it suffers most severely from this inherent defect. How would the advocates of analysis deal with the weevil flour dust? If they take it as refraction it would be very unjust to the shippers, who, although they may have cleaned down and shipped in India a parcel containing only two per cent. refraction, may be called upon through the wheat being attacked by weevil during the voyage to allow on final settlement 5 per cent., and even 6 per cent. or 7 cent. on refraction, besides making an allowance for quality in consequence of the excessive weeviled condition of the said parcel. If, on the other hand, weevil flour dust is admitted *not* to be an heterogeneous substance, how is it to be separated from the fine earth, sand, or other impurities? *

“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 side; 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; that buyers practically are not prepared to pay a proportionately higher price for cleaner wheats; that the system of selling on analysis here is altogether impracticable and unadvisable; that the conditions of the Indian wheat trade, although slowly, are gradually improving; that India ships and sells all her wheat available for export year by year, and that her development, in this branch at least, is not prevented by the present condition of her wheats; that the interference of Government in questions of contract as between seller to buyer is inadvisable,—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.”

13. In answer to these objections it may be stated that Indian wheat is, as a fact, now bought on analysis in Marseilles, and it appears reasonable to believe that what can be done on one side of the English Channel can also be done on the other. Messrs. Ralli and Petrocochino, who can speak with authority on the subject, say that, so far as they can judge, what is done in Marseilles can also be done in London. The difficulties connected with weeviling are not, they say, insuperable, while Mr. Pallachi says there are no such difficulties. Assuming there are such difficulties, it appears reasonable to suppose that if they can be surmounted on the system of purchasing by fair average quality, they can be also got over if contracts are made on the basis of pure grain. I am informed by competent authorities that it is far easier to refract wheat than oilseeds, and that the process is less expensive and more expeditious. Again, to the statement that wheat, on the Calcutta side, in its normal condition, contains 5 to 7 per cent. of admixture, and that for this, among other reasons, it is not desirable to force sudden and radical changes on the normal condition of a trade, it may be answered that it is not a fact that the normal condition of wheat, on the Calcutta side is to contain 5 per cent. of admixture. If it were a fact, there would be no place for wilful and deliberate adulteration. It is only with a view to degrade wheat, as produced from the threshing floors, from its normal condition down to the required standard of refraction, that adulteration is practised or has any object. “The growers,” the Agri-Horticultural Society point out, winnow, and clean their wheat to the extent their crude “appliances will admit, and undoubtedly some of the earth from the threshing-floor and an admixture of other grains must remain in the crop. This is estimated at 2 or 3 per cent. of earth, peas, and barley. But as the Calcutta contract is for 5 per cent. up to August, and 6 to 7 per cent. after that, it therefore

Refraction
discussed.

Trade in adulterants.

"pays the seller to adulterate his batch up to 2 per cent. over the guarantee, or he will lose on the average. This is such a well-established custom that a regular market price for suitable adulterants exists in the exporting districts and the seller purchases such materials and mixes them with his wheat. The shipper, it is added, has the lot examined and makes the best bargain he can as to allowance with the seller and sells fair average at home; practically his profit is what he gets in this way. In Calcutta, where there are no threshing-floors, the refuse fannings and screenings from merchants' godowns and millers' works are bought by regular dealers whose head-quarters are at Hatibagan.* This is sold as pigeon food, and is the basis of such adulterants as are used in Calcutta. In the mofussil the adulterants used include refuse, small bits of brick, cow-dung, and a large proportion of earth. The adulteration thus consists in putting back into the grain a given quantity of what has been previously removed, so as to degrade it to a low standard."

In my report, No. 391 T., dated 7th July 1886, paragraph 5, it was shown that the Manager of the Dumraon Raj "had a golah at Itari 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 the Manager's servants were directed to mix two maunds of earth with every hundred maunds of grain, so as to bring the adulteration up to the required standard. This earth was treated with water, and specially prepared for purposes of adulteration." Major Boileau, then Sub-divisional Magistrate of Dinapore, wrote:—

The grain-dealers wilfully adulterate their grain, adding about two maunds and thirty seers of dry clay, *bhusee*, and other grains to every hundred maunds of wheat; and Mr. Carnduff, Sub-divisional Officer of Hajepore, said, "In the hands of the middlemen the grain is lodged in golahs, and such grains as *akla pipra* are intentionally added with a view to adulteration." Again, so competent an authority as Mr. J. Ralli, the head of the firm of Messrs. Ralli Brothers, in Calcutta, says that in his opinion, "relatively pure wheat can be supplied from India. It is a question of price."

Normal impurity.

14. How then in the face of all this evidence is it possible to assert that the normal state of Indian wheat on the Calcutta side is to contain 5 to 7 per cent. of foreign matter? It may be admitted that its normal state is to contain 2 to 3 per cent. of other grains and dust, but the deliberate adulteration with refuse, bits of brick, and prepared adulterants is the result of the abnormal, factitious, and unhealthy system of having a fixed standard of 5 to 7 per cent. of refraction, a system which obviously holds out a direct and powerful incentive to adulteration up to that standard, and makes it positively wrong for Government officers to advise or encourage cultivators to produce pure grain. Neither can it be correctly said, as far as the Calcutta trade is concerned, that the conditions of it are gradually and slowly improving. On the contrary there has, the Calcutta Chamber of Commerce remark, been a deterioration in the quality of wheat brought to this port in recent years. Wheat has, it has been stated, been shipped from Calcutta in the present year in a dirtier condition than ever before, containing admixture of foreign substances up to 12 per cent., while the total quantity exported fell from 217,000 tons in 1887-88 to 147,000 tons in 1888-89 and to 78,000 tons in 1889-90.

Purchase on analysis.

15. If wheat were bought on analysis in London, as is done in Marseilles, there would be no motive for adulteration and no object in exporting dirt, while the normal condition of Indian wheat, to which the London Corn Trade Association attach so much importance, would not be in any way affected. As to the question of weevilling, on which so much stress is laid in this connexion, it is to be remarked that Mr. Charles Whitehead, Agricultural Adviser to the Lords of the Committee of Council for Agriculture, holds that "the foreign matter annexed with wheat imported from India serves as a medium for the wholesale transportation of insects injurious to crops; that the admixture of dirt, seeds, and rubbish causes the wheat to heat, which is detrimental to its quality, and at the same time causes the weevils to propagate unusually, and to materially damage it. Besides the actual money loss occasioned by these weevils, it is stated that the flour made from wheat much infested by them is injurious to health."† Whatever, then, the evils arising from weevilling may be, it is evident that they are aggravated by a system which encourages and even necessitates admixture of dirt, which causes the weevils to "propagate unusually, and thereby renders the flour injurious to health." For these reasons I agree in the

Weevil injurious.

* Agri-Horticultural Society's letter, dated 5th June 1890.

† Board of Trade's Journal, No. 35, for June 1889, page 687.

opinion expressed by the Bombay Chamber of Commerce in their letter, dated 14th June 1889, to His Excellency the Governor of Bombay, that the reasons given by the London Corn Trade Association for adhering to the present system are either incorrect in fact or irrelevant, and I am of opinion that no improvement in the purity of Indian wheat will be brought about by grain elevators, threshing machines, or by other means, unless and until that system is changed either by—

- (1) reducing the standard of refraction to 2 to 3 per cent., which is the normal per-centage of admixture of foreign matter; or
- (2) by making pure wheat the basis of contract, thus refracting only the actual quantity of foreign matter found on analysis.

It is open to the London Corn Trade Association to adopt either of these courses, and it is difficult to see what the objections to them are, assuming that the exporters and importers do not, as alleged by the Agri-Horticultural Society, derive their profits from the present admixture of dirt.

16. A further question remains for consideration, namely, whether wilful adulteration in this country should be put down by legislation. Mr. John McDougall in a letter, dated 25th March, to the Under-Secretary of State, strongly advised that, failing the adoption of the other measures suggested, it should be made penal to deal in or export grain to be used for human food in any way adulterated. Mr. Seth Taylor, the President of the London Corn Trade Association, at the conference held in the India Office, remarked on this point as follows:—

"We accept your Lordship's disclaimer that you are not going to dictate between the buyer and seller which, I think, would be beyond the scope of our legislature, whatever may be done in other countries; but I think that the limit to which the Government might interfere with advantage would be the prevention of wilful admixture of foreign substances in wheat in India. We must discriminate between what is naturally grown and is necessarily harvested with the wheat, and the system of mixing dirt with the wheat to bring it down to a standard below that which should come here. That, of course, one feels is a practice which might very fairly be made a penal offence. But that rests with your Lordship and the Government. I am quite sure that it would be to the interest of everyone if such an enactment could be passed. The difficulty there is in fixing a limit of 2 per cent. refraction is owing not only to dirt, but to the seeds of various kinds that are grown amongst the wheat. We have not only from India but from other countries foreign elements grown in the wheat, and to have a system of cleaning wheat at the port of shipment would add more to the cost of wheat than the buyer would give on the other side."

17. It thus appears that the London Corn Trade Association as represented by their President would be in favour of legislation with a view to stop deliberate adulteration, as such legislation, it is said, would be in the interest of everyone. I would not, however, recommend recourse to such legislation. It is evident as long as contracts are made on the basis of 5 per cent. of foreign matter, that if wheat is produced from the threshing-floors with only 2 per cent. of foreign substances, and wilful admixture of foreign matter be not allowed, the gainers would be the merchants at home, for they would secure grain with only 2 per cent. of dirt, when they had contracted and paid for grain with 5 per cent. of dirt, and the losers would be the ryots and petty dealers in India, who would obtain for comparatively pure grain the same price as for wheat with 5 to 7 per cent. of mixture. If, then, legislation is to be had recourse to at all, it should be designed not alone with a view to punish deliberate adulteration, but also with a view to punish trading or dealing in grain which has been adulterated. It cannot be said that the practice of adulterating wheat at present followed is punishable under the Indian Penal Code, for it is not certain that the adulterants are deleterious to human health, inasmuch as it is said that the dirt and adulterants are removed by millers in England before flour is consumed, nor can the practice be considered fraudulent, inasmuch as the purchasers of adulterated wheat contract for and purchase the dirt, and know what they are buying. The persons who to some extent suffer from the present system are the consumers of flour in England, who have to pay unnecessarily for cost of five to seven maunds of dirt for every hundred maunds of wheat, then to pay for the extra cost of separating the wheat from the dirt in England, and at the same time obtain for consumption, at a needlessly high rate, flour which must be less wholesome than if it were made from wheat imported in a pure state. But the class which chiefly suffers are the Indian ryots, who are placed by the system in an unfavourable position to compete with foreign markets, and may in time, in consequence of the system, be driven out of the market altogether.

Essential reforms.

Legislation to penalise adulteration.

Railway
rules as to
export con-
signments.

18. The proposal made by the Chamber of Commerce to allow Railway Companies to raise the limits of special class consignments of wheat and seeds intended for export from the present limit of a waggon load to 50 tons (these special class consignments are carried at specially low rates) is one which cannot, in my opinion, be supported. It is not clear how the adoption of this proposal could affect the cleanliness of wheat, while the proposal is obviously objectionable on other ground as tending to unduly favour exporters at the expense of the growers and petty dealers. The adoption of the proposal would, it is said, draw a sharp line between wheat intended for export and that intended for local consumption. The latter is now adulterated even more than the former, and consignments originally intended for local consumption, with admixture of 10 to 12 per cent. of dirt, are sometimes bought up by exporters and shipped as they stand, but the same thing would happen supposing the Chamber's proposal to be accepted.

Summary of
recommendations.

19. To sum up: I am of opinion that the elevators may be tried in fifteen selected stations as proposed, provided that the Company make their own arrangements for the purchase and sale of their grain, without the interference of Government officials; that a guarantee of interest at 4 per cent. on a maximum outlay of 25,000*l.* per annum may be given for five years, and free sites for buildings; but I doubt whether the elevators will have any appreciable effect in causing clean grain to be exported from India as long as the present system of 5 to 7 per cent. refraction continues; that this system renders the admixture of dirt and foreign substance up to that standard inevitable; that the reasons given by the London Corn Trade Association for adhering to the present system, so far as Calcutta is concerned, are founded on misapprehension of facts; that their conclusions ought to be reconsidered; that special legislation should not at present be had recourse to; but, if other remedies fail, that it will then be a question for consideration whether, as suggested by Mr. McDougall of London, it should not be made penal to deal in or export wheat, intended for human food, which there is reason to believe has been wilfully adulterated or contains substances deleterious for human consumption.

43.

PROCEEDINGS of a MEETING held in DARJEELING on 28th May 1890.

PRESENT:

Mr. J. A. RALLI, } Merchants,
,, PETROCCHINO, }
,, PALLACHI, Broker,
,, FINUCANE, Director of Agriculture, Bengal.

The following questions connected with the subject of erection of grain elevators in India and the impurity of Indian wheat were discussed:—

Questions.—Is the scheme described in Mr. Smith's letter, dated 17th September 1889 (which was read), one which is suitable for India?

Messrs. Ralli, Petrocchino, and Pallachi consider that the system is not suited to India, and, if it were, they think that the concessions and privileges which Mr. Smith asks for are so impracticable that they need not at present be considered *Serialim*. It would be obviously out of the question to provide land for the Company's purposes free of cost in every railway station from which wheat is exported; or to guarantee that similar facilities will not be afforded to a competing Company; or to guarantee interest at 4 per cent. on any amount which the Company may deem it desirable to expend.

2. Apart from the general scheme, is it desirable, as an experiment, to give the facilities asked for to enable the Company "to select a few stations on some of the principal grain-carrying railways, and to conduct thereat simple cleaning and grading operations, returning the grain into bags properly secured, and covered by certificates as to the quantity and quality, thus discarding for the present the idea of the elevator proper"?

2. Mr. Finucane said that as Mr. Smith proposes to return the grain to the bags, and to let the owners dispose of it as best they can, the advantage of the elevators was not apparent. If an adequate price cannot, as is alleged, be now got for clean grain, and if it pays people to have the grain as produced from the threshing-floors mixed

with dirt, why should they bring their grain to be cleaned to the elevators? If they did bring grain to be cleaned, why should the fact of its being cleaned in the elevators secure for it an adequate price if, as is asserted, clean grain does not now fetch an adequate price?

Mr. Ralli said people would not bring their grain to the elevators to be cleaned. Wheat can now be cleaned at a very low cost. Machinery was introduced by his own firm for cleaning grain, and grain was cleaned; but it was found that it did not fetch a relatively higher price. It is not clear how the fact of its being cleaned in the elevators could secure an adequate price for it. The process would probably be more expensive than cleaning by native agency with sieves. Therefore the elevators must be financial failures. Messrs. Pallachi and Petrocchino agreed. In this connexion Mr. Ralli adds that he understands the Elevator Company will charge on all certificates granted an uniform wastage of a certain per-centage, perhaps $\frac{1}{2}$ per cent. per month. This would, in his opinion, be most objectionable, because it would place the man who delivers a parcel of wheat in good condition on the same footing as one who delivers badly weevilled wheat, which will go on deteriorating in weight to a much greater extent than good conditioned parcels. The one man will thus benefit at the expense of the other.

3. How would a plan work of having the owners of the elevators buy and sell the grain at their own risk, i.e., suppose Mr. Smith's Company were to buy the grain from cultivators, traders, or others on the best terms they can, then bundle, clean, and export it themselves at their own risk, and thus endeavour to make a market for clean grain at home? Would Government in this case be justified in giving land for the buildings on State Railways, and guaranteeing interest on the outlay on buildings and machinery, as proposed by Mr. Smith, up to a maximum outlay of 25,000*l.* for five years? This would involve a guarantee of only 1,000*l.* a year for five years. If the Company succeeded, they might then be left to extend their operations without Government interference; if they failed, the risk, so far as Government is concerned, would not be great. No monopoly should, of course, be given to them, and no guarantee as against other Companies or firms. Inasmuch as they would be pioneers in trying the experiment of procuring clean grain and obtaining a market for it, might they be encouraged to the extent of giving them free sites for their elevators at the selected railway stations where they propose to begin their operations, and might they be guaranteed 4 per cent. interest on an outlay on buildings and machinery up to a maximum outlay of 25,000*l.* for five years, being, after that term, left to work on purely commercial principles?

4. Messrs. Anderson, Wright, and Co. say that the grain elevator system is unsuited to India, and urge that there is no justification for the acknowledgement in Court of a contract for wheat with 5 per cent. or 10 per cent. adulteration. Up-country firms, both native and European, would, they say, gladly see a market for clean grain forced upon exporters. This can be accomplished by Government enacting, both here and in England, that no contract will be recognised in a court of law unless based on a price for pure wheat. Were this the case, no up-country dealer would risk paying railway carriage on 5 tons of dirt for every 95 tons of pure wheat, and no buyer would accept of wheat without getting the full equivalent of the loss he would sustain on the refraction by sending parcels to Europe.

The Agri-Horticultural Society urge the same view, and say "there is a well-established custom of deliberate adulteration, that a regular market price for suitable adulterants exists in the exporting districts, and that sellers purchase these materials and mix them with their wheat. The skippers make the best bargain they can as to allowances (for dirt) with the sellers, and sell fair average at home. Practically their profit depends on what they get in this way."

QUERIES.

- What would be the objections to such an enactment as Messrs. Anderson Wright and Company and the Agri-Horticultural Society propose?
- Are these objections outweighed by the advantages to the trade and public which would be attained?
- Is it true that the profits of exporters practically depend on adulteration?

5. Will the alterations made as to forming the standards in which deliveries will be compared in case of need by the London Corn Trade Association have any effect in causing cleaner grain to be exported than heretofore?

6. As the elevator system is not believed to be likely to afford a remedy, and as the London Corn Trade Association have done practically nothing, and as legislation is not approved, then nothing can be done in order to secure export of clean grain.

The Calcutta Chamber of Commerce have urged on Government the desirability of impressing on cultivators the necessity of producing clean grain. It has been shown that it would, under present conditions, be wrong to impress anything of the kind on cultivators, and that nothing can be done in that direction towards securing export of clean grain. Is nothing then to be done in any direction?

Can wheat be sold on analysis?

Is it sold anywhere on analysis?

7. How would the recommendation of the Bengal Chamber of Commerce operate towards securing exports of cleaner grain?

Their recommendation is that Government should permit railways to raise the limits for special class consignments of wheat and seeds intended for export from the present limit of a wagon-load to a minimum load of 50 tons.

8. Where there is a deliberate adulteration of wheat going on in the manner described by the Agri-Horticultural Society, should it be stopped by police interference under the Penal Code, if that be possible, and if not possible under the Penal Code, should an Act be passed to make the practice penal?

3. Mr. Pallachi thinks that this plan is worth a trial, provided that no monopoly is given in any shape. If the Company believe in the efficacy of their elevators in reducing the cost of turning out clean grain, and if they believe that they can get an adequate price for clean wheat, they should be prepared to try the experiment on these terms. But Mr. Pallachi himself thinks the elevators will be financial failures, because the increase of cost of cleaning the grain will be more than the increase in price which will be obtained for the cleaned grain at home.

Mr. Ralli does not think that the Government would be justified in offering any guarantee, because he thinks the scheme has no chance of success. He would not himself invest a pice in elevators on this or any other plan. Mr. Petrocochino agreed with Mr. Ralli.

Mr. Ralli adds that basing oneself on the experience of firms long established, the necessary staff and organization for carrying out such a scheme would be so costly as to prejudice any reasonable chance of success. It would be tantamount to constituting the Grain Elevator Company into a mercantile concern to which one season's unfavourable experiment would be disastrous, especially with so limited a capital.

4. Mr. Ralli says the objections to such an enactment are the following:—

1st.—The general objection to Government interference in trade.

2nd.—Such an enactment would result in an evasion of the letter of the contract. The Calcutta merchants would have no objection to such an Act if the home merchants have none. The Calcutta merchants are the servants of the home consumers. It is because the home markets pay relatively better prices for unclean wheat that shippers find it better to export it.

It is not because of difficulty in procuring clean grain that it is not exported, but it is because there is a better demand for dirty wheat than dirty wheat is exported. Mr. Pallachi entirely agrees in this view; so does Mr. Petrocochino. The statement is not correct that the profits of the shippers depend on the system of refraction, the home buyer pays a price knowing what he has to get. In case of excess admixture the shipper is mulcted in heavy allowances.

With reference to the statement in No. 4, Anderson, Wright and Company, to the effect "that no up-country dealer would risk paying railway carriage on 5 to 10 per cent. of dirt," Mr. Ralli remarks that sellers send down seeds ordinarily containing a greater amount of admixture than the one contracted for. Although, for instance, a contract of linseed stipulates that in the event of the admixture exceeding a certain per-centage buyers (besides several other options) have also that of rejection, it has been found impracticable to enforce it.

5. Mr. Ralli says the alteration made is one in the right direction, and will probably check any tendency for future increase in the admixture of wheat shipped from India. Messrs. Pallachi and Petrocochino agree.

