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INDIAN TARIFF BOARD

Written Evidence

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SUGAR INDUSTRY

Volume II

**Individual Sugar Mills in all the
Provinces (except the United
Provinces) and in Indian States**



DELHI: MANAGER OF PUBLICATIONS
1938

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DEPARTMENT OF COMMERCE.

RESOLUTION.

TARIFFS.

New Delhi, the 27th March, 1937.

No. 127-T. (1)/37.—The amount of protection afforded to the Sugar Industry by the duties imposed by section 2 of the Sugar Industry Protection Act, 1932, will determine on the 31st March, 1938, and section 3 of that Act provides that the Governor General in Council shall cause to be made by such persons as he may appoint in this behalf an enquiry to ascertain if the protection of the Sugar Industry during the period from 31st March, 1938, to the 31st March, 1946, should be continued to the same extent or to a greater or lesser extent. The Government of India have decided that this enquiry should be undertaken by the Tariff Board and the following terms of reference have been framed for its guidance:—

- (a) The Board is requested to examine the measure of protection now enjoyed by the Sugar Industry and to report whether it is necessary to continue protection to this extent or to a greater or lesser extent;
- (b) In making its recommendations the Tariff Board will take all relevant considerations into account including that stated in part (b) of the Resolution adopted by the Legislative Assembly on the 16th February, 1933.

2. Firms and persons interested in the Sugar Industry or industries dependent on the use of sugar who desire that their views should be considered by the Tariff Board should address their representations to the Secretary of the Board.

Press Communiqué, issued by the Tariff Board on the 5th April, 1937.

In the Government of India, Department of Commerce, Resolution No. 127-T. (1)/37, dated the 27th March, 1937, the Tariff Board has been directed to hold an enquiry to ascertain if the protection afforded to the sugar industry by the duties imposed by section 2 of the Sugar Industry Protection Act, 1932, should be continued to the same extent or to a greater or lesser extent during the period from the 31st March, 1938, to the 31st March, 1946. Those Associations, firms or persons interested in the sugar industry or industries dependent upon sugar who desire that their views should be considered by the Board are requested to forward their representations (with six spare copies) to the Secretary to the Board so as to reach its office at No. 1, Council House Street, Calcutta, not later than the 1st May, 1937.

No. 1.—General Questionnaire.

NOTE 1.—Reply to this questionnaire, if possible with six spare copies, should reach the Secretary, Tariff Board, Ootacamund, before 25th June, 1937, at the latest.

NOTE 2.—The answers may be confined to matters with which you are directly acquainted and on which you are in a position to supply the Board with detailed evidence.

NOTE 3.—Unless otherwise required, it is requested that figures may be supplied from the working season of 1930-31 (or, if the factory started working after 1930-31, from the first year in which the factory started operation) up to the end of working season 1936-37.

NOTE 4.—Figures may kindly be given per acre or per standard-maund (82 $\frac{1}{2}$ lb.) as the case may be.

NOTE 5.—It is suggested that a note may be made of any facts or figures which you will like to be considered as confidential. Such information will not be published. In no case will any indication be given in the Tariff Board Report of the source of information or the name of any individual or factory except with permission.

PRODUCTION OF SUGAR.

Introductory.

1. In what year did your factory begin the manufacture of sugar and what is its full capacity?

2. What has been the output of your factory for each of the last seven years? If different classes of sugar are produced, please state the output of each class separately.

3. Do you consider that your factory is advantageously situated in respect of—

- (a) cane supply, other raw materials such as limestone, etc., and important markets,
- (b) facility of rail, road and other communications, and
- (c) other considerations, such as adequate labour supply?

4. What is the process of manufacture of your factory? What are the respective advantages and disadvantages of sulphitation, carbonitation and other processes?

5. What changes have been made in the lay-out of your factory and what extensions of plant or replacement of machinery have been made since 1930? Please state the amounts spent.

6. What further extensions or replacements are you in contemplation?

7. (a) What are the main factors which determine the size of an economic plant in the sugar industry?

(b) What, in your opinion, is the smallest unit of production which can be operated economically under present-day conditions?

8. To what extent is sugar factory equipment now obtainable in India?

9. Are you satisfied with the technical assistance given by—

- (i) the Imperial Institute of Sugar Technology,
- (ii) the Industries department of your Local Government?

Have you any suggestions to offer?

Raw Materials.

10. Do you undertake cultivation of sugarcane? If so, did you purchase your land outright or obtain it on lease? What difficulty, if any, did you experience in purchasing or leasing land?

11. Please give the following information:—

- (a) total area held,
- (b) average area under cane each year,
- (c) varieties of cane grown,
- (d) system of cultivation with special reference to follows, rotation and manuring,
- (e) average yield per acre for different varieties of cane and their sucrose content, and
- (f) cost of cultivation per acre, in as much detail as possible.

12. What area have you set aside for—

- (a) experiment in cane cultivation,
- (b) production of seed for sale or free distribution to cultivators?

13. What experiments have you tried, specially in relation to early and late varieties of cane and manuring? How far has the Agricultural department of your province been of assistance in this respect?

14. What changes have taken place during the last seven years in—

- (a) the quantity of cane available,
- (b) the quality of cane?

15. To what extent is cane liable to damage from frost, disease or insect-pest? Can you give an estimate of the percentage of loss through these causes?

16. Is your factory assured of a sufficient supply of suitable cane? What are the principal varieties of cane crushed in your factory? Please state the field yield and sucrose content of each.

17. To what extent and in what circumstances is the supply of cane and the price at which it can be obtained influenced by the competition of other factories?

18. (a) Has the area under cultivation from which you ordinarily obtain your supply been subject to considerable variations?

(b) If so, to what causes do you attribute such variations and in particular, what is the effect of—

- (i) climatic conditions including excess or defect in rainfall,
- (ii) prices obtainable for sugar,
- (iii) prices obtainable for gur/jaggery,
- (iv) prices obtainable for alternative cash crop?

19. The production of sugarcane in 1936-37 is the highest on record. Is it in excess of requirements in your area and do you consider any restrictions necessary?

20. Please supply information, if available, as to the cost of cultivating one acre of sugarcane by an average cultivator and the outturn per acre. The cost should be stated in as much detail as possible.

21. What are the main difficulties of cane-growers in the cultivation of cane and its delivery to the factory and have you any suggestions to make?

22. (a) The previous Tariff Board came to the conclusion that compulsory acquisition or leasing of land for cultivation of cane by factories was impracticable in Indian conditions (pages 101 and 102 of the report). What are your views on this subject?

(b) Failing compulsory acquisition and leasing, are you in favour of allotting special areas to different factories for their supply of sugarcane? How could a system of "zones" be worked?

23. If a "zone" system were introduced, to what extent would you be prepared to give assistance to cultivators in the form of advances of cash or supply of seed and manure, etc., or the development of feeder roads?

24. Are you in favour of—

- (a) fixation of a quota for sugar manufacture by factories,
- (b) licensing of—
 - (i) new factories,
 - (ii) extensions of existing factories?

Please state your reasons.

25. As regards your cane supply, what is the proportion of—

- (a) gate cane,
- (b) rail cane, and
- (c) tram-borne cane?

Has the proportion varied from year to year and, if so, for what reasons?

26. Is your gate cane entirely transported by carts or are lorries also used? What is the average weight of cane carried per cart? To what extent is it possible to improve the type of country cart by the substitution of rubber-tired carts or otherwise? If you have employed any improved type of cart, please state what additional maundage of cane can be carried.

27. Is the mileage of roads in your vicinity adequate? What is the condition of main and feeder roads?

28. From what distance is cane brought by road and what is the average time taken between cutting cane and delivery at factory? During road transport to what extent is cane protected from deterioration?

29. What is the average cost of transport of cane by cart per maund per mile? Do cane-growers employ their own carts or do they have to hire them? If they hire carts, what is the average cost of hiring?

30. Are any tolls or other dues levied on carts supplying your factory?

31. What are your arrangements for the continuous and uniform supply of gate-cane? What is the normal period of detention of a cart at your factory? What improvements in these arrangements have you made in recent years to ensure prompt delivery of cane and speedy release of carts?

32. From what distance is cane transported by rail to your factory? What is the average time taken between cutting of cane and delivery at factory? Are railway arrangements for transport of cane satisfactory?

33. On what basis are railway freights calculated? Have there been any changes in the rates in recent years? Would you prefer the substitution of a maundage rate per mile for a flat rate?

34. Have you any remarks to make on railway freight rates for other raw materials such as limestone or for manures?

35. What mileage of tramways serve your factory? What is the average cost of transport per maund? Is the charge borne by the factory or by the grower?

36. Do you consider a tramway system generally advantageous? Are there any special difficulties in laying out a tramway system?

37. Can you give an estimate of the extent of deterioration of cane owing to delay in delivery by road and rail?

38. What proportion of your cane is purchased—

- (a) direct from cane-growers, and
- (b) through contractors or agents?

39. Into what arrangement do you enter with cultivators for the supply of cane? Do you give advances in cash, or provide seed or manure or render any other assistance?

40. If your cane is not purchased direct from growers, what arrangements do you make and what commission do you pay?

41. Is any part of your cane supply obtained from cane-growing or cane-supplying associations and on what terms?

42. What are your arrangements for weighment of cane? Is payment made at the time of delivery of cane; if not, what is the normal interval between delivery of cane and payment?

43. Please state the prices at which you have purchased cane during the last seven years. Do prices tend to vary at different periods of the season?

44. Does the price at which you purchase sugarcane bear any definite relation to the price of sugar? If not, on what system are prices fixed?

45. To what extent and in what circumstances is the supply of cane and the price at which it is obtainable influenced by the price of gur/jaggery or khandsari sugar?

46. Have there been considerable variations in the price of gur/jaggery in the area in which you are principally interested? What are the causes of these variations?

47. If prices are fixed under the rules framed under the Sugarcane Act, XV of 1934, have you paid prices in excess of the minimum rate and, if so, to what extent and why?

48. Do you consider the basis on which minimum prices are fixed satisfactory? Have you any suggestions to make?

49. How far do you consider it feasible to introduce a system of "bonus" payments over and above the minimum rates for superior, early and late varieties of cane?

50. What has been the duration of the crushing season for each of the last seven years and what are the reasons for variations? Do you consider the period sufficiently long for economical working?

51. What are the possibilities of extending the crushing season by the introduction of early and late varieties of cane?

52. Are you satisfied with the assistance given by the Imperial Council of Agricultural Research, and the Agricultural and Co-operative departments of your Government? Have you any suggestions to offer?

Labour.

53. What labour (i) skilled, (ii) unskilled, do you employ in your factory in (a) the crushing and (b) the silent seasons?

54. To what extent is skilled labour imported from abroad or from other parts of India?

55. To what extent have you been able to replace skilled labour imported from abroad by Indian labour?

56. What arrangements have been made for housing your labour and for promoting its welfare?

Power.

57. Are you able to meet the whole of your requirements of fuel from the bagasse available in your factory? If not, to what extent is it necessary to supplement it and how? Please give figures for the amounts spent on fuel for the last seven years. Do you bale your surplus bagasse?

By-products.

58. What are the by-products produced in your factory?

59. Please give the outturn and price of molasses for the last seven years. What are the causes of variations?

60. What is the market for your molasses and what are your arrangements for transportation? Are railway facilities adequate? What are the freight rates from the factory to the market you supply?

61. If you do not sell your molasses, how do you dispose of them? Have you any other suggestions for the utilization of molasses?

62. Have you any outlet for your surplus bagasse if any, and have you any suggestions as to what uses bagasse can be put?

63. Have you any suggestions for the utilization of any other by-products?

Storage and Transportation of Sugar.

64. Please give figures of your stocks of sugar at the beginning and end of each crushing season since 1930.

65. What are your arrangements for the storage of sugar and what is the capacity of your godowns? Have you increased your storage capacity in recent years or do you contemplate doing so?

66. To what extent does your sugar deteriorate or suffer damage in storage? What are the causes of such deterioration or damage and how far do they depend on the quality of sugar?

67. What is your practice with regard to the disposal of damaged sugar? Is it sold outright or reconditioned?

68. To what extent is the keeping quality of sugar susceptible of improvement?

69. To what extent is sugar damaged in transit from factories and to what is the damage due?

70. Have you experienced any difficulty in obtaining wagons for the transportation of sugar or delay in the delivery of sugar in the markets you supply?

71. Have you any suggestions for improvement of rail transport of sugar as for example in the type of wagon?

72. Please prepare a statement showing the prices at which during the last seven years the products of your factory have been sold at (i) ports and (ii) up-country centres. What are the freight rates to the markets you supply?

Capital Account and Overhead Charges.

73. Please send copies of your balance sheets from 1930 or from the commencement of the operation of your factory. If you prepare no balance sheets please give particulars of the book value of your property as it stood at the end of the last complete year, under the following heads:—

- (i) leases and concessions;
- (ii) lands;
- (iii) buildings;
- (iv) plant and machinery;
- (v) other assets.

74. Please state for each of the last seven years the particulars of the amount written off for depreciation. Are your rates for depreciation the same as allowed by the Income-tax Department? If not, state the difference.

75. Please state the amounts you have set aside for reserve fund during the last seven years.

76. Please prepare a statement for the last seven years showing the actual amount distributed as dividends on each class of capital (preferred, ordinary and deferred).

77. How is your working capital provided and at what rate are you able to borrow?

78. Please state the annual amount of your head office expenses and the managing agents' commission. How is the agents' commission determined?

79. What rate of dividend do you consider a fair return on capital?

Efficiency of Production.

80. In order to enable the Tariff Board to judge the extent of progress in efficiency attained by factories since 1930, the Board requires full information as to the cost of manufacture and recovery rate as far as possible in the annexed forms. (Forms will follow separately.)

81. What reductions have you been able to make in your works costs since 1930 by (i) extending your plant, (ii) installing more efficient machinery, (iii) reducing overhead charges and (iv) any other measures of economy?

82. To what extent is there room for further reduction of works costs or improvement in recovery rates?

Marketing.

83. What are the principal sugar marketing centres in which you deal?

84. What are the usual arrangements in the sale of sugar between (a) manufacturers and dealers, (b) dealers and retailers?

85. Is the present sugar contract form-suitable in your opinion? Have you any suggestions?

86. What have been (a) the wholesale and (b) retail prices of sugar in the area covered by the distributing centres with which you are acquainted, for the last seven years? (Figures for Indian factory sugar and imported sugar may be furnished separately, with details as to quality.)

87. Does the difference between wholesale and retail prices tend to fluctuate widely? If so, what is the reason?

88. What are the storage arrangements made by dealers? To what extent does sugar deteriorate in storage?

89. Does Indian sugar deteriorate more rapidly than Java or other imported sugar? Has there been any improvement in the keeping quality of Indian sugar?

90. Is Java or other imported sugar preferred to Indian sugar? If so, by what class of consumers and why?

91. Do you consider the present quality of Indian sugar equal to the quality of Java or other imported sugar? If not, in what respects is Indian sugar inferior?

92. The sugar manufacturing season being limited to about one-third of the year, to what extent are stocks carried—

(a) by manufacturers,

(b) by dealers?

How is the carrying of stocks financed? What are the usual arrangements with banks or other financial agencies?

93. Do you consider that a marketing survey of the sugar industry would be advantageous?

94. Do you favour a central All-India selling organization?

95. Are you in favour of the standardization of Indian sugar? If so, on what basis would you suggest standardization?

96. (a) To what extent has actual business been done by you on the basis of the sugar standards prescribed by the Director, Imperial Institute of Sugar Technology?

(b) Has any use been made of these standards for grading purposes?

97. Have you any suggestions to offer for increasing the usefulness of these standards?

98. Have you any other suggestions for the improvement of sugar marketing in India, such as the establishment of a "futures" or "terminal" market?

99. What is your estimate of the normal consumption of sugar in India? What are the possibilities of increasing consumption?

100. To what extent is factory sugar replacing gur, specially in the sweetmeat trade?

101. Under what conditions is there a possibility of starting subsidiary industries, such as manufacture of sweets and syrups, fruit-preservation and canning, etc.?

102. Please state the price of imported sugar during the last seven years; if possible give f.o.b. prices with the following items separately:—

- (a) freight,
- (b) insurance and trade charges,
- (c) customs duty, and
- (d) landing charges.

If this is not possible, please give c.i.f. prices, customs duty and landing charges.

NOTE.—As far as possible, prices of different qualities of sugar should be shown separately.

103. Have you any reason to believe that imported sugar has been landed at unremunerative prices in any year since 1930? If so, please state your reasons.

104. Has there been any export of Indian sugar (a) by sea, and (b) by land? Under what conditions do you think such export is feasible?

105. What has been the effect of (i) the Sugar Excise Duty of 1934, (ii) the addition made in 1937?

106. What are the marketing arrangements for molasses?

107. Is there any export of Indian molasses and to what countries? Are there any possibilities of the development of export?

Claim for Protection.

108. Since 1932 the rates of duties on sugar, sugarcandy and molasses imported into India have been as follows:—

Sugar—

Rs. 9-1-0 per cwt. April, 1932.

Rs. 9-4-0 per cwt. March, 1937.

Sugarcandy—

Rs. 10-8-0 per cwt. from February, 1934.

Molasses—

31½ per cent. *ad valorem* from April, 1932.

To what extent has the measure of protection enjoyed by the industry been effective?

109. The Board has been asked to consider whether it is necessary to continue protection to the present extent or to a greater or lesser extent. Please state your views, giving reasons for any rates you may suggest for the remaining period of protection, i.e., from 1st April, 1938 to 31st March, 1946.

110. What forms of assistance other than a protective duty do you consider necessary for the development of the industry? Please give your reasons in full.

111. What has been the effect of import duty on molasses? Has the duty adversely affected any industry in India?

FORM I,

TOTAL EXPENDITURE.

(See Question 80, General Questionnaire.)

Name of Factory.

Clarification process used.

Serial No.	Particulars.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
	<i>Quantities.</i>	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
1	Weight of cane crushed							
	Weight of sugar made							
	Weight of molasses made							
	<i>Cost of Raw Material.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
2	(a) Price of cane							
	(b) Freight, commission and other charges							
	Total price of cane delivered at the factory							
	(c) Other raw materials							
	<i>Manufacturing Expenses</i>							
2	(a) Power and fuel							
	(b) Stores							
	(c) Salaries and wages—							
	(i) Salaries of technical staff							
	(ii) Salaries of non-technical staff							
	(iii) Wages of labour							

	(d) Packing (including cost of gunny bags)						
	(e) Repairs and renewals						
	(f) Miscellaneous—Water, lighting, etc.						
	<i>Overhead Charges.</i>						
4	(a) Depreciation at statutory rates						
	(b) Interest on working capital						
	(c) Managing agents' charges						
	(d) Directors' and Auditors' fees.						
	(e) Insurance						
	(f) Rents, rates, taxes (excluding income-tax and licence fees).						
	(g) Miscellaneous						
5	Total (2+3+4)						
6	Deduct value of molasses sold, and other credits realized, if any. (NOTE.—Quantity of molasses destroyed as unsold to be stated.)						
7	Net cost of sugar (5-6)						
8	Sales expenses including commission, brokerage, discount, etc.						
9	Excise duty						

Date _____

Manager.

NOTE.—It is requested that statements with six spare copies in this form for each complete working season from 1930-31 (or from the first season of operation) to the end of the working season 1936-37 be forwarded to the Secretary, Tariff Board, Ootacamund, not later than 25th June, 1937.

FORM II.

WORKS COST PER MAUND OF SUGAR PRODUCED.

(See Question 80, General Questionnaire.)

Name of Factory.

Clarification process used.

Serial No.	Particulars.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
	<i>Cost of Raw Material.</i>							
1	(a) Price of cane							
	(b) Freight, commission and other charges							
	Total price of cane delivered at the factory							
	(c) Other raw materials							
	<i>Manufacturing Expenses.</i>							
2	(a) Power and fuel							
	(b) Stores							
	(c) Salaries and wages—							
	(i) Salaries of technical staff							
	(ii) Salaries of non-technical staff							
	(iii) Wages of labour							
	(d) Packing (including cost of gunny bags)							

	(e) Repairs and renewals						
	(f) Miscellaneous—water, lighting, etc.						
	<i>Overhead Charges.</i>						
3	(a) Depreciation at statutory rates						
	(b) Interest on working capital						
	(c) Managing agents' charges						
	(d) Directors' and Auditors' fees						
	(e) Insurance						
	(f) Rents, rates, taxes (excluding income-tax and licence fees.)						
	(g) Miscellaneous						
4	Total (1+2+3)						
5	Deduct value of molasses sold and other credits realized, if any.						
6	Net cost of sugar per maund (4-5)						
7	Sales expenses including commission, brokerage, discount, etc.						

Date _____

Manager.

NOTE.—(1) Percentage of each item of works cost should be calculated on the net cost of sugar per maund (item 6).
 (2) It is requested that statements with six spare copies in this form for each complete working season from 1930-31 (or from the first season of operation) to the end of the working season 1936-37 be forwarded to the Secretary, Tariff Board, Ootacamund, not later than 25th June, 1937.

FORM III.

MANUFACTURING DETAILS.

(See Question 80, General Questionnaire.)

Name of Factory.

Clarification process used.

Serial No.	Particulars.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
1	Cane crushing--							
	Date start							
	Date finish							
	Duration of season Days.							
	Total days actual crushing							
	Total hours actual crushing							
	Total cane milled Mds.							
2	Juice and added water--							
	Average mixed juice per 100 cane							
	Average added water per 100 cane							
3	Sugar made--							
	Grade I Mds.							
	" II "							
	" III "							

4	Molasses made "						
5	Recovery—						
	Average recovery of marketable sugar per 100 cane .						
	Average production of final molasses per 100 cane .						
6	By-products—						
	Bagasse, maunds per cent. cane						
	Press cake, " " "						
7	Stores—						
	Coal, " " "						
	Firewood, " " "						
	Other fuel, " " "						
	Lime, " " "						
	Limestone, " " "						
	Coke, " " "						
	Sulphur, " " "						
	Lubricants, gallons per 100 Mds. cane						
	Filter cloth, square yards per 100 Mds. cane						
	Filter bags, number per 100 Mds. cane						
	Gunny bags for sugar, number per 100 Mds. cane						

FORM III—*contd.*

Serial No.	Particulars.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
8	Analyses—							
	Cane . . . Sugar per cent. . . .							
	Fibre „							
	Primary juice . . . Sugar per cent. . . .							
	Brix „							
	Purity							
	Mixed juice . . . Sugar per cent. . . .							
	Brix „							
	Purity							
	Last juice . . . Sugar per cent. . . .							
	Brix „							
	Purity							
	Clear juice . . . Sugar per cent. . . .							
	Brix „							
	Purity							

II

Sugar I . . .	Sucrose per cent. . . .						
	Moisture " . . .						
Sugar II . . .	Sucrose per cent. . . .						
	Moisture " . . .						
Sugar III . . .	Sucrose per cent. . . .						
	Moisture " . . .						
Final molasses . . .	Sugar per cent. . . .						
	Brix " . . .						
	Purity						
Bagasse . . .	Sugar per cent. . . .						
	Water " . . .						
	Fibre " . . .						
Press cake . . .	Sugar per cent. . . .						

17

Date _____

Manager.

NOTE 1.—Please state—

(a) if purities noted are G. P. or P. G. P.

(b) whether mixed juice has been measured, weighed or calculated.

NOTE 2.—True average should be given.

III

NOTE 3.—It is requested that statements with six spare copies in this form for each complete working season from 1930-31 (or from the first season of operation) to the end of the working season 1936-37 be forwarded to the Secretary, Tariff Board, Ootacamund, not later than 25th June, 1937.

No. 1 (A).—Extract from General Questionnaire to be replied by mills who did not send any reply to the General Questionnaire.

(Information required up to the end of working season 1936-37.)

1. In what year did your factory begin the manufacture of sugar and what is its full capacity?
2. What has been the output of your factory for each of the last seven years?
3. What is the process of manufacture of your factory?
4. What changes have been made in the lay out of your factory and what extensions of plant or replacement of machinery have been made since 1930? Please state the amounts spent.
5. What further extensions or replacements are you in contemplation?
6. Do you undertake cultivation of sugarcane; if so, please give the following information:—
 - (a) total area held;
 - (b) average area under cane each year;
 - (c) varieties of cane grown;
 - (d) system of cultivation with special reference to fallows, rotation and manuring;
 - (e) average yield per acre for different varieties of cane and their sucrose content, and
 - (f) cost of cultivation per acre, in as much detail as possible.
7. What has been the duration of the crushing season for each of the last seven years and what are the reasons for variations?
8. Please give figures of your stocks of sugar at the beginning and end of each crushing season since 1930.
9. Have you increased your storage capacity in recent years or do you contemplate doing so?
10. What reductions have you been able to make in your works costs since 1930 by:—
 - (i) extending your plant,
 - (ii) installing more efficient machinery,
 - (iii) reducing overhead charges and
 - (iv) any other measures of economy?

Capital Account and Overhead Charges.

1. Please give the following information:—
 - (a) Block capital in 1930-31 or the first year of operation whichever is later.
 - (b) Block capital for 1936-37.
 - (c) Depreciation written off during this interval.
 - (d) Renewals and additions during this interval.
 Information should be given under the following heads:—
 - (a) Lands.
 - (b) Buildings.
 - (c) Plant and machinery.
 - (d) Other assets such as railways, sidings, furniture and electric installations.
2. Please state the amount you have set aside for reserve fund during the last seven years. Is your reserve fund invested in the business or are there any earmarked investments representing the fund?

3. Please prepare a statement for the last seven years showing the actual amount of dividend distributed on each class of capital (preferred, ordinary and deferred).

4. How is your working capital provided and at what rate are you able to borrow?

5. Please state the annual amount of your head office expenses and the managing agents' commission. How is the agents' commission determined? Please give figures showing the actual amount of commission due and the amount of commission paid.

No. 2.—Questionnaire for Sugar Refineries.

NOTE.—1. Reply to this questionnaire, if possible with six spare copies, should reach the Secretary, Tariff Board, Ootacamund, before 25th June, 1937, at the latest.

2. The answers may be confined to matters with which you are directly acquainted and on which you are in a position to supply the Board with detailed evidence.

3. Unless otherwise required, it is requested that figures may be supplied from the working season of 1930-31 (or if the factory started working after 1930-31, from the first year in which the factory started operation) up to the end of working season 1936-37.

4. Figures may kindly be given per acre or per standard maund (82½ lb.) as the case may be.

5. It is suggested that a note may be made of any facts or figures which you will like to be considered as confidential. Such information will not be published. In no case will any indication be given in the Tariff Board Report of the source of information or the name of any individual or factory except with permission.

1. In what year did your factory first commence manufacture and what is your maximum capacity? Does your factory refine only or does it also crush cane?

2. From what materials do you refine sugar? What qualities of sugar do you make?

3. What has been your output of sugar during the last seven years? To what causes do you attribute variations?

4. Are you able to obtain sufficient quantity of raw material and at what prices?

5. What are your sources of supply and what is the method of transportation?

6. What has been your average recovery of sugar during the last seven years? How far do you consider an improvement possible (a) in the method of manufacture of the raw material, (b) in the process of refining, to improve recovery rate?

7. Please state in as much detail as possible the cost of manufacture of one maund of sugar in your refinery during the last seven years. What are the causes of variations?

8. How does your sugar compare in quality with ordinary factory sugar? Please state the prices obtained for different qualities of sugar during the last seven years.

9. What are the markets you supply and what are the freight rates?

10. What has been your output for molasses and what prices were obtained during the last seven years?

11. What has been the effect of (a) the Sugar Excise Duty imposed in 1934, (b) the excess imposed in 1937?

12. Under what conditions can refineries continue to operate in competition with sugar factories?

FORM I.
TOTAL EXPENDITURE.

Name of Factory.
Clarification process used.

Serial No.	Particulars.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
	<i>Quantities.</i>	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
1	Weight of gur/jaggery melted							
	Weight of sugar made							
	Weight of molasses made							
	<i>Cost of Raw Material.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
2	(a) Price of gur/jaggery							
	(b) Freight, commission and other charges							
	Total price of gur/jaggery delivered at the factory							
	(c) Other raw materials							
	<i>Manufacturing Expenses.</i>							
3	(a) Power and fuel							
	(b) Stores							
	(c) Salaries and wages—							
	(i) Salaries of technical staff							
	(ii) Salaries of non-technical staff							
	(iii) Wages of labour							

	(d) Packing (including cost of gunny bags)						
	(e) Repairs and renewals						
	(f) Miscellaneous—water, lighting, etc.						
	<i>Overhead Charges.</i>						
4	(a) Depreciation at statutory rates						
	(b) Interest on working capital						
	(c) Managing Agents' charges						
	(d) Directors and Auditors' fees						
	(e) Insurance						
	(f) Rents, rates, taxes (excluding income-tax) and licence fees.						
	(g) Miscellaneous						
5	Total (2 + 3 + 4)						
6	Deduct value of molasses sold, and other credits realized, if any. NOTE.—Quantity of molasses destroyed as unsold to be stated.						
7	Net cost of sugar (5 — 6)						
8	Sales expenses including commission, brokerage, discount, etc.						
9	Excise duty						

Date _____

Manager.

NOTE.—It is requested that statements with six spare copies in this form for each complete working season from 1930-31 (or from the first season of operation) to the end of the working season 1936-37 be forwarded to the Secretary, Tariff Board, Ootacamund, not later than 25th June, 1937.

FORM II.

WORKS COST PER MAUND OF SUGAR PRODUCED.

Name of Factory.

Clarification process used.

Serial No.	Particulars.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
		Rs. Per cent.	Rs. Per cent.	Rs. Per cent.	Rs. Per cent.	Rs. Per cent.	Rs. Per cent.	Rs. Per cent.
	<i>Cost of Raw Material.</i>							
1	(a) Price of gur/jaggery							
	(b) Freight, commission and other charges : : .							
	Total price of gur/jaggery delivered at the factory :							
	(c) Other raw materials							
	<i>Manufacturing Expenses:</i>							
2	(a) Power and fuel							
	(b) Stores							
	(c) Salaries and wages—							
	(i) Salaries of technical staff							
	(ii) Salaries of non-technical staff							
	(iii) Wages of labour							
	(d) Packing (including cost of gunny bags)							

	(e) Repairs and renewals					
	(f) Miscellaneous—water, lighting, etc.					
	<i>Overhead Charges.</i>					
3	(a) Depreciation at statutory rates					
	(b) Interest on working capital					
	(c) Managing agents' charges					
	(d) Directors' and Auditors' fees					
	(e) Insurance					
	(f) Rents, rates, taxes (excluding income-tax) and licence fees.					
	(g) Miscellaneous					
4	Total (1+2+3)					
5	Deduct value of molasses sold and other credits realized, if any.					
6	Net cost of sugar per maund (4-5)					
7	Sales expenses including commission, brokerage, discount, etc.					

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Date _____

Manager.

Note.—(1) Percentage of each item of works cost should be calculated on the net cost of sugar per maund (item 6).
 (2) It is requested that statements with six spare copies in this form, for each complete working season from 1930-31 (or from the first season of operation) to the end of the working season 1936-37 be forwarded to the Secretary, Tariff Board, Ootacamund, not later than 25th June, 1937.

FORM III.

MANUFACTURING DETAILS FROM CENTRAL REFINERIES WORKING BY THE VACUUM PAN PROCESS.

Name of Factory.

Clarification process used.

Serial No.	Particulars.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
1	Gur/Jaggery melting—							
	Date start							
	Date finish							
	Duration of season Days							
	Total days actual melting "							
	Gur melted Maunds							
	Drainings melted "							
	Total melt "							
2	Sugar made—							
	Grade I							
	Grade II							
	Grade III							
3	Molasses and Drainings (a)—							
	Molasses							
	Drainings							
4	Recovery—							
	Marketable sugar per 100 gur/jaggery							

	Marketable sugar per 100 melt	.	.	.	.	
	Final molasses per 100 gur/jaggery	.	.	.	.	
	Final molasses per 100 melt	.	.	.	.	
5	By-products—									
	Press cake	.	.	.	.	per cent. melt				
	Chips	.	.	.	.	"
6	Stores—									
	Coal	.	.	.	.	"
	Other fuel (<i>give name</i>)	.	.	.	.	"
	Total fuel in terms of coal	.	.	.	.	"
	Other stores (<i>with details</i>)	.	.	.	.	.
7	Analyses—									
	Gur/jaggery					Sugar per cent.	.	.		
						Brix per cent.	.	.		
						Purity	.	.		
						Invert sugar per cent.	.	.		
						Ash per cent.	.	.		
						Net Rendement	.	.		
	Drainings melted	.	.	.	.	Sugar per cent.	.	.		
		.	.	.	.	Brix per cent.	.	.		

FORM III—*contd.*

Serial No.	Particulars.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
7	Analyses— <i>contd.</i>							
	Drainings melted— <i>contd.</i>							
	Purity							
	Invert sugar per cent. .							
	Ash per cent.							
	Net Rendement							
	Sugar (average for all grades).							
	Sucrose per cent.							
	Moisture							
	Final molasses							
Sugar per cent.								
Brix per cent.								
Purity								
Press cake								
Sugar per cent.								
Chips								
Sugar per cent.								

Date _____

Manager.

NOTE 1.—Please state—

(a) if purities noted are G. P. or P. G. P.

(b) whether mixed juice has been measured, weighed or calculated.

NOTE 2.—True average should be given.

NOTE 3.—It is requested that statements, with six spare copies, in this form for each complete working season from 1930-31 (or from the first season of operation) to the end of the working season 1936-37 be forwarded to the Secretary, Tariff Board, Ootacamund, not later than 25th June, 1937.

No. 3.—Questionnaire for Manufacturers of Sugar by the Open Pan System and Khandsars.

NOTE.—1. Reply to this questionnaire, if possible, with six spare copies, should reach the Secretary, Tariff Board, Ootacamund, before 25th June, 1937, at the latest.

2. The answers may be confined to matters with which you are directly acquainted and on which you are in a position to supply the Board with detailed evidence.
3. Unless otherwise required, it is requested that figures may be supplied from the working season of 1930-31 (or, if the factory started working after 1930-31, from the first year in which the factory started operation), up to the end of working season, 1936-37.
4. Figures may kindly be given per acre or per standard maund (82½ lb.) as the case may be.
5. It is suggested that a note may be made of any facts or figures which you will like to be considered as confidential. Such information will not be published. In no case will an indication be given in the Tariff Board Report of the source of information or the name of any individual or factory except with permission.

1. Do you manufacture sugar directly from cane, or from juice or from rab? What is your process of manufacture?

2. What are your arrangements for obtaining cane/juice/rab? If you do not deal directly with the grower, who is your intermediary and what commissions do you pay?

3. Please state the average prices paid during each of the last seven years for one standard maund (82½ lb.) of cane/juice/rab.

4. How far are variations in price of cane/juice/rab accounted for by—

- (a) prices obtained for cane supplied to vacuum pan factories in your vicinity;
- (b) gur prices?

5. Please give the following data for your process:—

- (i) the amount of juice extracted per 100 maunds of cane;
- (ii) the amount of rab manufactured from 100 maunds of juice;
- (iii) the amount of sugar extracted from 100 maunds of rab.

NOTE.—Figures may kindly be given in standard maunds of 82½ lb.

6. How many qualities of sugar do you manufacture? What has been your output for each quality during the last seven years?

7. Please give in as much detail as possible your cost of manufacture of sugar during the last seven years.

8. What are the chief markets to which you supply sugar and what are your arrangements for distribution?

9. Please state the prices obtained for the various classes of sugar manufactured for the last seven years.

10. Is your sugar preferred to (i) gur, and (ii) Indian factory sugar? If so, why and by what class of consumers?

11. To what extent, if any, is Indian factory sugar replacing your sugar?

12. To what extent has competition from factory sugar resulted in closing down of open pan factories and khandsars in your neighbourhood in the last seven years?

13. How has (i) Sugar Excise Duty of 1934, (ii) addition imposed in 1937, affected you?

14. What are the main difficulties of the open pan/khandsari industry? Have you any suggestions for overcoming them?

No. 4.—Questionnaire for Gur/Jaggery Merchants.

NOTE.—1. Reply to this questionnaire, if possible with six spare copies, should reach the Secretary, Tariff Board, Ootacamund, before 25th June, 1937, at the latest.

2. Figures may kindly be given per standard maund (82½ lb.).

3. It is suggested that a note may be made of any facts or figures which you will like to be considered as confidential. Such information will not be published. In no case will any indication be given in the Tariff Board Report of the source of information or the name of any individual except with permission.

1. What are the principal gur/jaggery marketing centres in which you deal?

2. What are the different kinds of gur/jaggery marketed by you?

3. What are the chief centres from which you obtain your supply and what is the quantity obtained from each during the last seven years? To what causes do you attribute variations?

4. Has there been any variation in the quality of gur/jaggery in recent years? If so, for what reasons?

5. Please state the prices of various kinds of gur/jaggery for the last seven years. To what causes do you attribute variations?

6. Is there any relation between the price of gur/jaggery and sugar?

7. How far is there competition between gur/jaggery and—

(i) Indian factory sugar,

(ii) khandsari sugar?

Is sugar replacing gur/jaggery in your market?

8. How long will gur/jaggery keep in good condition? Is there any variation in the keeping qualities of different kinds of gur/jaggery?

No. 5.—Questionnaire for local Governments.

NOTE.—1. Reply to this questionnaire, if possible with six spare copies, should reach the Secretary, Tariff Board, Ootacamund, before 25th June, 1937, at the latest.

2. Figures may kindly be given per acre or per standard maund (82½ lbs.) as the case may be.

1. What has been the area under sugarcane in your province during the last seven years? What improved varieties are grown and what has been the approximate acreage under each?

2. How would you classify the different areas in your province in respect of differences in climatic conditions, methods of cultivation, etc. How much of the crop in each area is (a) irrigated, (b) unirrigated?

3. What are the irrigation rates in your province and on what basis are they determined? How have they varied in the last seven years?

4. Can you give an estimate of the cost of cultivation of cane to the cultivator in different areas (irrigated and unirrigated separately)? Has there been any variation in the cost in the last seven years? What is the average yield per acre and the average sucrose content?

5. Under present conditions what would you consider a fair price of sugarcane to the growers?

6. Has there been a marked variation in sugarcane cultivation in any specific area during the last seven years? If so, what are the causes of variations and how far in your opinion are they due to—

- (i) climatic conditions including excess or defect in rainfall,
- (ii) prices obtainable for sugar,
- (iii) prices obtainable for gur/jaggery, and
- (iv) prices obtainable for alternative cash crops?

7. Do you consider that there was overproduction of sugarcane in the season 1936-37 and in what areas? If so, would you suggest any scheme for restricting the area under cane?

8. What are the other cash crops in your province? How far do they form an alternative to sugarcane? If possible, please give an estimate of return per acre to an average cultivator from the various cash crops.

9. Can you give an estimate of the amount spent during the last seven years for the extension and improvement of sugarcane cultivation in your province?

10. What is the amount of contribution your province receives from the Government of India out of sugar excise or otherwise and how is it utilized? Do you consider it adequate?

11. Please give a brief account of—

- (i) the research work that has been undertaken in regard to sugarcane and the control of disease,
- (ii) measures adopted for the introduction of improved varieties of cane, improved methods of cultivation, use of manure, etc., during the last seven years.

12. What assistance has been received from—

- (i) Imperial Council of Agricultural Research,
- (ii) Coimbatore Sugarcane Research Station, and
- (iii) Imperial Institute of Sugar Technology?

Are funds for research, both agricultural and technological, adequate?

13. To what extent have factories co-operated with the Agricultural Department of your province in the introduction of new varieties of cane and improvement in methods of cultivation?

14. Of the sugarcane grown in your province how much do you estimate is—

- (a) crushed in sugar factories,
- (b) utilised by open pan factories and khandsaris,
- (c) turned into gur, and
- (d) used for chewing purposes and for seed?

15. What are the main difficulties of cane growers in the cultivation of cane and its delivery to the factory?

16. To what extent is the Co-operative Department rendering assistance to cane-growers? How far have the cane-growers been organized and what cane-growing and cane-supplying Societies are working?

17. Are minimum prices fixed for sugarcane in your province under the Sugarcane Act XV of 1934? If so, what is the basis of their fixation? Has the system worked satisfactorily?

18. To what extent is the price paid by the factories influenced by competition of other factories?

19. How far do you consider it feasible to introduce a system of bonus payments over and above the minimum rates for superior, early and late varieties of cane?

20. What is the average cost of transport of cane by carts per maund per mile in different areas of your province?

21. Do cane-growers employ their own carts or do they have to hire them? If they have to hire carts, what is the average cost of hiring?

22. Do you consider rail, road and tramway facilities for transport of cane adequate? What assistance has been given in your province towards the development of feeder roads and tramway systems?

23. What assistance has been rendered by the Industries Department to sugar factories?

24. What particular assistance has been rendered to any individual factory in your province by the provision of capital, concessions in regard to land, water rate charges, etc.

25. What co-operative sugar factories are there in your province and how are they working?

26. Are conditions of labour in factories satisfactory?

27. Please supply (i) the wholesale and (ii) the retail prices of sugar in the important markets of your province for the last seven years.

28. Has there been considerable variation between the wholesale and retail prices? If so, what are the reasons?

29. What is your estimate of the normal consumption of sugar in your province and what are the possibilities of increasing it?

30. What manufactories of confectionery are there in your province and in what places? What is the material used.

31. Do you consider the development of the sugar industry has reached a stage in your province to necessitate—

- (i) introduction of "zone" system by allotting special areas to different factories for their supply of cane, or
- (ii) fixation of a quota for sugar manufacture by factories, or
- (iii) licensing of (a) new factories and (b) extensions of existing factories?

32. What are the possibilities of starting any subsidiary industry such as manufacture of sweets and syrups, fruit preservation and canning, etc., in your province?

33. What is your estimate of production of gur from sugarcane for the last seven years?

34. From what material, other than cane, e.g., date, palmyra, cocoanut palms is gur/jaggery produced in your province and what is your estimate of production?

35. Please state the prices obtained for various kinds of gur/jaggery in different areas during the last seven years. What are the causes of variations and how far are they due to—

- (i) changes in acreage under sugarcane;
- (ii) Climatic and other conditions affecting the crop;
- (iii) competition from Indian factory sugar.

36. Please give an estimate of the total annual consumption of gur/jaggery in your province since 1930. To what causes do you attribute the variations?

37. From what areas is gur/jaggery imported into your province? Please give approximate figures of imports during the last seven years?

38. To what areas is gur/jaggery exported from your province? Please give approximate figures of exports during the last seven years.

39. Is there any relation between the price of gur/jaggery and Indian factory sugar?

40. To what extent is Indian factory sugar replacing gur/jaggery in your province?

41. Please give an account of any research work undertaken towards improvement in the methods of manufacture of gur/jaggery.

42. Can you give the number of (i) open pan factories and (ii) khandsars in your province, and an estimate of their outturn of sugar, gur, and molasses?

43. Please give an estimate of the cost of manufacture of sugar in open pan factories and khandsars.

44. To what extent has competition from factory sugar resulted in the closing down of open pan factories and khandsars in recent years?

45. The last Tariff Board was of opinion that an effort might be made to support the khandsari industry, both as holding an important position in the agricultural system and as constituting an outlet for surplus cane (page 51 of the Report). How have conditions changed since 1930? What are your views as to the future of the industry?

46. What research work has been undertaken in your province to improve the open pan system and the manufacture of gur?

47. To what extent, in your opinion, has (i) the Sugar Excise duty of 1934, and (ii) the additional duty imposed in 1937, affected—

- (a) the cane grower;
- (b) the manufacturer;
- (c) the dealer, and
- (d) the consumer?

48. From the point of view of the consumer, what has been the effect of protective duties?

49. Has any industry in your province dependent on the supply of sugar products or molasses been affected by the protective duties?

50. How are your statistics of acreage, production and prices of sugar and gur, etc., prepared and what is the degree of accuracy?

51. Have you any comments to make on any of the points raised in the other questionnaires?

Durbhanga Sugar Co., Ltd.

Letter dated 13th July, 1937.

With reference to your letter No. 390 of 1st instant we enclose herewith 6 copies of our reply to your Board's questionnaire, in respect of Lohat and Sakri Factories receipt of which please acknowledge.

Enclosure.

This Company has two factories, Lohat and Sakri, and as the cane supply is treated as one unit, they should be considered together.

1. *Lohat Factory* was first erected as a 400-ton per day factory at Ottur, in the Muzaffarpur District in 1902, and was transferred to its present site in North Darbhanga in 1915.

The present capacity of Lohat Factory is 1,300 tons cane per day.

Sakri Factory was erected in 1933, and was seriously damaged by earthquake on the first day it worked in January, 1934.

The present capacity of Sakri Factory is 700 tons cane per day.

2. Lohat—

	No. 1 Crystal.	No. 2 Crystal.	Sarju Crushed.	No. 2 Crushed.	Total Output.
	Mds.	Mds.	Mds.	Mds.	Mds.
1930-31	82,530	Nil	111,100	Nil	193,630
1931-32	211,783	79,737	Nil	25,242	316,762
1932-33	283,185	108,720	11,188	22,787	425,880
1933-34	136,758	Nil	412	935	138,105
1934-35	278,877	2,749	Nil	Nil	281,627
1935-36	309,161	1,475	Nil	Nil	310,636
1936-37	417,091	Nil	Nil	Nil	417,091

Sakri—

	No. 1 Crystal.	No. 2 Crystal.	Total Output.
	Mds.	Mds.	Mds.
1933-34	108,370	19,855	128,225
1934-35	191,930	500	192,430
1935-36	212,475	950	213,425
1936-37	277,822	Nil	277,822

3. (a) Cane supply. Yes, but there is rather a long lead by rail, for coal, stores, and to sugar markets.

(b) Railway and Road facilities are adequate.

(c) Labour supply is ample, and we are not inconvenienced in other respects.

4. Both factories are worked on the sulphitation process.

The *Sulphitation Process* is cheap to instal, and the process is simple and cheap. The production is 100 per cent. of fairly good white crystal sugar.

The *Carbonitiation Process* plant is comparatively expensive. The process is thorough, but costs are high, varying with cost of lime stone. The sugar is good quality white crystal. Carbonitiation is the best process where the market demands high quality, and is willing to pay more than for ordinary

sulphitation sugar. The yield of sugar should be about 2 per cent. more, by carbonitation than by sulphitation, as by the greater removal of non-sugars, there is an increase in gravity purity mixed juice to clarified juice of about 5 as compared to sulphitation about 2.

The choice of process necessarily depends on cost of manufacture and value of the product.

5. In 1930, the capacity of Lohat Factory was 900 tons per day, and is now 1,300 tons of cane per day. The factory was very badly damaged in the earthquake in January, 1934, the mill had to be removed to a new site, and the whole factory was renovated. Two out of three sugar godowns were re-built. The total cost of the re-building and re-conditioning was Rs. 3,54,500.

6. Extensions are unlikely in view of the state of the sugar market. Repairs and replacements cost about Rs. 1,50,000 annually.

7. (a) A sugar factory should be of the highest capacity which fulfils the following conditions:—

(1) In a normal season, the factory must be certain of a full supply of cane for 150 days milling.

(2) The cane for this supply must be within such a distance that the item of cane transport does not cost an undue amount on sugar made.

(b) This will vary with different conditions.

A large land owner could possibly work a small factory economically on supplies from his own estates, and I would put the lowest daily economical supply for such a factory at 300 tons of cane, while for an independent company buying its cane, I would put the minimum at 450 tons per day.

8. Practically all the special plant equipment of a large sugar factory has to be imported into India. Only such articles, as staging, tanks, and gutters, etc., can be satisfactorily made up in India.

9. (1) We cannot say the Imperial Institute of Sugar Technology has been of any assistance to us. We get returns and reports.

(2) The Industries Department has not affected us. We train a few young men, at their request.

Raw Material.

10. No. Land is not obtainable, being either the "zerat" of land-owners, or tenant holdings.

11 and 12. We have only about 2½ acres of land, which we use for experiments, and this is on too small a scale for results and costs to be of any value.

13. We are handicapped by the factor that an enormous proportion of our cane is purchased from small growers, who are very backward in their ideas, and over whom we have no control. This particularly applies to the handling of late and early ripening varieties. We buy cane at about 20 different out-stations, either on the railway or on our trolley lines, as well as at our two mill gates. It is most difficult to ensure that the right variety only, will be supplied, when dealing with say, three thousand men in a day.

We have made an arrangement with Imperial Chemicals, by which fertilisers are issued to growers, and the price realised when the crop is sold. The company undertakes to realise the price. Ryots are very difficult to persuade to take advantage of this. There has been a marked improvement in the last two years, in the way the Agricultural Department has worked with us. This is specially so in our Sakri area, where an active Department Overseer has done good work demonstrating the value of using improved implements and methods.

14. (a) Speaking generally, the area under cane increased steadily from 1930-31, to and including 1933-34, when the damage to factories by earthquake resulted in large amounts of cane being left on the fields. The introduction of Government control of the prices paid for cane in 1934-35

led ignorant growers to think that high prices would be forced on manufacturers, irrespective of the value of sugar, with the result that far more cane was planted for the 1936-37 season, than the mills could possibly crush. This, taken with the inevitable drop in cane prices will certainly lead to a great reduction in the area of cane planted.

(b) This has steadily deteriorated since the Co. canes were introduced in 1923. Lack of fertilisers, use of bad seed, faulty rotation of crops, and bad cultivation are the causes.

15. Frost is so rare as to be negligible, but at least 75 per cent. of the cane is affected by borer to a greater or less degree.

16. We have had satisfactory supplies in the period under report, but the reaction caused by low prices, and cane being left standing must affect the future.

About 95 per cent. of the cane in our area is either Co. 210 or 213, with the latter greatly predominating. These two varieties have been mixed hopelessly by the ryots in the fields.

The actual yield is only about 230 maunds per acre, or fifty per cent. less than could be grown by the use of proper methods.

The sucrose in cane starts at about 10 per cent. in late November, and rises to a maximum of about 12.5 per cent. by mid March, and has dropped to about 10 per cent. by the end of April.

17. We have now boundary agreements with the companies within an economic distance of our area.

18. (a) Yes.

(b) (i) Climatic conditions have had little to do with it, in the last seven years.

(ii) The area went up enormously after cane prices were fixed by order of Government, as the impression was created among the growers that a high price would be fixed no matter what sugar sold at.

(iii) There is not enough gur or jaggery made in this area to affect the matter appreciably.

(iv) Until the latter part of season 1936-37 (just closing) the price ruling for cane made it the best paying cash crop in these parts.

19. The production of sugarcane in 1936-37 in this area is at least 20 per cent. above the highest former record. The area was higher, and exceptionally heavy rain in May, 1936 resulted in a heavier crop than usual. The highest amount of cane ever purchased by this company in a season was about 56 lakhs of maunds, while in the season just closing we will purchase over 78 lakhs, and leave about 10 lakhs. No action is required, as plantings for next season are reported to be at least 30 per cent. down, and will drop again in the next year, owing to the low prices now being paid, and discontent at cane being left.

20. Cost of growing one acre of cane to the average grower:—

	Rs.	A.	
Rent	6	0	for a year and a half.
Seed	8	8	34 maunds at 4 annas per maund.
Ploughs	7	0	
Labour	5	4	
Manure	1	2	
Cartage	7	2	230 maunds cane at half anna per maund.
Total	35	0	

21. The chief problem is the education of the ryots to better methods. We endeavour to take each man's crop in fair turn. Cane accepted in November instead of April means a lot to the grower.

22. (a) In this area, compulsory leasing or acquisition of land for cultivation by factories, is impossible. Nearly all the land is held by small tenants on their ancestral holdings, and there is no waste land.

(b) We have arrived at what amounts to zoning, by private agreement, but upto 1934, had trouble through distant factories purchasing cane in our area. The ryot will nearly always sell to the factory which takes his cane quickest, almost irrespective of price, and I am sorry to say almost without regarding agreements entered into and advance money taken. This effectually prevents a factory from assisting growers financially or promoting development in other ways. Zoning is most desirable, but it is difficult to frame rules to cover all cases.

23. We are now fairly free from interference, and have given out advances, free of interest. We also help with new varieties of seed, where the grower will take it, and try to help the growers to get manures on easy terms. We have about 18 miles of tramways.

24. (a) No. We see no way of arranging this equitably.

(b) If effective zoning could be introduced, there would be no necessity for licensing either new factories or extensions, as a factory would be confined to its zone, and would only invest in plant in proportion to the available cane.

25. (a) Gate cane, 16 per cent.

(b) Rail cane, 61 per cent.

(c) Tram cane, 23 per cent.

26. The ordinary bullock cart with an average load of about 16 maunds is used exclusively by the ryots, they cannot afford the capital cost of the rubber tyred cart. The company uses rubber tyred carts to bring cane from an out weighbridge to our tramway railhead, and loads an average of 50 maunds per cart over bad roads.

27. The cart tracks on all roads are pretty bad, but the saving factor is that there is rarely heavy rain in the cane crushing season. A great need is for rough bridges for bullock carts over certain streams. A considerable area of cane is cut off until the hot weather sets in, unless bridges are made over certain streams. The company already helps in this direction, but the District Board should see to this.

28. Our weighbridges are so arranged over the country that it is unusual for a grower to have to cart cane over six miles, and the bulk of the cane is within four miles of a weighbridge. Cane purchased at our out-stations on one day is in the factory that night or early next morning. The chief cause of stale cane, is the difficulty in preventing ryots from cutting cane days in advance, and only close supervision can prevent this. There is no provision made to protect cane on bullock carts.

29. Rates for cartage vary according to demand. One eighth of an anna per maund per mile may be taken as an average. We estimate that more than half the suppliers use their own carts.

30. The Madhubani Municipality levies a toll on all carts passing to the Railway Station. The company pays this, and compounds it annually for a fixed sum.

31. Cutting orders are issued to growers. The normal period of detention of a cart, including weighment and unloading is under two hours in the busiest time of the day, and is usually under an hour. We have never had any trouble in this matter.

32. Our longest railway lead is 69 miles, and purchased on any given day is in the factory early next morning at latest. The railway arrangements are excellent.

33. Rail freights on cane are calculated per mile per wagon, with a minimum charge. The rate varies according to the class of vehicle. We think the method of calculation is satisfactory.