6. Mr. Ralli says the only remedy is to be found in the consumer in England paying an enhanced price for a superior article. If he does the article can be supplied. He believes that relatively pure wheat can be supplied from India. It is a question of price. As to the question of selling on analysis, wheat in Marseilles is sold, he believes, only by his firm (Ralli Brothers) on the basis of analysis, i.e., fixing a percentage of the components. Usually any differences arising in the deliveries in Marseilles as to analysis are judged by the eye, but of course the buyer has the right of proceeding to analysis. The basis of admixture on which his firm sells guides the general deliveries of Indian wheat in Marseilles. This change, however, has not, he believes, increased the imports of Indian wheat into Marseilles.

As to the basis of selling on analysis in other countries, he supposes the same might be done in England if buyers are prepared to pay the difference of price, which is very doubtful; but of course it will enhance the cost.

Mr. Petrocochino agrees with Mr. Ralli.

Mr. Pallachi says that, so far as he can judge, there are no difficulties so far as weevilling is concerned, in selling by analysis. It is done in Marseilles; why not elsewhere?

7. Mr. Ralli says that there would be greater uniformity, as the tendency would be to throw the export trade from the districts into the hands of larger dealers.

Mr. Pallachi says the adoption of the recommendation of the Chamber would have no effect whatever in the direction of securing export of clean grain, and would be injurious to the interests of petty dealers.

Mr. Finucane said it would also appear to be injurious to cultivators, as throwing additional obstacles in the way of sale and export of small quantities of grain.

8. This is a question of law on which it is preferred not to express an opinion.

The 28th May 1890.

M. FINUCANE,
Director, Department of Land Records and
Agriculture, Bengal.

44.

FROM BENGAL CHAMBER OF COMMERCE, TO DIRECTOR, Department of Land Records and Agriculture, Bengal, No. 386—90, dated 7th May 1890.

The Committee of the Chamber of Commerce have given their best attention to the papers forwarded with your docket No. 463 Agri., dated 4th March, and I am now directed in reply to state that in their opinion any attempt to introduce the grain elevator system into this country would be at least premature. Mr. James G. Smith, in his letter to the Secretary of State, dated 17th September 1889, after enumerating the benefits that would result from the system, and pointing out the directions in which the assistance of Government would be necessary, suggests a tentative commencement of operations by the "Grain Clearing and Elevator Company," pending which the efforts of the promoters would be directed to securing a demand for the clean and graded wheat.

The result of the agitation of last year in favour of clean Indian wheat does not encourage the Committee in the belief that the efforts alluded to by Mr. Smith would meet with any great amount of success. But should a real demand arise for clean Indian wheat, they are of opinion that private enterprise will be equal to the occasion, without requiring either the assistance of, or a guarantee from, Government.

It is not necessary to discuss the suitability of the elevator system to the conditions of the grain trade, at least on two sides of India, further than to say it is open to doubt whether, considering the heavy expenses which the proposed Company would incur, such a Company could successfully compete with the simple, but effective, methods of cleaning already known to those who deal in grain. The Committee, moreover, consider that the proposal that the Company should hold grain for the owner for an indefinite time, and accept the responsibility for its condition, is scarcely one suited to India owing to the risks attending keeping wheat in this country for any length of time.

No opening
for elevator
under pre-
sent condi-
tions.

The Committee would point out that the scheme contemplates concentrating the grain trade at a few important stations on the principal wheat-bearing railways, and to this extent is diametrically opposed to the policy pursued for the last eight or ten years by Government—a policy which, by abolishing the special reduced rates, allowed by the Railway Administration for large consignments, aimed at giving petty stations equal facilities with the larger depôts for sending produce to the coast ports. The Committee understand from the principal exporters of wheat that the opening up of these petty stations is largely responsible for the deterioration in the cleanness of the wheat brought to this port, for whereas this produce was formerly concentrated at some few important stations, there piled and re-bagged, it is now forwarded direct, without any piling, handling, or cleaning, to the coast port. While the Committee are of opinion that it is now impossible to nullify the results of this policy and revert to the old system of special rates for consignments of 200 tons, they would urge most strongly upon Government the necessity of permitting the railways to raise the limit for special class consignments of wheat and seeds intended for export, from the present limit of a waggon-load to a minimum load of 50 tons.

This will have the effect of making a broad line between wheat tended for export and that for local consumption.

It would assist in raising the standard of cleanliness.

It would place the trade in the hands of men of some little means, instead of opening it up, as at present, to impecunious gamblers.

It would lessen the work needful to be done at the shipping port and permit of the grain being properly sampled and examined, and so put a check to the false packing and swindling, which is encouraged by the system of petty consignments.

The Committee have reason to believe that if this slight reform were introduced, the benefit resulting to the trade would be so great as to leave little to be desired in the condition in which rail-borne wheat would reach the home market.

45.

CALCUTTA WHEAT AND SEED TRADE ASSOCIATION, to BENGAL CHAMBER OF COMMERCE, No. 41 H., dated 6th June 1890.

legislation
undesirable;

Mr. Finucane's letter of the 28th ultimo to your address, with its annexures, regarding a proposal that the only basis of sale of wheat which should be recognised by law should be that of pure wheat, was duly considered by the Committee of the Association at their meeting held yesterday, when I was desired to let you know, for the information of Mr. Finucane, that in the opinion of the Committee it is useless to try to compel people to clean wheat as long as the Home Trade is indifferent about it, and is satisfied with what it now receives. The Committee further consider that there is no need for legislation on this subject, and they regard the enactment of a law on the terms proposed as a most undesirable interference with freedom of contract.

As regards Mr. Finucane's inquiry with reference to the other proposal, that the limit for special class consignments of wheat intended for export should be raised by the railways from the present limit of a waggon-load to a minimum of 50 tons, the Committee do not think it necessary to express any opinion, as this point will no doubt be dealt with by the Chamber from whom the proposal emanated.

I return the papers herewith.

46.

AGRI-HORTICULTURAL SOCIETY OF INDIA to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 3rd April 1890.

I have the honour to acknowledge receipt of your endorsement No. 464, dated the 4th ultimo, forwarding, for the expression of this Society's opinion, correspondence accompanying Revenue Department endorsement No. 516—63 Agri., dated 11th February 1890, in connexion with establishing grain elevators in India.

2. I am to say that as this Society understands that the different Chambers of Commerce have been consulted, and as the views of the commercial community will thus

be laid before Government, the Society deals with the question wholly in its relation to the cultivators.

3. The establishment of the elevators for the purpose of cleaning grain for export is, the Society consider, not likely to be of any direct benefit to the grower, for the reasons set forth in the following paragraphs.

4. The conditions under which wheat is grown in India, the small quantities each grower places on the market, the poverty of the people necessitating their selling their produce without delay, and other causes, precludes there being any chance of their being able to avail themselves of the facilities for cleaning offered by the system.

Reasons
against the
scheme.

As a rule Indian wheat is not purposely adulterated by the growers. The impurities which exist in it when it leaves their hands are due to the system of cultivation and thrashing, which are too well known to need description here.

The growers winnow and clean their wheat to the extent their crude appliances will admit, and undoubtedly some of the earth from the threshing-floor, and an admixture of other grains, must remain in the crop. This is estimated at 2 to 3 per cent. of earth, peas, and barley. But as the Calcutta contract is for 5 per cent. up to August, and 6 to 7 per cent. after that, it therefore pays the seller to adulterate his batch up to 2 per cent. over the guarantee, or he will lose on the average. This is such a well-established custom that a regular market price for suitable adulterants exists in the exporting districts, and the seller purchases such materials and mixes it with his wheat. The shipper has the lot examined and makes the best bargain he can as to allowance with the seller, and sells "fair average" at home; practically his profit is what he gets in this way.

It is probable that even the buyers who collect grain, buying the small quantities sold by individual growers at *hats* and bazaars, and selling again to dealers and merchants' agents, are not likely to be able to deal directly with exporters through the elevators.

4. There is one feature in what is known as the elevator system which would probably affect the grower prejudicially.

Loss to
cultivator.

The system is that all grain passing into the elevator is graded and bulked, and a receipt given to each constituent, who, when he requires his grain, receives his quantity from the bulk.

The bulking of such large quantities give a more even standard than at present exists in India, and these recognised standards again being fixed, their relative prices are fixed.

As a matter of practical convenience, the number of standards or grades will have to be limited, and the present elasticity done away with, so that the superior sample falling into a given class will fetch no more than an inferior sample which is just good enough to pass the standard.

There will therefore be no incentive to buy the best quality of a certain class; the endeavour will be to get the cheapest grain which will pass the standard. This may not matter to the merchant, but the grower who produces a better sample of grain of the same class as his neighbour's will be no gainer.

5. I am directed to say that, for the reason already given, this Society does not enter into the question of the effect which the introduction of elevators would have on the trade in wheat. The Society is aware that there is much to be said from a commercial point of view for the establishment of fixed grades of clean wheat, and for other results of the elevator system. Without offering an opinion on these points, or on the system as a whole, I am to point out that in India the existence of the weevil pest would have to be taken into consideration as a factor against the collection and storing of grain in the manner proposed, and special means would have to be contrived to guard against its ravages, more especially were wheat held over for any time.

Danger of
weevil
increased.

The Society is aware that the papers before them contain merely an outline of the scheme proposed. They think, however, that there being no allusion to one of the greatest evils with which Indian wheat has to contend is a serious omission.

6. I am to submit that, if the object of the Government in entertaining the scheme under consideration is to put a stop to the intentional adulteration of wheat in India, a simple remedy exists, viz., to enact that no contract for purchase or sale of wheat will be considered valid unless the price agreed upon is held to be for pure grain. As long as sellers can go into court and enforce a contract for wheat with 5 per cent. to 10 per cent. adulteration, the evil cannot be stopped. If the price paid was for pure wheat

Legislation
for adultera
tion.

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only, no one would expend money on the railway carriage of adulterants which would be deducted from the price, and no exporter would pay freight and charges unless he got from the seller the full equivalent of what he would lose for any adulterations.

47.

AGRI-HORTICULTURAL SOCIETY OF INDIA to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 5th June 1890.

I received your demi-official No. 173, dated the 29th ultimo, on the 2nd instant, and though it was marked urgent, I have had to delay replying a couple of days to collect the samples sent herewith.

And nature,
value, &c. of
adulterants.

You ask (1) the value of adulterants, (2) the districts where they trade in them, (3) if they are of such a nature as to be deleterious for human consumption, (4) whether in the opinion of this society the deliberate adulteration of wheat, if not already penal, should be made so.

(1.) The value of the adulterants vary: those which are not added intentionally, such as gram and oil-seeds, having a distinct value, in some cases exceeding that of wheat; these, with a small per-centage of earth and chaff, compose what may be called the natural adulteration. The adulterants which are added purposely include most of the foregoing taken from the general threshing-floor, and other refuse, small bits of brick, cow-dung, and a large proportion of earth. The adulteration thus consists of putting back into the grain a given quantity of what has previously been removed, so as to degrade it to the low standard.

In Calcutta, where there are no threshing-floors, the refuse, fannings, and screenings from merchants' godowns and millers' works are bought by regular dealers whose headquarters are at Hatibagan. They hand-clean and divide out the gram, oil-seeds, &c., into the quantities sent herewith. The bulk remaining consists of light and weevilled wheat, earth, and a proportion of oil-seeds. This is sold as pigeons' food, and is the basis of such adulterants as are added in Calcutta. There is comparatively little done in this way here, as the wheat with the given per-centage of refraction comes down from the districts. The price of this material is from 12 annas to Rs. 1-2 per maund, according to quality, and to it is added the earth which has been separated. The samples are marked B 1, 2, and 3 and E.

The gram and chaff is bought by carters to feed their bullocks, by grain parchers, &c., and the oil-seed is readily sold. This brings us to the (3) question as to whether the adulterants are deleterious. The proportion of foreign matter of every sort not being 8 per cent. in extreme cases, there does not seem much danger, particularly when it is considered that the grain is professedly dirty, and that it is cleaned before being prepared for human food.

(4.) As your letter is urgent, and the members of the committee who would deal with such a reference as yours are absent from Calcutta, I cannot reply to the question of penalising deliberate adulteration. Should you desire it, I can write you on this point hereafter. I believe my committee think that the remedy suggested in the sixth paragraph of my official letter to you would be quite sufficient, but, for the reasons given, I have not been able to again consult them on this point.

And samples
of impurity.

In addition to the samples I send, got from Hatibagan, and lettered according to the enclosed list, I send a collection of twelve samples kindly given to me by Mr. W. W. Duncan. They are from the firm's flour-mill, which has the best machinery for cleaning and sorting grain, as well as for milling, on this side of India. The samples are drawn this morning from the separator, and you will observe that some of the foreign matter could have easily been cleaned out in the exporting district. I have not seen such a collection elsewhere, and think that you will find them of interest.

P.S.—Since writing the foregoing, I have obtained the following additional samples:—

G.—The sweepings collected by the dealers, with the dust taken out. This sample contains wheat of bad quality, oil-seeds, &c. The price in this condition is Rs. 1-12 per maund to Rs. 2.

H.—The dust taken out of the above sample, Rs. 9 per cart

I.—A sample prepared for adulterating wheat, called technically *hatka*—

- No. 1. Uncleaned wheat.
- „ 2. Refuse from fan-valve of separator before going on to sieve.
- „ 3. Fannings from first sieve of separator.
- „ 4. Gram from second sieve of wheat separator.
- „ 5. Screenings from third sieve of wheat separator.
- „ 6. Fourth sieve of wheat separator.
- „ 7. Refuse from fan-valve of separator after passing through the sieves.
- „ 8. Screenings from Cockle cylinder.
- „ 9. Refuse from first valve of smutter.
- „ 10. Refuse from second valve of smutter.
- „ 11. Fan-valve of brush machine.
- „ 12. Clean wheat.

SAMPLES from HATIBAGAN.

- A. Grain and barley, price at Rs. 1-8 per maund.
- B¹.
- B².
- B³.
- C. Oil-seeds at Rs. 1-8 per maund.
- D. Oil-seeds at Rs. 1-4 per maund.
- E. Earth at Rs. 0-8 per maund, or Rs. 10 per cartload.
- F. A sample prepared to show the sweepings purchased, none remaining uncleaned.

48.

CHAIRMAN, CALCUTTA PORT COMMISSIONERS, to DIRECTOR, Department of Land Records and Agriculture, Bengal, No. 318, dated 6th May 1890.

I have the honour to acknowledge the receipt of your endorsement No. 463-71 Agri., dated the 4th March 1890, forwarding, for an expression of the Commissioner's opinion, copy of correspondence which has passed between the Government of India and the Secretary of State on the subject of the formation of a company for the introduction of grain elevators into India.

2. In reply I beg to state that the papers were carefully considered by the Commissioners at a meeting held on the 30th April 1890, and in pursuance of a resolution then passed, I have to state that the Commissioners are of opinion that the scheme contemplated is not one which is suited to this country, or one which should have the support of Government of the kind asked for. It, however, seems to them that if the requirements of trade necessitated the introduction of such a system and there was a prospect of its proving remunerative, it would be taken up by private enterprise.

Scheme un-
suitable.

49.

MANAGER, EASTERN BENGAL STATE RAILWAY to the DIRECTOR, Department of Land Records and Agriculture, Bengal, No. 839M., dated 26th April 1890.

In reply to your letter No. 469 Agri., dated 4th March 1890, I have the honour to make the following remarks regarding the proposed Company for the introduction of grain elevators in India.

Concession
exorbitant.

2. As regards this railway the traffic in wheat and seeds is small, and it is unlikely that an elevator would be required at any of our up-country stations. If however, it should hereafter at any time be considered expedient to erect one, we have no employé at such stations who would be qualified to issue certificates of quality.

3. It is, I think, doubtful if higher railway freights would be obtained for wheat dealt with in elevators; the consignor would consider that he paid the Elevator Company the cost of handling his grain, and would probably call for a corresponding reduction in the rates. The railway would effect no practical saving in being relieved of the cost of receiving and watching the grain.

G 3

4. The free grant of land at metropolitan stations and Port Trust property is a very large concession, but the demands of the promoters appear to me to be generally so exorbitant that this point does not perhaps call for special remark. If they have any real belief in the effects to be produced from the introduction of the elevators on which so much stress is laid on page 2 of the printed papers, they should be assured of the success of the project on its own merits without calling on Government to guarantee interest and to grant free land.

5. The venture is of course a novel one in this country, and if the promoters were prepared to erect elevators on one railway and at one port, they might reasonably be given a monopoly for 25 years and land free of rent until such time as the undertaking paid over a certain per-centage, when arrears could be made good. But as regards the proposals for cleaning, grading, and storing wheat without incurring expenditure on elevators, it seems to me that if such a course could be commercially undertaken at a profit it would have been introduced long ago without any company or guarantee.

6. In conclusion I may add that I have no practical acquaintance with the details of dealing with grain on the elevator system as worked in America or elsewhere, and I therefore give my opinion on the subject with some diffidence.

50.

OFFICIATING MANAGER AND ENGINEER-IN-CHIEF, Tirhoot State Railway, to the DIRECTOR OF LAND RECORDS AND AGRICULTURE, Bengal, No. 2,507, dated 19th April 1890.

In reply to your endorsement No. 470 Agri., dated 4th ultimo, I have the honour to state that I am strongly in favour of the scheme of having elevators at large and important stations, but I doubt very much their giving any return on the capital outlay on a line like the Tirhoot State Railway, where the stations are situated so closely together.

I should oppose the railway staff having anything to do with the working of the elevators from a mercantile point of view, such as sampling, &c., &c. The railway might give lands and sidings but I should be opposed to giving any guarantee or granting a monopoly to any one firm or company.

51.

MANAGER, NALHATI STATE RAILWAY to the DIRECTOR OF THE DEPARTMENT OF LAND RECORDS AND AGRICULTURE, Bengal, No. 1,812, dated Nalhati, 3rd May 1890.

With reference to your No. 471 Agri. of 4th March 1890 regarding the introduction of grain elevators in India, I have the honour to state that I am of opinion that the scheme is one which deserves encouragement and support from Government.

52.

AGENT, EAST INDIAN RAILWAY COMPANY, to the DIRECTOR OF THE DEPARTMENT OF LAND RECORDS AND AGRICULTURE, Bengal, No. 5,862, dated 14th May 1890.

With reference to your docket No. 468 A., dated the 4th March last, regarding the introduction of grain elevators in India, I am of opinion that until they are introduced the purity of Indian wheat and seeds for export cannot be guaranteed. At the same time I beg to point out that until a proper understanding is arrived at between seller and buyer it would be useless to attempt to introduce them.

Doubtless in course of time a better and purer description of wheat will lead to a larger demand and the country would benefit by increased exports.

On the whole I am in favour of the introduction of elevators, but I would deprecate any attempts to create a monopoly in favour of any port or railway in India.

Success of
scheme
probable.
matial.

Proposal
deserves
encourage-
ment.

53.

TRAFFIC MANAGER, EAST INDIAN RAILWAY, to ACTING AGENT, EAST INDIAN RAILWAY, No. 2,937, dated 25th June 1890.

The question does not appear to have been quite clearly stated in the letter from the Chamber of Commerce. We have not abolished the special reduced rates formerly only given for large consignments, but we have removed the condition that the lowest rate shall be subject to a minimum of a train-load or other large quantity. Our charge for wheat and seeds in waggon-loads is now lower than the specially reduced rates formerly quoted for large consignments.

The train-load minimum was withdrawn fourteen years ago under instructions from the Board of Directors, and I cannot find that since then there has been any desire to re-introduce it, or any other minimum which would be likely to affect traffic from the small stations which we have opened from time to time.

At present, owing to the tonnage of our wagons, it would be to our detriment to introduce a minimum of 50 tons (irrespective of other considerations). Of 50 tons say 46 could be loaded in four wagons, and the fifth must be reserved entirely for the remaining four tons to prevent confusion with mixed consignment, &c.

Enclosure returned.

Rule as to
minimum
weight for
produce.

54.

MESSRS. RALLI BROTHERS to the DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 12th March 1890.

We beg to acknowledge receipt of your letter, dated 3rd March, requesting our opinion regarding the introduction of grain elevators into India.

We have carefully perused the documents attached to this letter, and regret to inform you that, as we have no experience of the working of elevators in America, we are not in a position to express a decided opinion on the subject further than to say in a general way that, viewing the distinct nature and diversity of quality of the Indian grain compared with American, we very much question whether the introduction of any such system in the handling of Indian grain would be successful.

Success of
scheme
doubted.

55.

MESSRS. WILLIAM MORAN & Co., to the DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 12th March 1890.

We have to acknowledge your letter No. 1,060 of yesterday's date, forwarding the papers relative to the introduction of grain elevators into India.

We have given the papers very careful consideration, and are of opinion that the measure is one worthy of support and encouragement.

56.

MESSRS. ANDERSON, WRIGHT, & Co., to the DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 12th March 1890.

In reply to your favour of 3rd instant, *anent* Messrs. Ritchie, Steuart, & Co.'s scheme for the introduction of grain elevators.

The application of the American system to India is, in our opinion, not what is wanted, Indian wheat is all shipped in bags, whilst American goes to large extent in bulk, and the elevator is of no use where the bagged article is the rule.

This Messrs. Ritchie, Steuart, & Co. really concede, when they come down to proposing to open at a few stations and "conduct thereat simple cleaning and grading operations, returning the grain into bags properly secured."

Elevators
unsuitable.

egislation
invoked.