34. Special low freights on fertilisers would be particularly beneficial to the small growers.

35. We have about 12 miles of tramway running in to our Sakri factory, with haulage by steam engines. The District Board insists on our paying a royalty of one anna per ton on all cane carried over this line, *plus* a fixed sum of Rs. 500 for damage done. This is an unfair tax, as our tramway carries cane which would otherwise be carried on many thousand cart loads, in which case the expenses of keeping up the road would be enormously increased, and nothing could be realised from the company.

This matter urgently needs enquiry and adjustment.

We have also a light trolley line into Lohat, where the haulage is done by bullocks.

36. These tramways are expensive, but satisfactory. Our great difficulty in starting them was opposition on the part of the District Board. The tendency when any question concerning them comes up for discussion, is to regard them not as a help in getting in the rate payers' cane, but as the property of a large organisation which can be made to pay heavily for any concession.

37. Deterioration in mid season, *i.e.*, February and March is about 1.5 degrees purity after 24 hours from cutting. The following table from the International Sugar Journal shows the deterioration :—

<i>Co. 213 cane about mid season.</i>	
Fresh cane hours.	Purity.
24	87.9
48	86.2
48	83.5
72	79.75
96	77.08
120	72.82

During the later part of the season, deterioration is much more rapid. Primary juice in late May, this season, has averaged about 74. On the field most of the cane was over 80 purity at the same time.

Early in the season when cane is unripe, deterioration is much slower. Rate of deterioration varies with temperature.

38. We only purchase direct from growers, and employ no contractors.

39. We have always given out cash advances, as soon as the crop is seen to be established. These advances are free of interest. We also give fertilisers as advances, where growers will take them.

40. Does not arise.

41. Co-operative Sugar Cane Societies were just started before the season now closing, and have received help from the company. The movement is in its infancy, and it is too early to give an opinion on it.

42. Cane is weighed at all outstations, and at mill gates, by weigh clerks, who are supervised by a staff of European and Indian Cane Assistants.

Payments are made at the end of each week, for the week just closed.

43. 1930-31—As. 5-6 rising to As. 6 per maund.

1931-32—As. 5-6 rising to As. 6 per maund.

1932-33—As. 5-6 per maund.

1933-34—As. 5 per maund.

1934-35—As. 5 rising to As. 5-9 per maund.

1935-36—As. 5 rising to As. 5-6, dropping to As. 5-3 and As. 5 per maund.

1936-37—4 annas 9 pies dropping progressively to 3 annas for gate cane and 2 annas 6 pies for rail cane.

For the last three seasons, prices have been fixed by Government, and changes have been frequent.

44. The Government price is fixed with relation to the price of sugar.

45 and 46. Generally speaking only gur and jaggery for local consumption has been made in this area.

47. We have not paid above the minimum rate as it has always tended to be high.

48. The formula now used is correct, but it all depends on what is taken to be the correct price of sugar, and the means of arriving at this are open to criticism. There is one bad fault in the system; it is far better for the grower to accept a lower price early in the season, and so clear his field in time for other crops, and also get his money quickly which is of enormous importance to him. With falling sugar prices, the unfortunate man who has been forced to keep his cane to the end of the season has been heavily penalised in every direction.

49. The minimum price fixed usually is the price for very good cane, and as bad and diseased cane has to be paid for at the same rate it has been impossible to pay a bonus. A bonus for good cane, and a lower rate for inferior cane are most desirable but is impracticable. The Government view has been that such a system would lead to unfair cutting of prices in the classification of cane.

Lohat.

50. 1930-31—4th December, 1930 to 9th April, 1931=4 months and 5 days.
 1931-32—20th November, 1931 to 14th May, 1932=5 months and 24 days.
 1932-33—1st November, 1932 to 24th May, 1933=6 months and 23 days.
 1933-34—7th November, 1933 to 13th January, 1934=2 months and 6 days (earthquake).
 1934-35—15th November, 1934 to 29th March, 1935=4 months and 14 days.
 1935-36—15th November, 1935 to 27th March, 1936=4 months and 12 days.
 1936-37—16th November, 1936 to 4th June, 1937=6 months and 18 days.

Sakri.

- 1933-34—9th February, 1934 to 13th June, 1934=4 months and 4 days (earthquake).
 1934-35—14th November, 1934 to 1st April, 1935=4 months and 17 days.
 1935-36—15th November, 1935 to 3rd April, 1936=4 months and 18 days.
 1936-37—16th November, 1936 to 4th June, 1937=6 months and 18 days.

The variations have been entirely due to the size of the crop. The season has on the average been sufficiently long for economic reasons. In the year just closing we have worked past the economic time, in order to minimise the distress caused by leaving cane unpurchased.

51. It would be of great benefit to us to have late and early ripening varieties delivered at the proper time, but it will be difficult to control our many small growers. The new Co-operative Cane Societies might be of great use to us, in this direction, and the officers in charge of this movement have undertaken to give special attention to this matter. If they can do

this with success, it would go far to justify their existence from the point of view of the manufacturer.

52. The local Government Department of Agriculture has been of great help in the way of teaching the ryots, through their Overseers, and are now breeding new varieties of cane at Pusa. The few pamphlets and bulletins have been most practical and helpful.

The Co-operative Cane Growers Societies are not long enough established, to give any opinion on. These societies should work in close co-operation with the Agricultural Department.

53. We employ approximately 200 skilled, and 1,900 unskilled hands in the crushing season, and 150 skilled, and 375 unskilled hands in the silent season, in the two factories combined.

54 and 55. We employ a European Manager, and three European Engineers, and one European sugar boiler at Lohat.

We employ two European Engineers, at Sakri, and one Indian Engineer (a Bengali domiciled in Bihar), also one sugar technical expert who is a European.

We have five Europeans in the Cane Department, and eight Indian Cane Assistants who are all from Bihar.

Upto a few years ago, our sugar boilers and chemists were nearly all Bengalis, but we have been training local men, and the percentage is now about 50 of local men.

All our mistries and skilled workmen are local men.

56. We have only to house mistris, chemists, sugar boilers, and clerks, as practically all our hands live in adjoining villages and come to work daily. We have pucca built lines, and provide medical attention. A football and games ground is provided.

Power.

57. The following is the coal consumption:—

Lohat—

1930-31—	3.86 per cent. coal per cent. cane, costing Rs. 35,000 approximately.
1931-32—	0.05 per cent. coal per cent. cane, costing Rs. 885 approximately.
1932-33—	0.24 per cent. coal per cent. cane, costing Rs. 5,200 approximately.
1933-34—	0.25 per cent. coal per cent. cane, costing Rs. 1,950 approximately.
1934-35—	0.37 per cent. coal per cent. cane, costing Rs. 5,400 approximately.
1935-36—	0.07 per cent. coal per cent. cane, costing Rs. 1,120 approximately.
1936-37—	0.70 per cent. coal per cent. cane, costing Rs. 14,500 approximately.

Sakri—

1933-34—	0.26 per cent. coal per cent. cane, costing Rs. 1,756 approximately.
1934-35—	0.036 per cent. coal per cent. cane, costing Rs. 765 approximately.
1935-36—	0.016 per cent. coal per cent. cane, costing Rs. 150 approximately.
1936-37—	0.023 per cent. coal per cent. cane, costing Rs. 560 approximately.

All bagasse is used for fuel.

By-products.

58. Molasses only.

59. Outturn of Molasses—

1930-31—80,726 maunds.

1931-32—143,033 maunds.

1932-33—185,814 maunds.

1933-34—98,104 maunds. Includes Sakri.

1934-35—182,717 maunds. Includes Sakri.

1935-36—187,633 maunds. Includes Sakri.

1936-37—261,400 maunds. Includes Sakri. (estimated).

Rate of Lohat Molasses—

1930-31 at Rs. 2-10 per maund.

1931-32 at Rs. 1-3-6 per maund.

1932-33 at As. 6 per maund.

1933-34 at Free of cost.

1934-35 at As. 2-3 per maund.

1935-36 at As. 6-6 per maund.

1936-37 at As. 1-9 per maund.

Sakri—

1933-34 at As. 1-3 per maund.

1934-35 at As. 2-3 per maund.

1935-36 at As. 8 per maund.

1936-37 at As. 1-9 per maund.

Excess production beyond market needs has resulted in a drop in price.

60. *Market.*—Indian Molasses Co.

The Bengal and North-Western Railway now provide special tank wagons for molasses which are most satisfactory.

61. We sell all molasses.

62. We have no surplus bagasse.

63. We have no other by-products.

64. Storage and Transportation of Sugar—

	Stock when season opened.	Stock when season closed.
	Mds.	Mds.
<i>Lohat</i> —		
1930-31	5,533	181,037
1931-32	38,900	162,980
1932-33	50	194,645
1933-34	11,462	47,110
1934-35	1,275	117,353
1935-36	7	208,932
1936-37	17,512	280,000 (estimated).
<i>Sakri</i> —		
1933-34	<i>Nil</i>	111,295
1934-35	592	95,325
1935-36	27	152,800
1936-37	36,365	195,000 (estimated).

65. *Lohat.*—We have three sugar godowns, one of which is intended to be air tight, for storage throughout the monsoon. Two of these godowns were built in 1915, when the factory was erected, and the third was added in 1931.

Lohat.—Total storage capacity is for 125,000 bags of 2½ maunds each, equal to 312,500 maunds of sugar.

Sakri.—Total storage capacity is for 90,000 bags of 2½ maunds each equal to 225,000 maunds of sugar, in two godowns of equal size.

We are not at present arranging to build more godowns.

66. The cause of deterioration is atmospheric humidity. Sugar of season 1935-36 stored through the monsoon was damp, and 8.4 per cent. of the total output of the season was returned to process during season 1936-37.

67. Damaged sugar is returned to process and reboiled.

68. The keeping of the sugar is all right, the method of storing could be improved.

69. Complaints of damage during transit are not very common. Leaking wagons, and handling at river ghat during the monsoon account for the damage.

70. We usually get a fair supply of wagons for sugar transport, and have no complaints about this or about delay.

71. No.

72. This company's sugar is marketed entirely through a selling agent and practically all sugar is despatched freight to pay, it is therefore very difficult for us to prepare an answer to this question. As a matter of interest we may say that the usual rebate allowed for sugar despatched to ports other than Calcutta is As. 2 per maund.

73-79. This company is a private limited liability company and the information asked for is not available for publication.

82. Works costs.

Our factories are efficient considering the class of cane dealt with. Improvement in this direction will lie principally in the direction of getting cane which has a higher sucrose content, and in early and late ripening varieties.

83. The company sells its produce pretty generally throughout India and sugar is also shipped to Burma.

84. The company's sugar is sold through a Broker and payment is guaranteed by a Banian.

85. Our Brokers have their own contract form.

86 and 87. The difference between wholesale and retail prices is generally about annas 2 but it is less at the moment. The difference in the above rates should not vary very greatly unless there is a big fluctuation in the market.

89. The answer to both queries in this question is yes.

90. Yes, by Europeans and leading Hotels and Restaurants.

91. Yes, in whiteness, evenness of grain, hardness and lusture.

92. The stocks of sugar held by manufacturers and dealers is largely regulated by the law of supply and demand. The carrying of stocks is financed by hypothecation of same to Banks.

93. It is not quite clear what is meant by this question and we therefore refrain from expressing any opinion.

94. It is considered that a Central All-India Selling Organisation is not practicable.

95-99. We have nothing to say in reply to these questions.

100. Factory sugar is replacing gur gradually owing to it becoming cheaper.

101-105, 107-108 and 111. We regret we are not in a position to furnish the information called for.

106. Our output of molasses is sold under contract to the Indian Molasses Company, Limited.

109. It costs the average grower of this area, Rs. 35 to produce 230 maunds of cane and deliver it to the factory, i.e., approximately 2½ annas per maund. Unless he can get at least 4 annas per maund, he will not grow cane in any quantity. With the quality of cane now delivered, it must take 11 maunds of cane to make a maund of sugar in an efficient factory. The purchase price of this will come to Rs. 2-12-0 on each maund of sugar made, and with the cost of cane transport, and the expenses of a cane department added, cane delivered will cost Rs. 3-5-0 annas per maund of sugar.

Putting other expenses at Rs. 1-9-6, and Excise Duty at Rs. 1-7-6 it would cost Rs. 6-6 to make a maund of sugar, without allowing for depreciation or placing anything to reserve.

Unless and until, the production of cane per acre is increased, and the quality of the cane improved to a standard which will admit of the grower to sell at a much lower price, and make a fair profit, the present protection could not be removed without ruining the industry. The efficiency of the factories has improved enormously in late years, and there is not much margin for improvement there. The problem therefore has become almost entirely an agricultural one, and the main object of protection now should be to save the industry until the growers are educated in improved methods, and realise the advantage of adopting them. There is no doubt that fifty per cent. more cane per acre could be produced, at very little extra cost to the grower, if the methods being taught by the Agricultural Department were adopted universally.

Continuation of protection for the remaining period, i.e., from 1st April, 1938 to 31st March, 1946 is, in our opinion, essential if the sugar industry in India is to be preserved.

Ryam Sugar Co., Ltd., Ryam Factory, Darbhanga.

REPLIES TO TARIFF BOARD, GENERAL QUESTIONNAIRE, 1937.

Production of Sugar.

1. 1914—750 tons cane per day.

Season.	Total maunds Sugar.	No. 1 Sugar. Mds.	No. 2 Sugar. Mds.
2. 1930-31 . . .	153,247	82,955	70,292
1931-32 . . .	232,021	124,145	107,876
1932-33 . . .	270,174	136,200	133,974
1933-34 . . .	195,496	95,705	99,791
1934-35 . . .	187,347	184,610	2,737
1935-36 . . .	193,387	191,935	1,452
1936-37 . . .	278,837	278,837	—

3. (a) The factory is not advantageously situated with regard to cane supplies. The quality of the cane is inferior to that grown in the Bombay Presidency and the Deccan. With regard to Limestone the freight is very high amounting to approximately seven times the value of the stone. The same applies to coal and other stores but to a lesser degree.

(b) No. Factory is situated 8 miles from the nearest Railway Station, but is connected by our own Tramway.

(c) Yes.

4. Double Carbonitration. The advantages and disadvantages of the respective processes are as follows:—

Sulphitation. Lower capital cost, lower operative cost, more careful control required (less "foolproof") lower grade of sugar produced which is more susceptible to damage in unfavourable climatic conditions, lower yield

varying from 2 per cent. with high purity juices to 4 per cent. with low purity juices.

Carbonitiation. Higher capital cost, higher operative cost, easier control (more "foolproof") superior sugar made, less liable to deterioration in the monsoon. Higher yield, from 2 per cent to 4 per cent. dependent on purity of juices.

The additional capital cost for a factory milling 25,000 maunds per day is about £3,500 e.r.w. The critical factor in deciding the process is cost of limestone as laid down at factory; operative costs are essentially those of stone and coke as against lime and sulphur.

Labour difference is unsubstantial.

	Rs.	A.	P.	Rs.	A.	P.
5. 1930—						
Vertical Air Compressor	1,114	13	6			
Filter Press	5,333	15	3			
Cane Knife Engine and Knives	13,259	2	9			
				19,707	15	6
1931—						
Boiler Feed Pump	2,310	6	0			
Additions to Air Heater for Sugar Drier	1,008	2	9			
Cooling Coils in Crys	2,614	0	0			
Live Steam to Coil Pans	8,058	15	9			
Baffling M. W. Triple	3,984	0	1			
Re-tubing Boilers	58,526	9	2			
2—30" x 18" Centrifugals	6,079	0	3			
2—30" x 18" Centrifugals	5,806	12	4			
Air Cylinder for Vacuum Pump	6,188	12	0			
				94,576	10	4
1932—						
Boiler Feed Pump	6,857	15	11			
Sugar Godowns Extensions	11,740	4	3			
Baffling H. E. Triple	2,755	14	3			
Water Culvert for Cooling water	3,986	13	8			
Three Roller Mill, Gearing, Mill Engine, Cush Cush Elevator, etc.	1,29,616	13	2			
				1,54,957	13	3
1933—						
One Filter Press	3,682	6	10			
E. C. Plant	1,037	13	3			
High Speed Vacuum Pump	11,474	0	6			
5" Tube Well	4,987	4	0			
Sugar Drier and Elevators	13,993	7	9			
				35,175	0	4
1934—						
Molasses Burning Furnace	5,350	7	10			
High Speed Engine and Electric Generator	5,532	3	6			
Calandria Vacuum Pan	22,762	10	9			
4—42' Centrifugals, Engine, Grass- hopper Conv. Molasses Pumps, etc.	21,363	4	6			
9' Diameter Steel Chimney	18,972	11	9			
Seed Mixer	2,272	13	9			
Juice Sulphuring Tanks	4,844	12	9			
Magma Pump	2,584	3	0			
Magma Mixer	368	15	6			
				84,052	3	4
Carried over	...			3,88,469	10	9

	Rs. A. P.	Rs. A. P.
Brought forward . . . . .	...	3,88,469 10 9
1935—		
Sugar Melting Tank	3,123 9 9	
Sweet Water Tank	1,175 12 6	
Molasses Pump	990 15 0	
Sugar Godown	26,954 11 3	
	<hr/>	32,245 0 6
1936—		
Sugar Grader	2,938 10 3	
	<hr/>	2,938 10 3
Grand Total . . . . .	...	<hr/>4,23,653 5 6

6. With conditions as they are at present we do not contemplate extensions but should there be an improvement we may consider installing an additional 3-Mill Roller which was provided for in the original design.

7. (a) The main factors which determine the size of the factory are the amounts of cane available for milling and the transport facilities.

(b) The capacity of the factory should not be less than 400 tons per day.

8. The most of the equipment in sugar factories can now be obtained in India, but non-ferrous metals and tubes, heavy shafts for rollers, etc., boilers and special pumps and engines have to be imported.

9. (1) Our Managing Agents have a well qualified Technical Staff and have had no need to call on the Imperial Institute of Sugar Technology for assistance.

(2) The cane rate is not received early enough at the factory. The rate should reach the factory 2 days ahead of enforcement date.

10. (a) Yes.

(b) Cultivation is done on our own lands, purchased outright.

(c) No difficulty.

11. (a) 37 acres.

(b) 12 acres.

(c) Approved varieties of Co. canes.

(d) No fallow system, we grow cane on cane and use the trench system.

(e) 400 maunds per acre.

12. (a) 35 acres.

(b) The total production of our estates, besides certain fields belonging to ryots throughout each area are set aside for seed distribution. This is given out to ryots in the shape of an advance.

13. We have experimented with late and early ripening varieties.

14. (a) There has been a steady increase in the quantity of cane available since 1930 except for the year following the earthquake.

(b) The quality of the cane has been subject to seasonal variation vide reply to Question No. 80 Form III.

15. We very seldom have damage from frost but from disease and insect pests the damage is very considerable. During the month of February this season a detailed survey was carried out to determine to what extent the cane was infested with disease and this worked out to 56 per cent. on the average causing a sugar loss of 14,053 maunds for the month or Rs. 84,318 monthly.

16. We can generally rely on a normal crop of 24 lakh maunds.

Co. 213 and 210 and coming Season Co. 299.

Field yield 175 maunds per acre.

For Sugar content of Cane refer to Question No. 80, Form III.

17. This does not affect Ryam as we are bound by zone and boundary agreements with our neighbouring factories.

18. (a) Yes.

(b) (i) This is not very appreciable.

(ii), (iii) & (iv) These three play a very important part in determining the increase or decrease of the cane planting in our area.

19. Requirements is an elastic term. Regulation rather than restriction is indicated. We have been able, by extending the duration of the season and by additions to plant to take off practically all the cane which was offered in the areas serving our factory. We consider that control of the area under cane in Northern India is desirable, but coupled with a reduced production of sugar by white sugar factories, so that the quantity of cane available for manufacture conforms to a reduced output from the factories, so as to bring consumption and production into line.

While expressing this opinion we realise the great difficulty in co-ordinating the area to be put under cane with factory production owing to the millions of independent growers involved and the variations in yield per acre as influenced by seasonal conditions and the uncertainty as to the ultimate utilization—e.g., gur or white sugar or eaten in the raw state.

20. Unknown.

21. One, and possibly the greatest, objection which the ryot has to the cultivation of cane is the duration of time which it takes between the date when he has to reserve land for the crop till he receives money for its proceeds. This is not less than eighteen months unless he has cultivated an early ripening variety of cane. To partly overcome this difficulty we make a practice of advancing money to the ryot.

Then there are the difficulties of harvesting the crop—the diversion of labour from other agricultural pursuits and the loss of bullocks' time from farm work involved in the transport of cane. It is these difficulties which have so encouraged the practice of ratooning cane which even from the point of view of perpetuating disease should be discouraged if not prohibited by law.

With a view to popularising the cultivation of cane we have the following suggestions to make—

- (1) The supply of sound seed cane of approved varieties. It is notorious that if left to his own devices the ryot will plant from the worst portion of his crop. This is where the Agricultural Department can do most valuable work.
- (2) The encouragement to factories to acquire land for the establishment of seed farms, from which good seed cane could be distributed. Government could assist in the acquisition of land for this purpose by suitable legislation.
- (3) Intensive education of the ryot in the best agricultural practice for the cultivation of cane, including the intelligent use of suitable fertilisers. The system of education to be that best suited to local conditions.
- (4) An examination of the prospects from irrigation by tube wells and canals might be valuable.
- (5) Every possible encouragement to be given to factories to lay down local tramways for the carriage of cane, so reducing the strain on the ryots resources in providing bullock transport.
- (6) Such terminal organisation at factories which will reduce as much as possible the time lost in keeping carts waiting to unload. We favour a system which ensures a cart being able to transfer its load as soon as possible after its arrival at the factory or other delivery station.

- (7) The provision of good road communications and we should particularly stress the maintenance of good bullock cart tracks.
- (8) We would advocate that Government should prohibit the weighing of cane during the hours of darkness except at factory or tramway depots. It is our belief that when lighting facilities are very inadequate, as they generally are, the weighing of cane at railway stations tends to lead to abuses, however zealous the inspecting staff may be. If there were proper organisation there should be no hardship in restricting weighments to daylight hours.
- (9) To ensure better control of cane deliveries at railway stations and factories the system of issuing passes for carts which we employ should be made compulsory. This, by reducing the time carts are kept waiting, would reduce transport charges where ryots employ professional carters for the carriage of their cane and save sugar losses due to stale cane. We also suggest that carts should be licensed.

22. (a) We agree with the Tariff Board that this is impracticable.

(b) We have insistently advocated the introduction of a system of "zones" for sugar factories. If this had formed a part of the legislation which was introduced at the time Government decided to grant protection to the sugar industry many of the difficulties with which the manufacturing side of the industry is now confronted would never have arisen. We fear that in some areas it is now too late for any effective legislative action to be taken, but there do exist areas where conditions make it possible for groups of factories to come to a mutual agreement for the equitable distribution of local supplies of cane, and in this Government might be of assistance in an advisory capacity.

23. Our policy is, and has always been, to do everything possible to develop local supplies of cane, by means of loans in cash at reasonable rates of interest the supply of sound seed, manures and the provision of rubber-tired carts on the hire-purchase system. It will be naturally realised however, that if a factory's local supplies of cane are liable to be taken by outside factories, there is obviously less encouragement to the home factory to undertake development measures.

24. (a), (b), (i) & (ii) We are in favour of the regulation of sugar production by means of quotas, and also the licensing of new factories, including extensions to those at present in existence.

Until there is a definite and material increase in domestic consumption, India's production of sugar may now be accepted as having reached saturation point, and to avoid the evils of over-production we consider that Government should at once take powers to limit the quantity of sugar which may be manufactured under a system of quotas. This remedy will not, however, be of any avail unless, linked thereto, the establishment of additional factories is prohibited and any extensions to the plant of existing factories, except for the purpose of increasing efficiency or improving the quality of the product.

This question becomes highly complicated by the position of Indian States towards the erection of their own factories and the export of sugar thus made into British India with possible non-reciprocity, but even if a satisfactory solution to this difficulty cannot in all cases be found, our opinion remains unaltered, that the regulation of sugar production in British India in the manner suggested is essential to the well-being of the Industry and to the many interests dependent upon it.

In this connection, we would emphasize the necessity of a decision being reached, if possible, before the end of the current year so that the cane planting programme during the ensuing winter can be worked out in relation to the sugar requirements of the country for the Crushing Season of 1938-39.

25. (a), (b) & (c)—

Season.	Gate Cane.	Rail Cane.	Tram Cane.
	Per cent.	Per cent.	Per cent.
1930-31	49.7	50.3	...
1931-32	46.3	53.7	...
1932-33	59.1	40.9	...
1933-34	85.09	14.91	...
1934-35	28.0	44.5	27.5
1935-36	25.8	47.4	26.8
1936-37	28.8	43.8	27.4

26. Transport by cart. 20 maunds per cart.

We have this year experimented with Rubber-tyred Carts, but this has not been a success owing to the difficulties put in our way by the District Board.

27. Yes.

Condition of feeder roads extremely bad.

28. Cane is brought by road from a maximum distance of 12 miles. 6 miles average distance.

Time between cutting cane and delivery 24 hours.

No effort is made to protect cane from deterioration as it is brought so soon after cutting.

29. One pie per maund per mile.

Some have their own but 70 per cent. of them hire carts.

1 pie per maund per mile.

30. No.

31. We issue purjees daily upto the nearest cart for our daily consumption of cane.

The normal detention is not more than 2 hours.

We have never heard complaints about detention of carts as the carters are never kept waiting.

32. Maximum distance 43 miles.

48-72 hours.

Yes, most satisfactory.

33. There is a scale of charges for each type of wagon per mile with a minimum rate per type of wagon and same is given herewith:—

Type of Wagon.	Rate per mile.	Minimum rate per type of Wagon.
	As. p.	Rs.
Open cane wagons 6, 8 and 10 tons 14 ft.	2 6	5
Open cane wagons 10 tons 16 ft. and 11 tons 15 ft.	4 3	7
Cage trucks 10 tons	4 3	7
Cage trucks 12 tons	4 9	8
Covered wagons	3 6	6

These rates have been in force for several years now and are higher than they were eight years ago but the present flat rate basis is preferable to a maundage basis as cane being a bulky article does not fill wagons to their axle carrying capacity, and to introduce a maundage rate would, we feel, inevitably increase the freight costs as the railway would calculate the contents of a wagon on the carrying capacity rather than its actual load which is considerably less.

34. The factory is not advantageously situated with regard to cane supplies. The quality of the cane is inferior to that grown in the Bombay Presidency and the Deccan. With regard to limestone the freight is very high amounting to approximately seven times the value of the stone. The same applies to coal and other stores but to a lesser degree.

35. 16 miles.

3 pies per maund.

Factory.

36. Very advantageous.

No, barring land acquisition.

37. The loss through dryage and deterioration between cutting and milling varies according to the variety of cane but the loss is definitely serious in the months of March, April and May. The results of numerous tests carried out during these months in season 1932-33, indicated that the loss in weight through dryage amounted to 2.5 per cent. after 24 hours, 5 per cent. after 48 hours and 7 per cent. after 72 hours. Apart from the loss in weight, the purity of the juice in the cane deteriorated by one unit after 24 hours, five units after 48 hours and nine units after 72 hours. A detailed account of dryage and deterioration of cane varieties in Upper India is given in the 1933 issue of the International Sugar Journal.

38. (a) The total quantity of cane crushed is purchased direct from growers.

(b) We are definitely opposed to the employment of contractors unless they possess marked influence and have a financial stake in the area in which they operate.

39. 75 per cent. of cart cane is bonded by the company, and advances paid out to ryots in cash and seed from the months of February to September.

40. All cane purchased direct from growers.

41. Last season for the first time a very small quantity was supplied through the Cane Growers Association, but no general terms have yet been arranged.

42. We follow all the Government Cane Rules relating to this.

Yes, payment is made immediately for unbonded but payment is only made weekly for bonded cane.

43. 1930-31—As. 5-6, As. 6.

1931-32—As. 5-6, As. 6.

1932-33—As. 5-6.

1933-34—As. 5-6, As. 5, As. 4-6 and As. 4.

1934-35—As. 5.

1935-36—As. 5-6, As. 5-3 and As. 5.

1936-37—As. 4-9, As. 4-3, As. 4, As. 3-9 and As. 3.

This is entirely under Government control.

44. We follow the Government formula for this.

45. The price of gur has no influence as so little is made here.

46. See No. 45.

47. No, we have generally followed the Government rate.

48. Under present conditions, the basis is not satisfactory and calculations should be based more on the rates obtained for sugar by average factories than on the special rates obtained by a few factories employing more expensive processes.

We would also suggest that the 8 anna margin which is at present used in arriving at a scale be reduced to enable the cane rate to be adjusted more frequently and equitably.

We may have further suggestions to make at an early date.

49. Except for the illiteracy of the suppliers such a system would be feasible. Especially so when combined with zoning and with the suppliers looking to the mill for an equitable price fixation. A zoning system would be necessary as the mill would have to be in close touch with the growers and be able to fairly allocate the quantities of early, medium and late varieties.

Without control the danger of planting an excessive quantity of a heavy yielding late variety, with difficulty distinguishable from an early variety, would operate against any scheme of this nature.

50. The duration of the crop for the past seven seasons is given under Question No. 80. The variations in the duration can be attributed to available supplies of raw material and the economical operating purity of the cane supplies.

Until such time as early and late ripening varieties have been established, it is our opinion that the economic duration of a cane season can be given as from 1st December to 15th April.

51. It is possible that by the introduction of well established early and late varieties of cane to extend the crushing season in North Bihar and Eastern United Provinces from, say, 1st November to 31st May or a seven month operating period.

52. We have had considerable assistance from the Imperial Council of Agricultural Research and the Agricultural Departments of our Local Government. We feel, however, that their efforts are not sufficiently co-ordinated and that therefore they fail to give the help which we really need.

It occurs to us that the staff of these departments should be more mobile. The demonstrations and help which are required by us should be available on the spot, and we would suggest that a motor van equipped with cinematograph and loudspeaker equipment would meet a long felt want.

Propaganda could be carried on in this manner from village to village in the neighbourhood of established factories and the ryot could see demonstrations and hear actual explanations in his own language of all problems attached to the growing of his crops.

Seasonal Labour.

53. (i) 1. Skilled 189 Total 179 of which about 75 per cent.
2. Unskilled 535 skilled labour.

(ii) Entirely local labour.

54. We do not import labour from abroad or other parts of India.

55. See No. 54.

56. Free quarters are provided for senior members of the Indian Staff. Free medical attention is provided and we have our own dispensary.

Power.

57. During certain seasons—Yes.

Coal and Wood fuel used to supplement bagasse.

	Steam Coal.			Wood Fuel.	
	Quantity Nos.	Amount. Rs. A. P.		Quantity. Nos.	Amount. Rs. A.
1930-31 . . .	410	165	11 6	52	16 4
1931-32 . . .	40	16	14 0	40	12 8
1932-33 . . .	...	...	...	...	...
1933-34 . . .	...	...	...	...	...
1934-35 . . .	6,866	3,021	12 0	1,300	256 9
1935-36 . . .	270	113	14 6	...	...
1936-37 . . .	933	406	5 0	...	...

We do not bale our surplus bagasse.

By-products.

58. Molasses, Bagasse and Press Mud.

Season.	Maunds Molasses Produced.	Average Rate.		
		Rs.	A.	P.
59. 1930-31	41,904	2	4	3-7
1931-32	84,652	0	13	0
1932-33	107,005	0	4	3-2
1933-34	79,002	0	1	3-6
1934-35	63,885	0	2	6
1935-36	70,075	0	7	9
1936-37	97,061	0	1	8

The general fall in price is due to the supply being much above demand.

60. Our molasses are delivered at the factory to a molasses contractor thereafter our interest ceases.

Railway facilities are inadequate.

Undelivered molasses have on occasions been burnt.

61. Surplus waste molasses are destroyed in a Brooks Molasses Furnace or utilised for steam generation. For steam generation purposes, molasses are not very satisfactory on account of the large deposit of ash of a corrosive nature on boiler tubes, etc.

It is suggested that molasses may be utilised for the production of Power Alcohol, Acetic Acid, Ether, Chloroform, Glycerine, Acetone, Citric Acid, Butanol, Carbon dioxide for dry ice and Yeast.

62. At present there is no outlet for surplus bagasse, small quantities only being taken by the cane suppliers as fuel.

Bagasse could be manufactured into paper or boards but the initial cost of the manufacturing plant will be high.

63. Sulphitation and well weathered carbonitation press mud can be utilised as a manure.

Storage and Transportation of Sugar.

	Stock.	
	Beginning of season.	End of season.
	Mds.	Mds.
64. 1930-31	85,545½
1931-32	118,923½
1932-33	95,678
1933-34	73,997
1934-35	101,688
1935-36	115,386
1936-37	18,010	165,747

65. The capacity of our godowns have been increased from a total of 37,704 bags in 1930-31 to a total of 82,810 bags in 1936-37.

66. The extent to which sugar may deteriorate is chiefly dependent upon the period of storage and weather conditions. Apart from the period of storage and weather conditions factors influencing the keeping quality of sugar are numerous but it may be stated that the construction and condition of the godowns in which sugar is stored, temperature at which the

sugar is bagged, packing, stacking and stacking media employed together with sugar quality all play a part in the keeping quality of sugar.

67. Damaged sugar is usually re-conditioned.

68. The production of sugar of greater purity of bold and regular crystal free from dust and broken grain, will undoubtedly improve the keeping quality.

69. The damage of sugar in transit from the factory can be attributed to the type of rail wagon or flat used and weather conditions during trans-shipment.

70. Difficulty in obtaining wagons for the transportation of sugar occurs only on rare occasions.

71. Water-tight wagons should be provided for sugar traffic. These wagons may be used in grain or cereals transportation but not for coal, oil or any other material which may thus spoil the floors of the wagons for sugar transport.

72. Our sugars are sold on an f.o.r. factory basis, the price being one for important markets. We have no record of second hand prices for our product at the ports and upcountry, but give below the actual f.o.r. prices obtained during the past 7 years. We also give the freight from the factory to the ports and certain upcountry markets:

F.o.r. Prices.

Season.	1st Sugar.		2nd Sugar.		Both Sugars.	
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
1930-31	9	6 8-4	8	10 2-1	9	0 11-3
1931-32	10	4 9-2	9	7 4-4	9	14 6-5
1932-33	9	10 11	8	6 6-1	9	0 10-9
1933-34	9	3 9-9	8	2 1	8	10 7-6
1934-35	8	8 10-7	9	0 0	8	9 0-1
1935-36	8	11 0-6	6	10 8-1	8	10 9-8
1936-37	6	8 6-3	...		6	8 6-3

Freights.

Station.	Rail Freight.		Rail and Steamer Freight.	
	Rs.	A. P.	Rs.	A. P.
Allahabad	0	10 2	...	...
Cawnpore	0	11 7	...	...
Lucknow City	0	15 6	...	...
Calcutta	0	11 3	10	0
Bombay	1	1 0	13	4
Madras	0	15 6	13	4
Karachi	1	2 0	13	4

73. We enclose copies of Balance Sheets.

74. We give below amounts of depreciation written off by the company from 1930-31 also the statutory amount allowed under the Income-tax Act, 1922. Depreciation is usually a round sum based, as nearly as possible, on the statutory scale.

	Statutory.	Written off.
	Rs.	Rs.
1930-31	84,805	1,00,000
1931-32	91,565	2,00,000
1932-33	1,01,249	2,00,000
1933-34	1,06,144	1,06,000
1934-35	1,18,497	1,00,000
1935-36	1,21,809	75,000

In the year 1934-35 Rs. 50,000 of the amount provided was transferred from Renewals and Improvement Fund. In the years 1931-32 and 1932-33 additional provision was made to bring the total provision up to the statutory allowance.

75. No amounts have been set aside for Reserve Fund.

76. We give below amounts distributed as dividends by the Company:

20th June—	Rate.	Amount.
	Per cent.	Rs.
1930	10	40,000
1931	20	80,000
1932	30	1,20,000
1933	30	1,20,000
1934	15	60,000
1935	15	60,000
1936	10	40,000

77. The Bank allows overdrafts under agreement for cash credit, by which stocks, etc. are pledged. The rate at which the company is able to borrow is, bank rate subject to a maximum of 9 per cent. and a minimum of 3 per cent.

78. Head Office expense and Managing Agents' commission amount to Rs. 31,280 for 1935-36. Managing Agents' commission is calculated at 7½ per cent. on the working profits before providing for depreciation, income-tax, interest on debentures and debenture sinking fund.

79. Considering the hazardous nature of the enterprise, the risks of drought, floods, pests, the machinations of buyers, the excise duty, the costs of maintenance, the demands of taxation, a balance of 10 per cent. at credit of revenue, after allocations to depreciation and reserve accounts is not excessive.

80. Forms* 1, 2 and 3 referred to are attached. As regards Forms 1 and 2 the figures in respect of 1936-37 cannot be submitted as our financial year is not yet closed.

81. Owing to the complicated nature of the returns called for we are unable to submit the information in the allotted time, and we will do so as soon as the returns are completed.

82. Every possible economy has been effected in the works and efficiency brought to a high standard, comparing favourably with other sugar producing countries, that there is very little margin for further reductions in the works and we must now look to a higher sucrose content and for further reductions in cost of cane.

83. Calcutta and Local Markets.

84. We are unable to give particulars of the relations between dealers and retailers, but so far as we are concerned, we are put into touch with our dealers by our brokers. Up to this year we had several brokers working on a commission basis from 8 to 12 annas per Rs. 100. These brokers would make us offers, which, if accepted, would be confirmed by contract between ourselves and the dealers, a deposit being required as Earnest Money, which the dealers paid; interest was allowed on this deposit. During the current season, we have obtained Sole Distributors for the whole of India—Messrs. Ralli Brothers, Limited. While the system of their making us offers on behalf of dealers still continues to a lesser extent, the chief method of doing business is for us to give them option for a fixed period on quantities of each grade of sugar which we wish to dispose of, fixing the minimum price at which they can sell. In this case also, the

* Not printed.

arrangement between them and ourselves is by agreement, the actual contract, which is supplementary to the agreement being entered into primarily between them and their dealers.

85. The new Indian Sugar Mills' Association contract form is satisfactory except as regards Clause 8. The responsibility for the condition of sugar *sold f.o.r. factory* should be more clearly defined, as falling upon the buyer. Unless the buyer takes delivery at factory it is impossible to prove in what condition the sugar was despatched, and whether damage took place while in the hands of the carrier.

86. The figures with regard to this question can be obtained from dealers, importers and brokers. We ourselves are unable to give accurate figures, especially as most of our business in the past has been done through dealers in the Cawnpore market, and on an *f.o.r. factory* basis.

87. Variations in this case will occur when comparing wholesale forward business with ready petty sales, but for spot business there is little fluctuation between wholesale and retail prices, though the difference between these actually varies according to quantity, up to approximately 4 annas per maund.

We have taken the retail prices as covering lots of 5 to 25 bags, which are not necessarily in shopkeepers' hands, there possibly being a further difference in the actual shop price to the consumer.

88. We have very little information as to the storage arrangements made by dealers, but from our experience we understand that they are disinclined to keep stocks, preferring to utilise factory storage space, even to the extent of getting 3 or 4 months in arrears in deliveries. We have already given you our experience with regard to deterioration in storage against Question No. 66. We have no definite information with regard to conditions prevailing in dealers' godowns.

89. Under similar storage conditions we are of the opinion that Java sugar will deteriorate to the same extent as a good quality Indian sugar.

It is only in very recent years that the keeping quality of sugar produced in India has become a subject for serious consideration, since large stocks of sugar must now be stored throughout the monsoon period. Since it has been recognised that there has been a vast improvement in the quality of sugar manufactured in India, the keeping quality has also undoubtedly improved.

90. With the exception of the demand for Indian made sugar by a limited number of orthodox Hindus on religious grounds, Java, or other imported sugar is preferred, particularly by the middle and upper class Indian consumers. The reason for this is, we believe, the uniformity of grain and superior, consistent colour of the imported sugar.

91. The average quality of sugar manufactured in India is inferior to imported Java sugar but there are many factories in India producing a finer product equal if not superior to that of Java.

The average Indian sugar is inferior to imported Java sugar in respect of purity, colour and uniformity of crystal size.

92. In our opinion the manufacturers carry the bulk of the stocks of Indian made sugar, the only dealers carrying stocks to any large extent being those at ports where storage facilities are offered by the Carrying Companies. Upcountry dealers normally carry only sufficient stock for the immediate need of local retailers.

93. Yes. We consider this most desirable.

94. We favour a Central All-India Selling Organisation, provided licensed control of production is also introduced. We consider however that it should be independent of Government control.

95. We think that the present system of standardisation is open to grave question. The value of a sugar does not depend on the size of the crystal

or on its appearance in bulk in a glass container. Further, it is impossible to get two observers to agree as to the standard on such a crude system.

We would favour standardisation on rational lines which would include:

- (1) The polarisation or sugar content.
- (2) The colour determined in some formal way in an apparatus such as the Lovibond Tintometer and expressed in definite colour units.
- (3) The quantity of suspended matter.
- (4) Possibly, but not necessarily, the quantity of ash might also be included. Ash is of importance to the sweetmeat maker but he is not yet educated enough to appreciate its influence.
- (5) Uniformity of grain and absence of dust may also be included.

96. (a) We have done no business so far on the basis of sugar standards. The reason we have not yet sold on this basis is that the graduated scale of price difference has not yet been agreed upon and the Industry as a whole is not prepared to sell on the basis of the standards. It is also felt that most factories are not yet in a position to turn out a uniform product capable of being graded under the standards.

(b) Yes. These standards are being used extensively at all our factories for internal control.

97. As opposed to standardising sugars, Messrs. Begg, Sutherland & Company's group of factories are to base their selling standard in respect of the next season, as follows:—

Factory Managers are to be asked to lay aside a certain number of bags of sugar now, of a standard which they expect to maintain during the next season. These bags are to be used as samples next season and the output based on these samples. Special care will be taken in storing these bags during the monsoon.

98. The possibilities of establishing a central marketing organisation, including a complete survey of markets, has been before the Indian Sugar Mills Association from time to time, but no progress has been made. We are in favour of an organisation on the lines of the Cement Marketing Board being set up, provided its control is vested in an independent body and it embraces all producers, with Government prohibition of new factories and extensions for purposes other than improvement of quality and efficiency.

The establishment of a "futures" market by dealers associations, on the lines of the East India Cotton Association should make for stability in prices by providing security for dealers operations, and thereby improving the general trade in sugar.

99. Over a period of seven years we believe the consumption of sugar, including Khandsari, and sugar refined from gur, to be about 1,300,000 tons annually, but as a result of the lower prices now ruling this figure should be exceeded.

An increased advertising campaign by the industry through its Associations and possible collaboration with the tea industry would, we believe, lead to increased consumption, the necessary funds being provided on the lines of the India Tea Cess.

100. We believe that factory sugar is replacing gur in the trade in increasing quantities, but we have no reliable information.

101. We see no immediate prospects of the establishment of fruit canning in India.

102. This information can be given much better by importers such as Messrs. Ralli Brothers, Ltd., Calcutta, Bombay, Madras and Karachi, Messrs. A. H. Bhiwandiwala, Bombay, Messrs. Parasram Paroomal & Co., Calcutta and Messrs. Kian Cwan Co. (India), Ltd., Sassoon House, Calcutta.

103. It may be accepted that Java, the chief importing country, has not realised remunerative prices for her sugars in any year between 1930 and 1936. In support of this view there is the knowledge that Java's production has fallen from 3,250,000 tons in 1930 to 500,000 tons in 1936.

104. None by sea so far as we know. A relatively small quantity finds its way across the northern frontiers.

We do not consider India could profitably export sugar unless world prices advance very considerably and then only if Indian sugar received specially favourable treatment on entry into the United Kingdom. There is, of course, the very remote possibility of India being in a position to sell a portion of her production for export at a loss, provided there was a compensating rise in internal prices.

105. The imposition of the first levy of excise had some effect in not inducing unadvised expansion which would, however, have been better prevented by a system of licensing and zoning at the time protection was given, and in relation to a considered estimate of the demand existing for sugar in India. The latter imposition coincided with a period of abnormally low prices for sugar, which persists to-day. Owing to trade conditions the manufacturer except for a very brief period has not been able to pass on any share of the excise to the consumer. We have never understood why the cane growing section of the industry has not been called on to bear some share of the excise. The industry could have accepted with comparative equanimity a levy on profits on a reasonable scale.

106. A certain quantity is absorbed in the manufacture of country tobacco. Where distilleries exist molasses form a base for the production of alcohol. Recently a molasses exporting corporation has set up an organisation for the collection and export of molasses and has made extensive purchases. No data is available with us regarding the extent of these transactions but they must be of considerable magnitude. The prices realised do little more than cover handling charges. The residue we destroy in specially designed furnaces.

107. This has partly been dealt with under the preceding question. We understand the destination of the molasses exported by the Corporation is the United States and the United Kingdom and it is used for the production of industrial alcohol. The possibility of export is handicapped by the inadequacy of transport facilities.

108. We are not altogether clear as to what is meant by "effective". If the development of an industry by an increase in production of 1,000,000 tons is effective the answer is 'yes'. If 'effective' means the establishment of an ordered industry with security of capital combined with sound finance the answer is 'no'.

The effect of the import tariff, created in 1932 has been to create a barrier against imports from abroad behind which the industry has developed at an extraordinary rate of progress—a very unhealthy rate as events have turned out. This expansion has taken place without any control either by Government or the industry itself. What appeared to be an attractive outlet for capital seeking employment has resulted in the launching of numerous undertakings without any proper consideration being given to local conditions, supplies of suitable raw material—financial requirements and in many instances without adequate, or even any, expert knowledge. The result has been that although India has been rendered self-supporting as regards her sugar requirements, her revenues have suffered severely from an almost complete stoppage of imports, while the domestic industry due to the reckless establishment of factories—many of which are unsuitably situated, the need of replacing revenue hitherto realised from the import tariff by the imposition of an excise duty—an utter absence of any organisation for the marketing of its sugar finds itself to-day confronted with a situation which, to say the least of it, can only be described as extremely critical even in the case of the most efficient units of the industry.

109. The original object of protection aimed at the country producing its total sugar requirements, and this object has already been attained. We therefore consider that the extent of protection should be kept at such a level as to limit imports of foreign sugar.

We are of opinion that the existing level of protective duty is such that the ryot obtains an equitable return for his enterprise, and that this will only continue provided the position is not aggravated by imports of sugar from abroad.

It does not follow that world conditions will remain unaltered between now and 1946, and we therefore recommend the present level of protection being maintained, and further, that the Government should take powers to regulate it as and when necessary, to limit the entry of foreign sugar into the country.

110. (1) Improvement in Agriculture and communications and the application of research so as to reduce the cost of cane and improve its sugar content.

(2) Means to control borer infestation and simultaneously increase the sugar content of the cane.

(3) The adoption of the zoning system which will allow factories to help the small grower to make use of the results of research.

(4) Means to ensure the manufacturer obtaining a fair share of the protection by correlation between the cost of cane and effective selling price of sugar (after deduction of excise) which will demand a centralised marketing organisation with power to regulate sugar prices.

111. So far as we are aware, no industry has been affected by the import duty on molasses.

Samastipur Central Sugar Co., Ltd., Darbhanga.

REPLIES TO TARIFF BOARD GENERAL QUESTIONNAIRE, 1937.

Production of Sugar.

1. 1920-21 season—750 tons per day.

Season.	Total mds. Sugar.	No. 1 Sugar.		No. 2 Sugar.	
		Mds.	Mds.	Mds.	Mds.
2. 1930-31	135,822	71,368	64,454		
1931-32	202,362	101,750	100,612		
1932-33	282,940	148,767	134,173		
1933-34	121,820	91,850	29,970		
1934-35	222,257	185,878	36,379		
1935-36	228,281	163,396	64,885		
1936-37	295,120	214,974	80,146		

3. (a) Well situated for cane supply, but not of the best quality cane as compared with the Bombay Presidency and the Deccan, but with regard to Limestone the freight is very high amounting to approximately seven times the value of the stone. The same applies to coal and other stores but to a lesser degree.

(b) Yes.

(c) Adequate labour supply available.

4. Double Sulphitation.

Sulphitation.—Lower capital cost, lower operative cost, more careful control required (less "foolproof") lower grade of sugar produced which

is more susceptible to damage in unfavourable climatic conditions, lower yield varying from 2 per cent. with high purity juices to 4 per cent. with low purity juices.

Carbonitation.—Higher capital cost, higher operative cost, easier control (more "foolproof") superior sugar made, less liable to deterioration in the monsoon, higher yield, from 2 per cent. to 4 per cent. dependent on purity of juices.

The additional capital cost for a factory milling 25,000 maunds per day is about £3,500 e.r.w. The critical factor in deciding the process is cost of limestone as laid down at factory; operative costs are essentially those of stone and coke as against lime and sulphur. Labour difference is un-substantial.

5. Additional plant has been installed and replacements have taken place since 1930 amounting to Rs. 3,48,100. Over and above this an average amount of Rs. 66,000 has been spent each year since 1930 on off season overhaul, repairs and renewals. Apart from the above figures a further sum of Rs. 2,24,000 was spent in reconditioning machinery and buildings due to earthquake.

6. With conditions as they are at present we do not contemplate extensions, but should there be an improvement we may consider installing further equipment.

7. (a) The main factors which determine the side of the factory are the amounts of cane available for milling and the transport facilities.

(b) The capacity of the factory should not be less than 400 tons per day.

8. Most of the equipment in sugar factories can now be obtained in India, but non-ferrous metals and tubes, heavy shafts for rollers, etc., boilers and special pumps and engines have to be imported.

9. (i) Have not seen much of their work yet except tabulated data which they have received from the various sugar factories.

(ii) The cane rate is not received early enough at the Factory. The rate should reach the factory 2 days ahead of enforcement date.

Raw materials.

10. Yes, we undertake the cultivation of cane on our own lands and we have experienced no difficulty in purchasing or leasing lands.

11. (a) Total area held 1,000 acres, for sugarcane cultivation.

(b) Average area under cane each year 500 acres.

N.B.—For the past 14 years there has been no crop rotation other than green manure; cane fallow cane being the system adopted, with bulk fertilization, in the form of farm yard manure and street sweepings. The tendency of the crop, in recent years, is to show an increase in tonnage than otherwise.

(c) The varieties of cane grown are Co. 213, Co. 281, Co. 299, Co. 312, Co. 313 and Co. 331.

(d) Please refer to appendix No. 1 regarding trench-manuring and fertilization.

(e) The following table gives you the information, as regards yields for season 1935-36 (which can be taken as an average for former years):—

	Maunds per acre.	Sugar per cent. cane from hand mill analysis.
Co. 213	640	11.42
Co. 281	616	13.22
Co. 299	610	13.72
Co. 313	617	13.02
Co. 331	780	11.41
Co. 210 . . . . .	...	11.88

(f) The cost of cultivation per acre, Appendix No. 1* furnish you with this information.

12. (a) 100 acres.

(b) Selected seed is sold to the Ryot and no special area is set aside for this purpose.

13. We have experimented with late and early ripening varieties.

The Agricultural Department has been of the greatest assistance whenever advice has been sought from them, and the officials of the Department have frequently visited this estate and lent whatever assistance and counsel they could afford.

14. (a) There has been a steady increase in the quantity of cane available since 1930 except for the year following the earthquake.

(b) The quality of the cane has been subject to seasonal variation, *vide* reply to Question No. 80, Form III.

15. We very seldom have damage from frost but from disease and insect pests the damage is very considerable. During the month of February this season a detailed survey was carried out to determine to what extent the cane was infested with disease and this worked out to 34.8 per cent. on the average causing a sugar loss of 6,936 maunds for the month or Rs. 41,616 monthly.

16. Generally speaking within the last three years we have secured a satisfactory quantity of cane and certainly in the past two seasons. The principal varieties have been Co. 210 and Co. 213 and a beginning has been made with the newer varieties Co. 281, Co. 299 and Co. 313 and which we expect to constitute 30 per cent. of our crop in season 1937-38. The yields vary very considerably being dependent on a great many factors but where intelligently grown, and from figures maintained by us, these may be put at the following averages:

	Mds. per acre and sucrose.	Average sugar per 100 cane as deduced from hand mill Analysis.
Co. 210	450	11.88
Co. 213	520	11.42
Co. 281	500	13.22
Co. 299	400	13.72
Co. 313	600	13.02
Co. 331 . . . . .	...	11.41

17. We are very little affected by these factors as our arrangements for cane are on a very firm basis (Guarantors, reliable Zemindars and Boundary Agreements) but it has been found in the past that where there was a shortage of cane certain factories in other districts came as far as 30 miles to purchase in our areas and artificially for a period of a week or 10 days to secure a footing forced up rates to supplement their dwindling local supplies.

18. (a) In the past seven years covered by the Questionnaire there has been a steady upward tendency in the areas planted and the number of cultivators who have taken to the growing of cane.

(b) (i) A deficient monsoon considerably reduces the yield of cane but we have never found any damage to the growth or outturn by an excess of rain.

(ii) Low prices of sugar will undoubtedly re-act against the areas planted in cane and the present conditions support this belief. With the low rates

now prevailing and which have brought the price of cane to a correspondingly low level there has been a drop in the area planted and which can safely be computed at 40 per cent. of the area in cane in the year now finishing and 10 per cent. lower than the area planted for season 1935-36.

(iii) As the price of gur is also very depressed and its manufacture unpopular in these parts it has not affected our supplies of cane.

(iv) An increase in the price of other cash crops, and as has been witnessed, makes them serious competitors to cane, the ryot being mainly guided by the cash value of what he grows and to a lesser extent by the ability of that crop to withstand the ravages of climatic and other deleterious factors.

19. Requirements is an elastic term. (Regulation rather than restriction is indicated. We have been able, by extending the duration of the season and by additions to plant to take off practically all the cane which was offering in the areas serving our factory. We consider that control of the area under cane in Northern India is desirable, but coupled with a reduced production of sugar by white sugar factories, so that the quantity of cane available for manufacture conforms to a reduced output from the factories, so as to bring consumption and production into line. While expressing this opinion we realise the great difficulty in co-ordinating the area to be put under cane with factory production owing to the millions of independent growers involved and the variations in yield per acre as influenced by seasonal conditions and the uncertainty as to the ultimate utilization, e.g., gur or white sugar or eaten in the raw state.