We think most firms having up-country connexions have tried this, but home-buyers and brokers are too powerful, and will not allow settlement to be made based upon the clean wheat. With an ordinary graded netting and a few coolies 100 tons daily can be turned out in any godown at a nominal expense without Government guarantee, and up-country firms, both native and European, would gladly see a market for clean wheat forced on exporters. This can be accomplished by Government enacting, both here and in England, that no contracts will be recognised in a court of law unless based on a price for pure wheat. We have pointed out again that there is no justification for the acknowledgment in Court of a contract for wheat with 5 per cent. or 10 per cent. adulteration. The only basis of sale recognised by law should be that of pure wheat, and were this the case, no up-country dealer would risk paying railway carriage on 5 tons of dirt for every 95 tons of pure wheat, and no buyer would accept of wheat without getting the full equivalent of the loss he would sustain on the refraction by sending the parcel forward to Europe. As long as the law recognises contracts for adulterated wheat, so long will the trade in it continue.

57.

Messrs. BALMER, LAWRIE, & Co., to the DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 7th May 1890.

In reply to yours of 2nd instant, we think the proposed alteration deserving of the support of Government, as from the correspondence we gather that it will benefit the wheat industry.

We shall be glad to know whether we can be of any assistance to the proposed Company in Calcutta.

58.

From GOVERNMENT, NORTH-WESTERN PROVINCES and OUDH, to GOVERNMENT OF INDIA, No. 149—1-590 A., dated 6th June 1890.

I am directed to acknowledge the receipt of your communications noted below,* forwarding certain papers connected with the formation of a Company for the introduction of grain elevators into India, and asking for the views of this Government as to the encouragement that should be extended to the Company.

2. In reply, I am to state, for the information of the Government of India, that the papers were forwarded for opinion to the Director of Land Records and Agriculture, North-Western Provinces and Oudh, and to the Chamber of Commerce for Upper India, Cawnpore. Their replies† accompany this letter.

Elevators
unnecessary
up-country.

3. From the papers accompanying your letter it appears that the company do not at present propose to introduce into India the grain elevator system on the scale on which it exists in America. They propose to restrict their operations to a few towns on important lines of railway and to there conduct simple cleaning and grading operations, returning the grain into bags properly secured and covered by certificates as to quality and quantity. The Lieutenant-Governor agrees with the opinion expressed by the Director of Land Records and Agriculture, that all that the company thus propose to do for the ryot of India the ryot is well able to do for himself. The cultivator of the provinces thoroughly understands the cleaning of wheat, and as with him labour is cheap, there would be no inducement for him to take his grain to the elevators. The first thing to be done is to establish the demand for clean grain which the present conditions of the wheat trade have not yet introduced, and this the company can best do by establishing their elevators at the ports and not in the interior. If the company erect their elevators at inland towns, it will not be sufficient for them to clean the grain; they will be compelled to undertake, as grain merchants, the carriage of cleaned grain to the ports.

4. The Lieutenant-Governor considers it would be inexpedient to extend special privileges to a company which would enable it to monopolise the export grain trade of the country.

* No. 122-127C.—Agri., dated 6th January 1890; No. 223C., dated 31st January 1890.

† From Director of Land Records and Agriculture, No. 1432, dated 5th April 1890; From Secretary to the Upper India Chamber of Commerce, dated 15th April 1890.

59.

From DIRECTOR OF LAND RECORDS AND AGRICULTURE, North-Western Provinces and Oudh, to GOVERNMENT, North-Western Provinces and Oudh, No. 1,432, dated 15th April 1890.

I have the honour to reply to General Order No. 117—1-590A., dated 20th January 1890, asking my opinion on the proposed formation of a company to introduce grain elevators into India.

2. I have discussed the subject with European and Native traders, and I have also had the advantage of consulting the traffic superintendent of the metre gauge section of the Bombay, Baroda, and Central India Railway, who arranged a meeting with me at Agra, and was able to give me valuable information as to the existing conditions of the wheat trade on his railway.

3. I need not dwell upon the obvious advantages which would result to India if Indian wheats could be placed on the English market in better condition than is now the case. It has, however, been proved, beyond doubt, that the main hindrance to improvement is not the Indian cultivator, but his European customers. If the London and Liverpool Corn Associations would insist on a higher standard in contracts for Indian wheat or would alter the practice by which deductions can be claimed by the buyer on account of the alleged existence of impurities, the Indian cultivator would improve the character of his wheat. Labour is cheap with him and grain-cleaning is well understood in his household. It is because the local dealers will not give him a higher price for clean wheat that he takes no trouble to clean it and even resorts to the device of loading it with dirt. What the Grain-cleaning and Elevating Company propose to do for the ryot's grain the ryot can himself do, provided the conditions of the export market remain unaltered. No ryot and no local dealer will be at the expense of taking grain to the Company's premises and receiving it back again in a cleaned state, unless there is a remunerative demand for this special class of grain. No ryot or local dealer could get a higher price for his cleaned grain received back by him from the Company, because his customers would have no guarantee that after it had been bagged and certified the seller may not have adulterated it. It follows that if the Company is to do any business at all, it must from the outset undertake the handling and transport of grain from the local markets to at least the port of export, and must further be in a position to create a special market in England or in Calcutta and Bombay for the certified product. The half measures to which the promoters suggest that operations should be confined* at first will not answer, as it is impossible to "secure a bag" or to satisfactorily cover it by a certificate if this bag is to be returned to the local dealer. The promoters must from the first not only clean grain, but arrange for its despatch by rail direct either in bags or in closed waggons from their premises to the shipping port.

Ryot can
produce
clean grain
for better
prices.

Company
must pur-
chase and
export, not
merely clean
the grain.

4. I pass to the terms which the promoters ask for from Government in Messrs. Ritchie, Stuart, & Co.'s letter of the 17th September. On the second page of the printed papers they ask for the assistance of Government under five heads, and following this they ask for "rights" or concessions under nine heads. The first form of assistance sought is that the grain certificates should be signed by Government officials. I do not think this can be granted. No Government official has time for this work in addition to his own duties, nor does any Government official know the details of the grain-classing business. Even if Government were to agree to appoint and pay the salaries of special officers, who are to look after them?

Government
securities.

Temptations to dishonesty would be frequent, and it would not be to the ultimate credit of the State to have anything to do with these grain certificates unless it be prepared to go to great expense in securing adequate supervision. The most under this head that could be offered is that the premises should be inspected by an officer of the Provincial Service at frequent intervals and his report made public. The report, however, would not carry any Government guarantee.

5. Free lands for sites could in most cases be found within the Railway Companies' fences, and probably the Companies would not object to surrender land within reasonable limits free of cost if the Government of India wish this and convey some assurance

Free land
for sites.

* "We would propose to select a few stations on some of the principal grain-carrying railways, and to conduct there simple cleaning and grading operations, returning the grain into bags properly secured and covered by certificates as to the quantity and quality, thus discarding the idea of the grain elevator proper."

that the case will not form a precedent for similar demands on behalf of other Companies. A Railway Company would no doubt be inclined to consider each case on its merits, especially with reference to the possible destination of the grain. The North-Western Railway, for instance, would object to give land at Ghaziabad for an elevator if all the grain cleaned in it was likely to go to Calcutta by the East Indian Railway. In some towns land might be acquired by Government near a railway at not excessive cost. It is questionable, however, whether in default of amicable agreement resort could be had to the Land Acquisition Act.

Guarantee
against other
companies.

6. The guarantee might be limited somewhat as follows: the Railway Company or Government or both to agree that it would not give or lease land to another grain Elevator Company or afford to such Company special loading or unloading facilities within a term of ten years in or near any town situate on the particular railway in which the present promoters construct a grain elevator of suitable capacity and suitably equipped. If an elevator is considered by the Railway to be needed at any place on the line where the Elevator Company has not put one, the Elevator Company should be given the option of putting an elevator there before land or facilities are given to another Company. This guarantee would not prevent other persons from acquiring land privately, and building elevators for themselves without the assistance of Government or the Railway. I presume a guarantee of this kind could be legally given by an Indian Railway with the consent of the Government of India, although it involves some apparent departure from the principle that a Railway acts strictly as a public carrier and is bound not to give preferential facilities to one person over another.

Guarantee to
extend to
every Indian
Railway.
Interest
guarantee.

7. As to the fourth head of assistance, the Company might be allowed to make its terms with each railway separately.

8. This might be conceded for a limited term of years and on a limited capital outlay.

9. I now come to "rights." These so-called rights are really of the nature of restrictions on the right which the promoters by law would have to trade and levy charges. In return for free land and certain guarantees the promoters would bind themselves to trade in particular ways only and to limit their charges. As my idea is not to give the Company a monopoly of grain-cleaning trade, or connect it closely with Government, but merely to help it at the outset with free land, a limited guarantee for interest and the like, I should not be disposed to impose conditions as to charges or on the character of its business. If its charges are high, its cleaning sheds will not be used; or if they are used in spite of high charges other persons will build similar cleaning sheds on private land near the railway station. The promoters, if they are well advised, will not "advance money to ryots on the security of their lands or crops."

10. The general feeling of Europeans and natives engaged in the grain trade is that the promoters should not acquire an exclusive legal privilege of erecting cleaning houses or elevators in any town or place in India. Subject to this consideration it is thought that Government or the Railway Companies might reasonably assist the promoters by free grants of land, transport facilities, and the like. I agree with this view and have made my suggestions in accordance with it.

11. Of the three Railways to which the promoters would at first confine operations, the Bombay, Baroda, and Central India Railway alone concerns these Provinces. On that Railway, Sirsa, Delhi, and Hathras would be the places at which elevators could be established with the best prospect of success. At Agra there is no wheat trade. On the North-Western Railway, Meerut would be an excellent place.

60.

UPPER INDIA CHAMBER OF COMMERCE, Cawnpore, to GOVERNMENT, North-Western Provinces and Oudh, dated C., 25th April 1890.

I am directed by the Committee to acknowledge receipt of your letter No. 116—1-590-A., dated the 20th January, and to express their regret at the delay that has occurred in replying to the same. This, however, I am to say, has been unavoidable owing to the many important considerations and interests involved in the question.

2. The proposed scheme has been laid before various leading grain-dealers, European and native, and they as a body appear to be of opinion that the establishment of elevators and cleaning depôts at the ports would be of advantage to the country, as the result should be to increase the European demand by improving the quality, and so give direct encouragement to the production of wheat in India. The elimination of freight and charges on dirt, of which 52,000 tons were shipped during the last official year, would alone substantially benefit the producer, even supposing that the higher price obtained for purer grain would do no more than cover the cost of cleaning it.

Scheme
deserves
support.

3. Strenuous objections, however, are urged against granting a monopoly such as the proposed Company seek to acquire from Government. The Committee, therefore, on behalf of the interests which they represent, beg respectfully to protest against any proposals in this direction being entertained which would eventually tend to place the entire control of the wheat trade in the hands of a State Guaranteed Association.

61.

GOVERNMENT, Punjab, to GOVERNMENT OF INDIA, No. 59, dated 24th March 1890.

In reply to your letter No. 122 of 6th January last, forwarding for consideration certain papers relating to the formation of a Company for the introduction of grain elevators into India, and the issue of certificates of the quality of grain, I am directed to forward, for the information of the Government of India, a copy of the papers noted below,* and to say that the Lieutenant-Governor does not think that he can offer any opinion upon the subject until the concessions which the Company seek are much more clearly defined. It would obviously be impossible for Government to give any assistance to a trading firm in regard to many of the so-called rights which the promoters wish conceded to them.

62.

DIRECTOR, Department of Land Records of Agriculture, to GOVERNMENT, Punjab, No. 292, dated 26th February 1890.

In reply to your letter No. 11, dated 20th January 1890, forwarding Circular No. 122-127-C. from Mr. Muir-Mackenzie, Under Secretary to Government of India, I have the honour to forward copies of opinions received from the officers noted below.† The officers in question have all replied very briefly with the exception of Mr. Nicholl, Secretary to the Amritsar Municipal Committee whose note, as he is well acquainted with the circumstances of the local wheat trade, is worthy of attention.

My own opinion on the subject, which has been asked, is that every reasonable encouragement should be given to the scheme for the introduction of wheat elevators into India. I have watched the discussions on the Indian wheat trade, which have lately been going on in England, with great interest, and I am convinced that the Government of India will be well advised to do all in its power to enable buyers to get a purer wheat than they do at present, if they are in earnest in so desiring.

Encourage-
ment of clean
wheat.

I am convinced, from all I have heard lately in this province and from what I myself saw in the wheat-producing districts in which I have served, that a very large proportion of the dirt and impurities which are now to be found in wheats shipped from India are not due to sweepings from the threshing floor and the mixture of extraneous grains owing to careless cultivation, but to deliberate admixture of other grains and dirt by the middlemen; and so long as buyers will accept, say, 7½ per cent. of various impurities, a seller who gave wheat with only, say, 5 per cent., would be deliberately throwing away money. The introduction of the elevator would have this immense advantage, that it would open the eyes of all buyers, sellers, and millers to the exact state of affairs, and would make it possible for those who desire to sell a cleaner wheat to do so without losing by the transaction.

Deliberate
adulteration.

* Letter of Director of Land Records, Punjab, No. 292, of 26th February, and enclosures.

† Commissioner and Superintendent, Lahore Division. Commissioner and Superintendent, Delhi Division. Commissioner and Superintendent, Derajat Division. Deputy Commissioner of Lahore. Deputy Commissioner of Rawalpindi. Secretary to the Amritsar Municipality.

I think that the Government of India should be prepared to run even some risk of loss in an endeavour to raise the reputation of Indian wheat and the Indian wheat trade.

Opinion on concessions required.

With regard to the details of the scheme, I feel more diffidence in offering an opinion. I should have thought that the Punjab, with its North-Western Railway running from Peshawar to Karachi entirely under State control, would have offered special facilities for the commencement of operations, but of this of course the Company are far the best judges.

In regard to the matters in respect of which assistance from Government of India is asked for on page 2 of the printed papers, I do not quite understand what the counter-signature of the certificates would amount to. As to No. 2—The free provision of land—I should imagine that it would be quite impossible to accede to this, as the land asked for would in many cases be exceedingly valuable and the property of large Corporations or Companies, and of individuals—rarely of Government. All that could be done would be to assist the Company to obtain such land on reasonable terms. Nos. 3 and 4—This seems to me to be asking a good deal, and any such concession granted should, I think, be accompanied by a corresponding obligation on the part of the Company to erect elevators wherever they are called upon by the Government of India to do so. 5—This, I think, the Government of India might reasonably be asked to do. The sum risked is, after all, only 5,000%, and the possible advantages are worth a great deal more than this.

As regards the rights asked for, I have nothing to say as to 1, 2, 3, 4, 5, or 6. As regards 7, I would confine the right to make advances to ryots, to advances on the security of crops. I would not permit advances to be made on the security of their land to farmers in the Punjab at any rate. To 8 and 9 I think little exception can be taken.

It is feared that the "middlemen" will oppose the scheme.

Opposition of middlemen.

I am not sufficiently acquainted with all the intricacies of the trade to offer an opinion of any value as to this. I think it would not be difficult to ascertain the views of large buyers like Ralli Brothers and others on the point. But it appears to me that middlemen, whose assistance in the wheat trade is so absolutely essential, and without whom it would never have reached anything like even its present stage of development, will have no interest in opposing the scheme.

Naturally if a middleman finds, as at present, that the price of the wheat he sells is regulated by the supposition that it contains a certain proportion of dirt and impurities, he will take good care that he supplies duly the proportions of wheat and impurities expected. But if the wheat he has to sell is certified on authority accepted by the trade to contain only a certain portion of impurities, he can demand, and I fancy, would very soon be able to command, a correspondingly higher price.

One other point only I would wish to refer to. The Company will have to be very careful from the outset to see that their certificates merit and command the absolute confidence of the trade, and to do this they will have to see that the employés whose duty it is to grant these certificates are men of skill and integrity, and are sufficiently well paid to be above all suspicions even of temptation, which will be very great.

63.

COMMISSIONER AND SUPERINTENDENT, Delhi Division, to DIRECTOR, Land Records and Agriculture, Punjab, No. 88, dated 8th February 1890.

In reply to your No. 160—1-14 of 31st January 1890, that an industry of the kind proposed should stand on its own bottom.

2. The only concession should be No. 3 of those asked for. The rights detailed below the concession asked for need no granting that I can see; what is meant probably is sole rights, and the effect of concession 3 would be to limit such rights to the first Company exercising them.

64.

MUNICIPAL COMMITTEE, Amritsar, to DIRECTOR, Land Records and Agriculture, Punjab, No. 66, dated 10th February 1890.

I am in receipt of your No. 160, dated 31st ultimo, forwarding, for my opinion, printed papers relating to the "introduction of grain elevators into India."

2. I have no doubt the system possesses all the advantages claimed for it, but its adoption by wheat-growers in the Punjab I consider most unlikely for the simple reason that the conditions of America and this part of India are totally different. Conditions in America and India differ.

3. The condition of the wheat brought to Amritsar and other markets in adjoining districts has much improved of late years, and the growers are fairly honest in their transactions; it is the middleman who adulterates by mixing barley and foreign matter with wheat, and he will continue to do so, so long as the trade is prepared to accept the produce with a liberal allowance of refraction.

The refraction at present allowed by exporters is 5 per cent. barley, and 2½ per cent. dirt. This, however, is to be altered with the new crop of 1890. The standard fixed by the London and Liverpool Trade Associations for Karachi wheat is 7 per cent. impurities and 2 per cent dirt.

4. One of the many advantages claimed by the promoters of the elevator system is depriving others of the opportunity of mixing and profiting by an adulteration of dirty sample; this advantage in itself would be enough to create a strong opposition by the host of middlemen engaged in the trade, to the introduction of the system, and their opposition, considering the terms on which they work with the growers, could not be overcome by any Company, however strong. Middlemen.

5. One of the rights asked for by the Company is to advance money to the ryots on the security of their lands, crops, etc.; this measure alone I view as being quite beyond the power of any Company to carry out with success. The field is already, it will be found, occupied by the village "Shah."

6. While I admit that the system is an excellent one where the growers are independent, I see many insurmountable obstacles to its introduction into this part of India. I can see only one chance for the extension of the Company's operations in these parts, and that is by enlisting the co-operation of the large buyers, such as Ralli Brothers, McHinch & Co., and others. Were these firms to adopt the system at their principal centres, they would save large sums in freight and reap the other advantages offered by the Company in the sampling and improvement of wheat. But any attempt to deal direct with the grower and the village money-lender to the detriment of the middlemen must fail. Co-operation of large buyers.

65.

GOVERNMENT OF PUNJAB to GOVERNMENT OF INDIA, No. 30 S., dated 26th May 1890.

In continuation of Mr. Fanshawe's letter No. 59, dated 24th March 1890, I am directed to forward, for the information of the Government of India, a copy of a letter No. 650, dated 2nd May 1890, from the Director, Department of Land Records and Agriculture, Punjab, with a copy of its enclosures, on the subject of the introduction of grain elevators into India.

66.

DEPUTY COMMISSIONER, Delhi District, to DIRECTOR, Department of Land Records and Agriculture, Punjab, No. 264, dated 27th February 1890.

In reply to your No. 160—1-14 of the 31st January 1890, I have the honour to forward copy of a note in which I have recorded my views on the subject of the introduction of grain elevators into India.

Note.

It is premature to think of introducing the elevator system into India until a satisfactory understanding has been come to on the subject of refraction. Scheme premature.

H 3

There is no doubt that even without the elevator system, good clean grain could be supplied by the growers, and it would be supplied if it were not so ruinously against their interest, as the trade is at present conducted, to do so.

As everyone knows, the standard of refraction for Indian wheat is absurdly high, but it is kept at its present figure by the action of the London and Liverpool Associations. Let them, in communication with the export firms, lower the standard of refraction and agree only to deal in good classified grain of the standard decided upon, and grain of that quality will be forthcoming.

With the cheap labour that is available in India, machinery can never compete up-country with hand labour for cleaning and moving the comparatively small quantity of grain that passes in one day through an up-country station.

Might be
tried at ports.

An elevator at the port of export and the substitution of bulk for bags in the shipping trade might be an improvement, but even the promoters are not sanguine as to the possibility of doing away with bags before the grain reaches the seaboard.

The promoters of the company also seem to under-estimate the extent to which the export houses deal direct with growers through their up-country agents; the only middleman as a rule being the "Arthi" or commission agent, who receives a small commission for indispensable services rendered.

The Indian grower cannot afford to hold his grain or to accept and negotiate elevator warrants. What he wants is hard cash, and that he receives now as soon as his produce is weighed over in the open market.

67.

OFFICIATING COMMISSIONER AND SUPERINTENDENT, Rawalpindi Division, to DIRECTOR,
Land Records and Agriculture, Punjab, No. 700, dated 8th March 1890.

Limits of
Government
aid.