20. The cost of cultivating 1 acre of cane by the ryots and the outturn is shown in the Appendix No. 2.

21. One, and possibly the greatest, objection which the ryot has to the cultivation of cane is the duration of time which it takes between the date when he has to reserve land for the crop till he receives money for its proceeds. This is not less than eighteen months unless he has cultivated an early ripening variety of cane. To partly overcome this difficulty we make a practice of advancing money to the ryot.

Then there are the difficulties of harvesting the crop the diversion of labour from other agricultural pursuits and the loss of bullocks' time from farm work involved in the transport of cane. It is these difficulties which have so encouraged the practice of ratooning cane which even from the point of view of perpetuating disease should be discouraged if not prohibited by law.

With a view to popularising the cultivation of cane we have the following suggestions to make—

1. The supply of sound seed cane of approved varieties. It is notorious that if left to his own devices the ryot will plant from the worst portion of his crop. This is where the Agricultural Department can do most valuable work.
2. The encouragement to factories to acquire land for the establishment of seed farms, from which good seed cane could be distributed. Government could assist in the acquisition of land for this purpose by suitable legislation.
3. Intensive education of the ryot in the best agricultural practice for the cultivation of cane, including the intelligent use of suitable fertilizers. The system of education to be that best suited to local conditions.
4. An examination of the prospects from irrigation by tube wells and canals might be valuable.
5. Every possible encouragement to be given to factories to lay down local tramways for the carriage of cane, so reducing the strain on the ryots resources in providing bullock transport.
6. Such terminal organisation at factories which will reduce as much as possible the time lost in keeping carts waiting to unload.

We favour a system which ensures a cart being able to transfer its load as soon as possible after its arrival at the factory or other delivery station.

7. The provision of good road communications and we should particularly stress the maintenance of good bullock cart tracks.
8. We would advocate that Government should prohibit the weighing of cane during the hours of darkness except at factory, or tramway depots. It is our belief that when lighting facilities are very inadequate, as they generally are, the weighing of cane at railway stations tends to lead to abuses, however zealous the inspecting staff may be. If there were proper organization there should be no hardship in restricting weighments to daylight hours.
9. To ensure better control of cane deliveries at railway stations and factories the system of issuing passes for carts which we employ, should be made compulsory. This by reducing the time carts are kept waiting would reduce transport charges where ryots employ professional carters for the carriage of their cane and save sugar losses due to stale cane. We also suggest that carts should be licensed.

22. (a) We are in agreement with the views of the Tariff Board. To dispossess tenants of their holdings would be most undesirable.

(b) We favour a zoning system whereby definite areas are reserved for certain factories and where they can develop their organization in their own way for the benefit of the ryots as much as for themselves. This entails the issue of advances, improved varieties of seed cane, assistance in the matter of transport, etc. and unless a factory has the assurance that they will reap the benefits of all monies spent in developing their areas and other companies will be precluded from coming in and sharing these benefits for which they have contributed nothing it is natural that they will hesitate before launching into any big schemes. The objection of course to the proposal is that it provides a monopoly to a factory but where the rates are controlled by Government and there are numerous other forms of control this objection loses much of its force and furthermore the cultivators control this objection loses much of its force and furthermore the cultivators themselves may be trusted to see that they are not unduly exploited as their's is the whiphand and any unfair treatment will bring its own reward in reduced sowings and a shortage of cane to the factory concerned. Zones should be fixed on the bases of a factory's crushing capacity and the areas demarcated more or less on the basis of this current season's purchases, which have proved their capacity to provide each factory in these parts with a full complement of cane.

(b) We have insistently advocated the introduction of a system of "zones" for sugar factories. If this had formed a part of the legislation which was introduced at the time Government decided to grant protection to the sugar industry many of the difficulties with which the manufacturing side of the industry is now confronted would never have arisen. We fear that in some areas it is now too late for any effective legislative action to be taken, but there do exist areas where conditions make it possible for groups of factories to come to a mutual agreement for the equitable distribution of local supplies of cane, and in this Government might be of assistance in an advisory capacity.

23. Our policy is, and has always been, to do everything possible to develop local supplies of cane, by means of loans in cash at reasonable rates of interest—the supply of sound seed, manures and the provision of rubber-tired carts on the hire-purchase system. It will be naturally realised, however that if a factory's local supplies of cane are liable to be taken by outside factories, there is obviously less encouragement to the home factory to undertake development measures.

24. We are in favour of the regulation of sugar production by means of quotas, and also the licensing of new factories, including extensions to those at present in existence.

Until there is a definite and material increase in domestic consumption, India's production of sugar may now be accepted as having reached saturation point, and to avoid the evils of over-production we consider that Government should at once take powers to limit the quantity of sugar which may be manufactured under a system of quotas. This remedy will not, however, be of any avail unless, linked thereto, the establishment of additional factories is prohibited and any extensions to the plant of existing factories, except for the purpose of increasing efficiency or improving the quality of the product.

This question becomes highly complicated by the position of Indian States towards the erection of their own factories and the export of sugar thus made into British India with possible non-reciprocity, but even if a satisfactory solution to this difficulty cannot in all cases be found, our opinion remains unaltered, that the regulation of sugar production in British India in the manner suggested is essential to the well-being of the Industry and to the many interests dependent upon it.

In this connection, we would emphasise the necessity of a decision being reached, if possible, before the end of the current year so that the cane planting programme during the ensuing winter can be worked out in relation to the sugar requirements of the country for the Crushing Season of 1938-39.

25. The proportions based on the average of the last three years are as follows:—

- (a) 24 per cent.
- (b) 76 per cent.
- (c) Nil.

There have been very slight variations in the relative proportions though in this past season due to economic and very favourable monsoon conditions the proportion of gate cane rose to 33 per cent. It is not however anticipated that this proportion will be maintained.

26. The average quantity of cane carried per cart is 20 maunds. The substitution of rubber tyred carts in place of the ordinary wheeled cart has hardly any limit provided the equipment can be bought on the hire purchase system and there be a service station maintained at a centre within reasonable distance.

We and several of our larger suppliers employ rubber tyred carts and the increase in maundage per cart, as compared with the country cart is about 100 per cent.

27. The mileage of roads in this vicinity is quite adequate, but the condition of the feeder roads is appalling, and engenders untold cruelty to draft animals and extreme hardship to the drivers.

28. The distance for both rail and gate cane varies from one to 8 miles and it is generally delivered within 24 hours of cutting and is crushed within 48 hours of cutting. No protection apart from safeguards against pilferage en route is taken against deterioration in transit and carts are all open.

29. The rates vary from 3 pie to 12 pies per maund of cane depending on distance for most of the season with some increase in April, and the basis is about one pie per mile per maund. Approximately 65 per cent. is carted by hired carts and the balance by the owners of the cane themselves.

30. Yes, all carts crossing District Board ferries or bridges have to pay a toll as also all carts carting within Municipal limits, and in our case we have to meet both exactions. In the case of ferries and bridges this toll appears to have very little justification apart from swelling the District Board Exchequers.

31. As our cart cane constitutes a small proportion of the total it is all supplied and crushed during the day and generally carts are weighed as they arrive with little or no detention. Forty carts per hour can be dealt with though actually they do not come in with this rapidity and to maintain the feed it is necessary to supplement the supply with railway cane. One side of the Cane Carrier, accommodating 15 carts, is reserved for cart cane during the day and we have the space outside the factory marked into lanes to avoid congestion and delay for both the incoming and outgoing carts with traffic peons controlling movement.

32. The maximum distance now is 30 miles by rail and the zone we work is circumscribed within a radius of 20 miles of the factory. Rail cane is delivered at stations within 24 hours as a rule and the Railway arrangements are entirely satisfactory except for the diversity in types of wagons utilised (5 in all) for the transport of cane with varying carrying capacities and which result in a loss in freight to the factory.

33. There is a scale of charges for each type of wagon per mile with a minimum rate per type of wagon and same is given herewith:—

Type of wagon.	Rate per	Minimum
	mile.	rate per type of wagon.
	As. P.	Rs. A.
Open cane wagons 6, 8 and 10 tons 14 ft.	2 6	5 0
Open cane wagons 10 tons 16 ft. and 11 tons 15 ft.	4 3	7 0
Cage trucks 10 tons	4 3	7 0
Cage trucks 12 tons	4 9	8 0
Covered wagons	3 6	6 0

These rates have been in force for several years now and are higher than they were eight years ago but the present flat rate basis is preferable to a maundage basis as cane being a bulky article does not fill wagons to their axle carrying capacity, and to introduce a maundage rate, would, we feel, inevitably increase the freight costs as the Railway would calculate the contents of a wagon on the carrying capacity rather than its actual load which is considerably less.

34. This has been answered in question 3 (a).

35. We have no tramways.

36. A tramway system would be advantageous.

37. The loss through dryage and deterioration between cutting and milling varies according to the variety of cane but the loss is definitely serious in the months of March, April and May. The results of numerous tests carried out during these months in season 1932-33 indicated that the loss in weight through dryage amounted to 2.5 per cent. after 24 hours, 5 per cent. after 48 hours and 7 per cent. after 72 hours. Apart from the loss in weight, the purity of the juice in the cane deteriorated by one unit after 24 hours, five units after 48 hours and nine units after 72 hours. A detailed account of dryage and deterioration of cane varieties in Upper India is given in the 1933 issue of the International Sugar Journal.

38. About 88 per cent. direct from the growers.

39. The arrangements here are to give out cash advances, issue healthy cane seed and sell rubber tyred carts on the hire purchase system.

40. In the case of cane purchased through purchasing agents they are paid 4½ pies per maund for the entire organisation and service.

41. No, but a small beginning is now being made with what are known as Cane Growers' Co-operative Societies and which are allied to the Co-operative Department of the Local Government.

42. We have a weighbridge and weighing staff (*plus* loading staff at Railway stations) at each purchasing or delivery centre under our direct control and all carts bringing a weightment slip or poorjee are weighed thereon and the cane dumped on the platform at the loading site. This entails a rapid clearance of carts and each grower is given a receipt for his cane as weighed. Payments are done once weekly on a certain specified day which remains the same throughout the season for each purchasing centre, and the accounts are maintained on the week's supply, *viz.*, from Sundays to Fridays in the case of railway cane and Mondays to Saturdays in the case of gate delivered cane.

43. 1930-31—As. 5-6 per maund *plus* cartage.

1931-32—As. 5-6 and As. 6 per maund *plus* cartage.

1932-33—As. 5-6 and As. 4-6 per maund *plus* cartage (2nd fortnight in May).

1933-34—As. 5-6 per maund *plus* cartage (2nd fortnight in May).

1934-35—As. 5 per maund *plus* cartage (2nd Government rates).

1935-36—As. 5-6 to As. 5 per maund *plus* cartage (2nd Government rates).

1936-37—As. 4-9 to As. 2-6 per maund *plus* cartage (Government rates).

44. Yes, and the rate is controlled by Government.

45. The price of gur has long since ceased to have any bearing on the price at which cane can be obtained in our areas and is an unpopular manufacture.

46. The price of gur has declined in sympathy with the price of sugar within the past few years and from a rate of Rs. 4-8 per maund eight years ago has now, in this last season, been selling as low as Rs. 1-12 per maund.

47. We have paid excess under old contracts still in force.

48. Under present conditions, the basis is not satisfactory and calculations should be based more on the rates obtained for sugar by average factories than on the special rates obtained by a few factories employing more expensive processes. We feel that the rates are based on a small proportion of special sugars which are being produced by certain factories.

We would also suggest that the 8 annas margin which is at present used in arriving at a scale be reduced to enable the cane rate to be adjusted more frequently and equitably.

We may have further suggestions to make at an early date.

49. As we have no evidence to support the claims of early mid-season and late variety canes and rather does our experience prove the contrary the only type to be considered is that of the "Superior" or higher sucrose cane. We have always recognised the need for paying something additional for such varieties based on their degree of superiority and have been doing so since 1933. The extra or bonus payment has varied from 1½ annas to ½ anna per maund.

50. The duration of the crop for the past seven seasons is given under Question No. 80. The variations in the duration can be attributed to available supplies of raw material and the economical operating purity of the cane supplies.

Until such time as early and late ripening varieties have been established, it is our opinion that the economic duration of a cane season can be given as from 1st December to 15th April.

51. If such early and late canes do exist or could be produced they would not, under our conditions of climate, enable us to extend the season by more than a fortnight at each end. October is too early being too soon after the monsoon when road conditions are almost at their worst as a result of floods, etc. and from 15th June onwards heavy rain is experienced making transport most precarious. Labour for cutting and carts also become a difficulty as all activity is concentrated on the sowing of the Bhadai crop as soon as the first rain falls.

We have had considerable assistance from the Imperial Council of Agricultural Research and the Agricultural Departments of our Local Government. We feel, however, that their efforts are not sufficiently co-ordinated and that therefore they fail to give the help which we really need.

It occurs to us that the staff of these Departments should be more mobile. The demonstrations and help which are required by us should be available on the spot, and we would suggest that a motor van equipped with cinematograph and loudspeaker equipment would meet a long felt want.

Propaganda could be carried on in this manner from village to village in the neighbourhood of established factories and the ryott could see demonstrations and hear actual explanations in his own language of all problems attached to the growing of his crops.

Seasonal labour,		Silent season.
53. 1. Skilled	200	Total 107 of which 75 per cent. is skilled labour.
2. Unskilled	387	

54. Practically all our skilled labour is either local or obtained from the surrounding districts.

55. No skilled labour imported from abroad.

56. Practically all labour resident in the town or nearby villages. Seventy-eight quarters provided for chowkidars and such labour as live too far from the factory to permit of their going home every day.

Factory Doctor visits the factory daily and attends to such people as require medical attention and we have our own dispensary.

A football team is run by the factory and matches arranged with other local and district clubs.

57. Up to date it has been impossible to meet all fuel requirements from bagasse available at the factory.

It is necessary to supplement it at certain times of the year with wood and coal.

Season.	Rs.
1930-31	37,000
1931-32	11,800
1932-33	5,220
1933-34	9,730
1934-35	4,630
1935-36	8,460
1936-37	7,900

We do not bale our surplus bagasse.

58. Molasses and Press mud and at certain times surplus bagasse for use during off season—

Season.	Mds. Molasses Produced.	Average Selling Price.
		Rs. A. P.
59. 1930-31	60,501	2 13 0
1931-32	90,968	0 14 10-3
1932-33	133,054	0 5 0
1933-34	55,027	0 1 7-5
1934-35	87,346	0 2 6
1935-36	99,661	0 6 2
1936-37	115,989	0 2 1

The variation in price is due to supply and demand.

60. Up till last year all our molasses was sold to a local contractor who despatched it mostly to Bengal Markets. It was principally purchased there for use in the manufacture of tobacco and for cattle food. Now about three-quarters of our production is purchased by the Indian Molasses Co. despatched in tank wagons to river ghat stations hence by river tank barges to Calcutta for shipment Home in Ocean Tankers. We have no record of rail freights as our sale price is "Free in purchasers containers". Railway facilities are inadequate.

61. Surplus waste molasses are destroyed in a Brooks Molasses Furnace or utilised for steam generation. For steam generation purposes, molasses are not very satisfactory on account of the large deposit of ash of a corrosive nature on boiler tubes, etc.

It is suggested that molasses may be utilised for the production of Power Alcohol, Acetic Acid, Ether, Chloroform, Glycerine, Acetone, Citric Acid, Butanol Carbon dioxide for dry ice and Yeast.

62. At present there is no outlet for surplus bagasse, small quantities only being taken by the cane suppliers as fuel.

Bagasse could be manufactured into paper or boards but the initial cost of the manufacturing plant will be high.

63. Sulphitation and well weathered carbonitation press mud can be utilised as a manure.

Year.	Stock at Beginning. Stock at End.	
	Mds.	Mds.
64. 1930-31	148	77,434
1931-32	70,311	104,622
1932-33	7,469	150,649
1933-34	35,746	33,270
1934-35	11	83,595
1935-36	Nil.	135,687
1936-37	5,884	133,305

65. All our sugar is stored in "Pukka" godowns and is stacked on various medium to prevent any chance of absorbing moisture from the floor.

Our total storage is 68,200 bags.

Two godowns have been erected since 1930. One more under consideration.

66. The extent to which sugar may deteriorate is chiefly dependent upon the period of storage and weather conditions. Apart from the period of storage and weather conditions factors influencing the keeping quality of sugar are numerous but it may be stated that the construction and condition of the godowns in which sugar is stored, temperature at which the sugar is bagged, packing, stacking and stacking medium employed together with sugar quality all play a part in the keeping quality of sugar.

67. All damaged sugar is usually reconditioned.

68. By producing a good crystal, free of molasses film and well screened to remove fine grain and sugar dust.

69. The damage of sugar in transit from the factory can be attributed to the type of rail wagon or flat used and weather conditions during transshipment.

70. Occasionally booking is closed for a period of six to eight days for all traffic west and north of this factory. As this is due to the Bengal and North-Western Railway Co., having heavy traffic to clear from Mokameh junction, there is very seldom any restriction of sugar booking for river traffic via Semariaghat or to Calcutta directions as empties at such time are all being concentrated on Mokameh. During these periods sugar can only be shipped to Eastern Bengal in such Assam Bengal or Eastern Bengal Railway wagons as are available very seldom amounting to more than two per day.

During the crushing season 1936-37 booking was closed as follows:—

	Days.
For Bengal Nagpur Railway via Asanson	12
For all stations west and north of Samastipur	26
For Eastern Bengal except in Asam Bengal and Eastern Bengal wagons only	26
For all stations via Monghyr ghat	39
For all directions	2

71. Water-tight wagons should be provided for sugar traffic. These wagons may be used in grain or cereals transportation but not for coal, oil or any other material which may thus spoil the floors of the wagons for sugar transport.

72. Our sugars are sold on an f.o.r. factory basis, the price being one for important markets. We have no record of secondhand prices for our product at the ports and upcountry, but give below the actual f.o.r. prices obtained during the past 7 years. We also give the freight from the factory to the ports and certain upcountry markets:

Season.	F.o.r. Prices.					
	I Sugar.		II Sugar.		Both Sugars.	
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
1930-31	8	15 5-2	8	1 0-8	8	8 7-2
1931-32	9	13 0-9	9	2 2-4	9	7 8
1932-33	9	0 9-8	8	4 0-6	8	10 8-5
1933-34	8	9 9-3	7	10 1-5	8	5 11-4
1934-35	8	2 11-7	8	0 11-1	8	2 7-6
1935-36	8	7 6-6	8	6 11-7	8	3 9-5
1936-37	6	3 5-3	6	2 7-4	6	3 2-5

Freights.

Station.	Rail Freight.		Rail and Steamer Freights.	
	Rs.	A. P.	Rs.	A. P.
Allahabad	0	9 1	...	...
Cawnpore	0	11 0	...	...
Lucknow city	0	14 5	...	...
Calcutta	0	10 1	0	8 10
Bombay	1	0 9	0	12 2
Madras	0	14 5	0	12 2
Karachi	1	2 0	0	12 2

73. We enclose copies of the Balance Sheets.

74. We give below amounts of depreciation written off by the Company from 1930-31 also the statutory amount allowed under the Income-tax Act, 1922. Depreciation is usually a round sum based, as nearly as possible on the statutory scale.

	Statutory.		Written off.	
	Rs.		Rs.	
1930-31	1,18,336		4,84,399	
1931-32	1,27,300		1,50,000	
1932-33	1,27,016		1,40,000	
1933-34	1,26,573		...	
1934-35	1,27,709		...	
1935-36	1,27,734		...	

Of the amount set aside in 1930-31 Rs. 3,84,399 was realised from Debenture Sinking Fund and was transferred to Depreciation account and extra provision was made in 1931-32 and 1932-33 as the total provision was behind the total statutory allowance.

75. No reserves have been set aside.

76. We give below amounts distributed as dividends by the Company:—

30th June—	Rate.	Amount.
	Per cent.	Rs.
1930	5	60,000
1931	5	59,950
1932	10	1,19,900
1933	12½	1,49,875
1934	...	...
1935	...	...
1936	...	...

77. The Bank allows overdrafts under agreement for cash credit, by which stocks, etc. are pledged. The rate at which the Company is able to borrow is, bank rate subject to a maximum of 9 per cent. and a minimum of 3 per cent.

78. Head Office expenses and Managing Agents' commission amount to Rs. 22,114 for 1935-36. Commission is calculated at 7½ per cent. on the net profits before providing for depreciation, Income-tax and Interest on Debentures.

79. Considering the hazardous nature of the enterprise, the risks of drought, floods, pests, the machinations of buyers, the Excise Duty, the costs of maintenance, the demands of taxation, a balance of 10 per cent. at credit of revenue, after allocations to depreciation and reserve accounts is not excessive.

80. Forms* 1, 2 and 3 referred to are attached. As regards Forms 1 and 2 the figures in respect of 1936-37 cannot be submitted as our financial year is not yet closed.

81. Owing to the complicated nature of the returns called for we are unable to submit the information in the allotted time, and we will do so as soon as the returns are completed.

82. Every possible economy has been effected in the works and efficiency brought to a high standard, comparing favourably with other sugar producing countries, that there is very little margin for further reductions in the works and we must now look to a higher sucrose content and for further reductions in cost of cane.

83. Calcutta and Local Markets.

84. We are unable to give particulars of the relations between dealers and retailers, but so far as we are concerned, we are put into touch with our dealers by our brokers. Up to this year we had several brokers working on a commission basis from 8 to 12 annas per Rs. 100. These brokers would make us offers, which, if accepted, would be confirmed by contract between ourselves and the dealers, a deposit being required as Earnest Money, which the dealers paid; interest was allowed on this deposit. During the current season, we have obtained Sole Distributors for the whole of India—Messrs. Ralli Bros., Ltd. While the system of their making us offers on behalf of dealers still continues to a lesser extent, the chief method of doing business is for us to give them option for a fixed period on quantities of each grade of sugar which we wish to dispose of, fixing the minimum price at which they can sell. In this case also, the arrangement between them and ourselves is by agreement, the actual contract, which is supple-

* Not printed.

mentary to the agreement being entered into primarily between them and their dealers.

85. The New Indian Sugar Mills Association Contract form is satisfactory except as regards Clause 8. The responsibility for the condition of sugar sold *f.o.r. factory*, should be more clearly defined as falling upon the buyer. Unless the buyer takes delivery at factory it is impossible to prove in what condition the sugar was despatched, and whether damage took place while in the hands of the carrier.

86. The figures with regard to this question can be obtained from dealers, importers and brokers. We ourselves are unable to give accurate figures, especially as most of our business in the past has been done through dealers in the Cawnpore market, and on an *f.o.r. factory* basis.

87. Variations in this case will occur when comparing wholesale forward business with ready petty sales, but for spot business there is little fluctuation between wholesale and retail prices, though the difference between these actually varies according to quantity, up to approximately 4 annas per maund. We have taken the retail prices as covering lots of 5 to 25 bags, which are not necessarily in shopkeepers' hands, there possibly being a further difference in the actual shop price to the consumer.

88. We have very little information as to the storage arrangements made by dealers, but from our experience we understand that they are disinclined to keep stocks, preferring to utilise factory storage space, even to the extent of getting 3 or 4 months in arrears in deliveries. We have already given you our experience with regard to deterioration in storage against question No. 66. We have no definite information with regard to conditions prevailing in dealers' godowns.

89. Under similar storage conditions we are of the opinion that Java sugar will deteriorate to the same extent as a good quality Indian Sugar. It is only in very recent years that the keeping quality of sugar produced in India has become a subject for serious consideration, since large stocks of sugar must now be stored, throughout the monsoon period. Since it has been recognised that there has been a vast improvement in the quality of sugar manufactured in India, the keeping quality has also undoubtedly improved.

90. With the exception of the demand for Indian made sugar by a limited number of orthodox Hindus on religious grounds, Java, or other imported sugar is preferred, particularly by the middle and upper class Indian consumers. The reason for this is, we believe, the uniformity of grain and superior, consistent colour of the imported sugar.

91. The average quality of sugar manufactured in India is inferior to imported Java sugar but there are many factories in India producing a final product equal if not superior to that of Java.

The average Indian sugar is inferior to imported Java sugar in respect of purity, colour and uniformity of crystal size.

92. In our opinion the manufacturers carry the bulk of the stocks of Indian made sugar, the only dealers carrying stocks to any large extent being those at ports where storage facilities are offered by the Carrying Companies. Upcountry dealers normally carry only sufficient stock for the immediate need of local retailers.

93. Yes, we consider this most desirable.

94. We favour a Central All-India Selling Organisation provided licensed control of production is also introduced. We consider however that it should be independent of Government control.

95. We think that the present system of standardisation is open to grave question. The value of a sugar does not depend on the size of the crystals or on its appearance in bulk in a glass container. Further it is impossible to get two observers to agree as to the standard on such a crude

system. We would favour standardisation on rational lines which would include:—

- (1) The polarisation or sugar content.
- (2) The colour determined in some formal way in an apparatus such as the Lovibond Tintometer and expressed in definite colour units.
- (3) The quantity of suspended matter.
- (4) Possibly, but not necessarily, the quantity of ash might also be included. Ash is of importance to the sweetmeat maker but he is not yet educated enough to appreciate its influence.
- (5) Uniformity of grain and absence of dust may also be included.

96. (a) We have done no business so far on the basis of sugar standards. The reason we have not yet sold on this basis is that the graduated scale of price difference has not yet been agreed upon and the Industry as a whole is not prepared to sell on the basis of the standards. It is also felt that most factories are not yet in a position to turn out a uniform product capable of being graded under the standards.

(b) Yes. These standards are being used, extensively at all our factories for internal control.

97. As opposed to standardising sugars, Messrs. Begg Sutherland & Co., Ltd.'s Group of Factories are to base their selling standard in respect of the next season as follows:—

Factory Managers are to be asked to lay aside a certain number of bags of sugar now of a standard which they expect to maintain during the next season. These bags are to be used as samples next season and the output based on these samples. Special care will be taken in storing these bags during the monsoon.

98. The possibilities of establishing a central marketing organisation, including a complete survey of markets, has been before the Indian Sugar Mills Association from time to time, but no progress has been made. We are in favour of an organisation on the lines of the Cement Marketing Board being set up, provided its control is vested in an independent body and it embraces all producers, with Government prohibition of new factories and extensions for purposes other than improvement of quality and efficiency.

The establishment of a "futures" market by dealers Associations, on the lines of the East India Cotton Association should make for stability in prices by providing security for dealers operations, and thereby improving the general trade in sugar.

99. Over a period of seven years we believe the consumption of sugar, including Khandsari, and sugar refined from gur, to be about 1,300,000 tons annually, but as a result of the lower prices now ruling this figure should be exceeded.

An increased advertising campaign by the Industry through its Association and possible collaboration with the Tea Industry would, we believe, lead to increased consumption, the necessary funds being provided on the lines of the Indian Tea Cess.

100. We believe that factory sugar is replacing gur in the trade in increasing quantities, but we have no reliable information.