In reply to your No. 160—1-14, dated 31st January 1890, on a proposal to conditionally introduce the American grain elevator system in India, I have the honour to say that as the undertaking will not affect the Punjab until it shall have successfully emerged from the experimental stage, I do not think any detailed opinion on the question will now be of much value. It seems to me out of the question for Government to do more at the present stage than promise the Company, if formed, its general goodwill and a careful consideration of any reasonable application put forward in a detailed manner. The Director of Railways concerned will doubtless, in self-interest give the Company facilities for the conduct of its business. If the speculation is sound it will succeed by its own merits; if unsound, the exceptional concessions demanded as a preliminary to the formation of the Company on a small experimental scale, if granted, would not make the scheme a success. At present from the papers before me, I think the promise of the aid of Government has been prematurely sought.

68.

AGENT to MESSRS. A. McHINCH & Co., Ferozepore, to DEPUTY COMMISSIONER,
Ferozepore, dated 20th April 1890.

I beg to thank you for sending me the Government of India Circular No. 122--127 C. Agri., with accompanying letters, &c., on the above subject. I regret very much that I have not been able to reply earlier, and am sorry that I have been disappointed in my desire to make some inquiries at out-stations before doing so.

Prospects of
success small.

The advantages enumerated in Mr. J. G. Smith's letter, dated Liverpool, 17th September 1889, and advanced as argument in support of the project, would probably be the result of its introduction, but I believe it will be a long while before any appreciable effect can be produced by it, while this district, at all events, is certainly not advanced enough to appreciate it. In fact it appears to me to be very doubtful for the system to gain a footing at all, since it aims at revolutionising all the ideas so deeply rooted in native minds regarding the manipulation and sale, &c., of their grain; and people like those of India are certainly not the ones to easily relinquish their ancient practices and customs handed down from father to son. But no doubt a company undertaking such a thorough renovation of the cultivation of and trade in grain as is proposed will take into consideration all the difficulties, &c., they will

have to encounter, bearing in mind that unforeseen obstacles may arise which might upset the best considered arrangements.

With regard to the extension and improvement in the cultivation of wheat, I do not think that the proposed system will effect more than what is going on at present.

The production of wheat has vastly increased during the past few years while the area under cultivation is continually expanding. This is due to the increasing demand for export, and to the encouragement and facilities offered by Government in the extension of irrigation canals and the improvement of the cart-roads.

I believe Government have also spent large sums of money in endeavouring to improve the Indian agriculturist in his system of cultivation. If Government with all the machinery at its command has so far met with ill-success I think a Company with limited means, and moving within prescribed bounds, is scarcely likely to effect much.

In my opinion the buyer or exporter is the person who can best work towards the improvement in cultivation, because he can insist on getting a good quality and class of wheat. The cultivator very soon appreciates the difference in price paid for good and bad wheat, and will naturally do his utmost to work up to the standard from which he gets the best value.

At present, however, I believe exporters themselves mix barley dust and indifferent or bad wheat into good grain, in order to take advantage of the liberal standards of admixture and impurities fixed by the corn trade associations at home and accepted by the buyers there. This doctoring of the wheat has in some instances been done openly and in the presence of the very men whom it is now desired to improve both in their trading morality and their system of cultivation. Under circumstances such as these it is to be expected that the native trader or cultivator will try to secure all the profit he can for himself, not only by adulterating it before he brings the wheat to market, but also by spending as little as he possibly can on its production. Faults of trade.

It appears to me that since the demand for more wheat has caused an expansion in its production, so a demand for purer and good wheat will effect an improvement in its cultivation and quality. But so long as the English market is content with a low standard of cleanliness and purity, and no pressure is brought to bear on the Indian exporter or shipper, so long will the latter continue to ship impure and dirty wheat, notwithstanding the means within his reach of getting a cleaner and better article.

I do not see how one Company, unless it has a monopoly of the entire wheat business of India, can by itself and unaided or unassisted by other exporters, change the existing conditions of trade, especially in the face of the opposition it is certain to encounter from those exporters whose interests will be assailed.

The best way to put the wheat trade on a firmer and more satisfactory footing is, I think, to invite the straightforward co-operation of all exporters, in shipping good, pure, and clean wheat, and at the same time request the European buyers to raise their standards of purity. It is vain for one company, be it ever so well-organised and equipped with elevating and cleaning machinery, and receiving all the very liberal concessions that this one requests, to try and effect reforms, where perhaps the largest interests are strongly against them. Combination of exporters for improvement.

On the whole I am of opinion that the benefits enumerated in the letter before me will scarcely be the outcome of the erection of grain cleaners and elevators, but depend on the efforts of the parties in whose hands the business lies; namely, the buyer in Europe, and the shipper in India.

The concession and assistance which the proposed Company require from Government appear to be rather out of proportion to the benefits and advantages which they expect to confer. The countersignature of Government officials on the Company's certificates will, I venture to think, be scarcely accepted as a guarantee in commerce circles. And should the article purchased fail to come up to the terms of the certificate, from whom will the buyer be able to recover the difference in value,—from Government or the official who signed the certificate? Concessions required extravagant.

Again, certificates a couple of months old will not show to what extent the grain has suffered from weevils or other insects.

The free provision of land is a question that may be conditionally entertained where public money would not have to be spent in acquiring it, or it might be left to the Railway Companies and Port Trusts who are likely to benefit by the concern.

That facilities similar to those which may be granted to this Company should not be granted to any other Company or individual for a period of 25 years is, in my opinion,

quite out of the question, as it would be an endeavour to secure a monopoly to this one Company against all preconceived ideas of fair play.

The same may be said of the request for a grant of similar concessions at every grain-shipping port, and along every line of railway built or to be built through the grain-producing districts of India.

I fail to see on what grounds the request is made for a guarantee of interest at the rate of 4 per cent. per annum for the first five years of the Company's operations, same being repayable without interest from half of the surplus profits over 6 per cent. But supposing there are no surplus profits over 6 per cent., who is to bear the burden of such advances?

Such payments will be made out of public money, and therefore should only be made in return for some general public benefit; but in this case benefits will only accrue to State and private railways, Port Trusts, the Wheat merchants, and the Home consumers. These, however, do not form the ratepaying population of India, and it would be unfair to make the last-named pay for benefits which it is supposed the others will enjoy.

I think on the whole that a private enterprise of this nature should be able to look after its own interests in the same way as all other private enterprises do, and the promoters should be in a position to demonstrate to their shareholders that the venture will be a paying one.

The very fact of them asking Government to guarantee 4 per cent. annually leads one to suppose that they themselves are uncertain or have but little faith in its success.

I have before said that I do not think the Company will meet with much success here, and my reasons for saying so are as follows:—

How the
ryot threshes
and sells.

The cultivation of wheat is carried on by individuals, the bulk of whom have only small holdings of land or are merely tenants; each one keeps a certain number of cattle for the purpose of ploughing and watering the land, threshing the wheat, and carting same to any one of the grain markets within his district, where he thinks he is likely to realise the best value; he has no fixed market of resort, and therefore cannot be depended on to take his produce to any one station where the Company may have its machinery and warehouses. The cleaning is done by the members of his family, and he stores the wheat either in his own godown or in others for which he pays a nominal rent in his own village. All this manipulation of the grain costs him nothing, but if he used the Company's machinery he would have to cart the wheat some distance to be cleaned and graded, for which operations he would have to pay as well as for the storage of the wheat.

From my knowledge of the native, I may say he is not the one to pay in advance or even enter into an agreement to pay later on for some possible advantage which he may or may not achieve at some future date.

In conclusion, I beg to say that while the Company deserves every encouragement and help to attain the objects which it has in view, such help should be given to them only where it does not trench upon public or other interest.

From my own experience I know that clean and good wheat is to be got here, and if the European buyer will only pay for it, I am certain the country will soon rise to meet him, and be able to supply any quality he wants. It will then be in a position to adopt systems such as that now proposed.

I have given my individual opinion as regards this part of the country, and while I feel honoured at being asked for it, I trust it will be taken as given without prejudice.

69.

GOVERNMENT, Punjab, to GOVERNMENT OF INDIA, No. 130, dated 4th September 1890.

In continuation of my letter No. 30 S., dated the 26th of May 1890, I am directed to forward, for the information of the Government of India, further correspondence* submitted by the Director, Department of Land Records and Agriculture, regarding the introduction of grain elevators into India.

* From Director, Department of Land Records and Agriculture, Punjab, No. 1,332, dated the 18th August 1890, and enclosures.

70.

DIRECTOR, DEPARTMENT OF LAND RECORDS AND AGRICULTURE, Punjab, to GOVERNMENT, PUNJAB, No. 1332, dated 18th August 1890.

In continuation of my No. 292, dated 26th February 1890, on the subject of the introduction of grain elevators into India, I have the honour to forward copy of the correspondence noted below.*

These replies to my No. 160-1-14, dated the 31st January 1890, were only received on 4th August 1890.

I would draw attention to the report of the Sub-Committee of the District Board of Ferozepur composed entirely of natives of this country as of special interest.

The account given of the deliberate admixture of sand by zamindars on their way to market is, I regret to say, only in too complete accord with what is generally reported, and has indeed become a matter of "common notoriety."

71.

COMMISSIONER AND SUPERINTENDENT, Jullunder Division, to The DIRECTOR, DEPARTMENT OF LAND RECORDS AND AGRICULTURE, Punjab, No. 2102, dated 4th August 1890.

In reply to your No. 160-1-14, dated 31st January last, forwarding for opinion a copy of Government of India's Circular No. 122-127C., dated 6th idem, with enclosures, relating to the formation of a Company for the introduction of grain elevators into India, I have the honour to say that I consulted the several Deputy Commissioners in this Division on the subject, and am now in receipt of replies from all.

2. A copy of the reply of the Deputy Commissioner of Ferozepore with its enclosures in original, and of that of the Deputy Commissioner of Ludhiana are enclosed. The Deputy Commissioners of Kangra and Jullunder have no remarks to offer, while Mr. Dane, as Deputy Commissioner of Hoshiarpur, wrote that in his opinion "the concessions demanded by Mr. Smith are so extravagant that the scheme in its present form hardly merits encouragement."

3. My views coincide generally with those expressed by Mr. Dane and the Secretary to the Ferozepore District Board. The grant of sites free of cost and rent for the Company's premises at up-country stations might, I think, be given; but the other concessions demanded are scarcely reasonable. Unless the Railway Administration can arrange for the counter signature of certificates, I do not see that any other suitable Government agency is available. The grant of a monopoly for 25 years to an irresponsible Company, working for its own profit, can scarcely be a wise measure, and the guarantee of an interest of 4 per cent. per annum for five years, when the rising value of the rupee is likely to check the export grain trade, may cause considerable loss to the State.

4. If the Company can supply a want felt by grain merchants in England, the improved prices which grain covered by its certificates may enable it to command should, in the course of time, attract all grain to its elevators, so that the Company should be able to reap a handsome profit without any extraneous aid.

72.

REPORT OF SUB-COMMITTEE OF THE FEROZEPUR DISTRICT BOARD.

We think that we can only speak of the Punjab and not of the whole of India as regards the need of grain cleaners and grain elevators in the Province.

The Punjab is one of, if not the most important, grain-producing and go-a-head provinces of the vast Indian Empire, and we are sure that not only the cultivator but the trader both in and out of India as well as the Government are interested in establishing some proper system whereby the rapidly increasing evil practice of adulterating wheat could be stopped; that this evil is daily growing is admitted freely

* No. 2102, dated the 4th August 1890, from Commissioner and Superintendent, Jullunder Division, with enclosures.

by all. Not more than 20 years ago the zamindar brought the pure and unadulterated produce of his land to the market, got its value, and went back to his village without ever feeling the necessity of mixing dust, &c., with his beautiful wheat. It was a matter of laudable pride with the zamindar to exhibit his wheat in the open market by plunging his hand deep into the big heap, and showing a handful of the grain without any visible sign of dust; whereas now, while the cunning *bunya* is inventing all sorts of ways to cheat the once rough and open-hearted zamindar, the latter has, by experience learnt to avenge himself on the trader by mixing dust with his grain before his cart enters the gate of the town; the writer has seen with his own eyes a string of carts standing on the road and about 20 zamindars, who had deliberately brought baskets and mattocks with them from home, coolly digging fine sand from a large heap and like trained men emptying their baskets in their carts full of grain; and it should here be remarked that the zamindar while loading grain at home leaves room in his cart for the dust and fine sand which he expects to mix before he has approached the suburbs of the town in order to avoid carrying dust as far as possible; and the reason why they mix fine sand is that it cannot be so easily detected, inasmuch as it does not soil the hand or cloth as real dust would. Sand being heavy and more like a particle of stone than anything else does not show itself in a heap of grain. While this struggle is going on between the *bunya* and the cultivator a third party has stepped in, i.e., the foreign merchant, who was first heard of in Karachi, but has now gradually come in close contact with the cultivator, deals direct with him, and considering the advantage that Europe has over India from all points of view, every one expected naturally that something will be now done to put a stop to this trade in dust and fine sand instead of pure produce of the country; but while one sees a great many grain sifters and other machines round about the place of the foreign trader, one is sorely disappointed to see the result, viz., the complaints about the adulterated wheat of India are getting louder and louder, therefore evidently the evil is getting a strong hold of all concerned; and, as everywhere so in India, self-interest predominates, thus it is proved beyond doubt that unless Government take active interest in this matter things will most probably go from bad to worse. And perhaps it is not impertinent to say that had the foreign trader set a better example, both the cultivator and the *bunya* would to a certain extent have been compelled to follow it: and while we agree generally with the remarks so ably made by the Secretary of the District Board, we are far from thinking it to be advisable to "let the Company shift for itself," and, while we would on no account like to see the enterprising Company (who have made the offer) monopolise the business, we would hail the introduction of grain elevators in this country on some modified and generally beneficial terms; and as we do not feel ourselves competent enough to discuss on the terms offered by the Company, we leave it to the proper authorities. All we beg to say is that the evil is growing, and the sooner the system proposed to clean the grain is introduced the better, only of course the Company ought on no account to be allowed to have such privileges that would interfere with "the free and fair trade" under British rule.

73.

REMARKS by SECRETARY, DISTRICT BOARD, Ferozepore, on the MEMORANDUM of J. G. SMITH, Esq., on the introduction of GRAIN ELEVATORS into INDIA.

Advantages claimed by scheme criticised.

- (1.) The reputation of India as a wheat-growing country is already an established fact, and is yearly gaining ground, while no other country can compete with it as regards cost of production.
- (2.) The extension and improvement of the cultivation is at present greatly accelerated by the extension of canals through desolate tracts of country which never had the slightest chance of being brought under cultivation otherwise.
- (3.) If an exporter is determined on adulterating the wheat he can do so after it has passed through the elevators, unless the Company monopolise the entire wheat trade and become the exporters themselves.
- (4.) The elevators will be erected near the railway stations and facilities for handling, storage, &c., will only effect the Railway Companies, as the cultivators will still have the expense and trouble of carrying the wheat there to be stored, which means a great deal in a large country like India, where road communications are yet in their infancy.

(5.) The borrowing and lending of money on the grain crops will continue as heretofore, whether the Company exists or not, as the cultivators are under heavy bonds of obligations to the village *bunyas*, who will no doubt take precautions against their hold being weakened.

(6.) Advantage No. 6 appears to be in contradiction with concession No. 3 when it stipulates for a guarantee of monopoly for 25 years.

The benefits would be exclusively confined to Railway Companies, Port Trusts, and other parties concerned, who would no doubt look to their own interests. Anticipated effects.

India generally would be benefited as a wheat-producing country if the buyer at home would insist on getting a purer article than he at present accepts.

It is an open secret that the wheat can be and is purchased pure, but is adulterated by the exporter to the standard of impurity accepted at home.

The primitive method of cleaning and the low rate of wages in this country would be found cheaper than the advanced and complicated machine cleaner. Moreover, it is not stated what steps would be taken to prevent the wheat from being attacked by "weevils," as these insects get at the wheat very soon after it has been stored, and this injury is even more to be considered than the admixture of dirt, as it destroys the grain altogether. It is also not stated whether the cleaner can remove foreign grain such as barley, grain, &c.

Some steps are being taken to insist on a purer demand for Indian wheat, as may be seen from the letter of the Secretary to the London Commercial Trade Association, published in the "India Morning Post," Saturday, 7th December, 1889, page 10. Concessions.

- (1.) The countersignature of Government officials would hardly be a sufficient guarantee to merchants, as Government officials are already overburdened with work, and their signatures would probably become a matter of routine; besides it is hardly fair to require a Government official to become a grain expert in addition to his other professional duties.
- (2.) The free provision of land to the Company might be made by the Railway Companies in consideration of the facilities for handling, concentrating and increasing the railway traffic. The elevators would be built of course on the railway premises.
- (3.) The monopoly is against all ideas of free and fair trade.
- (4.) The concession here asked for may be made only where the Company may be actually working.
- (5.) The subject is hardly of such vital importance to the country to guarantee an interest of 4 per cent., and is after all a commercial speculation of dubious advantage to a country subject more or less to famine, during which time it would be more advantageous to retain the wheat in the country and not export it all.

The rights which the Company ask for will of course depend upon the basis upon which they start their business.

In conclusion, it may be added, that it would hardly be fair to burden the rate-payer of India with a commercial speculation of this nature, and it would be far healthier to let the Company shift for itself.

74.

DEPUTY COMMISSIONER, Ludhiana, to COMMISSIONER and SUPERINTENDENT, Jullunder Division, No. 206—1148, dated 28th June, 1890.

In compliance with your Circular letter No. 25—364, dated 6th February 1890, forwarding for opinion certain papers regarding the introduction of grain elevators into India, I beg to state that this district never occupied such a position in the grain traffic of India as to render local experience of much value in regard to the very large question under discussion, and since the opening of the Patiala-Bhatinda Railway Line any importance Ludhiana possessed as a centre of business has diminished.

2. I will take leave however to suggest that the scheme of the Grain Cleaning and Elevator Company for India is open to all the objections which attach to monopolies under State aid and assistance, and that any benefit to India as a wheat-producing country would be dearly purchased by the vicious practice of artificially fostering certain classes of productive industry at the expense of other industries and other countries, and in short that the subject is one for gradual development by private enterprise alone.

75.

From CHIEF COMMISSIONER, Central Provinces, to GOVERNMENT OF INDIA, No. 4743 S.—88, dated 18th November 1890.

Government
interference
undesirable.

Referring to your Circular No. 122-127 C., Agriculture, dated 6th January 1890, and subsequent letter No. 225 C., dated 31st January 1890, regarding the introduction of grain elevators into this country, I am directed to forward copies of the below-noted papers on the subject,* and am to say that the Chief Commissioner thinks that the reform of the Indian wheat trade must be left to those interested in it, and that he is entirely opposed to Government interference, and especially to the attempt to create a monopoly such as is asked for by Mr. J. G. Smith. There are already large and influential firms interested in the export of wheat from these Provinces who may be quite trusted to take such steps as are necessary to secure clean wheat, as soon as the trade at home puts matters on a sound basis. The idea of a Company like that proposed attempting to deal directly with the roysts and to enter on the business of money advances appears to Mr. Mackenzie to be quite chimerical; and he can see no reason why it should be guaranteed by Government or receive any specially valuable concession such as is asked for in Mr. Smith's letter. The Government might help any such Company to acquire land on reasonable terms; but commercial enterprise now-a-days stands in no need of being bolstered up by Government in the way suggested.

76.

NOTE by the COMMISSIONER OF SETTLEMENTS AND AGRICULTURE, Central Provinces.

Prices for
clean wheat.

The principal object of the scheme is, I understand, of the condition in which Indian wheat reaches the European market. The Government of India is fully aware of the main reason why Indian Wheat is now despatched to Europe in an impure state. Wheat is not cleaned—and, indeed, wheat is purposely adulterated—because, owing to the conditions of the wheat trade, people are paid no more for clean wheat than for wheat containing an admixture of dirt or other impurities. Nor does such an admixture involve a penalty, so long as it is within a certain per-centage. Were exporters paid according to purity, wheat would be exported in a very much cleaner state than it is at present. And until prices depend upon purity, the introduction of grain elevators cannot be expected to add to the purity of the wheat.

Demand
sufficiently
strong for all
surplus
produce.

2. Assuming, however, that the introduction of elevators would lead to a fall in the refraction limit, so that exporters would be penalized for a less amount of dirt than is passed at present, Indian wheat would of course gain in reputation and possibly in price. At all events the trade would no longer be burdened by the gross waste of money which now occurs in the payment of freight on thousands of tons of dirt which are shipped to England. It is doubtful whether, as matters stand at present, the introduction of elevators would benefit these Provinces by adding to the demand for wheat. The demand is already sufficiently strong to withdraw all surplus produce. It is claimed by Mr. Smith that elevators will be of advantage in rendering it possible for producers to export direct instead of through middlemen. But in the present state of affairs there seems small probability of this. According to the custom of the country, production is the business of one class of people and trading in produce is the business of another class. Cultivators very rarely take a hand in exporting their produce. And the only connexion which traders as a rule have with agriculture arises from their money-lending transactions, which enable them to get cultivators into their power, to dictate to them what crops are to be grown, and to annex the whole of the produce.

The experi-
ment well
worth under-
taking.

3. It is, however, extremely difficult to predict in a case like this what would be the effect of introducing a new set of circumstances, and an experiment would be well worth undertaking. Government would be justified in doing what it could in reason to assist persons in making such an experiment. It might reasonably grant a

* Note by the Commissioner of Settlements and Agriculture, Central Provinces; 2. Letter No. 1162, dated 12th March 1890, from the Commissioner, Jabalpur Division; 3. Letter No. 1717, dated 24th March 1890, from the Commissioner, Nerbada Division; 4. Letter No. 2938, dated 2nd May 1890, from the Commissioner, Nagpur Division, with annexures from the Deputy Commissioners of Wardha, Nagpur and Chanda; 5. Letter No. 6156, dated 25th September 1890, from the Commissioner, Chattisgarh Division, with annexure from the Deputy Commissioner, Bilaspur.

monopoly for a term of years for the erection of elevators, provided that the concessionaries were obliged to use proper diligence and despatch. It might go so far as to take up and grant land free of charge or at a nominal rent. And it might provide the salary of an official capable of granting certificates on the understanding that it incurred no liability whatever by doing so. Further, I see no great objections to guaranteeing interest for a certain number of years, provided that the liability on this account was limited to a fixed sum. But Government would not, in my opinion, be justified in granting any further concessions. With these advantages to assist them the concessionaries ought to succeed, if their undertaking is of real utility to the country.

77.

From COMMISSIONER, Jabalpur Division, to CHIEF COMMISSIONER, Central Provinces, No. 1162, dated 12th March 1890.

Under your endorsement No. 177 S.—88, dated the 11th February, you sent papers relating to the formation of a Company for the introduction of grain elevators into India.

2. The concessions asked for are:—

- (1.) Arrangements for the countersignature of certificates by Government officials.
- (2.) The free provision of land for the Company's purposes, either within or adjacent to the Railway and Port Trust premises, and connected with the lines by sidings.
- (3.) A guarantee that facilities will not be afforded to a competing Company or individual for a term of 25 years.
- (4.) That the grant of concessions as above extend to every grain shipping port and upon every line of railway built or to be built through the grain-producing districts of the Indian Empire.
- (5.) A guarantee of interest at the rate of 4 per cent. per annum for the first five years of the Company's operations, such advances being, however, repayable without interest from half of surplus profits in excess of 6 per cent.

It will probably occur to most people that the Company hardly have the courage of their convictions, and as the case stands it seems to me that the Company ask for large concessions, run no risk for five years, and have a good chance of within that time disposing of the concessions to some larger Company or of distributing their concessions among several Companies.

3. The views of Deputy Commissioners are these:—

The Deputy Commissioner, Jabalpur, does not feel himself "qualified to give an opinion on the proposals."

The Deputy Commissioner, Saugor, says:—

"The demands made by the proposed Company on Government for assistance seem to me more or less preposterous, but I would so far further their views by giving facilities for acquiring land in the vicinity of railway stations. Grants of free land I would not advise, for, if the Company failed, which they certainly would in many places, they would sell the plots to the local *bunya*, who would doubtless use it in many ways not to the public advantage. Small plots of land either now exist or could be acquired adjacent to any railway station in this district at a comparatively small cost. If acquired by Government, such plots might be leased at a nominal rent, to a *bond fide* Company. On the closing of operations owing to the failure of the Company or otherwise the land would revert to Government. Further than this, in my judgment, no concession is feasible or expedient."

The Deputy Commissioner, Damoh, thinks it "a matter of most urgent importance to the trade of India that efficient measures should be taken for the improvement of the reputation of the samples of wheat imported from India. Further, if the Government wish to give a monopoly, I certainly think they should give effectual aid so as to have an undoubted claim to close and effectual check and supervision. The confidence of the public in the certificates of the Elevator Company would be increased by the knowledge that it was guaranteed by Government and liable to be taken over on the expiry of the term of guarantee. On this understanding I think

Grant of
sites.

Extent to
which
Government
might assist.

the Government should give the assistance proposed by Colonel Filgate in his memorandum, viz.:—

- “(1) Give on lease free for 25 years the land required for erection of elevators and sidings, and withhold similar facilities from others for 25 years.
- “(2) Guarantee interest at 4 per cent. for the five years, on condition of being allowed close check and supervision of the work, and the right to buy up the property at its market value at the end of the 25 years' monopoly.”

The Deputy Commissioner, Seoni, thinks the scheme a desirable one, but observes:—

“I do not understand how any Company can expect to have a monopoly of this business as seems to be contemplated, nor do I understand why any Government guarantee is necessary. If the ultimate advantages of such a scheme are likely to fulfil Mr. J. G. Smith's expectations, it ought surely to be possible for enterprising private firms to start such business even without such guarantee.

“I do not see how it is possible for Government to undertake the management of any such business directly through its own officials.”

The Deputy Commissioner, Mandla, also thinks the scheme a desirable one, remarking:—

“The assistance of Government officers might be given—

“(1) in the matter of the company's certificates;

“(2) land for the erection of elevators might be given at the cost of the Company (sic);

“(3) similar facilities not to be afforded to a competing Company or to individuals for a term of say 10 or 15 years.

“These concessions to be limited in the first instance to certain lines of existing railways and shipping ports.”

78.

From COMMISSIONER, Narbada Division, to CHIEF COMMISSIONER, Central Provinces, No. 1717, dated 24th March 1890.

With reference to your endorsement No. 177S.—88, dated the 11th ultimo, forwarding, for opinion of myself and the Deputy Commissioners, of this Division, Circular letter No. 122-127—Agriculture, from the Under-Secretary to the Government of India, on the subject of the introduction of grain elevators into India, and the encouragement which may properly be given to the Company, I have the honour to report as follows.

2. The Deputy Commissioner of Hoshangabad is of opinion that “the matter should be left entirely to private enterprise,” Government only affording “facilities in the way of sites, &c., on easy terms for the establishment of the elevators.”

Colonel Plowden adds that, as long as the present principle of mixing a certain percentage of dirt with cleaned grain is a recognized factor in mercantile transactions, there is little hope of the proposed Company meeting with much encouragement. Even admitting that the admixture of dirt with grain could be put a stop to, Colonel Plowden would only allow of Government interference being “altogether indirect.”

3. The Deputy Commissioner of Nimar has misunderstood the question asked as to how far the Company should receive encouragement from Government, and gives no reply to that point. He does not think the ryot producer will patronise the elevator much, but he thinks the mahajan exporter will, eventually.

4. The Deputy Commissioners of Betul and Narsinghpur “do not know sufficient of the subject to give any useful opinion.”

5. The Deputy Commissioner of Chhindwara is somewhat diffuse and has wandered away from the subject, but practically he holds the same opinion as Colonel Plowden, i.e., “that as long as the merchants and grain-producers of the country choose to pay a tax of 5 per cent. on the cost of carriage,” there is little hope of grain elevators being a success. He also objects strongly to the principle of giving Messrs. Ritchie, Stuart & Co. a monopoly, and points out that in his opinion their demands are hardly such as Government should accept. He points out the very great difficulty

there would be in arranging any system of Government control, or appointing “officials to sample their outturn and grant them certificates.”

6. As far as my own views are concerned, I am inclined to think that Government interference in a transaction of this description would be a mistake. I would leave it as in America, to the mercantile community, and I would certainly not grant a monopoly for 25 years. On the contrary I would encourage the introduction of similar elevators by as many firms as chose to take the risk of introducing them. I agree with Mr. Ellison in thinking that the system of countersignature of certificates by Government officials would be a mistake, for unless such officials were experts and thoroughly honest (qualifications which are extremely rare) the certificates would be worthless. In all probability the countersignature of certificates would develop in a very short space of time into a mere perfunctory performance, the certificates would be worthless as guarantees of the condition of the grain they referred to, and, although the Company proposes to hold the Government free from risk in this matter, they cannot save the Government from the discredit which would certainly accrue. One of the arguments in support of the proposal is that the position of the producer would be improved by “depriving others of the opportunities of mixing, carrying and “profiting by an adulterated or dirty sample.”

As the Deputy Commissioner, Hoshangabad, says, as long as a firm like Ralli Brothers finds it pay to clean its wheat and then mix 5 per cent. of earth in it—and as long as the practice is not, to the best of my knowledge, condemned by the Chambers of Commerce—I fear that the erection of a few elevators here and there, or “the “simple cleaning and grading operations” proposed in Mr. Smith's letter, will have but little effect in the direction suggested. They are certainly not, in my opinion, worth the risks that Government will incur by the grant of the rights and guarantees that Mr. Smith asks for.

79.

From COMMISSIONER, Nagpur Division, to CHIEF COMMISSIONER, Central Provinces, No. 2958, dated 2nd May 1890.

In reply to your No. 177S.—88, dated the 11th February last, I have the honour to say that the concessions which the projected Grain Cleaning and Elevator Company ask for, as detailed at page 2 of the enclosure to the letter from the Government of India, seem to me quite inadmissible. They involve the free grant of land close to railway stations throughout the grain-producing districts of the Empire and at ports of shipment, a monopoly of these privileges for 25 years, and a guaranteed rate of interest on the capital embarked for the first five years, the sums so advanced not to be repaid until the profits of the Company exceed 6 per cent., and then without interest.

“2. Mr. James G. Smith, of Ritchie, Stuart & Co., is evidently not a gentleman who will lose anything for want of asking. These demands seem preposterous even taken singly. For instance, the free grant of land close to railway stations means that Government would have in the majority of places to take up very valuable land at its own expense and make a present of it to the Company. It is apparently also intended that Government shall be at the expense of connecting the Company's premises with the railway lines by sidings. And this privilege is asked for practically throughout India, as almost the whole of India is grain-producing.”

“3. As to a monopoly for 25 years and a guaranteed rate of interest, such concessions would be justifiable only in a case of undertakings like railways and canals, which are of undoubted benefit to the entire country through which they pass. There is no such certainty that this project would benefit the country to any extent. We cannot reason from the analogy of the active, enterprising American to the slow and apathetic people of this country. The keen competition of the United States forces the farmers of that country to adopt every improvement in the processes for cleaning and transporting grain. It is by no means certain that in this country the superior facilities offered by elevators would meet with ready appreciation. The Deputy Commissioner, Nagpur, who goes more fully into the matter than the other Deputy Commissioners, does not think that these advantages would be much appreciated, and cites the alleged fact that the cleaned grain of Messrs. Ralli Brothers does not meet with much greater demand than the

Scheme should not be guaranteed by Government.

adulterated grain of the ordinary market. I do not altogether understand this remark Ralli Brothers do not clean grain for sale in this country. The grain they clean they export themselves from Bombay. I should doubt the assertion that cleaned grain does not fetch a higher price, bulk for bulk, then uncleaned. I think that if an Elevator Company was started as proposed, it would probably result in some or all of the advantages enumerated on pages 1 and 2 of the enclosure. But it does not follow that Government should grant the demands formulated. Government cannot be expected to bolster up in this way every plausible commercial enterprise which may have a tendency indirectly to benefit the country. The precedent would, I think, be a bad one. It is a purely commercial enterprise and should depend for success on its own merits. I do not know why greater assistance should be extended to the enterprise than to the various spinning mills and other industries that have been established in the country.

4. The proposal that grain certificates should be countersigned by Government officials also seems inadmissible. I cannot see why Government officials should take any direct part in the business of the Company, and I think such participation would be most objectionable. I suppose the idea is that people would feel more confidence in the security of the certificates if they were countersigned by a Government official. Such counter-signatures could be nothing more than a mere form, and I should think most officials would object to sign. I am inclined to agree with the Deputy Commissioner of Chanda who characterises some of the proposals as little short of "audacious."

5. As for the "rights" which Mr. Smith asks for (page 2), they are rights for which no special permission is required. If the Company choose to purchase land and erect their own elevators thereon, they can do all these things without asking any one's leave. I can see no reason why they should not "select a few stations on some of the " principal grain-carrying railways and conduct thereat simple cleaning and grading " operations, returning the grain into bags, properly secured, etc." They can do this without troubling Government in the matter, as Ralli Brothers already do at Nagpur. Let them begin in a small way, and then if they succeed let them gradually extend their operations, but I am at a loss to conceive why they should be treated with any special favour by Government. Deputy Commissioners' replies are forwarded in original.

80.

From DEPUTY COMMISSIONER, Wardha, to COMMISSIONER, Nagpur Division,
No. 900, dated 22nd February 1890.

With reference to your No. 1018, dated the 14th instant, I have the honour to state that, in my opinion, the advantages to be gained by the introduction of any system by which it can be ensured that Indian wheat shall reach the European markets properly cleaned, graded and certified are so numerous, that Government should certainly give all the aid in its power to the proposed scheme, especially as it would appear from the papers forwarded that it has been worked with success both in America and Russia, which is to some extent a guarantee that there will be little or no risk in making the concessions asked for.

2. It is not likely that the introduction of elevators will do away with the middleman, for the majority of producers individually grow such small quantities that they would not think of carting their produce to the elevators. As now, the middleman would go about to villages and petty markets and make up a good quantity, which he would find he could not dispose of to much advantage in competition with certified grain; he would therefore in his own interests have to take it to the elevator to have it cleaned and graded. After a time the larger ryots would themselves see the advantage of going direct to the elevator and getting their certificates, which they could dispose of when they thought best.

3. Besides stimulating trade with Europe and giving Indian wheat a better place in the markets there, the following advantages would necessarily follow:—

- (1.) It would put a stop to dishonest weighing and measuring by which the ryots at present suffer considerably, for it is a notorious fact that in nearly all markets about this part of the country dishonesty in this respect is very common.

- (2.) It would be more clearly brought home to the ryots what kind of grain was most in demand, and they would grow that kind and endeavour to prevent mixture.
- (3.) Adulteration with earth and other things for the purpose of counteracting the dodges of middlemen in weighing and measuring would be rendered unnecessary. In Chhattisgarh I was told by ryots that they had to mix earth with their wheat and linseed for this reason.
4. It certainly will be a great pity if, for want of some encouragement from Government, so excellent a proposal should fall to the ground.

81.

From DEPUTY COMMISSIONER, Nagpur, to COMMISSIONER, Nagpur Division,
No. 1461, dated the 10th March 1890.

Referring to the printed papers received with your endorsement No. 1018, dated the 14th ultimo, I have the honour to observe as follows.

2. I gather from these papers that the proposed "Grain Cleaning and Elevator Company" want to establish themselves as agents only to receive consignments of grain, clean the article, store it, dispose of it when the market rates are favourable, and undertake all the incidental charges on account of loading, shipping, &c., for all of which certain fees will be charged; and that in order to establish themselves and to start with some reasonable prospect of success, they ask for certain concessions to be made to them by Government in the way of free provision of land for store godowns, &c.

3. The Company apparently rely on producers chiefly, but speculators would also come rapidly forward once they have practical proof of anything like an increased financial return over that now realised by direct consignments to Bombay of the uncleaned grain fresh from the threshing floors or granaries.

I am not very hopeful of the Company's succeeding readily as mere agents.

4. I have been in charge of this district for about three years, I have been over nearly all of it, and have come in direct contact with many of its phases of commercial life, and yet, so far as the grain trade is concerned, I cannot recall a single instance of a local producer, be he a fairly well-to-do tenant or large prosperous land-holder, exporting direct to Bombay on his own account. The small producer is more or less in debt, and his crops are practically not his own; and the large producer is content to store and sell locally, though fully conscious that in doing so he forfeits profits to the middleman, which would be his if he exported direct. The reason is obvious; he runs no risks, he has not to wait for his money, he has no expenses to incur in carting, despatching, &c., and he readily invests the money he has received by placing it out at interest.

5. There must then be some very clear inducement quite patent to him to tempt him to consign his goods to an agency like that contemplated; such an inducement would be that he would realise more than he does at present. There would be such an inducement if it was patent to all that adulterated grain is at a discount, and that there is a readier and greater demand and higher price for the cleaned article. The question arises, do such factors exist?

6. Then, on the other hand, if we take the class which is really the exporter of grain, we find that this class consists of:—

- (1) Ralli Brothers;
- (2) the floating speculating Marwaris;
- (3) the travelling agents of Bhattia firms at Bombay.

The first two buy, store, and export, the third buy and despatch on the telegraphic orders from Bombay, then again, Ralli Brothers do, to some extent, clean grain before despatching it, but I am assured that this makes little or no difference in the demand for the adulterated article.

7. It therefore follows that so long as there is no perceptible diminution in the demand for grain as issued from the threshing-floors, and no restriction in such grain being offered for sale, the proposed agency will find their scheme a very up-hill if not non-paying work.

Grain certificates objectionable.

Effects of the scheme on middlemen.

Probable benefits.

Direct exportation.

Inducements wanted.

America and
Russia no
examples.

8. I note that the printed papers show that the scheme has succeeded in America, Russia, &c.; but the conditions of those countries are widely different from those in India. There the grain, as a whole, may be said to be cleaned before leaving the farm, for nearly all large growers have winnowing machines. It is otherwise in India, where the rude threshing-floor still reigns supreme.

9. The foregoing remarks are not entirely based on my experience of the commercial life in this district, for I have consulted men who are in a position to speak definitely on the subject, such as the Ghatate, Mr. Gopal Hari, Pleader, Jadharam Sheonarain, Deokaran, Marwari, Adamji Mamuji and others,

82.

From DEPUTY COMMISSIONER, Chanda, to COMMISSIONER, Nagpur Division, No. 787,
dated 28th February 1890.

Your No. 1018 of 14th February 1890, touching the proposed Company to supply India with grain elevators.

I, too, while recently at home, discussed Indian wheat with practical millers and others; I have often watched cleaning operations by Messrs. Ralli Brothers and others, and when at Jabalpur took an interest in the matter of grain-cleaning; I think it should be left to private enterprise.

The proposals are audacious in some degree, I think.

83.

From OFFICIATING COMMISSIONER, Chhattisgarh Division, to CHIEF COMMISSIONER,
Central Provinces, No. 1656, dated 25th September 1890.

I have the honour to submit the remarks of the Deputy Commissioners of this division on the subject of the introduction of grain elevators in this part of the Province.

2. There can be no doubt that the cleaning which Indian wheat would undergo by means of these elevators would do much to rehabilitate its reputation in European markets, but I doubt, however, whether the present conditions of the wheat trade in this part of the country and the intelligence and morality of those who deal in wheat are such as to render the measures, found so effective in the United States, practicable here. The great bulk of the wheat which is exported from this station for the European market is despatched by regular grain-dealers, who obtain it in small quantities from the petty dealers, who visit the villages in which it is grown, or attend the small local markets to which it is taken in small quantities for sale. Now it is, I think, admitted that it is the middleman who principally adulterates the wheat. They have not intelligence enough to see that if the character of wheat were raised in the market, that they, as well as all other dealers, would benefit thereby; or if they can understand this, they consider it futile and insensate to abstain from practices which the whole trade adopts. It is clear then that these men would not be concerned in the cleaning of their wheat, and would not therefore resort to the elevator. There are but few wheat-growers in this part of the country who export their own wheat, or bring it to Raipur or any other railway station for sale, as mentioned before. They sell the produce either in their own village, or at the nearest local market; and even supposing that in time it becomes the custom for growers themselves to bring their wheat to the railway for exportation, I doubt whether they would have sufficient intelligence to understand the advantage of elevators. They would want immediate payment, and the process of having their wheat cleaned and then sold by sample would be unintelligible to them and unpopular. What they desire is an immediate sale of their wheat and its value in silver. They do not understand what a negotiable instrument is, nor would they value any such certificate. It seems to me therefore that there is but little hope of an elevator being used by any class of native traders. The result of cleaning would be against the interests of the middlemen (as they understand their interest), and its value would be quite incomprehensible to the great majority of growers who bring their wheat to the railway. The business which would be attracted

Present
conditions
unfavourable.

Ignorance of
middleman.

to the grain elevators would not suffice to pay working expenses. Any attempt to introduce the cleaning of wheat before the traders are convinced of its value (and the loss attendant on adulteration is manifest to all) will fail. The only hope of the successful introduction of the improvements in this respect is the same in this as in all other matters of advancement. The first step must be made by Europeans. More would be done by a firm like Messrs. Ralli Brothers by establishing elevators at Jabalpur, Harda, and Nagpur for the cleaning of their own wheat than by the establishment of a score of elevators on the plan proposed. When middlemen, and especially the large native dealers who purchase from middlemen, perceive the advantages of a good reputation in the principal wheat marts, and understand that an enlightened self-interest is opposed to adulteration, they will not be backward in abstaining from these vicious practices. European firms who adopt cleaning processes might be assisted by Government in this matter by granting them official certificates of the quality of the wheat exported. These certificates would in time become guarantees of superior quality, and the advantage of cleaning would eventually be made manifest to the trade. As regards the proposal that the Grain Elevator Company should make advances to growers on produce to be delivered at the proper season, I do not think that an ordinary Company could successfully undertake the duties of the local Marwari, who knows personally every one of his customers. Government in advancing money to cultivators in cases where their lands are hypothecated and sums due can be recovered as arrears of land revenue, have not always found this work easy, and have sustained losses. I hardly fancy that a private Company making loans to individual ryots without having any special or local knowledge is at all likely to succeed any better. Moreover, it is certain that the indebted and the dishonourable would be those who would first seek these loans, and would probably be quite unable to repay them. In conclusion, I would say that I do not think that the scheme of cleaning wheat by elevators put forward by Messrs. Ritchie, Steuart and Co., though it would have the most beneficial results if it could be introduced into this country, is at all practicable, or in any way adapted to the circumstances and conditions of the wheat trade of this part of India.