101. We see no immediate prospects of the establishment of fruit canning in India.

102. This information can be given much better by Importers such as Messrs. Ralli Bros., Ltd., Calcutta, Bombay, Madras and Karachi, Messrs. A. H. Bhiwandiwalla, Bombay, Messrs. Parasram Paroomal & Company, Calcutta and Messrs. Kian Cwan Co. (India), Ltd., Sassoon House, Calcutta.

103. It may be accepted that Java, the chief importing country, has not realised remunerative prices for her sugars in any year between 1930 and 1936. In support of this view there is the knowledge that Java's production has fallen from 3,250,000 tons in 1930 to 500,000 tons in 1936.

104. None by sea so far as we know. A relatively small quantity finds its way across the Northern frontiers.

We do not consider India could profitably export sugar unless world prices advance very considerably and then only if Indian sugar received specially favourable treatment on entry into the United Kingdom. There is, of course, the very remote possibility of India being in a position to sell a portion of her production for export at a loss, provided there was compensating rise in internal prices.

105. The imposition of the first levy of Excise had some effect in not including unadvised expansion which would, however, have been better prevented by a system of licensing and zoning at the time protection was given, and in relation to a considered estimate of the demand existing for sugar in India. The latter imposition coincided with a period of abnormally low prices for sugar which persists to-day. Owing to trade conditions the manufacturer except for a very brief period has not been able to pass on any share of the excise to the consumer. We have never understood why the cane growing section of the industry has not been called on to bear some share of the excise. The industry could have accepted with comparative equanimity a levy on profits on a reasonable scale.

106. A certain quantity is absorbed in the manufacture of country tobacco. Where distilleries exist molasses form a base for the production of alcohol. Recently a molasses exporting corporation has set up an organisation for the collection and export of molasses and has made extensive purchases. No data is available with us regarding the extent of these transactions but they must be of considerable magnitude. The prices realised do little more than cover handling charges. The residue we destroy in specially designed furnaces.

107. This has partly been dealt with under the preceding question. We understand the destination of the molasses exported by the Corporation is the United States and the United Kingdom and it is used for the production of industrial alcohol. The possibility of export is handicapped by the inadequacy of transport facilities.

108. We are not altogether clear as to what is meant by "effective". If the development of an industry by an increase in production of 1,000,000 tons is effective the answer is "yes". If "effective" means the establishment of an ordered industry with security of capital combined with sound finance the answer is "no".

The effect of the import tariff, created in 1932, has been to create a barrier against imports from abroad behind which the industry has developed at an extraordinary rate of progress—a very unhealthy rate as events have turned out. This expansion has taken place without any control either by Government or the industry itself. What appeared to be an attractive outlet for capital seeking employment has resulted in the launching of numerous undertakings without any proper consideration being given to local conditions. Supplies of suitable raw materials—financial requirements and in many instances without adequate, or even any expert knowledge. The result has been that although India has been rendered self supporting as regards her sugar requirements, her revenues have suffered severely from an almost complete stoppage of imports, while the domestic industry due to the reckless establishment of factories—many of which are unsuitably situated, the need of replacing revenue hitherto realised from the import tariff by the imposition of an excise duty—an utter absence of any organisation for the marketing of its sugar finds itself to-day confronted with a situation which, to say the least of it, can only be described as extremely critical even in the case of the most efficient units of the industry.

109. The original object of protection aimed at the country producing its total sugar requirements and this object has already been attained. We therefore consider that the extent of protection should be kept at such a level as to limit import of foreign sugar.

We are of opinion that the existing level of protective duty is such that the ryot obtains an equitable return for his enterprise, and that this

will only continue provided the position is not aggravated by imports of sugar from abroad. It does not follow that world conditions will remain unaltered between now and 1946, and we therefore recommend the present level of protection being maintained, and further, that the Government should take powers to regulate it as and when necessary, to limit the entry of foreign sugar into the country.

110. (1) Improvement in Agriculture and Communications and the application of research so as to reduce the cost of cane and improve its sugar content.

(2) Means to control borer infestation and simultaneously increase the sugar content of the cane.

(3) The adoption of the zoning system which will allow factories to help the small grower to make use of the results of research.

(4) Means to ensure the manufacturer obtaining a fair share of the protection by correlation between the cost of cane and effective selling price of sugar (after deduction of Excoise) which will demand a centralised marketing organisation with power to regulate sugar prices.

111. So far as we are aware, no industry has been affected by the import duty on molasses.

APPENDIX No. 2.*

Average cost of producing one acre of cane by Ryots yielding approximately 350 maunds per acre.

Item.	Cost per acre.	
	Rs.	A. P.
1. Rent of land	6	0 0
2. Hoeing land by manual labour	3	5 3
3. Wooden Plough—14 times per acre by oxen	9	5 3
4. Levelling by wooden beam drawn by oxen—7 times per acre	0	9 0
5. Farm Yard Manure, and street sweepings at 20 carts per acre at As. 8 per cart	10	0 0
6. Trenching	5	5 3
7. Price of seed cane—45 maunds per acre at As. 5 per maund	14	1 0
8. Planting Wages	1	5 3
9. Carting Seed	0	10 6
10. Earthing up	2	0 0
Total Rs.	52	9 6

Japaha Sugar Factory, Mutaffarpur.

Letter dated the 5th July, 1937.

We regret delay in forwarding answers to the Tariff Board Questionnaire.

* N.B.—The above figures show the actual cost of labour, but it should be remembered that in the majority of cases, where there are small plots the cultivator with the aid of members of his family do much of the cultivation work, which does not represent any expenditure in actual cash to him.

This is due to the fact that our staff was busily engaged upto the middle of June on Cane Crushing operations so that certain figures were not available till after that date.

We trust the information given may be of interest to you and may add that this is one of the few privately run indigo Concerns which pioneered Cane growing and sugar manufacture in India, after Indigo was replaced by the manufacture of Aniline Dye.

Enclosure.

REPLY TO QUESTIONNAIRE.

1. 1906.

Year.	Total Mds. Sugar Manufactured.	Percentages.	
		1st Grade White Crystal.	2nd Grade. Yellow Crushed
2. 1930-31	39,870	43-11	56-89
1931-32	79,599	53-70	46-30
1932-33	117,910	49-77	50-23
1933-34	69,900	55-80	44-20
1934-35	75,906	48-34	51-66
1935-36	96,412½	51-93	48-07
1936-37	136,698	86-91	13-09

3. (a) Cane supply can be obtained adequately weather conditions being favourable.

Railway freights are heavy on all stores required for manufacture, and increase the costs very considerably.

(b) Road and other communications are very bad.

(c) Unskilled labour supply is adequate.

4. Sulphitation.

5. 1930—

McNeill & Co., Ltd., Spring regulating apparatus, 1st Milling set	£ s. d.
	252 0 0

1931—

Blairs, Ltd., Hydraulic apparatus, 2nd Milling set	355 0 0
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1932—

Three additional Watson Laidlaw 30" x 18" Centrifugals	450 0 0
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Six Steam drums for existing Multitubular Boilers (Blairs, Ltd.)	221 0 0
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Three (Fullerton Hodgart & Barclay) Medium velocity Juice Heaters as one interconnected unit, with spare tubes and two Horizontal Duplex Steam Pumps	1,126 0 0
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One secondhand Lathe for Machinshop	70 0 0
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One secondhand Radial Drill for Machinshop	62 0 0
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One secondhand Planing Machine for Machinshop	91 0 0
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One secondhand Shaping Machine for Machinshop	91 0 0
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One new 4" duty Screwing Machine for Machinshop	91 0 0
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Carried over	2,718 0 0
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	£	s.	d.
Brought forward	2,718	0	0
1932— <i>contd.</i>			
Material for Evaporator Extentions by Blairs, Ltd.	3,864	0	0
Single Ram Pump Joseph Evans	51	0	0
Boiler Feed Pump Jones Burton & Co.	110	0	0
Constant Pressure Steam Regulating appa- ratus with Pipe fittings, Blairs, Ltd.	351	0	0
Steam Driven 16" Bore Injection Water Pump, Messrs. Jones Burton & Co.	489	0	0
Tangye Birmingham Horizontal Girder Steam Engine, complete with Shaftpulley and friction clutch	208	0	0
1933—			
Machine Tool Coy., Nottingham, secondhand Roller Turning Lathe for Machinshop	149	0	0
Electric flexible shaft Scaling Machine for Evaporator Tubes	149	0	0
Horizontal Duplex Steam Pump	68	0	0
Replacement Intermediate Carrier Chain and G. O. I. Slats	107	0	0
Two "Weir" Boiler Feed Simplex Pumps	275	0	0
One Watson Laidlaw Horizontal Masecuite Pump	125	0	0
Cost of Installing one Babcock & Wilcox, Ltd., Watertube Boiler complete with all Brickwork for Boiler and one Steel self- supporting Chimney with brick flues and base	6,000	0	0
1934—			
Steel Earthquake Boiler House building to replace original destroyed by Earth- quake	770	0	0
1936—			
Extentions to Boiling House by Messrs. Blairs, Ltd., Vacuum Pan, Condenson, etc.	3,978	0	0
Extentions to Sugar Curing Dept., by Messrs. Watson Laidlaw & Co., four Centrifugals	1,215	0	0
Replacement Boiler, Messrs. Babcock & Wil- cox replacing two original Multitubular Boilers	3,710	0	0
Earthquake proof Boiling House extention building, all steel structure and stagings	975	0	0
1931-32—			
Laying down of Estate Tramway, pur- chasing secondhand material, 14 miles Track, 3 Locomotives, 54 Cane Wagons, all for 2 foot gauge purchased in India	9,600	0	0
Additional Plant fabricated in India, or purchased from other sources than stated above during the past 7 years, approxi- mately	750	0	0
Estimated total additional plant purchased to increase efficiency of Factory from 1930 to 1937	35,692	0	0

6. Two replacement Babcock & Wilcox Boilers to replace four existing Multitubular Boilers which are the original factory boiler plant and may be condemned by Inspector of Boilers as having reached age limit.

The original first 5 roller crushing unit is under powered, original gearing Cast Iron is worn out and the splitter roller arrangement obsolete, it will be necessary to re-modernise this crushing unit.

Original Boiling House plant will need to be lifted, Coil Vac. Pans increased in capacity. Existing Crystallisers used for 3rd Masecuite fitted with water cooling. Existing Centrifugals re-arranged to enable minimum sugar lost in exhausted molasses. This scheme was commenced with extensions erected during 1936.

Filter Press extensions are required to enable a standard colour sugar to be manufactured, by the Hyflo Supercel process of filtering of juice.

8. Most repairs can now be undertaken in India to Sugar Machinery, such as Roller re-shelling, heavy castings both Cast Iron & Cast Steel.

It is not advisable to buy complete sugar machinery units of Indian Make, such as Mills, Engines, Centrifugals, etc., these cannot be relied on.

10. This is an old Estate, some 1,000 acres lands purchased outright and 2,500 acres on lease.

11. (a) Area held in cultivation 3,500 acres.

(b) 1,000 acres.

(c) Coimbatore varieties, 213, 210, 299 and 331.

(d) Cane cut, fallow 5 months, cereal crop (6 months) fallow or green manure (9 months), Cane planted, manuring Niciphos $1\frac{1}{2}$ maunds per acre, two applications.

(e) 350 maunds per acre.

15. No damage from frost in these districts, disease and insect pests are bad and together cause a loss of at least 50 per cent.

19. The production of sugar cane in 1936-37 has been the highest on record in this area, but not in excess of the requirement of the Mill, no restrictions are necessary.

20. The cost of cultivating one acre of sugar cane by the average ryott is about Rs. 53 and he ought to obtain not less 300 maunds per acre.

21. Plus cart.

22. The acquisition or leasing of lands impracticable for reasons given by previous Tariff Board.

22. (b) If Government had taken up the question of allotting of certain areas to factories at the time of their building, this would have been satisfactory, but now too late, for them to take a hand. Zoning is desirable to prevent competition between factories, especially in seasons when crop is short.

24. (a) No.

(b) Licensing of new factories, as we consider, this ought to have been done when tariff was brought in.

25. (a) Gate Cane.

26. By carts and by tramway installed by factory, average weight of cane carried by cart 16 maunds.

The ordinary ryot cannot run to the expense of Rubber Tyred Carts. We have Rubber Tyred carts and against 20 maunds can load 40 maunds.

27. Condition of all roads is disgraceful.

28. Cane from close at hand 12 hours, and from a distance 36 hours, no protection given.

29. Average cost of hire of carts is pies 3 per maund, per mile over 5 miles up to which it is pies 6 per maund, some have their own carts and if not they hire.

31. Near areas supply by cart to factory, and far out areas to nearest railhead of our light railway, maximum period of detention six hours.

34. All freights too high.
35. 12½ miles of tramway, average cost per maund pies 1½, charge borne by factory.
36. Certainly advantageous.
38. Direct from growers 60 per cent., our own cultivation 22½ per cent., through agents, 17½ per cent.
51. Beyond some time in May there is no sense in prolonging the crushing season, climatic reasons alone prohibit it.
52. Early canes an advantage. The one problem that needs tackling most urgently is the problem of diseases and pests in cane from which the highest loss is derived.
79. Not less than 10 per cent.
94. An All-India selling organisation is necessary.
95. Yes.
105. The effect of the Excise Duties has been the lowering of profits to such a low margin that depreciation charges cannot be allowed for, and where additions and alterations to Machineries have to be paid from revenue payments or by borrowing. Repayment not been possible and the amount of indebtedness of the factory has increased year by year.
108. The measure of protection has not been enjoyed by the Industry in that the Government of India have taken it away in Excise Duty.
109. Protection is necessary to the extent to prevent imports of sugar. But protection is of no advantage to the Industry if you give with one hand and take away with the other.
110. Import of sugar should be prohibited from foreign sources as has been done in the case of Indian Sugar at the World Sugar Conference, without the representatives of the industry being present to be heard.

Motipur Sugar Factory, Ltd., Muzaffarpur.

ANSWERS TO TARIFF BOARD QUESTIONNAIRE.

Production of Sugar—Introductory.

1. Commenced manufacturing 1933. Full average capacity of the factory 110 tons of sugar per day.
2. Output of sugar for last 4 years as follows:—

	Maunds.
1933-34	206,820
1934-35	166,699
1935-36	259,233
1936-37	418,391

3. (A) (1) *Cane supply*.—It was not in first year but now people have been growing in our vicinity.

(2) *Limestone*.—We are importing from Sylhet for which the freight charges are very heavy. The Katai Limestone is not suitable to our machinery although the railway freight is very high.

(3) *Important Markets*.—We are marketing our sugar in sea-ports as we are very unfavourably situated in Geographical position, so we are unable to dispose of our sugar in Punjab, Central Provinces, Rajputana, etc.

(B) Facility of rail is alright but roads are very inadequate and bad. We have ourselves erected Tramline about 15 miles.

(C) Labour supply adequate.

4. Our process is double carbonitiation and double sulphitation, latest modern D'han system. Double carbonitiation and double sulphitation factories

give better clarification results and therefore a better sugar. It is doubtful, however, whether the costs of the installations are commensurate with the advantage gained over sulphitation factories. We think not.

5. No radical change has been made in the layout of the factory but up to end of September, 1936, extensions of plant and replacement of unsuitable or unsatisfactory plant have cost us more than Rs. 2,00,000 since the factory started operations.

6. Considering present condition of the Industry, we are not inclined to spend any more capital money otherwise there is scope for a lot of extension and improvement.

7. (a) The main factors which determine the size of an economic plant are the amount of cane definitely available within an inexpensive distance for the factory, the factory's selling organisation and its position in relation to sugar markets.

(b) The smallest unit which could be operated economically would depend on cane conditions. If a factory could cart all its cane direct from the field to the cane carrier then in my opinion the smallest economic plant would be from 300 to 350 tons of cane per day given a design of factory having no embellishments, no Managing Agents, and experienced and enlightened owner-managements. The economic ideal would be reached if the owner of such a factory grew and milled his own cane.

8. The mild steel work and some minor units of machinery and plant can be obtained in satisfactory quality in India.

9. (1) Yes, indeed, the Imperial Institute of Sugar Technology is giving technical assistance but they seem to be overloaded with the work and our suggestion is that this department should take control of the factory and relieve the directors and owners from all sorts of technical troubles.

(2) No experience of the Industries Department. No suggestion to make.

Raw Material.

1. Sugarcane cultivation is not undertaken by my company but our sister company under the same directorship is under agreement with us to supply cane. The total area of the land owned by our sister company is 6,000 acres and the average under cane each year is 12 to 15 hundred.

11. (a) Total area about 6,000 acres.

(b) 1,200 to 1,500 acres.

(c) Co. 210, 213, 214, 281, 285, 299, 301, 312, 313, 331, P.O.J. 2878 and 2883.

(d) Our system of cultivation is that we prepare our lands for cane both by Tractor and Mole Board ploughs and we follow 3 years' rotation keeping our land green fallow for a year and manure our crop with 40-50 Nitrogen and Phosphoric Acid, at the top of green fallow.

Variety.	Average yield per acre.		Sucrose. Per cent.
		Mds.	
(e) Co. 210		430	11.12
Co. 213		450	11.17
Co. 214		200	12.18
Co. 281		300	12.28
Co. 285		420	10.51
Co. 299		340	11.15
Co. 301		501	11.29
Co. 312		291	10.95
Co. 313		376	11.89
Co. 331		571	10.42
P.O.J. 2878		421	14.23
P.O.J. 2883		353	14.31

12. (a) The area set aside for experiment in cane is 30 acres.
 (b) No area is set aside for production of seed for sale or free distribution to cultivators, but we use cane for seed purposes after selection and the same we distribute to the cultivators as much as they require.

13. We have tried the following varieties of cane, but no special experiment is made as regards manuring:—

Early Co. 299.

Late Co. 331.

In this respect the Agricultural Department of our province has assisted us satisfactorily.

14. (a) The quantity of cane available has considerably increased since 1933.

(b) The quality of cane, however, shows no appreciable difference.

15. The cane is liable to damage from frost, disease and insect pest to a certain extent, the percentage of loss through the above causes varies according to the extent of attack and is generally found to be 20 per cent. to 30 per cent.

16. The factory, for the coming season is not assured that there is a sufficient supply of cane. The principal varieties of cane are Co. 210 and 213. The average Sucrose content for the last three seasons of the mixed cane is 11.24 per cent. The average yield of ryoti cane per acre may be put down as 225 maunds and cane grown by our sister company and other large growers 350 to 450 maunds.

17. Since the introduction of the Government minimum cane rate the effect of competition except in isolated cases has not been to raise the price of cane. The effect of competition has, however, a marked effect on factory supplies as in a competition area the factory which can place the largest daily challans at the disposal of the growers gets most of the cane.

18. (a) Yes, as the area under cane has increased year by year since 1933. The cultivation, however, has decreased for 1937-38 on account of low prices of cane sugar.

(b) Increased demand from factories operating in the area.

19. The production in what we consider our economic area would not have been in excess of our requirements this year had we not been tied under contract to take a large quantity of Railway cane from outside areas. The only means of restriction we consider possible and necessary is the establishment of a system of zoning whereby our economic area would more or less under our direction in the matter of the amount of cane which should be grown. Restriction of growing in areas distant from a mill would follow in the ordinary course of business.

20. The cost of cultivation of an average cultivator per acre is generally as follows:—

	Rs. A.
Preparation of land	5 0
Cost of seed	12 2
Cost of Farm yard manure	10 0
Planting	1 0
Inter-culturing and ridging	0 8
Rent	5 0
Harvesting	1 0
Total	34 16

Average outturn per acre is about 225 maunds.

21. The main difficulties of cane-growers in cultivation of cane are as follows:—

(a) Owing to ordinary ploughs and weak bullocks they cannot have deep ploughing needed for cane plantation.

(b) They cannot afford the expenses for necessary manuring needed for cane.

(c) There being no irrigation facilities they have to depend on natural rain.

Difficulty in delivery is that some cultivators are very far away either from factory or railway stations. For that the tram line is essential but at present the charges of these tramlines cannot be deducted from cane price paid and therefore the development is restricted.

If the Government could take any measure and adopt ways to remove the reasons noted above, it will produce good results.

22. (a) We agree.

(b) We are certainly in favour of allotting different areas to various sugar factories for supply of sugarcane but only by an adjustment of railway freight rate for a factory to take cane from an outside area. Then only the zoning of areas would follow in the ordinary course of business. We enclose copy of a note which we put up to Tirhoot Advisory Committee.

23. If a zoning system was introduced the factory concerned could with confidence give assistance to cultivators either in cash or in kind as the factory would be quite certain of effecting recovery of advances in full and that the money has not been advanced for the benefit of outside factories.

24. (a) No.

(b) (i) Yes, if only in order to protect the investing public.

(ii) Yes.

	1936-37. Maunds.	Per cent. of crop.
25. (a) Gate cane	1,951,621	43
(b) Rail cane	1,275,916	29
(c) Tram borne cane	1,249,370	28
Total	4,476,907	100

The proportion has varied during the last 4 years pending full developments of our tramline system and our local carted cane supplies.

26. Gate cane is transported by cart only and lorries are not used. The average weight of cane carried by an ordinary bullock cart is 18 maunds. Rubber tyred carts double that amount.

27. The mileage of roads is adequate but the condition of the main and feeder cart roads is definitely bad.

28. Cane is carted by road for distances up to 20 miles but the average may be taken at 8 miles. The time taken between cutting and delivery at the factory averages about 36 hours. No steps are taken to protect cane from deterioration during transport.

29. For many years the cost of transport by bullock carts in Muzaffarpur, Champaran and Darbhanga districts has been accepted as 1 pie per maund per mile. Most of the suppliers employ their own carts but others have to hire them approximately at the aforesaid rate. This rate of course increases with an increased demand for carts in any area.

30. No.

31. This factory gives allotments of fixed amount per day for one week to its various suppliers the suppliers being licensed purchasing agents as the factory does not deal direct with the ryots. The normal period of detention at Motipur factory need never exceed from 3 to 6 hours. When giving allotments to our suppliers we stipulate the time for delivery at the factory, usually half of the allotment arrives at 6 A.M. in the morning instead of half allotment as ordered then of course there is congestion and some of the carts would probably be detained for about 10 hours but this entirely due to

their own fault or the faults of the control by licensed purchasers. I suggest that a condition of the license given to the licensed purchaser should be that he accepts full responsibility for the control of the time of the arrival of the carts at the factory and the parking of them in accordance with instructions from the factory management.

32. Cane is transported by rail to Motipur factory from distances varying up to a maximum of 29 miles and the average time taken between the cutting of cane and delivery at the factory is approximately 2 days. The arrangements for railway cane transport are satisfactory.

33. Railway freights for cane are based on the carrying capacity of the wagon and flat rate is charged per wagon up to a maximum distance of 28 miles. There has been no material change in this flat rate for at least the last 10 years and we would certainly prefer a maundage rate per mile.

34. The railway freight on limestone is high as the freight rate per maund in certain cases is equal to a sum which is 6 or 7 times the first cost of the limestone itself. Manure freight must be reduced.

35. About 15 miles tramline serve the factory. The average rate per maund last cane season was approximately 4 pice and the charges were borne by the factory. In previous two years the quantities being small our cost came to 7 to 8 pices.

36. I consider that a tramway system is generally advantageous to a sugar factory and to sugarcane growers. The only difficulty in laying out a tramline is the trouble and delay experienced in securing the necessary land.

37. There is no reliable record of the deterioration of cane by road and rail but of course the deterioration varies with the weather, the highest deterioration being during highest temperature and very little deterioration during the cool months of the season. On an average at least $\frac{1}{4}$ per cent. in recovery is lost.

38. Last cane season about $\frac{1}{4}$ th of our total cane was purchased direct from a grower.

39. As we do not deal with cultivators direct we only make cash advances to our licensed purchasers in accordance with such agreements as they may have entered into with us. We pay the licensed agents a commission which varies from 4 to 6 pices per maund.

40. The cane purchased direct from the growers was purchased from our Zamindari Co. and a few other estates for which we guarantee a minimum rate irrespective of what the Government rate may be.

41. No. In our vicinity no association is yet established.

42. The cane is weighed on cart weighbridges at various weighment centres and the licensed purchaser is paid for the total supplies once a week and under his agreement he must make prompt payments to the ryots as soon as he receives the money from us.

43. The average prices at which we have purchased cane during the 4 years is As. 5-6, 5-1 $\frac{1}{4}$ and 4-3, respectively. Prices vary in accordance with Government minimum rate.

44. The Government minimum price is based on the selling price of sugar.

45. Not to any appreciable extent at all in this district.

46. Gur area is not a Gur or Jaggery making area.

47. In isolated cases we have paid more than Government minimum rate due to competition for cane but nothing of this sort happened last cane season.

48. We do not consider the basis on which minimum prices are fixed to be altogether satisfactory. But it is extremely difficult to suggest until first the zoning system is established.

49. We do not consider it feasible to introduce a system of bonus payments over and above minimum rate. Cane supplies organisations have not

yet developed to that extent which is necessary in order to handle satisfactorily such a proposal.

50. The durations of the crushing seasons for the last 4 years are given below:—

1933-34	23rd November, 1933 to 21st May, 1934.
1934-35	29th November, 1934 to 28th March, 1935.
1935-36	22nd November, 1935 to 10th April, 1936.
1936-37	20th November, 1936 to 22nd May, 1937.

51. No late variety of cane should be encouraged especially if it is a heavy yielder or unless the late varieties were placed in the hands of large growers who could control its cutting and supply.

52. There is no complaint nor have we any suggestions to offer.

Labour.

53. All labour in a sugar factory is either skilled or semi-skilled unless unskilled coolies whose only work is to fetch and carry. Our figures for the crushing season are approximately 80 skilled and 670 semi-skilled and 450 unskilled. Off season figures are approximately skilled 40 and unskilled 90.

54. We have imported 3 units of skilled labour from Java in the shape of 3 Chinese pan boiler but no other skilled labour other than Indian is employed, in this factory.

55. Since factory started we have been able to do away with 3 or 4 skilled people from Java.

56. Most of our labour is recruited from surrounding villages and we supply pucca quarters for our labour whose homes are not in Motipur.

Power.

57. Normally we are now able to meet all requirements of fuel from bagasse. We will, however, have to use coal and wood at the beginning of cane seasons. The amounts spent on fuel during the last 4 years are as under:—

	Rs.
1933-34	No specific record.
1934-35	24,559.
1935-36	11,210.
1936-37	5,811. We bale surplus bagasse.

By-products.

58. Molasses.

59. Outturn and prices of molasses.

Years.	Outturn.	Average Price.
		As. P.
1933-34	83,604	2 6
1934-35	59,863	2 0
1935-36	99,301	2 4
1936-37	130,776	1 11 for one lakh maunds balance unsold (since sold at As. 1-8).

60. The Bengal and North-Western Railway having no tank wagons and the freight rates being very high there is no market for molasses and generally the Indian Molasses Co. is the only buyer at a disagreeable price.

61. If we cannot sell we have to throw it away in a especially arranged pond or lake. There is no other way of using the same at present. However,

if the Government permit spirit or alcohol can be manufactured establishing distilleries. Further the same can be used as manure and cattle food but it requires further experiment.

62. There is no outlet at present for bagasse. It is used as fuel.

63. No.

Storage and transportation of sugar.