Co-operation
of large
firms.

Advances to
growers.

84.

From DEPUTY COMMISSIONER, Bilaspur, to COMMISSIONER, Chhattisgarh Division,
No. 2597, dated 8th May 1890.

With reference to your endorsement No. 972, dated the 14th February last, I have the honour to state that there are no large exporters of wheat in this district to the Bombay market.

2. It is not likely that the ryots or malguzars or merchants of this district will, for some time at least, deal direct with the Grain Cleaning and Elevator Company.

The success of the Company will depend on the demand for wheat at the port of exportation. If prices are sufficiently high, middlemen will come up from Bombay to purchase locally and transmit through the Company.

Success of
scheme
dependent on
demand of
clean wheat.

3. The Company asks for the right to advance money to ryots on the security of their land and crops. It is not clear whether the Company mean by this the exclusive right to make such advances. If so, the request for such a right could not of course be entertained. If the exclusive right is not asked for it would appear unnecessary to ask permission to make advances. If the Company is prepared to make advances to the ryots at reasonable rates, it might be of great assistance to the people.

4. The local merchants who have been consulted by me are petty dealers, for, as I have already stated, there are no large exporters in Bilaspur. They were all of opinion that if the Company is ready to make agricultural advances on the security of the crop and take payment in kind, the undertaking would be beneficial to the cultivators.

5. The Company's scheme appears deserving of encouragement.

EXTRACT FROM THE PROCEEDINGS OF THE GOVERNMENT OF INDIA IN THE REVENUE AND AGRICULTURAL DEPARTMENT, No. 39, dated 20th October 1893.

Read—

The following despatches from Her Majesty's Secretary of State for India:—

- "Despatch from Her Majesty's Secretary of State for India No. 83, dated 27th September 1888, and enclosures.
- "Despatch from Her Majesty's Secretary of State for India, No. 3, dated 10th January 1889 and enclosure.
- "Despatch from Her Majesty's Secretary of State for India, No. 62 (Revenue), dated 4th July 1889, and enclosures.
- "Despatch from Her Majesty's Secretary of State for India, No. 116 (Revenue), dated 28th November 1889, and enclosures.
- "Despatch from Her Majesty's Secretary of State for India, No. 128 (Revenue), dated 26th December 1889, and enclosures.
- "Despatch from Her Majesty's Secretary of State for India, No. 90 (Revenue), dated 13th November 1890.
- "Despatch from Her Majesty's Secretary of State for India, No. 7 (Revenue), dated 22nd January 1891, and enclosures.
- "Despatch from Her Majesty's Secretary of State for India, No. 1 (Revenue), dated 14th January 1892, and enclosure."

Read Also—

A Volume of Papers dealing with Indian wheat impurities and the formation of a "Grain Cleaning and Elevator Company" for India.

RESOLUTION.

1. It has been acknowledged for some years past that the Indian wheat sold in England is very impure, and that both the bulk of the trade and the profits of the growers are injuriously affected in consequence. The matter has received the attention of the Secretary of State and the Government of India, and the volume of selections above quoted contains the result of the inquiries instituted on the subject.

2. In wheat exported from India a considerable per-centage of extraneous matter has always been accepted by the trade. Up to 1889 the practice was that, on arrival in England, samples were taken from the various shipments, and an average quality was deduced from these by the Corn Trade Association, and made generally known; and all the wheat sold during the month was represented as of "fair average quality." This system saved a great deal of trouble to home dealers, but it obviously placed no check on the amount of impurity that may be mixed with the imported wheat.

3. Owing to the system of threshing and storing wheat in this country and to the practice of sowing wheat mixed with other crops, a certain amount of impurity must always be found in the grain before it leaves the grower's hands; but it is plain from the information now published that a large portion of the impurities in the wheat which is sold in England is inserted intentionally after the grain has left the threshing floor. It was for some time contended that in order to stop the practice of intentional adulteration, Indian wheat should be subjected on arrival in England to some test of purity similar to that applied to other foreign wheats, and the Liverpool Chamber of Commerce arranged for a maximum "refraction" of 2 per cent. A conference was held by the Secretary of State in May 1889, and the London Chamber agreed to the principle involved so far as to fix rates for the various kinds of wheat; but the amount of impurity allowed still ranges from 4 to 7 per cent., and the Chamber have refused to reduce the per-centage.

4. So far, therefore, the attempt to induce the home dealers to move has been only partially successful. Dr. Voelcker in his recent report on the improvement of Indian Agriculture states his opinion that, failing voluntary help from the trade, legislation may be found necessary, and various proposals have from time to time been made for the introduction of enactments to ensure the purity of exported wheat. The mercantile community are, however, averse to legislative measures, and the Government of India are of opinion that things have not reached a stage at which legislation would be justifiable.

5. There remains the possibility of adopting a medium course by which private enterprise shall be subsidized in order to secure the purity of wheat before it leaves the country. It has been proposed that the Government should, with this object in view, give its active support to the introduction of the American elevator system; and a despatch of the 28th November 1889, from the Secretary of State, forwarded a letter from Mr. J. G. Smith, of Messrs. Ritchie, Steuart & Co., suggesting the formation of a "Grain-Cleaning and Elevator Company," and asking for the assistance of Government in several directions. The suggestions themselves, and the opinion upon them of the Civil officers, mercantile associations and railway authorities consulted will be found in detail in the volume of selections.

6. Though it was not the immediate object of the proposed Company to introduce elevating machinery on any such complete plan as that adopted in America, they desired to test at a few centres the more important practices of the American system, such as the cleaning of wheat by machinery, the grading of wheat by responsible officers, and the storing of wheat in safe and convenient places. Their scheme differed little from those discussed in the Government of India's Resolution No. 6—228-244 of 30th August 1879, or from that put forward in 1883 by Messrs. Reinhold of Cawnpore; but having been considered on its own merits, it has, on the same grounds as the schemes previously considered, been held to be unworkable under Government direction or guidance.

7. The idea that cultivators and local dealers should be induced to bring their wheat to the Company's premises to be cleaned by machinery has not found much support. It has been pointed out that the cultivator can supply very much cleaner grain; and that if any further cleaning is demanded, he could probably effect it on his own threshing-floor much more cheaply than any machine at a central granary. It has also been noted by many of those consulted that the further cleaning of wheat is of very little use until the home dealers agree to ensure a better price for cleaned than for dirty wheat. Other considerations have been put forward, such as the chance of adulteration *en route* to the ports, the difficulty of providing against damage by weevil on the voyage to England, and the necessity, under any circumstances, of further cleaning before use in English mills. If the attempt to remove the premium offered on the export of dirt to England is successful, the Government would be glad to see efforts made by private enterprise to provide cheap and convenient means of cleaning wheat; but would not feel justified in fostering trade in wheat any more than any other commercial ventures, by granting subsidies in support of private action.

8. It is in the *grading* of wheat, however, that the aid of Government has been specially invited. The proposed system requires that grain received at the Company's premises shall be tested and divided into grades; that all grain of the same grade should be stored in the same warehouse; that the owner should be furnished with a certificate of the grading, which he may use as a negotiable instrument in place of transferring the actual wheat. Finally, the promoters of the scheme anticipate that if proper precautions are taken, the certificates may be accepted by the home market, and that the uncertainty entailed by the present system may be avoided.

The suggested scheme could not eliminate difficulties involved by adulteration or by damage from weevil *en route* to England; but even if these were surmounted, it is feared that it would be found far less easy to work than in America or Russia, owing to the smaller scale of individual cultivation, the ultra-conservative habits of both cultivators and middlemen, and the numerous varieties of wheat requiring classification. The Government could not consent either to allow their officers to countersign certificates made out by persons other than their own servants, or to provide official agency for the purpose of classifying grain. They are disposed to think that, if the scheme is to be worked at all, measures for the grading of wheat must be arranged by a combination of the leading merchants at the seaports.

9. It is doubtful, however, whether the mercantile classes in India are likely to appreciate the advantages of public warehousing. Their instincts are apparently in favour of more confidential methods of dealing; their stocks are not as a rule collected at commercial centres, and their existing system of open-air or pit storage is less expensive than, and in the opinion of many as efficient as, any public storage on advanced lines could be. Without endorsing all the objections which the dealers urge against the system advocated, the Government of India are afraid that there is little chance of securing for it much support at present, and would prefer to wait until the

expansion of local and bonded warehouses under the charge of municipal and other bodies has familiarised the public with the warehouse system.

10. On the whole, therefore, the proposal that the State should subsidize a Company for the cleaning, grading, and storing of wheat, or for any one of these purposes, does not commend itself to the Government of India. This being the case, it seems unnecessary to discuss the subordinate advantages claimed for the scheme put forward, such as the certified weighment of goods, the substitution of bulk for bags, and so forth. Nor is it necessary to notice the form which possible concessions by Government would take, especially as some of those suggested by Mr. J. G. Smith are, as pointed out in the papers, quite impracticable. The Government of India are unwilling to do anything that would stand in the way of the introduction either of the American elevator system or of any modified form of it; but they hold with most of the commercial associations consulted that the promotion of such a system must be left to private enterprise, and that it cannot be introduced or subsidised by the State.

ORDER.—Ordered, that the above Resolution, with copies of the volume referred to in the preamble, be forwarded to the Local Governments and Administrations, and Officers noted below for information.*

Ordered also that copy of the Resolution and volume be forwarded to the Foreign Department for communication to Political Officers, and to the Departments of Finance and Commerce and Public Works for information.

[True extract.]

E. C. BUCK,
Secretary to the Government of India.

- * The Governments of Madras, Bombay, Bengal, North-Western Provinces and Oudh, and the Punjab.
- The Chief Commissioners, Central Provinces, Burma, Assam, Ajmere, and Coorg.
- The Secretary for Berar to the Resident Hyderabad.
- The Inspector-General of Forests to the Government of India.
- The Agricultural Chemist to the Government of India.
- The Reporter on Economic Products to the Government of India.
- Foreign Department for Political Officers.
- Finance Department.
- Public Works Department.

APPENDICES.

1.

APPENDIX A.

From the SECRETARY OF STATE FOR INDIA, to GOVERNMENT OF INDIA, No. 7. (Revenue), dated 22nd January 1891.

I forward herewith, for your Excellency's information, a copy of a letter, dated 20th December 1890, received from Mr. Phillip Pavy, of Elcombe Hall, near Swindon, and its enclosure, an interesting Report on the subject of the wheat industry of the Punjab, addressed by Mr. Pavy to Sir C. Aitchison in 1883. Mr. Pavy is anxious that it should not be overlooked at a time when the question of dealing with the impurities in Indian wheats is being so much impressed on public attention. In this connexion I shall be glad to be advised at an early date of any recommendations you may propose to make on Mr. J. G. Smith's letter of the 17th of September 1889, forwarded to your Excellency with my Revenue Despatch, No. 116, of the 28th November following.

2.

From PHILLIP PAVY, Esq., to Sir GEORGE BIRDWOOD, India Office, dated 20th December 1890.

Since I had the pleasure of seeing you with Mr. H. Cairns Jackson when you were good enough to give me the official papers on impurities in Indian wheats, I have been travelling about and unable to report on them earlier.

As promised, I have now the pleasure to send you copy of the report I wrote in 1883 at the request of Sir Charles Aitchison, the then Governor of the Punjab, giving my views of the best means of growing in his province the wheats most suitable for the English and European markets.

I have read with very great interest the papers you were kind enough to give me, which confirm in many respects what I had previously written in 1883.

I can only speak more particularly of the Punjab and the North-West Provinces which I have visited at three different times, and attended most of the principal markets to learn by actual experience the way the wheat was brought to market by the native producers.

It appears to me the different matters for investigation to promote the success of the arrival in Europe of the wheat grown in India in quality equal to that imported from other countries are—

- (a.) Selection of seed suitable for the land and district.
- (b.) Harvesting, thrashing, and marketing the grain by the producers.
- (c.) Transit of the grain to the ports for shipment.
- (d.) Customs of export merchants and shipment.
- (e.) Quality and analysis.
- (f.) Buyers and consumers in Europe.

Some of these subjects have already been alluded to in my report to Sir Charles Aitchison, and on these I have little more to communicate; but I may add—

- (a.) There are some fine specimens of wheat grown in India, and could be procured clean, and good for seed, if the hard were not planted with the soft or the red with the white. Selection of seed.
- (b.) I have seen at the country markets wheat clean and in good condition, although probably thrashed in the usual way. In California I have seen wheat harvested with a "header" clearing 20 feet at a time, at the same operation cutting, thrashing, winnowing, and putting the seed in sacks. The machine was drawn by 28 horses or mules, and worked by five men, and was reputed to cut 60 acres per day. But I always prefer the "binder," worked with three horses and one man, doing about 12 acres a day. Cleaning.

In my opinion, judging from what I have seen, it is an exception for the producers to adulterate the wheat, it being sold by them according to quality and cleanness. There is a considerable quantity of seed and other grain sometimes grown with the wheat, but the seed and grain are easily separated by the natives, and the barley can be separated by machinery.

(c.) With the present mode of transit there is much less damage done on the road to the shipping ports than formerly, when the wheat was sent by boats, which were more or less leaky. Transit to port.

I also think the present mode of sending the wheat in sacks far preferable to sending it in bulk in the railway trucks as in the Eastern States of America.

Granaries should be built at all the large railway stations, as in England, California, and other countries.

(d.) In my opinion, it is at the shipping ports where the bulk of the adulteration takes place, the shipping houses hoping to make a profit in two ways— Trade customs.

First, by any difference they may get in the refraction which, it appears, is 4 per cent. in Bombay, 5 per cent. in Calcutta, and, if my memory serves me rightly, 7 per cent. in Karachi; so

that, if the natives deliver to the export shippers wheat at Karachi with only 2 per cent. admixture, the export merchants would make 5 per cent. profit.

Secondly, by the large shippers making their own f. a. q., consequently being able to deliver gradually each month a quality depreciated in value to a considerable extent to the prejudice of the producer in India and the consumer in England.

Formerly in India the wheat was delivered by the native direct to the export merchants from the railway, but as they could not get a better price for their clean grain, I am informed they now take the wheat to their own godown, and reduce the quality by a mixture of siftings; probably the refuse of the export merchants who take delivery from the native godown, cart it to their own godown, clean it down to 4 or 5 per cent. and ship it.

(e.) I see no reason myself why Indian wheat could not be sold on a mutual 2 per cent. refraction both in England and at the shipping ports, except that naturally the large export houses who wish, and do to a certain extent monopolise the business, would lose the chance of making the profits before mentioned.

I do not understand why the charge for analysing wheat should be more than seed, and there is no more difficulty with the invoices than with seed, Egyptian beans, or other articles sold on analysis.

My experience is that with well-cleaned wheat there is little weevil.

There is no reason why an average sample could not be made and wheat sold on sample the same as with American, Californian, and other exporting countries.

In my opinion the fault as to quality of Indian wheat does not lie with the producer in India, or the consumer and miller in England, but solely, directly or indirectly, with the export merchants in India.

For the sake of the producer in India and the consumer in Europe, it is most desirable that the present contract be revised.

On reference to my Report, page 5, and taking Dr. Forbes Watson's figures, that in 1873-74 there was under wheat 5,551,794 acres in the Punjab, and the return this year, 1890, as 6,678,000, being an increase only of 1,118,206 acres in 16 years, which is much less than could have been reasonably expected with the increase in value, there is yet in the Punjab and Scinde Valley very large tracts of land that could be cultivated with wheat.

3.

From PHILLIP PAVY, Esq., to SIR CHARLES AITCHISON, K.C.S.I., Lahore, dated June 1883.

Introduction
of improved
varieties of
wheat into
the Punjab.

I must apologise for having delayed so long sending you the report I promised you of my views of the best means of growing wheat in your Province suitable for the English and other European markets, but I have been so much occupied with the development of the through transit grain business in connexion with my son, Mr. M. E. Pavy, in Lahore, that my time has been fully taken up.

I regret my visit to India in 1882 was so short, and consequently gave me so little opportunity of gaining any information of the system and routine of cropping the land adopted in the Punjab, which would have assisted me very much in my present report.

In England, as doubtless you are aware, there are many systems adopted, which from experience have been found the most suitable to the localities in which they are placed and the nature of the soils to be dealt with as to their wheat-producing capabilities both as to quantity and quality.

In England, on the heavy or so called wheat-producing land, it is customary in some districts to cultivate on the two course system, or planting wheat every other year and beans or peas alternately with tares or summer fallow; others cultivate the same description of soil on the three-course system, or wheat followed by spring or lenten corn and then seed or green food for stock, which is fed off on the land, and consequently manures it without extra expense.

The hill or lighter soils are farmed generally on the four and even five-course system, say wheat, then turnips which are fed off with sheep, then barley, then seeds which are either cut for hay or fed with stock when farmed on the four-course system, and when farmed on the five course system the seed is left as old field, or, in other words, is cut or fed the second year.

In the south of Italy, where the climate resembles nearer to that of the Punjab, and I have known the thermometer 105 Fahr. in the shade, wheat is usually grown alternately with maize or other summer crops, on the reclaimed land, of which there are many thousands of acres. Wheat is grown alternately with hemp or maize, the former growing frequently 10 to 12 feet, and the latter 6 to 8 feet high.

In any case the land should be clean, well-manured, and in good order to receive the seed, which should be planted in good season.

Having the land in good condition, the next in importance is to have good seed, which should be of the new or (last crop) of good quality, clean, and free from barley, gram, or other grain seed, and ought always to be changed, and, if possible, brought from colder and poorer land than it is intended to be sown on.

The question of the quantity to be sown per acre I cannot from actual experience give an opinion, but my impression is that generally it is too little in India, and I think two bushels to two and a quarter bushels per acre, or about 60 to 75 seers, would not be too much.

The best description of white wheat suitable for your province would be, I think,—

- | | |
|----------------------|-----------------------|
| 1. Australian. | 5. Essex Rough chaff. |
| 2. Delhi. | 6. New Zealand. |
| 3. Italian Richele. | 7. Californian. |
| 4. Algerian Richele. | |

Suitable
varieties
white whe

Of these, the Australian is by far the best and containing more of the qualities required for the English and European markets than any other, both as regards colour and strength and for comparison as to value.

The different qualities may be estimated as follows:—

1. Australian	-	-	-	-	-	50s. per 492 lbs.
2. Delhi	-	-	-	-	-	48s. " "
3. Italian Richele	-	-	-	-	-	48s. " "
4. Algerian Richele	-	-	-	-	-	48s. " "
5. English Rough chaff	-	-	-	-	-	46s. " "
6. New Zealand	-	-	-	-	-	46s. " "
7. Californian	-	-	-	-	-	45s. " "

as against 42 for the same weight of white wheat of the Punjab.

The best description of red wheat, and probably the most suitable for your climate, would be— Red wheat.

- | | |
|---------------------|---------------------|
| 1. Winter American, | 5. English nursery, |
| 2. Sicilian, | 6. " common, |
| 3. Italian, | 7. " April. |
| 4. Delhi, | |

and the relative value may be estimated as follows:—

1. Red Winter American	-	-	-	-	-	46s. per 492 lbs.
2. Sicilian	-	-	-	-	-	45s. " "
3. Italian	-	-	-	-	-	45s. " "
4. Delhi	-	-	-	-	-	45s. " "
5. English nursery	-	-	-	-	-	44s. " "
6. " common sort	-	-	-	-	-	42s. " "
7. " April	-	-	-	-	-	42s. " "

as against 39 for the same weight of red wheat of your province.

The next matter in importance, after having planted the wheat in clean and well-cultivated soil and from good clean seed, is to see that it is well cared for after it is grown, and to effect this it should be thrashed on wood floors, canvas, or even as a last resource on matting, which can be procured more or less, I presume, all over your province. The present mode, as I am informed, of treading the wheat out by oxen or thrashing on the ground or road arranged for the purpose gives it a dirty, dingy, and dull appearance, and often a disagreeable and earthy smell, and deteriorates the value from 2 to 4 per quarter of 8 bushels, or 492 lbs., instead of its being retained, as in other countries, in its natural state, bright and glossy in appearance and free handling in bulk.

When thrashed the wheat should be winnowed by machine or, if this is not possible by an ordinary fan, which could be made in the country for a few rupees; the latter was the usual way of winnowing the corn in England before the machine, now so general in use, was introduced, and which answers the same purpose, but is more tedious in the operation.

After being cleaned it should be kept so by being put in a proper warehouse instead of the dirty back hovels I have seen it in, by which means the corn becomes weevily and gradually of more and more inferior quality. When taken to market it should be conveyed, whether on bullocks, camels, or carts, in sacks, and not put on the road or in the squares when exposed for sale, as is customary now at Ludhiana, Delhi, and other places.

I see no reason why your province should not grow wheat of quality, if not equal in value, nearly so to the best wheat-producing countries of the world.