Years.	Opening stock. Mds.	Closing stock. Mds.
64. 1933-34 . . . . .	...	1,383
1934-35	1,383	14,738
1935-36	14,738	1,372
1936-37	1,372	291,319 on 29th May.

65. For storage the factory has three godowns having the following capacity:—

	Length.	Width.	Sq. Ft.	Approximate Capacity. Bags.
Godown No. 1—125'-4" × 80'			10,026'-8"	16,000
" " 2—125'-4" × 80'			10,026'-8"	16,000
" " 3—207'-8" × 80'			16,613'-4"	26,000
			<u>Total</u>	<u>58,000</u>
			36,665'-20"	

Of these three, two were ready by the second season that is 1934-35 and third one which can contain 26 thousand sugar bags was ready by 1935-36. All these three are pucca godown having peached floor. Over and above this, our sugar bagging godown can contain 17,000 bags but it is available during off season only.

66, 67 & 68. Sugar has suffered damage in the past in our godown during the monsoon due to leaky roof and dampness in the godown itself. Sugar damaged in this way has been reconditioned. It is better than small grain sugar which has not been well dried and cured. The most important point, however, to consider in the matter of sugar storage is that of a suitable godown and suitable storage methods. In the first place the roof should be of strong construction and water tight and the floor of the godown should also be damp proof. In our opinion there should be no air space at all allowed between the floor of the godown and the sugar bags. The heaviest air in the godown laden with moisture, collects at the lowest point and the moisture is absorbed by the sugar bags. Further it is our opinion that sugar godowns should be ventilated but this is a point on which opinions differ.

69. Some quantity is damaged in transit during monsoon owing to defective wagons and defective handling by railway in transshipment specially in rainy season.

70. Yes, we experience great difficulties in obtaining wagon during the season.

71. In our experience the greatest drawback in rail transport of sugar is the shortage of railway wagons.

72. Our sugar has the same prices at different centres as generally sugar is sold by us on f.o.r. basis and if it is sold at centre delivery, only freight is added to them. The different ruling prices during past years and the freight rates are as follows:—

Years.	Selling Rates.	
	Lowest. Rs. A.	Highest. Rs. A.
1933-34	8 0	to 9 4
1934-35	8 0	" 9 3
1935-36	8 8	" 9 4
1936-37	6 8	" 8 0

Railway freight rates at different ports.

Centre.	1933-34.	REMARKS.
Calcutta	As. 11-5	From 10th August, 1936, As. 9-11, and from 1st March, 1937, As. 10-10.
Karachi	Rs. 1-6-4	From 10th January, 1935, Rs. 1-1-9.
Rayapuram (Madras)	Rs. 1-2-11	From 1st February, 1935, As. 15-11.
Coconada	Rs. 1-4-11	From 1st February, 1935, As. 15-11.
Bombay	Rs. 1-4-5	From 15th January, 1935, Rs. 1-1.
Ernaculam . . . .	...	Rs. 1-1-10
Tuticorin . . . .	...	Rs. 1-2-1
Calicut . . . .	...	Rs. 1-1-9
Tellichery . . . .	...	Rs. 1-2-1
Cannanore . . . .	...	Rs. 1-2-3
Mangalore . . . .	...	Rs. 1-2-11

} From 15th August, 1936.

Steamer Freight from Paleza Ghat.

To	Flat load 6,750 Mds.	Less than flat load.	REMARKS.
	As. P.	As. P.	
Karachi	9 8	10 4	
Rangoon	9 2	9 4	from 26th March, 1937, from 1st March, 1937, As. 10-9 and no flat load.
Madras	9 8*	10 4	
Bombay	9 8*	10 4	
Coconada	9 8*	10 4	
Kantapokar <i>via</i> T. T. shed	†	6 0	} For Calcutta As. 6-6 from 1st March, 1937.
Kantapokar	†	7 0	
Jagannath Ghat	†	6 6	
All coastal ports from Madras to Karachi both inclusive	9 8	10 4	up to 20th September, 1936.
Tuticorin, Cochin, Calicut, Tellichery, Cannanore and Mangalore	†	10 4	from 1st October, 1936.

To these steamer freights As. 3-1 railway freight from Motipur to Paleza Ghat should be added in order to arrive at complete rate from Motipur to ports.

Capital Account and Overhead Charges.

73. Balance sheet enclosed.
74. Please refer to enclosure marked "C".
75. No reserve fund.
76. No dividend.
77. Working capital is borrowed from banks and private sources, and interest on the same varies from 3½ to 6 per cent.

* No special rate for flat load from 1st October, 1936, As. 9-8 per maund now is current rate for these four ports.

† No special rate for flat load.

78. Head office expenses as per statement marked "D". No Managing Agents. Two per cent. commission on sugar sales allowed to Managing Directors since last year.

79. We consider 10 per cent. a fair return.

Efficiency of Production.

80. Forms* will be filled up as required.

81. Our works costs have been reduced since 1933 by extending the plant and altering and operating the plant and machinery to make it more efficient. This has had the effect of increasing the capacity of the factory which has reduced the factory overhead expenditure per maund of sugar by a considerable amount. In other words, we have effected no reduction of overhead expenditure but by doubling the output of the factory we have actually halved the factory overhead charges on each maund of sugar made.

82. There is still further scope for increasing the factory capacity and thereby affecting further economies in unit cost.

Marketing.

83. The principal sugar marketing centres are:—

- | | |
|---------------|--------------------|
| (1) Calcutta, | (5) Bombay, |
| (2) Karachi, | (6) Coconada, and |
| (3) Rangoon, | (7) Malabar ports. |
| (4) Madras, | |

84. (A) & (B) Generally very little business is now left between manufacturers and dealers. The manufacturers are appointing their agents and sub-agents in different ports and towns who are selling direct to the retailers therefore there is no such thing as a regular sugar market left practically in any city at all.

85. The contract form is not suitable because there is no standard quality. There are many suggestions but until numerous factories cannot standardise qualities and the agency system mentioned in item 85 is not discarded by them the contract form will not be successful.

86. There is a very little or no difference between wholesale and retail prices, any whether 5,000 bags. Two years figures we are supplying herewith but other figures can be supplied by the Director, Imperial Institute of Sugar Technology.

87. There is actually no sugar market and therefore fluctuations are insignificant and since last three years the market is slowly going down.

88. In every city the storage arrangement is made by the dealers in private godowns and generally in July to September the inferior quality of sugar becomes stained by its own contents.

89. The inferior Indian sugar deteriorates more than Java sugar. Of course there is improvement and the several mills have started to manufacture Java quality.

90. The best imported sugar is preferred by some section of the population in the country but at present on account of high price of imported sugar all consumption is fulfilled by the Indian sugar.

91. Quality has considerably improved. So far about 15 per cent. of the Indian sugar is equal to Java standard.

92. Mostly sugar stock is carried by the manufacturers. The dealers cannot carry it because no facility is given by manufacturers.

93. No.

* Not printed.

94. Cannot be successful until the production is controlled and without license no new factory is allowed and zoning system is established and all this is done by legislation.

95. I am in favour of standardisation of sugar but that will take a long time. Meanwhile efforts may be continued to make the contract on standard quality.

96. No contract has been made on standard quality.

97. This can be done only by the legislation.

98. Unless manufacturers stop present system of appointing agents and sub-agents and their selling direct to retailers in different parts of India, there is no chance for any successful terminal market.

99. In 1935-36 the consumption was 1,200,000 tons. This year (1936-37) expected 1,350,000 tons. The consumption can be increased to 2 millions tons easily within 5 years if excise duty is reduced to Re. 1 per cwt. and side cane quality can be improved.

100. On account of cheapness of sugar this year people are replacing gur by sugar and if on this subject proper attention is given, then within a decade the gur consumption might greatly disappear.

101. This can be done by separate persons and I know one factory has already started in Sind who are manufacturing biscuits and drops and some indigenous industries are going on to manufacture Jam, etc.

102. This information can be accurately supplied by the Director, Imperial Institute of Sugar Technology.

103. Yes, on account of large production in the world and heavy stocks, etc., but more accurate reply you will obtain from the sugar technologist.

104. Indian sugar is not exported but foreign sugar is re-exported by land and sea.

105. (i) The sugar prices have fallen down and whole burden has been sustained by the manufacturers.

(ii) The burden has fallen on cultivators.

106. No arrangements.

107. Only Indian Molasses Co. export. I have seen some figures of export in Government publications.

Claim for Protection.

108. The protection has been enjoyed by the Industry properly up to 1934-35 season but (1) since the production in year by year becoming abnormally high and (2) defective system of the marketing sugar by factories and inexperience of marketing sugar and (3) on account of dislocation of previous marketing centres, the protection could not be enjoyed, not only that but industry itself has become in such a state that it might be retarded in future.

109. The Board is enquiring in all the aspects of the Industry, viz., cane price, average sucrose in cane, manufacturing cost, etc., and after getting all these figures, you are only in better position to fix up high or low protection but if the manufacturing side's association differ only that Association can give their definite opinion. In my opinion looking to the history of the protection and import duties for revenue purposes the Industry has got the protection only to the extent of import duty since 1931 and without considering the future of the industry the Government enhanced 25 per cent. more import duty in September, 1931, and on account of this more sugar factories were erected all over the country and its disastrous effect we feel to-day.

I am sure that Government of India, would not allow imported sugar without any revenue duty when the Governments all over the world either enforce excise or import duty not less than 10s. or 12s. per cwt. If you see the history of sugar revenue duty of the Government of India you will

find that Rs. 4-8 per cwt. remained from 1924-30 and then Rs. 6 in March, 1930, and Rs. 7-4 in March, 1931, and Rs. 9-1 in September, 1931.

110. Further assistance for the development of the industry which is urgently necessary might be legislation for the zoning of cane areas if a flat rate per maund per mile for sugarcane cannot be introduced. The average freight cost per maund of sugarcane paid to the Railway Company is 6 pies and this means an extra cost on sugar made of annas 6 which the industry can ill afford to carry. Zoning of cane areas would eventually do away with Railway transport of cane altogether.

111. The effect of import duty on molasses has been that it has stopped its import. It has not adversely affected.

Enclosure A [Question No. 22 (b)].

The Committee might be asked to give an opinion as to whether or not it is desirable that Government should encourage zoning of cane areas. This in view of the probability of overproduction of sugar (and sugarcane).

As things are at present the development of cane-growing (by an irresponsible population) is going on entirely un-controlled and there is a very real danger of overproduction.

Factories and landlords (who are alone in a position to protect the present grower against overproduction) are in existing circumstances unable to exercise any control at all. There has been an extraordinary increase this season in certain cases in the amount of gate cane milled by the factories concerned and if this increases are repeated cane from certain areas (now railed to factories) may be left on the growers hands.

The minimum cane rate protects the grower against exploitation by a sugar factory.

In view of the probability of cane growing being developed beyond the factories' capacity steps should, in my opinion, be taken to protect the peasant grower against something much worse than an inadequate price for this cane.

The Railway Company by carrying cane at a flat rate of approximately half anna per maund irrespective of distance, up to a certain limit, has done much to develop the cultivation of cane up to its present position. Sugar factories have developed gate cane supply because half anna per maund on the cost of cane means annas 6 per maund on the cost of sugar produced, which extra cost as things are to-day might represent the difference between a profit and loss to a factory.

In my opinion of the Railway Company's flat rate (which has been in existence for at least 10 years), has now served its purpose and it should be revised to meet the changed conditions now obtaining. This may not appeal to factories which have not developed their local supplies nor will it appeal to rail cane suppliers who do not recognise the danger of over-production in their areas and their inability to control, it as factories' local supplies go on increasing.

It is obviously desirable that machinery should be set in motion with the object of effecting adjustments in a cane supplies position which has been developed by a policy which has now outlived its usefulness.

Enclosure C (Question No. 74).

Statement of depreciation written off and allowed by Income-tax Officer and difference.

Particulars.	Percentage.	1933-34.			1934-35.			1935-36 Claimed.
		Claimed.	Allowed by I. T.	Difference.	Claimed.	Allowed by I. T.	Difference.	
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Machinery . . .	6½	1,22,044 5 7	1,15,414 0 0	6,630 5 7	1,17,280 4 0	1,18,277 0 0	996 12 0	1,32,535 12 5
Building . . .	2½	9,996 6 9	9,996 0 0	0 6 9	9,820 14 9	10,070 0 0	249 1 3	1,03,220 11 9
Tramway Line . .	10	12,574 5 9	6,287 1 0	6,287 4 9	12,554 3 3	6,905 10 0	5,648 9 3	15,069 1 7
Mill Siding . . .	10	4,042 3 2	2,021 1 0	2,021 2 2	3,373 1 6	1,888 9 3	1,484 8 3	4,181 8 8
Water service . .	10	3,407 15 0	1,703 14 0	1,704 1 0	3,067 2 0	1,703 13 0	1,363 5 0	3,748 12 0
Electric Lighting and Plants.	7½	4,506 3 7	4,506 0 0	0 3 7	4,180 7 0	4,518 0 0	337 9 0	4,856 7 4
Tools and Plants . .	20	22,240 14 0	4,586 1 0	17,654 13 0	16,556 9 6	5,001 2 0	11,555 7 6	22,557 2 7
Laboratory Apparatus	10	1,575 2 10	787 7 0	787 11 10	1,417 9 6	787 8 9	630 0 9	1,732 12 2
Furniture . . .	10	811 4 8	405 8 0	405 12 8	1,185 10 3	633 5 0	552 5 3	1,362 7 5
Motor Car . . .	15	..	..	..	524 10 4	524 0 0	0 10 4	524 10 4
Total . . .	..	1,81,198 13 4	1,45,707 0 0	35,491 13 4	1,69,960 8 1	1,50,309 0 0	1,583 6 3 21,234 14 4 shortage.*	1,96,889 6 4 Excess.

*Net difference . . . Rs. 19,651-8-1

CC

Enclosure D (Question No. 78).

Head Office Expense.

	1934-35.			1935-36.		
	Rs.	A.	P.	Rs.	A.	P.
Excise Duty	1,49,645	13	3	2,52,819	1	11
Selling expenses	11,662	5	3	70,458	4	9
Directors' Remuneration	19,200	0	0	28,800	0	0
Interest	21,534	5	4	26,452	0	0
Miscellaneous charges	26,437	15	9	18,127	2	6
Establishment	10,994	8	9	20,760	15	0
Total	2,39,475	0	4	4,23,417	8	2

No separate Head Office during 1933-34 season.

Enclosure E (Question No. 86).

	Per cwt.					
	Rs. A. P.			Rs. A. P.		
1935-36—						
Java Whites	12	15	0	to	14	7 6
British Refined	13	0	9	"	14	8 0
Motipur AA & AA1	13	8	6	"	14	1 0 to
Lohat, Sakri	12	14	0	"	14	1 0
Marhowrah Champaran	13	2	0	"	14	5 0
1936-37—						
Java Whites	13	4	0	"	12	15 6
British Refined	13	5	6	"	13	4 9
British Refined (March, 1937)	13	7	9	"	13	12 0
Motipur AA1	12	12	0	"	10	8 0
Babhnan	13	2	0	"	11	14 0
Balrampur	13	1	0	"	11	14 0
Champaran	12	15	0	"	11	15 0
Lohat	12	6	6	"	11	1 0
Hathwa	12	14	0	"	10	10 0
Hargaon	12	0	0	"	11	1 0

The above quotations are for Karachi Market. For other Markets, you will hear from other people.

Champaran Sugar Co., Ltd., Barrah Factory, Champaran.

REPLIES TO TARIFF BOARD GENERAL QUESTIONNAIRE, 1937.

Production of Sugar.

1. The factory first began to manufacture sugar in the year 1907. The milling plant now consists of 17 rollers 56" x 23" preceded by a set of cane cutting knives and the capacity is 900/1,000 tons per day.

Season.	Total maunds Sugar.	No. 1 Sugar. No. 2 Sugar. No. 3 Sugar.		
		Mds.	Mds.	Mds.
2. 1930-31	209,585	124,122	85,041	422
1931-32	245,898	139,953	105,743	202
1932-33	280,452	188,500	91,922	30
1933-34	130,736	95,358	35,378	...
1934-35	206,892	205,621	1,159	112
1935-36	264,419	262,785	1,548	86.

3. (a) The factory is advantageously situated as regards cane supplies, but not of the best quality cane as compared with the Bombay Presidency and the Deccan, but with regard to Limestone the freight is very high amounting to approximately seven times the value of the stone. The same applies to coal and other stores but to a lesser degree.

(b) Rail, road and other communications are satisfactory.

(c) Labour is adequate.

4. *Double Carbonitisation*.—Advantages and disadvantages of the respective processes are as follows:—

Sulphitation.—Lower capital cost, lower operative cost, more careful control required (less "foolproof") lower grade of sugar produced which is more susceptible to damage in unfavourable climatic conditions, lower yield varying from 2 per cent. with high purity juices to 4 per cent. with low purity juices.

Carbonitisation.—Higher capital cost, higher operative cost, easier control (more "foolproof") superior sugar made, less liable to deterioration in the monsoon. Higher yield, from 2 to 4 per cent. dependent on purity of juices.

The additional capital cost for a factory milling 25,000 maunds per day is about £3,500 e.r.w. The critical factor in deciding the process is cost of limestone as laid down at factory; operative costs are essentially those of stone and coke as against lime and sulphur.

Labour difference is unsubstantial.

5. After season 1922-23 it was evident that the cultivation of cane was beginning to extend and schemes to extend the capacity of the factory were considered. Opinion was divided between building at the original site or at a site in the northern area. Eventually both these proposals were abandoned in favour of increasing the capacity of the original plant and this was done in the silent season of 1925, at a cost of Rs. 3,31,440.

Cane supplies steadily increased until in season 1931-32, 2,748,355 maunds were milled.

Before this time, however, it was evident that the cane available was fast out-growing the capacity of the factory and that with the stimulus afforded by the decision of Government to protect the sugar industry, much larger supplies would be available.

In January of 1934 the great Bihar Earthquake ruined the factory at Barrah and this was rebuilt and re-modelled at a cost of Rs. 3,39,250.

Over and above this cost small yearly extensions from 1926-36 have amounted to Rs. 1,36,964 at this factory.

6. With conditions as they are at present, we do not contemplate extensions, but should there be an improvement, we may consider installing further equipment.

7. (a) The main factors which determine the size of the factory are the amounts of cane available for milling and the transport facilities.

(b) The capacity of the factory should not be less than 400 tons per day.

8. The most of the equipment of sugar factories can now be obtained in India, but non-ferrous metals and tubes, heavy shafts for rollers, etc., boilers and special pumps and engines have to be imported.

9. (1) Our Managing Agents have well qualified Technical staff and have had no need to call on the Imperial Institute of Sugar Technology for assistance.

(2) The cane rate is not received early enough at the factory. The rate should reach the factory 2 days ahead of enforcement date.

Raw Material.

10. Yes, we undertake the cultivation of sugarcane on our own lands. The *mikhat* land in the possession of the Champaran Sugar Co., Ltd., was

originally acquired from 50 to 100 years ago and some of the leasehold property is equally as old.

11. The information as asked for is given below:—

- (a) The total area held is 1,270 acres.
- (b) The average area under cane each year is 400 acres.
- (c) The varieties of cane grown are Co. 210, 213, 299, 331, 281 and 313.
- (d) The system of cultivation is, cane, fallow, cane on irrigable lands and cane, fallow, grain crop, fallow, cane on unirrigable lands. Of the land under cane 150 acres are manured each year with farmyard manure and the balance with an application of chemical manure amounting to about 60 to 75 lbs. Phosphoric Acid and Nitrogen.
- (e) The yield per acre and sugar content are as below:—

Variety.	Mds. per acre.	Estimated Factory yield.
		Per cent.
Co. 281 . . .	463	8.37 (in November).
Co. 299 . . .	432	10.60 (in November).
Co. 213 . . .	606	9.61 (in February).
Co. 210 . . .	512	9.61 (in February).
Co. 331 . . .	683	10.34 (in April).

12. Area set aside for experiments:—

- (a) 10 acres are under manurial experiments with particular regard to sucrose content.
- (b) Seed under no circumstances can be considered disease free as there are no natural or artificial barriers to separate seed plots from contamination. To grow a heavy sample of cane for seed purposes is not economical as a light and therefore less expensive sample produces an equally good crop.

13. Experiments have been carried out with early and late ripening varieties. A large scale mill test carried out on an early ripening variety gave very satisfactory results. As there was not very much of this cane available and a fair quantity was needed for seed regular mill tests were not carried out. Large scale mill tests were carried out at regular intervals on Co. 331 cane which is a late ripening variety. We give below the results obtained on different dates:—

Date.	Factory yield.
	Per cent.
27th December, 1936	6.6
24th January, 1937	7.9
7th February, 1937	8.05
21st February, 1937	8.15
7th March, 1937	9.27
21st March, 1937	9.43
4th April, 1937	9.90
26th April, 1937	10.00
16th May, 1937	9.40
23rd May, 1937	9.14

This is a heavy tonnage cane and would be very popular with the grower but as will be readily seen from the above results it would be too dangerous a cane to let out to the cultivators, as it would be impossible to control

and if it was delivered to a factory in the earlier stages it would spell ruin.

The Agricultural Department inspect private enterprises and give every assistance when called upon.

14. (a) There has been a steady increase in the quantity of cane available since 1930 except for the year following the Earthquake.

(b) The quality of the cane has been subject to seasonal variation *vide* reply to Question No. 80, Form III.

15. We very seldom have damage from frost but from disease and insect pests the damage is very considerable. During the month of February this season a detailed survey was carried out to determine to what extent the cane was infested with disease and this worked out to 34.6 on the average causing a sugar loss of 4,740 maunds for the month or Rs. 28,440 monthly.

16. Yes, this factory is assured of a sufficient supply of cane subject of course to competition. The principal varieties crushed are Co. 210 and Co. 213. These two varieties have become so mixed in the ryoti fields that it is not possible to separate them with accuracy. They give much about the same sucrose return and yield per acre. Zeerat fields have been shown under Question 11 (e). Over a period of years ryoti yields show about 200 maunds per acre. (Owing to the lack of zoning, in recent years it has become impossible to rely on the crop figures produced, as a ryot even if the whole of his cane be bonded to one mill invariably supplies to several mills). The sucrose content of ryoti cane is usually higher than the zeerat cane; the stunted crop has been proved to be richer in sucrose than the full grown healthy sample. For sugar content of cane refer to reply to question 80, Form III.

17. Very little, as competition prices are usually resorted to at the end of the season when the ryot's first consideration is to clear his fields. It is difficult to say to what extent, but it may be realised from the fact that the closing date of all factories, irrespective of their capacities or what arrangements they have made during the off season for the supply of cane, all close down practically on the same date. We do not consider that the competitive rates which factories pay at the end of the Cane Season have any influence on the areas sown. It is only in the last three weeks of the Cane Season that this commences, so that comparatively speaking the extra rates have very little influence on the ryots due to the small number which receive them, these rates only rule for say 3 weeks out of a Cane Season of 5 months. Moreover when they are paid all cane sowings are completed.

18. (a) A steady increase with the exception of 1934-35 when there was a decrease.

(b) The drop in supply during 1934-35 was due to the 1933-34 earthquake as at the time of planting for that year ryots were apprehensive of the factory again crushing.

(1), (2), (3) & (4) The factors mentioned have little effect in cane areas delivering to this factory. The most discouraging factor we know is an unusually long season.

19. Requirements is an elastic term. Regulation rather than restriction is indicated. We have been able, by extending the duration of the season and by additions to plant to take off practically all the cane which was offering in the areas serving our factory. We consider that control of the area under cane in Northern India is desirable, but coupled with a reduced production of sugar by white sugar factories, so that the quantity of cane available for manufacture conforms to a reduced output from the factories, so as to bring consumption and production into line.

While expressing this opinion we realise the great difficulty in co-ordinating the area to be put under cane with factory production owing to the millions of independent growers involved and the variations in yield per acre as influenced by seasonal conditions and the uncertainty as to the ultimate utilization—*e.g.*, gur or white sugar or eaten in the raw state.

20. It may be said that the only out of pocket expense the average ryot incurs in planting cane is the rental on the land so planted and loss in revenue of the seed returned to the land. Probably over 80 per cent. of cane growing ryots are not wage earners nor could they find a market for their labour.

Return per acre see paragraph 16.

21. One, and possibly the greatest, objection which the ryot has to the cultivation of cane is the duration of time which it takes between the date when he has to reserve land for the crop till he receives money for its proceeds. This is not less than eighteen months unless he has cultivated an early ripening variety of cane. To partly overcome this difficulty we make a practice of advancing money to the ryot.

Then there are the difficulties of harvesting the crop—the diversion of labour from other agricultural pursuits and the loss of bullocks' time from farm work involved in the transport of cane. It is these difficulties which have so encouraged the practice of ratooning cane which even from the point of view of perpetuating disease should be discouraged if not prohibited by law.

With a view to popularising the cultivation of cane we have the following suggestions to make—

- (1) The supply of sound seed cane of approved varieties. It is notorious that if left to his own devices the ryot will plant from the worst portion of his crop. This is where the Agricultural Department can do most valuable work.
- (2) The encouragement to factories to acquire land for the establishment of seed farms, from which good seed cane could be distributed. Government could assist in the acquisition of land for this purpose by suitable legislation.
- (3) Intensive education of the ryot in the best agricultural practice for the cultivation of cane, including the intelligent use of suitable fertilizers. The system of education to be that best suited to local conditions.
- (4) An examination of the prospects from irrigation by tube wells and canals might be valuable.
- (5) Every possible encouragement to be given to factories to lay down local tramways for the carriage of cane, so reducing the strain on the ryots resources in providing bullock transport.
- (6) Such terminal organisation at factories which will reduce as much as possible the time lost in keeping carts waiting to unload. We favour a system which ensures a cart being able to transfer its load as soon as possible after its arrival at the factory or other delivery station.
- (7) The provision of good road communications and we should particularly stress the maintenance of good bullock cart tracks.
- (8) We would advocate that Government should prohibit the weighing of cane during the hours of darkness except at factory or tramway depôts. It is our belief that when lighting facilities are very inadequate, as they generally are, the weighing of cane at railway stations tends to lead to abuses, however zealous the inspecting staff may be. If there were proper organisation there should be no hardship in restricting weighments to daylight hours.
- (9) To ensure better control of cane deliveries at railway stations and factories the system of issuing passes for carts which we employ should be made compulsory. This by reducing the time carts are kept waiting would reduce transport charges where ryots employ professional carters for the carriage of their cane and save sugar losses due to stale cane. We also suggest that carts should be licensed.

22. (a) There appears to be no necessity for this.

(b) We have insistently advocated the introduction of a system of "zones" for sugar factories. If this had formed a part of the legislation which was introduced at the time Government decided to grant protection to the sugar industry many of the difficulties with which the manufacturing side of the industry is now confronted would never have arisen. We fear that in some areas it is now too late for any effective legislative action to be taken, but there do exist areas where conditions make it possible for groups of factories to come to a mutual agreement for the equitable distribution of local supplies of cane, and in this Government might be of assistance in an advisory capacity.

23. Our policy is, and has always been, to do everything possible to develop local supplies of cane, by means of loans in cash at reasonable rates of interest the supply of sound seed, manures and the provision of rubber-tired carts on the hire-purchase system. It will be naturally realized, however, that if a factory's local supplies of cane are liable to be taken by outside factories, there is obviously less encouragement to the home factory to undertake development measures.