Taking the relative values of the average qualities of white wheat at this time on the London Values. markets as before estimated as follows:—

Australian	-	-	-	-	-	50s. per 492 lbs.
Italian Richele	-	-	-	-	-	48s. " "
Algerian	-	-	-	-	-	48s. " "
Californian	-	-	-	-	-	45s. " "
Oregon	-	-	-	-	-	45s. " "
New Zealand	-	-	-	-	-	46s. " "
Punjab	-	-	-	-	-	42s.
and the red wheat—	-	-	-	-	-	
American Winter	-	-	-	-	-	46s. per 492 lbs.
Italian	-	-	-	-	-	46s. " "
Sicilian	-	-	-	-	-	45s. " "
Punjab	-	-	-	-	-	39s.

Average 47 per
492 lbs.

Average 45-4 per
492 lbs

In Paris the relative values estimated by one of the large merchants are for white wheat—

Australian	-	-	28 francs per 100 kilos	49s. 11d. per 492 lbs.
Italian Richele	-	-	28 " "	49s. 11d. "
Algerian	-	-	28 " "	49s. 11d. "
Californian	-	-	26.50 " "	47s. 3d. "
Oregon	-	-	26 " "	46s. 4d. "
New Zealand	-	-	25 " "	44s. 7d. "
Average being	-	-	48 per 492 lbs.	

Punjab	-	-	23.59 francs per 100 kilos	41s. 11d. per 492 lbs.
and red—				
American Winter	-	-	26.50 francs per 100 kilos	47s. 3d. per 492 lbs.
Italian Richele	-	-	27.50 " "	49s. 1d. "
Sicilian	-	-	27.50 " "	49s. 1d. "
Average being	-	-	48.6 per 492 lbs.	
			against	
Punjab	-	-	22.50 francs per 100 kilos	40s. 2d. per 492 lbs.

I have not considered in this report the question of hard wheat, of which there is a considerable quantity grown in your province, but which is only saleable on the London market in moderate quantities, and of that imported the greater portion is re-exported for Holland, Belgium, or Spain. These qualities also find a better market in Italy and the Mediterranean markets generally.

In taking therefore the average price of the six countries that supply England with white wheat, and whose climates approach the nearest to that in your province, we find for the London market it is 47s. per quarter of 492 lbs. as against 42s., the value of the average quality of white wheat grown in the Punjab, and in my own mind your province may grow white wheat equal, if not superior, in quality, and of the same value in this market as the average of these countries.

In red wheat I have taken the three countries where the climates are about the same as regards heat as your own province, and we find the average value on the London market is 45s. per quarter of 492 lbs. against that grown in your province, 39s.

In Paris the average value of the six different qualities of white is 48s. per 492 lbs. against 41s. 11d., the value of yours, and red, 48s. 6d. against 40s. 2d.

The difference therefore in the average value of the white and red wheat of the same qualities grown in the different countries mentioned for the London market is as between 46s. 5d. and 40s. 6d., and for the Paris market as between 48s. 2d. and 41s. 0½d., or an average, we may say, for the European markets of 6s. 7d. per quarter less for the wheat grown in the Punjab than the average of the other countries from whence we draw large supplies; this at 1-8 per rupee will make a difference of something over 10 annas per maund.

Taking Dr. Forbes Watson's figures that in 1873-74 there were 5,551,794 acres under wheat in the Province of the Punjab, and that it had increased in four years, say in 1877-78, to 6,983,904 acres, and presuming the increase to continue in the same proportion, and that in 1882-83 the area under wheat to be estimated at 8,774,041 acres, and as the crop this season is considered to be a large one of good quality and may be calculated at 10 maunds per acre or 87,740,410 maunds or 14,623,401-4-6 quarters of 492lbs., and presuming that the quality could be improved in value, and brought up to the average standard of other countries of somewhat similar climate or, say, 10 annas per maund, it would amount to a sum of no less than, say, Rs. 54,837,756, or an average of R.6-4-0 per acre. These figures may seem fabulous but may be possible, and, if so, it would be difficult to foretell the good that would accrue to your province if over five millions of pounds sterling could be augmented to the receipts of the producers by the improvement of quality alone.

It is difficult for me, having no actual experience in the production of wheat in India, to even venture upon a suggestion of which would be the best description of wheat to recommend for seed in your province, but seeing the enormous amount of money, probably pounds sterling 5,000,000, involved in the question of quality alone, it may be worth the consideration of your Government to make a practical experiment by planting a few acres of each sort of wheat in four or five different localities.

This would be a comparatively inexpensive experiment, and would prove by actual results the best seed suitable for the soil and climate.

For the qualities of white wheat, unquestionably the Australian is the best grown suitable for the English and European markets, containing the qualities most requisite both as regards colour and strength for making flour of greatest value; next to Australian, if sent to market clean and in the same condition, is the long-berried wheat grown in the Delhi and Meerut districts; next would be the white Richele of the South Italy and Algeria; some Californian and Oregon may also be planted for experiment. Some white Spanish may also be tried, as well as English, but I am doubtful if the experiment would be successful.

Considering that the expenses and carriage of sending the grain to the European market is considerably more than the first cost paid the producers, and as these charges are the same on wheat of the value of 50s. per quarter as 40s., it is of the greatest importance for the farmers to grow the best quality possible to enable them to get the highest prices.

As regards the qualities of red wheat, the long-berried description grown in the Delhi and Meerut districts, if sent to market in the same good condition and clean, would probably make as high a price as any grown on the English and European market. Next to this would be the Italian and Sicilian; these qualities are particularly liked by the millers in France and Belgium,

and next would follow the red Winter American, which is more appreciated in England than on the Continent on account of its strength. There are also, I have no doubt, some descriptions of red English wheats that may do well in the Punjab, particularly in the north, and would be worth a trial.

There are also the fine red wheats of the south of France grown in the Merac and Dordogne districts, and the finer descriptions of Hungarian grown in the valley of the Theiss, and from which the flour used by the Viennese for making probably the best bread in the world is produced, and may answer well in your province.

Presuming that the quality of the wheat can be improved, and in my own mind I have no doubt on this point, the next question to enable your province to compete successfully with the countries from which we have up to this time usually drawn our supplies, is the question of transit rates by railway and shipping charges.

In America, where of late years we have drawn the bulk of our supplies, the ordinary railway rates are 20s. to 27s. per ton for 1,000 miles, or an average of 23s. 6d., including terminal and shipping charges; whereas on the Scinde, Punjab, and Delhi and Indus Valley Railways, at the lowest rate of 16 pies per 100 maunds per mile and exchange at 1-8 per rupee on the same distance, 1,000 miles, it is as follows:—

	Rs.	a.	p.
Railway rates	-	-	22 8 0
Ferry charges	-	-	1 11 0
Terminal	-	-	0 6 9
Shipping charges, Port-dues, and agency	-	-	2 0 0
			<u>26 9 9</u>

or 44s. 4d. per ton as against an ordinary average rate in America of 23s. 6d., and this will clearly show so far as railway rates, charges, &c., are concerned, the producers in your province pay 20s. 10d. per ton more than their competitors in the Far West of America.

I have here spoken of and made comparison with the ordinary rates in America, but during a war of rates with the railways, grain is frequently carried at 10s. and 12s. per ton per 1,000 miles, or about one quarter the amount paid from the Punjab.

These figures will, I think, speak for themselves, as far as inland rates and charges are concerned, and show the position of the producers in your province in competing for the food-supply of this country.

As regards ocean rates there is no monopoly, and freights are regulated in the usual way by supply and demand; they are sometimes high and at others low. I have known rates for freight even from Calcutta sometimes 12s. per ton for wheat, and sometimes 70s. and 80s.

The annual requirements of the United Kingdom may be estimated at twelve to eighteen million quarters, according as our crop here is more or less abundant, the bulk of which has of late years been supplied us from America, and the question may be asked if our own colony, the Empire of India, could not compete successfully for the supply of a considerable quantity of this wheat, and millions sterling paid to the producers in India instead of America, and in spite of the boasted millions of acres of rich alluvial soil reputed to be yet uncultivated in that country, with land in India at the same or less rent, labour at 2 to 3 annas, 2½ to 3¼ per day, instead of 6s. to 8s., fairly cultivated soil, suitable seeds, and proper care taken of the wheat when grown with a climate far more certain and favourable for the production of wheat than America, and with reasonable and not excessive inland rates of transit, there can be no reason why India, your province of the Punjab in particular, should not successfully compete for the increasing requirements of the United Kingdom and other European countries.

If you think I am able to give you any other information on this subject, I am quite at your disposal.

APPENDIX B.

The GRAIN TRADE of the CAUCASUS and the FUTURE of NOVO ROSSIESK, by W. BARNES STEVENS, Special Commissioner in the Caucasus.

1. THE EXISTING DEPRESSION IN THE RUSSIAN GRAIN TRADE.

In the present and succeeding articles I purpose laying before the readers of the "Mark Lane Express" the results of a special inquiry, which I have recently undertaken, as to the causes of the existing depression of the Russian grain trade, and as to the prospects of the trade in view of the recent introduction of the American system of storage at Novo Rossiesk, the new Black Sea port. Those who take an interest in Russian commercial affairs will be aware that at the present time this important question is engaging the serious attention of the Imperial Government. It was the object of the recent tour of that energetic and indefatigable Russian statesman, M. Vishnegradsky, the Minister of Finance, to ascertain, by inquiries made on the spot, the extent of the material resources of Southern Russia, the Caucasus, and the territories of Russia in Central Asia, and especially the development of the grain trade by means of the improved methods of carrying on that trade adopted at the new port above mentioned.

A recent report furnished to M. Vishnegradsky by the Railway Companies states that the main causes of the depression in the Russian grain trade are:—

- (1.) The fluctuating value of the rouble, and the uncertainty of the amount of the shipping and railway expenses, which render it impossible for importers and shippers to make reliable calculations.
- (2.) The poverty of the peasants and farmers, which compels them to sell their grain immediately it has been gathered.
- (3.) The large number of middlemen between the producer and the consumer, and the absence of elevators and magazines for storing grain.

So far as this statement goes it is perfectly correct, but I am surprised to find no allusion in it to a practice which, to my mind, has more to do with the present languishing condition of the trade than any of the conditions above referred to. I refer to the wholesale system of adulterating the grain. It is this abominable custom which has, I believe, eaten away the very life of the trade; and as this is a question affecting British buyers and consumers, it is well that they should possess some reliable information on it. I am informed by a Russian railway official, connected with one of the principal lines in Southern Russia, that his Company is doing quite a large business in carrying to the various grain ports a composition known as "Ostalkee," the avowed purpose of which is the adulteration of the grain prior to shipment. "Ostalkee," in plain English, means "leavings," and consists of the bran, husks, dust, sand, and small particles of straw left after the grain has been threshed. It is bought from the peasants in large quantities and conveyed to the ports for this nefarious purpose in truck-loads at a time. So common has this practice of adulteration become that people have begun to regard it as a natural condition of the trade. The farmers and peasants are not responsible for this malpractice, although they could, of course, and would, if they knew their best interests, minimise it considerably by refusing to sell the ostalkee. The grain, when it leaves their hands, is in good condition and "up to sample" equal, and often superior in quality to the grain of any other exporting country. But it is not long in this condition. The Jewish, Greek, Russian, and Armenian middlemen, into whose hands it then passes, make a practice (as a St Petersburg editor avers, who has written much against the abuses of the present system) of opening each sack that they purchase from the producers, and deducting from it 20 per cent of the pure grain, the place of which they supply with spoilt grain or the rubbish above referred to. In this way they not only make a profit on the mixed parcels, but a clear profit of 20 per cent. on each sack shipped. Nor are these unscrupulous shippers content with having in this way destroyed the once good name of Russian shipments, but, in pursuance of the same suicidal policy, they are doing their best to make Russian agriculture altogether unprofitable. In districts where there are no Railway Companies or banks to make advances on the grain, the great grain houses established at the principal ports have the farmers and peasants completely at their mercy. They form "rings," or "corners," and, having agreed upon a price amongst themselves, telegraph it to their agents in the interior. Thus the producer, the victim of an organised conspiracy, frequently has to sell his grain at a price far below its natural value. A very small portion of the sums which his grain ultimately fetches in London and other markets goes into his pockets, frequently not enough to cover the rent of his land and the costs of production. The greater portion goes towards defraying the great expenses in respect of carriage, freight, warehousing, and in meeting the charges of the middlemen, which, when compared with those of other countries, cannot but be regarded as exorbitant.

But the peasant has not only to contend with unfavourable conditions of outside origin; he has to contend with his own sluggish and easy-going temperament. It is a deplorable fact that the Russian peasant is far too much addicted to vodka, and that he lays hold of any and every excuse for taking a holiday. In short, as a rule, he is not industrious. Further, being ignorant—and for his being ignorant the Government is more responsible than himself—he is conservative in the extreme and consequently averse to trying any of the "foreign inventions" as he terms the labour-saving agricultural machines of Western civilisation. It is difficult even to induce him to abandon his antiquated plough, a large, heavy, and incomplete article, which it takes seven or eight pairs of oxen to put in motion.

With such influences at work without and within, it is scarcely to be wondered at that the condition of the Russian peasant has become one of almost chronic poverty. But if the peasant is in a bad way, the landlord is in a worse, for the latter, since the emancipation of the serfs robbed him of his farm labourers, has gradually gone down hill. The late sudden rise in the value of the rouble seems to have completed his misfortunes; it has driven members of his class into the hands of that just now much-abused nation, the Jews, and have forced others to sell their lands to peasants at almost nominal prices. In some parts of Russia, where the conditions for growing corn are most unfavourable, both landlords and peasants have entirely ceased growing corn for purposes of export. "I am so disgusted with the present state of affairs," said the landlord of an immense estate in Poland to me the other day, "that I am allowing my land to lie fallow; for, at least, if I do not gain anything, I shall not ruin myself by selling my grain at a loss." One can imagine a farmer in England acting thus, but it is extraordinary to find one doing so in a country where, if anything should prosper, agriculture should. Yet, as things are at present, it is difficult even for a farmer working on his own land to make a profit. A desjation (equal to 2 acres 2 roods 32 poles, English) of the finest land in the Caucasus, suitable for growing wheat, may be leased for a very small sum, and yet the expenses of ploughing, sowing, reaping, and threshing are so heavy that a profit of more than 10 roubles is rarely made. This being the state of affairs, it does not require much acumen to see that something is wrong at the core of the Russian export grain trade; but it is

reassuring to those who have the true interests of that trade at heart to find that M. Vishnegradsky has come back from his visit to Novo Rossiesk and his tour in Central Asia thoroughly convinced on this score, and resolved to give free scope and Government assistance to those who are trying to bring about a reformation of the trade. It is late in the day indeed that this decision has been come to. The present stagnant condition of the grain trade had come to be looked upon as its normal and hopeless condition. When we reflect on the extent of the arable portion of the Russian Empire, and the vastness of the interests involved, the lethargy from which the Government are now tardily awakening was at once inexcusable and well-nigh inexplicable. The fact is that, for the last thirty years, the Tsar and his Ministers have been paying too much attention to the manufacturing interests of the country. They have spent millions in fostering these, have enabled a few manufacturers to become millionaires, but until the present moment never seemed aware that they had any agricultural interests worth looking after. The Tsar is to be congratulated, however, in having, as his Finance Minister, a statesman so painstaking and patriotic as M. Vishnegradsky; and now that this gentleman has become thoroughly alive to the necessities of the situation, he will do his best to make up for lost time. Already something has been done to improve matters; more has been resolved upon, and much is under consideration. What steps have been taken, and what further measures are likely to be adopted, I reserve for future communications; and I hope to show from the remarkable history of the rise of the new port of Novo Rossiesk, which I had the pleasure of visiting this summer, slightly in advance of the Finance Minister, that there are good grounds for the belief that a thorough reform of the Russian grain trade has been successfully initiated, and that it is by no means unlikely, if things go on as they have begun, that America and other grain-exporting countries will soon find it difficult to hold their own with Russia. Perhaps they may even be ousted altogether from European markets.

Novo Rossiesk, the important departure at which is likely to have far-reaching effects on the future of the Russian grain trade, is situated on the Black Sea, at a spot about 100 miles to the east of the Straits of Yenikale, where the western extremity of the Caucasian range approaches the seaboard. In its position at the head of a magnificent natural harbour, with mountains at its rear and sides rising to an altitude of several thousand feet above the level of the sea, their slopes covered with groves of wild apple, pear, plum, and other trees, it presents a remarkable resemblance of the harbour of Palermo. Though possessed of such manifest natural advantages as a port, no attempt was made to utilise it until two years ago. It aspired to be nothing more than a small fishing village, and boasted no other signs of Russian occupation than a few Russian soldiers and officials. Beyond its outskirts Muscovite rule did not extend, or at any rate was not respected. Such of its inhabitants as, in pursuit of game, ventured into the mountains did so at the imminent peril of their lives. These heights were held by Circassian mountaineers, who successfully resisted all attempts to dislodge them from their fastnesses, and who knew no more enjoyable sport than "potting" those luckless members of the garrison who happened to come within range of their rifles.

2. THE RISE OF NOVO ROSSIESK.

A different state of things exist now. The troublesome Circassians have given place to Russian, French, German, and Greek settlers, busily making their fortunes; and the quondam fishing village, emerging from its obscurity, has become a thriving grain port of some five thousand inhabitants, with a trade even now only third in extent to that of Odessa.

How this magical transformation has been effected is an instructive history. The good fairy has not been the Government with powder and shot; but that pacific and potent civiliser, the railway. About three or four years ago M. Stanislaus Kerbedz, a Polish engineer of high repute, recognising the possibilities latent in the place, conceived the idea of joining it with the Vladikavkaz Railway (of which he was then a Director) by a branch line to Tchoretz. From this station Novo Rossiesk is distant by the route chosen not more than about 300 miles. It lies, however, on the other side of the Caucasian range. To carry the Engineer's project into effect, it became necessary therefore to bore through these mountains. The construction of two long tunnels was found to be inevitable. Such an undertaking would necessarily involve enormous expense, but the Company, strong in their belief in the beneficial effects it would produce, did not hesitate. The work was rapidly pushed forward, arrangements at the same time being made for the reception of the grain; and in August 1888 the port and line were thrown open for traffic. In my visit to the place this summer, starting from St. Petersburg, I, of course, travelled over the new line. The main line begins at Rostov, on the Don, and the portion of it which lies between that port and the junction Tchoretz passes through the southern part of the country of the Don Cossacks (Zemlia Boiska Donskago), and thence through the district of the Black Sea Cossacks. A journey of a hundred miles farther on brought me to the River Kuban at Ekaterinodar. Throughout the whole distance from Rostov to this place nothing was to be seen but steppes covered with fields of wheat, the produce of the rich black soil (Tchornee Zom), which extends for hundreds of miles on either side of the line, and pampas plains supplying pasturage for thousands of sheep and cattle, with here and there a Cossack village. After leaving Ekaterinodar, the line passes through a region abounding in oak and wild fruit trees, dotted here and there with plantations of tobacco. So thickly-wooded is this region that it is estimated to comprise about five million acres of oak and other timber. Palm trees and box wood also flourish, and away up the mountain sides rise immense pine forests, already being exploited by French capitalists. As might be expected, these forests and mountains are full of various kinds of wild animals and game. Even within a few hours' walk of Novo Rossiesk, those fond of sport can have as much as they desire. Nor need they fear molestation at

the hands of fanatical Circassians, as these former holders of the mountains have nearly all been shipped off to Turkey. As many as 10,000 of them were, it is stated, so got rid of last year. The territory thus almost depopulated is being rapidly leased or bought up by Greeks and Frenchmen for the cultivation of the vine and the tobacco plant, while near the town itself cement works have been established by some Germans. The rocks round the bay of Novo Rossiesk are formed of a natural cement, requiring only to be crushed to be ready for use, and the astute Teutons, who have found out this fact, are, the English Consul assured me, making at least 60 per cent. on the working.

Living is not dear in Novo Rossiesk. Meat of the finest quality can be purchased there at 2d. a pound and a whole ox of the celebrated Circassian breed for 3*l.* or 4*l.*

Fruit for all description abound—pears, apples, melons, grapes, plums, peaches, apricots, and walnuts. A good water-melon costs about 1½*d.*, and a pound of fine grapes about the same amount. The finest tobacco is also grown in large quantities, and is sold at the rate of about 6*d.* a pound. It is subject to a slight duty, and the growers are chiefly Greeks, who send it to Rostov, on the Don, at which place it is made up into cigarettes and sold as Turkish at about 14*s.* a pound.

Possessed of such natural advantages, and such varied resources, Novo Rossiesk would have a prosperous future before it, even if it did not afford so convenient an outlet for the grain of the Caucasus, and this consideration doubtless weighed with the Directors of the Vladikavkaz Railway Company when they were deciding as to the construction of the branch line. The main object of the Company, however, was the development of the grain trade of the Caucasus, and it may be said at once that their sanguine anticipations on this head have been more than realised. Indeed, the grain export has advanced literally by leaps and bounds. This satisfactory result is abundantly evidenced by the following table, which gives the amount of grain (including a little flax) loaded at the wharves of the Railway Company for each month, from August 1888, when the port was opened, to June 1889:—

Month.	No. of Steamers.	Tons of Cargo shipped.	Average Cargo per Steamer.
1888.			
August - - - - -	1	1,580	1,580
September - - - - -	2	3,455	1,728
October - - - - -	3	5,439	1,813
November - - - - -	7	12,873	2,083
December - - - - -	6	11,249	1,872
Total - - - - -	19	34,596	1,901
1889.			
January - - - - -	13	23,534	1,810
February - - - - -	14	26,676	1,906
March - - - - -	16	27,909	1,813
April - - - - -	4	7,393	1,878
May - - - - -	7	15,214	2,209
June - - - - -	11	21,422	2,097
Total for first half of 1889 - - - - -	65	122,147	1,968
Total for the eleven months, from August 1888 to June 1889 - - - - -	84	156,743	1,914

[In calculating the average cargo three steamers have been omitted as they did not take a full cargo from Novo Rossiesk. They only completed their load there.]

Thus, during the first six months of 1889, nearly four times as much grain was exported as during the five months ended December 1888. Four-fifths of this grain was carried by steamers bearing the English flag. To the figures given above, 25,000 tons must be added as taken up by 100 sailing vessels and coasting steamers. The total turn-over of the port during the first eleven working months of its existence thus exceeded 180,000 tons. This remarkable activity has been maintained. By December 1889 the total exported had reached over 333,000 tons, and by July of the present year over 671,000 tons. The figures for each month of the present year, up to and including July, are as follows, viz. :—

Month.	Tons of Cargo shipped.
January 1890 - - - - -	41,760
February " - - - - -	49,060
March " - - - - -	44,480
April " - - - - -	52,290
May " - - - - -	53,220
June " - - - - -	52,450
July " - - - - -	51,430
Total - - - - -	387,620

It may, therefore, be confidently expected that the export for the present year will exceed 600,000 tons. Not only has Novo Rossiesk, in the short space of two years, outstripped the smaller ports in the amount of export, but it seems likely that before long it will do more business than Rostov. According to the gazette of the Minister of Finance (No. 32) the exports from the following ports for the present year, up to August 4th last, were as follows, viz. :—

Name of Port.	Poods* of Cargo shipped.
Odessa - - - - -	44,590,417
Rostov - - - - -	29,921,680
Novo Rossiesk - - - - -	20,674,987
Libau - - - - -	15,750,736
Sevastopol - - - - -	8,925,640
Riga - - - - -	6,752,452
Reval - - - - -	6,818,112

* One Pood=36½ lbs. English.

The significance of these statistics is obvious. I have now to point out that this striking success of the new port has been due mainly to the enlightened policy which the Vladikavkaz Railway Company have pursued. The details of that policy will form the subject of my next article.

3. THE POLICY OF THE VLADIKAVKAZ RAILWAY COMPANY.

The statistics given at the end of my last article demonstrate in a forcible and unmistakable way that the whole of Europe, and in particular the British Isles, may now reckon on receiving large and continuously increasing supplies of grain from a new and important source. This fact is of as supreme importance to the "struggling masses," to whom it holds out the prospect of a reduction in the price of bread, as it is to the corn trade, who cannot afford to ignore such an important factor in making their calculations. To make this prospect the clearer and these calculations the easier, I shall endeavour in the next and concluding paper of this series of articles to convey some idea of the extent to which the resources of the Caucasus are still undeveloped, and of the measures in contemplation by the Russian Government and the Railway Company for the purpose of bringing about their thorough development. In the present article I shall examine the causes which have brought Novo Rossiesk into its present prominent position as a grain port. The readers of the "Mark Lane Express" will then be the better able to estimate what probability there is of the continued development of the Caucasus.

As I have already indicated, the main cause of the sudden rise and prosperity of Novo Rossiesk has been the wise and patriotic policy pursued by the Vladikavkaz Railway Company, to whom practically the port belongs. But the fact should not be lost sight of that to the success of that policy the many and important natural advantages of the port have contributed in no slight measure. Incidentally, I have already touched upon some of these; but a circumstance remains to which I should direct particular attention. To those of your readers who have attentively perused the pregnant figures given in my last article, this circumstance will have been already revealed. It will have been observed by them that the grain export of Novo Rossiesk has gone on as merrily in the winter as in the summer. While Odessa and other Black Sea ports have been closed in consequence of frost, the new port of the Caucasus has been doing a roaring trade, without the intermission even of a single day. In the severe first three months of the present year it exported upwards of 120,000 tons of grain. At the present moment, when at the older ports, all is hurry-scurry in order to get off as much grain as possible before the frost commences, the new port, enjoying absolute immunity from frost, pursues the even tenor of its way rejoicing. On this account alone Novo Rossiesk has a tremendous pull over the older-established ports of the Black Sea and Sea of Azov. It would be only fitting then that, in an enumeration of the natural advantages which have made for the success of Novo Rossiesk, this circumstance should be accorded the premier place.

First, then, Novo Rossiesk is a port that never freezes.

Secondly, it affords a more convenient outlet than Rostov-on-the-Don, not only for the rich black soil district tapped by the main line of the Vladikavkaz Railway Company—a territory of some 5,000 square miles, of which a large proportion is still uncultivated—but also for the exceedingly fertile and, until recently, entirely undeveloped district tapped by the branch line connecting it with Techoretz.

Thirdly, it possesses the advantage of a position at the head of one of the finest natural harbours in the world.

The bay of Novo Rossiesk is nearly 5 miles long by 2½ to 2 miles wide, covering an area of 5,000 acres. Its entrance is perfectly safe, and properly marked by beacons and lighthouses. Its northern extremity forms a large and deep harbour, being 1,500 acres in extent and 45 feet in depth. It is possible for ships capable of carrying 3,000 tons to take a full cargo from the wharves of the Railway Company. When the large size of the steamers of the present day is taken into account, the new port will be seen to possess in this feature no slight advantage over the older-established ports of the Black Sea and Sea of Azov, which both in depth and in extent are its inferiors.

Novo Rossiesk was thus certain of some degree of success, whatever policy the Railway Company thought fit to adopt. That the Directors took the line they did is therefore immensely to their credit, and it augurs well for the future of the Russian Empire that men of their enterprise and capacity continue to appear. When the vast sums of money expended on the undertaking, amounting to a total of twelve millions of roubles, are taken into consideration, no one would have been surprised to find the Company adopting every means in their power to ensure a speedy return of their capital. Assuredly no one could have blamed them had they taken this course. The Directors, in not doing so, seem to have subordinated their own pecuniary interests to the general good, and this in spite of the Imperial Government looking coldly upon their undertaking. They seem to have recognised to the full the gravity of the evils affecting the grain trade, and to have felt that upon them the duty of grappling with and overcoming them devolved. They saw the opportunity that presented itself in Novo Rossiesk, and they determined to make the best possible use of it. They set before themselves the twofold object of restoring the once good name of Russian shipments, and of making agriculture a less unprofitable calling to the farmers of the Empire.

To this end they introduced at Novo Rossiesk, and at the chief stations of their line, the American system of storage, and fixed their carriage and shipping charges at an exceedingly low figure. Indeed, on the shipping charges they have not aimed at making any profit at all. The only profit they seek is that which they hope to derive from the increased carriage of goods from the interior to the port. With the Government sanction they discharge the grain from the trucks, clean and sort it in their storehouses, then recart it to the piers, and finally ship it at the following low rates:—

- (1.) Cartage from trucks to storehouses weighing and stapling 4 copecks per 10 poods (361lbs).
- (2.) Shovelling, 2 copecks per 10 poods.
- (3.) Shifting and cleaning, 3 copecks per 10 poods.
- (4.) Carrying from stores to the Company's trucks, bagging, if required, weighing, cartage to piers, &c., 15 copecks per 10 poods.
- (5.) Work in the hold:—(a) Single-decked boats, 1 copeck per 10 poods; (b) double-decked boats, 1½ copeck per 10 poods; (c) bagging in hold, 2 copecks per bag.

[One copeck=about one-third of a penny.]

Not only are these rates exceedingly moderate in comparison with those levied at other ports, but they are not liable to fluctuations, excluding in this way the possibility of the introduction at Novo Rossiesk of those rules and customs which, in other ports, have been so just a cause of complaint on the part of merchants and shipowners. Although the work is done thus cheaply, its performance is none the less efficient. The Company keep permanently on their premises a properly organised set of experienced workmen.

Again, the Company spare no pains to ensure despatch in loading. At present vessels are loaded as they lie alongside the wooden piers of the Company. These structures are three in number, and of considerable length. Together they enable six large-sized vessels to load simultaneously, and five average-sized ones to complete their cargo. The grain export they thus provide accommodation for is very considerable, amounting to upwards of 65,000 tons during each busy month of exporting. One of the piers is two-storied, and is connected with the station and warehouses by a stone viaduct. It is similar in plan to the piers at South Shields, Bilbao, Huelva, and Odessa. While loading proceeds by manual labour at the lower platform, from the upper platform the grain brought from the storehouses in special waggons may be shot into the hold. All the piers are provided with the electric light, so that the Custom House authorities permitting, the work of loading can be carried on by night, whenever an accumulation of vessels or other circumstances renders such a course desirable.

These facilities for despatch in loading, in combination with the low rates charged, render Novo Rossiesk an attractive port to English captains. At no other port can they obtain a cargo so quickly and so cheaply. At Novo Rossiesk a cargo of 2,000 tons of wheat can be shipped in the short period of 24 hours, at just one-half the cost which would be incurred at any other Black Sea port. Then, too, if a vessel meets with a mishap at the port, it does not—as in other Russian waters—become the prey of a salvage company. Her captain has only to invoke the aid of the Vladikavkaz Railway Company and without delay tugs, divers, and all means of salvage are provided; everything is done that can be thought of to put the disabled vessel in speedy repair. For this service the Company charge only the bare cost of the work done. They even offer to refer their bill to Lloyd's agent, and to be content with whatever sum that functionary may think meets the requirements of the occasion. The tug belonging to the Company is English-built, and is supplied with engines of 300 horse-power. It contains appliances for the extinction of fire, and for draining the holds of vessels. Repairing shops have also been set up for the repair of the machinery and hulls of vessels. These are under the management of an experienced English engineer. In addition to these services, they undertake, if desired, at special rates, to see to the due performance of Custom House formalities, the victualling of vessels, and the providing of vessels with water, fuel, materials, &c. They provide also interpreters speaking English, French, German, and other languages, and will negotiate for captains with the Russian Standard Petroleum Company.

Nor have the Company neglected the interests of the growers. It is true that, owing to the extraordinary and unexpected influx of grain into the port, 8,000 waggons were last year under grain at one time, 3,000 of which were compelled to remain thus undischarged for more than three months awaiting shipment. But immense warehouses having been built, with a total storage capacity of 65,000 tons, growers can now store their produce, and obtain advances on it.

4. FUTURE DEVELOPMENT.

In the preceding articles I have attempted to gauge the evils affecting the Russian grain trade, and have indicated the source whence a movement has arisen for their abolition. I have now to deal with the future, and will therefore at once proceed to state the grounds upon which I base my strong optimism in regard to the future of the trade.

For Russia to obtain the practical monopoly of the European grain trade, the movement so successfully initiated by the Vladikavkaz Railway Company at Novo Rossiesk must extend to the other Russian ports. This much is apparent. How then is it to be accomplished? Powerful interests are involved in the maintenance of the system at present in operation at these ports, and admittedly nothing will break them down but the pressure of dire necessity. I shall therefore strive to show that there is a great probability of this necessary pressure being exerted in the by no means distant future.

Everything bends before competition. If the grain trade of the Caucasus, which even now is a factor to be taken into account by merchants in making their calculations, increases in the future at the rapid rate at which, as I have shown, it has increased in the past; if, too, means can be found to divert through the new port a large portion of the grain produced in other parts of the Empire, which produce now finds other outlets, few will deny that the pressure of competition thus brought about will force the older ports, however unwillingly, to adopt the new system.

That both these indispensable conditions will be fulfilled, I see, in the present circumstances, no reason for doubting. They are both largely dependant for their fulfilment on the attitude taken by the Russian Government. The satisfactory result already obtained at Novo Rossiesk is to be attributed almost entirely to the private enterprise of a Railway Company. In Russia, however, all such enterprises depend for their success, and even for their continuance, on the favour of the Executive Government. The frown of a Minister is sufficient to depress the ardour of any body of enterprising commercial men. From the first, therefore, the Vladikavkaz Railway Company have been anxious to secure for their venture the favourable regard of the Imperial Government. At the outset they did not, it is said, meet with the success hoped for in this direction all kinds of obstacles being, it is asserted, placed in the way of their undertaking. At length however, they obtained the appointment of a Government Commission to visit and report on the harbour. To this Commission they submitted the following programme of reform:—

- (1.) To improve the quality of the grain prior to shipment by submitting it to a process of cleaning, shifting, weighing, &c., in the elevators of the Company.
- (2.) To establish a system of making advances on all grain delivered by the growers at the stations of the Company, and to build for this purpose a series of small elevators in the interior.
- (3.) To diminish the expenses attending the loading and carriage of grain by transporting all large parcels in bulk, and also by establishing at Novo Rossiesk a fixed railway tariff and list of charges.
- (4.) To afford to steamers loading at the port of Novo Rossiesk every convenience for despatch by means of special mechanical arrangements.
- (5.) To establish a Grain Commission, whose duty it shall be to inspect the parcels of grain prior to shipment, and to grant certificates as to their condition.
- (6.) To construct a large American elevator capable of holding 50,000 tons of grain, and containing all the latest appliances for cleaning and storing the grain.
- (7.) To construct two new docks near the premises of the Company, the present Government harbour works not being in a favourable situation for the expansion of the trade.

This programme was generally approved by the Commission, and many of the reforms alluded to in it have, as we have seen, already been carried out. The Government sanction has been given to the erection of the elevators, and the proposition as to the docks is under consideration. We have seen the satisfactory result which has followed on the inauguration of these reforms; but great as the attractions of Novo Rossiesk as a port have proved to be already, they will largely increase when the whole programme has been completed.

Much more important, however, than the visit of this Commission, was that of the Minister whose recent tour through the territories of Russia in Central Asia has attracted so much attention. On his return journey, M. Vishnegradsky made a special visit to Novo Rossiesk for the purpose of forming on the spot an estimate of its capabilities.

It is no secret that this energetic Minister was very favourably impressed by what he saw at the new port, and that he returned to St. Petersburg resolved to recommend the Government to give free scope to the energies of the Vladikavkaz Railway Company, and to do everything in his power to further the object which the Directors have at heart. Government assistance in the prosecution of these reforms is thus assured. I will now therefore proceed to indicate the extent to which the Caucasus is capable of development and the other means whereby the trade of Novo Rossiesk is likely to be further increased.

The Caucasus is, it should be borne in mind, a country as large as France. That portion of it, however, through which the Vladikavkaz Railway runs, and in which the grain exported at Novo Rossiesk is produced, consists of parts of the fertile provinces of Kuban, Stavropol, and Terek, and comprises an area of about 5,000 square miles. Even in this region there is room for great development. Much of it, notwithstanding the richness of the soil, has never known a plough, and in the cultivated portions the yield per acre is small owing to the bad system of agriculture. Only 15 per cent. of the Kuban district and 10 per cent. of Stavropol are estimated to be under cultivation, and the yield per acre in the cultivated districts is eight times less than in England.

Several causes have combined to produce this unsatisfactory state of affairs, all of which bid fair, however, to be removed in course of time. They may be stated thus: (1) The sparseness of the population; (2) the absence of good roads; (3) the want of knowledge on the part of the peasants of a proper system of agriculture. As regards the first cause mentioned, the population of the 5,000 square miles above referred to does not exceed three million souls. This population is wholly insufficient for gathering in the harvest. Every year the Railway Companies bring from Vologda, Onega, and other Northern Governments, at one-third the ordinary fare, a numerous army of labourers to assist in the work. Notwithstanding this aid from less-favoured Governments, the crops of many cultivators in the Caucasus are annually spoiled through sheer inability to gather them before the corn is damaged by the scorching heat. It is to be hoped, therefore, that the Central Government will see the advisableness of offering inducements to these harvesters from the North to settle in the Caucasus. Is there not here, too, an opportunity for the Government to test, in the capacity of farmers, those starving Jews to whose sad condition so much attention has recently been directed? It is not too much to say that the region tapped by the Vladikavkaz line would, if properly farmed, support three times its present population. As regards (2), the absence of good roads, this deficiency is mainly due to the sparseness of the population; and as regards (3), it is satisfactory to learn that the repugnance of the peasants to foreign agricultural machines is gradually being overcome. Though very rudimentary methods of cultivation still obtain in the larger portion of the district, machinery is now fast coming into use. Last year the Railway Company carried over 4,000 tons of machinery and agricultural implements; and I have been informed by the Mayor of Stovopol that in his district, where before the opening of the Novo Rossiesk branch line machinery was almost unknown, there are now in use over 2,000 machines. Few farmers, of course, are able to buy these machines. They hire them from the Railway officials at the various stations. These officials find it no unprofitable speculation to invest their savings in agricultural machines, for they obtain as payment for their use one-fifth to one-eighth of the grain thus threshed. The favourite ploughs in use are made by Ransome-Sims, Heena, and an Anglo-Bulgarian firm. A kind of harrow is used in the hilly districts for turning over the upper surface of the soil.

It must be evident to anyone who will consult the map on page 700 that the cultivated portion of the Caucasus bears but a small proportion to the cultivable portion. There are thus great possibilities before Novo Rossiesk if the country be properly opened up. To this fact M. Vishni-gradsky is thoroughly alive. He has, indeed, already approved of the construction of two new lines of railway, offshoots of the Vladikavkaz main line, and has under consideration certain schemes of irrigation. The courses of the new branch lines are shown on the map above referred to. The one is to run from Vladikavkaz to Petrovsk, a port on the Caspian; the other from Techoretz (where the Novo Rossiesk line joins the main line) to Czaritzin, a town on the Volga.

The Petrovsk line, which will be really an extension of the main line, will be the first to be constructed. Its purpose is not only to further open up the fertile province of Terek, but to afford communication between Novo Rossiesk and the grain-producing districts on the other side of the Caspian. Of late the Russian authorities have been evincing much interest in this portion of the Empire. I have not extended my travels thither; but I am credibly informed by a gentleman who has just returned from a tour of 11,000 miles in Turkestan, Southern Siberia, and the Khirgise steppes that Central Asia is not by any means the barren place ignorantly supposed by many Europeans; on the contrary, it is in many districts astonishingly fertile. Turkestan and Trans-Caspia are watered by the Oxus rivers—the Syr-darya, Murghab, Zarafshan, and Tchirchik; but these waters not being sufficient for those thirsty districts several canals will probably be constructed. One will probably run from the Oxus to Bairam Ali, “the stepping-stone to Herat;” another from Syr-darya to Jizak, across the Galodnaya steppe, which latter is nearly a hundred miles long; while a third will proceed from the Oxus to Bokhara via Karshi, the Zarafshan river, exhausted by the requirements of Samarcand, Kerminch, and Katte-Kurgap, not being sufficient for Bokharan cultivation. Moreover, on the Murghab, some 40 miles south of Bairam Ali, the dam known as the Sultan-Band is in course of construction. When finished, this work will fertilise over 150 square miles of land. On it, and the canal system generally, Sir Colin Moncrieff is now reporting to the Imperial Government.

In the oasis of Merv the finest wheat can be grown for three roubles a tchetwert (=5.77 bushels), and could, it is asserted, be conveyed to Novo Rossiesk by the Trans-Caspian and Vladikavkaz railways at a fair profit. Farther on, too, in the Semerotchinsk district, the cost of production is still less—1½ roubles only per tchetwert. The district will be connected by a branch line with the Trans-Caspian Railway, which now extends into Asia from the Caspian about 900 miles, a distance which the trains perform in 60 hours.

With regard to the projected Czaritzin branch of the Vladikavkaz main line, any one will perceive from the map that it would, if constructed, open up an immense tract of hitherto uncultivated land. Its main purpose would be, however, to divert to Novo Rossiesk a large portion of the traffic which now goes northwards through St. Petersburg. The produce of the Volga provinces is at present towed up-stream at great expense, and then floated to the capital through the canals of the Mariansky system. If the proposed connexion of Czaritzin with Techoretz is effected, the grain barges would float down-stream, discharge at Czaritzin into railway trucks, and in this way be conveyed to Novo Rossiesk with a minimum expenditure of time and money. Needless to say, this project will encounter vehement opposition in the Russian capital, whose grain trade it would go far to ruin. But it offers such manifest advantages over the present expensive system, and there is such urgent necessity for competing with America, and other grain-exporting countries, that the carrying of it into effect cannot be delayed many years.

Limited as is the present development of the Caucasus, Novo Rossiesk already has a monthly export of 60,000 tons. What will its export amount to if, and when, all the reforms and projects to which I have referred are fully carried out? It will have become a veritable Chicago. If, too, other Russian ports see the wisdom of adopting its enlightened method of carrying on the grain trade, is it at all unlikely that Russian grain will practically monopolise the European market?

In such a contingency politicians may see a danger. They will argue that it would never do for England to be dependent for her grain supply on a country with which, at any time, she may be at war. I am not concerned, however, to deal here with the political aspect of the question, but will merely state my assured conviction that the closer are drawn the commercial bonds between the two countries, the less likelihood is there of a disruption of their friendly relations.

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