24. (a), (b) (i) & (b) (ii) We are in favour of the regulation of sugar production by means of quotas, and also the licensing of new factories, including extensions to those at present in existence.

Until there is a definite and material increase in domestic consumption, India's production of sugar may now be accepted as having reached saturation point, and to avoid the evils of over-production we consider that Government should at once take powers to limit the quantity of sugar which may be manufactured under a system of quotas. This remedy will not, however, be of any avail unless, linked thereto, the establishment of additional factories is prohibited and any extensions to the plant of existing factories, except for the purpose of increasing efficiency or improving the quality of the product.

This question becomes highly complicated by the position of Indian States towards the erection of their own factories and the export of sugar thus made into British India with possible non-reciprocity, but even if a satisfactory solution to this difficulty cannot in all cases be found, our opinion remains unaltered, that the regulation of sugar production in British India in the manner suggested is essential to the well-being of the industry and to the many interests dependent upon it.

In this connection, we would emphasize the necessity of a decision being reached, if possible, before the end of the current year so that the cane planting programme during the ensuing winter can be worked out in relation to the sugar requirements of the country for the Crushing Season of 1938-39.

	Per cent.
25. Rail	36
Tram	22
Road	42

The proportion of road cane has increased through propaganda in order to decrease expensive rail borne cane

26. Gate cane is entirely transported by country bullock carts—average weight transported 19 maunds per cart.

We have no improved types of carts.

27. Roads adequate and good.

28. Carting limit 15 miles. Average time between cutting and weighing is about 15 hours. No protection from deterioration during transport.

29. Average carting rate 1½ pie per maund per mile.

70 per cent. of the cane is carted by professional carters, at the same rate.

30. No tolls or dues levied at this factory.

31. An efficient cane cutting purjee system is worked; sufficient carts only of cane are arranged for for the following day's crush.

Weighments take place regularly from sunrise to sunset when no carts remain unweighed. The total time of detention amounts to about three hours. This standard has existed for many years.

32. The longest rail lead is 32 miles. Average time taken between cutting and delivery at mill of this cane is about 30 hours.

Railway arrangements are satisfactory.

33. There is a scale of charges for each type of wagon per mile with a minimum rate per type of wagon and same is given herewith:—

Type of wagon.	Rate	Minimum rate per
	per mile.	type of wagon.
	As. P.	Rs.
Open cane wagons 6, 8 and 10 tons— 14 ft.	2 6	5
Open cane wagons 10 tons—16 ft. and 11 tons—15 ft.	4 3	7
Cage trucks 10 tons	4 3	7
Cage trucks 12 tons	4 9	8
Covered wagons	3 6	6

These rates have been in force for several years now and are higher than they were eight years ago but the present flat rate basis is preferable to a maundage basis as cane being a bulky article does not fill wagons to their axle carrying capacity, and to introduce a maundage rate, would, we feel, inevitably increase the freight costs as the Railway would calculate the contents of a wagon on the carrying capacity rather than its actual load which is considerably less.

34. This has been answered in question 3 (a).

35. Six miles of tramway and the average cost is 6 pies per maund, borne by the Company.

36. A cane tramway system makes cane growing economical in distant areas.

Land is easily acquired; difficulties are met when water or swampy places have to be crossed.

37. The loss through dryage and deterioration between cutting and milling varies according to the variety of cane but the loss is definitely serious in the months of March, April and May. The results of numerous tests carried out during these months in season 1932-33, indicated that the loss in weight through dryage amounted to 2.5 per cent. after 24 hours, 5 per cent. after 48 hours and 7 per cent. after 72 hours. Apart from the loss in weight, the purity of the juice in the cane deteriorated by one unit after 24 hours, five units after 48 hours and nine units after 72 hours. A detailed account of dryage and deterioration of cane varieties in Upper India is given in the 1933 issue of the International Sugar Journal.

38. (a) Direct from cane-growers 75 per cent.

(b) Through agents 25 per cent.

We are definitely opposed to the employment of contractors unless they possess marked influence and have a financial stake in the area in which they operate.

39. In the past we have advanced cash, seed and manure on cane bonds as well as supplied agricultural implements to large growers, but it is our intention to reduce to the very minimum all loans until our interests can be safeguarded against pirating mills.

40. For cane purchased through Contractors (Guarantors) we have paid a commission of $\frac{1}{2}$ anna per maund up to the present season, but this has

been reduced for coming seasons to $4\frac{1}{2}$ pies. We give the Contractors advances for distribution to their ryots at the same rate as those paid to our directly controlled ryots.

41. Their assistance has not been required.

42. Weighment is made in accordance with the Government Rules. Agents are paid weekly; own controlled suppliers to factory gate and tram head are paid daily; suppliers to railway station are paid once or twice a week as demanded.

43. 1920-31 to 1932-33 $5\frac{1}{2}$ annas. 1933-34 $5\frac{1}{2}$ annas up to earthquake which dropped to $4\frac{1}{2}$ annas after the earthquake. 1934-35 to date Government rate.

44. Yes, in accordance with the Government formula.

45. Within 15 miles of the factory the manufacture of gur has been very small always.

46. See number 45.

47. We have paid excess under old contracts still in force.

48. Under present conditions, the basis is not satisfactory and calculations should be based more on the rates obtained for sugar by average factories than on the special rates obtained by a few factories employing more expensive processes. We feel that the rates are based on a small proportion of special sugars which are being produced by certain factories.

We would also suggest that the 8 annas margin which is at present used in arriving at a scale be reduced to enable the cane rate to be adjusted more frequently and equitably.

We may have further suggestions to put forward at an early date.

49. We already pay a bonus on special canes. Except for the illiteracy of the suppliers such a system would be feasible. Especially so when combined with zoning and with the suppliers looking to the mill for an equitable price fixation. A zoning system would be necessary as the mill would have to be in close touch with the growers and be able to fairly allocate the quantities of early, medium and late varieties.

Without control the danger of planting an excessive quantity of a heavy yielding late variety, with difficulty distinguishable from an early variety, would operate against any scheme of this nature.

50. The duration of the crop for the past seven seasons is given under Question No. 80. The variations in the duration can be attributed to available supplies of raw material and the economical operating purity of the cane supplies.

Until such time as early and late ripening varieties have been established, it is our opinion that the economic duration of a cane season can be given as from 1st December to 15th April.

51. We pay a premium to encourage early ripening cane such as Co. 299. As agriculturists we would like the season to terminate by the middle of April in order to safeguard the new crop from disease infection from the old crop. This would also allow for a thorough fallowing before the monsoon after which ploughing may be impossible for long periods. From the millers point of view, working becomes difficult after the middle of April.

52. We have had considerable assistance from the Imperial Council of Agricultural Research and the Agricultural Departments of our local Government. We feel, however, that their efforts are not sufficiently co-ordinated and that therefore they fail to give the help which we really need.

It occurs to us that the staff of these Departments should be more mobile. The demonstrations and help which are required by us should be available on the spot, and we would suggest that a motor van equipped with cinematograph and loudspeaker equipment would meet a long felt want.

Propaganda could be carried on in this manner from village to village in the neighbourhood of established factories and the ryot could see

demonstrations and hear actual explanations in his own language of all problems attached to the growing of his crops.

*Seasonal Labour.**Silent Season.*

53.	1. Skilled	209	Total 185 of which about 75 per cent.
	2. Unskilled	495	is skilled labour.

54. We do not import skilled labour from abroad or from other parts of India.

55. All our labour is engaged locally.

56. We have adequate well built quarters for our skilled staff. The unskilled staff reside in their own villages nearby. Free medical attention is provided and we have our own Dispensary. We contribute to local Schools.

57. In the early part of the season when the fibre in cane is low we generally use a small quantity of extra fuel namely, wood and coal but for the greater part of the season the bagasse meets the whole of our requirements.

The figures given below show the cost of extra fuel from season 1930-31 to date:—

Season years.	Crushing.	Silent.
	Ra.	Ra.
1930-31	4,838	2,722
1931-32	3,133	3,180
1932-33	2,011	4,286
1933-34	1,599	7,360
1934-35	6,012	3,889
1935-36	10,170	6,533
1936-37	Season not finished.	

We do not bale surplus bagasse but allow the villagers to remove this free of cost for fuel purposes.

58. Molasses, bagasse and press mud.

Season.	Md. Molasses produced.	Average selling price.
		Rs. A. P.
59. 1930-31	77,836	2 10 3
1931-32	98,623	0 14 0
1932-33	121,129	0 4 1.2
1933-34	61,541	0 1 5.2
1934-35	69,900	0 1 0
1935-36	101,466	0 4 3
1936-37	133,929	0 2 1

The general fall in price is due to supply being much above the demand.

60. Our general market for molasses was Eastern Bengal and it was used in the manufacture of Indian tobacco. The usual form of transportation was the molasses filled in empty kerosine oil tins and casks and despatched in ordinary closed wagons on the Railway. The price of molasses has now fallen so low that it cannot support the price of containers and freight.

The Indian Molasses Company is now taking the output of many factories and as they have the monopoly the rate offered is very small and almost

negligible. For transport they supply tank wagons over the Bengal and North-Western Railway system. We consider the Railway facilities are inadequate.

61. Surplus waste molasses are destroyed in a Brooks Molasses Furnace or utilised for steam generation. For steam generation purposes, molasses are not very satisfactory on account of the large deposit of ash of a corrosive nature on boiler tubes, etc.

It is suggested that molasses may be utilised for the production of Power Alcohol, Acetic Acid, Ether, Chloroform, Glycerine, Acetone, Citric Acid, Butanol, Carbon dioxide for dry ice and Yeast.

62. At present there is no outlet for surplus bagasse, small quantities only being taken by the cane suppliers as fuel.

Bagasse could be manufactured into paper or board but the initial cost of the manufacturing plant will be high.

63. Sulphitation and well weathered carbonitation press mud can be utilised as a manure.

Storage and transportation of sugar.

64. Our stocks of sugar at the beginning and the end of crushing seasons as from 1931-32 are as follows:—

Season years.	Start stock mds.	Finishing stock mds.
1931-32	14,020	122,426
1932-33	20,710	104,844
1933-34	16,497	52,388
1934-35	36	107,652
1935-36	9,221	149,552
1936-37	21,337	Season not finished.

65. We store our sugar in godowns. The flooring in some cases are brick-on-edge cement pointed above pitch, in other cases pitch over brick-on-edge, and again a cement floor. Over the flooring there is a further flooring of bamboos or wooden scantlings covered with gunny sacking and the sugar is stacked on this. Messrs. Begg, Sutherland and Company are experimenting with different kinds of stacking media and hope at the end of the current year to have much useful data in this connection. The capacity of our existing godowns is 75,400 bags with bags stacked 12 bags high and 100,000 bags if stacked 16 bags high.

We have increased our capacity lately and will no doubt undertake further extensions in the near future should it be found necessary.

66. The extent to which sugar may deteriorate is chiefly dependent upon the period of storage and weather conditions. Apart from the period of storage and weather conditions factors influencing the keeping quality of sugar are numerous but it may be stated that the construction and condition of the godowns in which sugar is stored, temperature at which the sugar is bagged, packing, stacking and stacking medium employed together with sugar quality all play a part in the keeping quality of sugar.

67. Our damaged sugar is usually re-conditioned at the start of the next season.

68. The harder and purer the grain the better will be the keeping quality.

69. We cannot say to what extent sugar is damaged in transit but reports to this effect are often received. This damage is possibly due to rough handling, use of dirty and leaking wagons at transhipment stations and want of ventilation and excessive heat in the wagons.

70. We experience considerable difficulty in getting an adequate supply of wagons and there is much delay in the delivery of sugar in the markets we supply.

71. We would suggest the railway carry a much larger stock of wagons and have them so ventilated that a free passage of air is allowed to circulate without fear of rain water getting into the wagon.

72. Our sugars are sold on an f.o.r. Factory basis, the price being one for important markets. We have no record of secondhand prices for our product at the ports and up-country, but give below the actual f.o.r. prices obtained during the past 7 years. We also give the freight from the factory to the ports and certain up-country markets:—

F.o.r. Prices.

Seasons.	1st Sugar.	2nd Sugar.	Both Sugars.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
1930-31	9 8 6.6	8 5 7.1	9 0 9.4
1931-32	10 4 2	9 6 7.7	9 14 3.9
1932-33	9 8 0.8	8 6 10.3	9 2 5.3
1933-34	8 11 4.8	8 1 9.7	8 8 9.7
1934-35	8 7 10.3	8 15 0	8 7 11
1935-36	8 9 2.8	6 13 9	8 9 0.8
1936-37	6 5 6.3	...	6 5 6.3

Stations.	Rail freight.	Rail and Steamer freight.
	Rs. A. P.	As. P.
Allahabad	0 9 0	...
Cawnpore	0 11 0	...
Lucknow City	0 14 4	...
Calcutta	0 11 4	10 1
Bombay	1 1 3	13 3
Madras	1 0 0	13 3
Karachi	1 2 0	13 3

73. We enclose copies of Balance Sheets.

74. We give below amounts of depreciation written off by the Company from 1930-31 also the statutory amount allowed under the Income-tax Act, 1922. Depreciation is usually a round sum based, as nearly as possible, on the statutory scale.

	Statutory.	Written off.
	Rs.	Rs.
1930-31	1,16,350	1,00,000
1931-32	1,17,241	1,00,000
1932-33	1,97,929	2,00,000
1933-34	2,26,804	2,00,000
1934-35	2,33,004	2,33,000
1935-36	2,35,093	2,35,000

The figures given are for the Champaran Sugar Co., Ltd., of which this unit forms a part.

75. We give below the amounts set aside for Reserve Fund:—

	Rs.
30th June, 1932 . . .	5,99,650 (Transferred from Debenture Sinking Fund.)
" " 1933 . . .	1,00,000
" " 1936 . . .	2,10,000 (Premium on new issue of shares transferred to Reserve Account.)

The above figures have reference to the Champaran Company of which this unit forms a part.

76. We give below amounts distributed as dividends by the Company:—

	Rate. Per cent.	Amount. Rs.
30th June, 1930 . . .	15	1,80,000
" " 1931 . . .	15	1,80,000
" " 1932 . . .	15	1,80,000
" " 1933 . . .	25	3,00,000
" " 1934 . . .	5	60,000
" " 1935 . . .	10	1,20,000
" " 1936 . . .	20	2,40,000

77. The Bank allows overdrafts under agreement for cash credit, by which stocks, etc., are pledged. The rate at which the Company, of which this unit forms a part, is able to borrow is Bank rate with a minimum of 3 per cent.

Head Office expenses and Managing Agents' commission amount to Rs. 1,58,515 for 1935-36 in respect of the Champaran Sugar Co., Ltd., of which this unit forms a part.

Managing Agents' commission is calculated at 2½ per cent. on the gross proceeds of all sugar and other produce manufactured, refined or dealt in by the Company.

79. Considering the hazardous nature of the enterprise, the risks of drought, floods, pests, the machinations of buyers, the Excise Duty, the costs of maintenance, the demands of taxation, a balance of 10 per cent. at credit of revenue, after allocations to depreciation and reserve accounts is not excessive.

80. Forms* 1, 2 and 3 referred to are attached. As regards Forms 1 and 2 the figures in respect of 1936-37 cannot be submitted as our financial year is not yet closed.

81. Owing to the complicated nature of the returns called for we are unable to submit the information in the allotted time, and we will do so as soon as the returns are completed.

82. Every possible economy has been effected in the works and efficiency brought to a high standard, comparing favourably with other sugar producing countries, that there is very little margin for further reductions in the works and we must now look to a higher sucrose content and for further reductions in cost of cane.

83. Calcutta.

84. We are unable to give particulars of the relations between dealers and retailers, but so far as we are concerned, we are put into touch with our dealers by our brokers. Up to this year we had several brokers working on a commission basis from 8 to 12 annas per Rs. 100. These brokers would make us offers, which, if accepted, would be confirmed by contract

* Not printed.

between ourselves and the dealers, a deposit being required as Earnest Money, which the dealers paid; interest was allowed on this deposit. During the current season, we have obtained Sole Distributors for the whole of India—Messrs. Ralli Bros., Ltd. While the system of their making us offers on behalf of dealers still continues to a lesser extent, the chief method of doing business is for us to give them option for a fixed period on quantities of each grade of sugar which we wish to dispose of, fixing the minimum price at which they can sell. In this case also, the arrangement between them and ourselves is by agreement, the actual contract, which is supplementary to the agreement being entered into primarily between them and their dealers.

85. The new Indian Sugar Mills' Association contract form is satisfactory except as regards Clause 8. The responsibility for the condition of sugar sold *f.o.r. Factory* should be more clearly defined, as falling upon the buyer. Unless the buyer takes delivery at factory it is impossible to prove in what condition the sugar was despatched, and whether damage took place while in the hands of the carrier.

86. The figures with regard to this question can be obtained from dealers, importers and brokers. We ourselves are unable to give accurate figures, especially as most of our business in the past has been done through dealers in the Cawnpore market, and on an *f.o.r. factory* basis.

87. Variations in this case will occur when comparing wholesale forward business with ready petty sales, but for spot business there is little fluctuation between wholesale and retail prices, though the difference between these actually varies according to quantity, up to approximately 4 annas per maund.

We have taken the retail prices as covering lots of 5 to 25 bags, which are not necessarily in shopkeepers' hands, there possibly being a further difference in the actual shop price to the consumer.

88. We have very little information as to the storage arrangements made by dealers, but from our experience we understand that they are disinclined to keep stocks, preferring to utilise factory storage space, even to the extent of getting 3 or 4 months in arrears in deliveries. We have already given you our experience with regard to deterioration in storage against Question No. 66. We have no definite information with regard to conditions prevailing in dealers' godowns.

89. Under similar storage conditions we are of the opinion that Java sugar will deteriorate to the same extent as a good quality Indian sugar.

It is only in very recent years that the keeping quality of sugar produced in India has become a subject for serious consideration, since large stocks of sugar must now be stored throughout the monsoon period. Since it has been recognised that there has been a vast improvement in the quality of sugar manufactured in India, the keeping quality has also undoubtedly improved.

90. With the exception of the demand for Indian made sugar by a limited number of orthodox Hindus on religious grounds, Java, or other imported sugar is preferred, particularly by the middle and upper class Indian consumers. The reason for this is, we believe, the uniformity of grain and superior, consistent colour of the imported sugar.

91. The average quality of sugar manufactured in India is inferior to imported Java sugar but there are many factories in India producing a final product equal if not superior to that of Java.

The average Indian sugar is inferior to imported Java sugar in respect of purity, colour and uniformity of crystal size.

92. In our opinion the manufacturers carry the bulk of the stocks of Indian made sugar, the only dealers carrying stocks to any large extent being those at ports where storage facilities are offered by the Carrying Companies. Up-country dealers normally carry only sufficient stock for the immediate need of local retailers.

93. Yea. We consider this most desirable.

94. We favour a Central All-India Selling Organisation, provided licensed control of production is also introduced. We consider, however, that it should be independent of Government control.

95. We think that the present system of standardisation is open to grave question. The value of a sugar does not depend on the size of the crystal or on its appearance in bulk in a glass container. Further, it is impossible to get two observers to agree as to the standard on such a crude system.

We would favour standardisation on rational lines which would include—

- (1) The polarisation or sugar content.
- (2) The colour determined in some formal way in an apparatus such as the Lovibond Tintometer and expressed in definite colour units.
- (3) The quantity of suspended matter.
- (4) Possibly, but not necessarily, the quantity of ash might also be included. Ash is of importance to the sweetmeat maker but he is not yet educated enough to appreciate its influence.
- (5) Uniformity of grain and absence of dust may also be included.

96. (a) We have done no business so far on the basis of sugar standards. The reason we have not yet sold on this basis is that the graduated scale of price difference has not yet been agreed upon and the Industry as a whole is not prepared to sell on the basis of the standards. It is also felt that most factories are not yet in a position to turn out a uniform product capable of being graded under the standards.

(b) Yes. These standards are being used extensively at all our factories for internal control.

97. As opposed to standardising sugars, Messrs. Begg, Sutherland & Co.'s Group of Factories are to base their selling standard in respect of the next season, as follows:—

Factory Managers are to be asked to lay aside a certain number of bags of sugar now, of a standard which they expect to maintain during the next season. These bags are to be used as samples next season and the output based on these samples. Special care will be taken in storing these bags during the monsoon.

98. The possibilities of establishing a central marketing organisation, including a complete survey of markets, has been before the Indian Sugar Mills Association from time to time, but no progress has been made. We are in favour of an organization on the lines of the Cement Marketing Board being set up, provided its control is vested in an independent body and it embraces all producers, with Government prohibition of new factories and extensions for purposes other than improvement of quality and efficiency.

The establishment of a "futures" market by dealers Associations, on the lines of the East India Cotton Association should make for stability in prices by providing security for dealers operations, and thereby improving the general trade in sugar.

99. Over a period of seven years we believe the consumption of sugar, including Khandasari, and sugar refined from gur, to be about 1,300,000 tons annually, but as a result of the lower prices now ruling this figure should be exceeded.

An increased advertising campaign by the Industry through its Associations and possible collaboration with the Tea Industry would, we believe, lead to increased consumption, the necessary funds being provided on the lines of the Indian Tea Cess.

100. We believe that factory sugar is replacing gur in the trade in increasing quantities, but we have no reliable information.

101. We see no immediate prospects of the establishment of fruit canning in India.

102. This information can be given much better by importers such as Messrs. Ralli Brothers, Ltd., Calcutta, Bombay, Madras and Karachi, Messrs. A. H. Bhiwandiwalla, Bombay, Messrs. Parasram Paroomal & Co., Calcutta, and Messrs. Kian Cwan Co. (India), Ltd., Sasoon House, Calcutta.

103. It may be accepted that Java, the chief importing country, has not realized remunerative prices for her sugars in any year between 1930 and 1936. In support of this view there is the knowledge that Java's production has fallen from 3,250,000 tons in 1930 to 500,000 tons in 1936.

104. None by sea so far as we know. A relatively small quantity finds its way across the Northern Frontiers. We do not consider India could profitably export sugar unless world prices advance very considerably and then only if Indian sugar received specially favourable treatment on entry into the United Kingdom. There is, of course, the very remote possibility of India being in a position to sell a portion of her production for export at a loss, provided there was a compensating rise in internal prices.

105. The imposition of the first levy of Excise had some effect in not inducing unadvised expansion which would, however, have been better prevented by a system of licensing and zoning at the time protection was given, and in relation to a considered estimate of the demand existing for sugar in India. The latter imposition coincided with a period of abnormally low prices for sugar, which persists to-day. Owing to trade conditions the manufacturer except for a very brief period has not been able to pass on any share of the excise to the consumer. We have never understood why the cane growing section of the industry has not been called on to bear some share of the excise. The industry could have accepted with comparative equanimity a levy on profits on a reasonable scale.

106. A certain quantity is absorbed in the manufacture of country tobacco. Where distilleries exist molasses form a base for the production of alcohol. Recently a molasses exporting corporation was set up an organisation for the collection and export of molasses and has made extensive purchases. No data is available with us regarding the extent of these transactions but they must be of considerable magnitude. The prices realized do little more than cover handling charges. The residue we destroy in specially designed furnaces.

107. This has partly been dealt with under the preceding question. We understand the destination of the molasses exported by the Corporation is the United States and the United Kingdom and it is used for the production of industrial alcohol. The possibility of export is handicapped by the inadequacy of transport facilities.

108. We are not altogether clear as to what is meant by "effective". If the development of an industry by an increase in production of 1,000,000 tons is effective the answer is "yes". If "effective" means the establishment of an ordered industry with security of capital combined with sound finance the answer is "no".

The effect of the import tariff, created in 1932 has been to create a barrier against imports from abroad behind which the industry has developed at an extraordinary rate of progress—a very unhealthy rate as events have turned out. This expansion has taken place without any control either by Government or the industry itself. What appeared to be an attractive outlet for capital seeking employment has resulted in the launching of numerous undertakings without any proper consideration being given to local conditions. Supplies of suitable raw material—financial requirements and in many instances without adequate, or even any, expert knowledge. The result has been that although India has been rendered self supporting as regards her sugar requirements, her revenues have suffered severely from an almost complete stoppage of imports, while the domestic industry due to the reckless establishment of factories—many of which are unsuitably situated, the need of replacing revenue hitherto realised from the import tariff by the imposition of an excise duty—an utter absence of any organization for the marketing of its sugar finds itself to-day confronted with a

situation which, to say the least of it, can only be described as extremely critical even in the case of the most efficient units of the industry.

109. The original object of protection aimed at the country producing its total sugar requirements, and this object has already been attained. We therefore consider that the extent of protection should be kept at such a level as to limit imports of foreign sugar.

We are of opinion that the existing level of protective duty is such that the ryot obtains an equitable return for his enterprise, and that this will only continue provided the position is not aggravated by imports of sugar from abroad.

It does not follow that world conditions will remain unaltered between now and 1946, and we therefore recommend the present level of protection being maintained, and further, that the Government should take powers to regulate it as and when necessary, to limit the entry of foreign sugar into the country.

110. (1) Improvement in Agriculture and communications and the application of research so as to reduce the cost of cane and improve its sugar content.

(2) Means to control borer infestation and simultaneously increase the sugar content of the cane.

(3) The adoption of the zoning system which will allow factories to help the small grower to make use of the results of research.

(4) Means to ensure the manufacturer obtaining a fair share of the protection by correlation between the cost of cane and effective selling price of sugar (after deduction of Excise) which will demand a centralized marketing organisation with power to regulate sugar prices.

111. So far as we are aware, no industry has been affected by the import duty on molasses.

Champan Sugar Co., Ltd., Chanpatia Factory, Champanan

REPLIES TO TARIFF BOARD GENERAL QUESTIONNAIRE, 1937-

1. November 1932. 850 tons.

Seasons.	Total maunds sugar.	No. 1 Sugar.		No. 2 Su	
		Mds.	Mds.	Mds.	Mds.
2. 1932-33 . . .	259,250	168,190		91,060	
1933-34 . . .	238,467	235,950		2,517	
1934-35 . . .	243,132	243,132		...	
1935-36 . . .	314,199	314,199		...	
1936-37 . . .	337,333	337,333		...	

3. (a) Yes. The factory is advantageously situated as regards cane supplies but not of the best quality cane as compared with the Bombay Presidency and the Deccan; but with regard to Limestone the freight is very high amounting to approximately seven times the value of the stone. The same applies to Coal and other stores but to a lesser degree.

(b) & (c) Yes.

4. Double Sulphitation.

Sulphitation.—Lower capital cost, lower operative cost, more careful control required (less "foolproof") lower grade of sugar produced which is more susceptible to damage in unfavourable climatic conditions, lower yield varying from 2 per cent. with high purity juices to 4 per cent. with low purity juices.

Carbonitation.—Higher capital cost, higher operative cost, easier of control (more "foolproof") superior sugar made, less liable to deterioration in the

monsoon. Higher yield, from 2 to 4 per cent. dependent on purity of juices.

The additional capital cost for a factory milling 25,000 maunds per day is about £3,500 e.r.w. The critical factor in deciding the process is cost of limestone as laid down at factory; operative costs are essentially those of stone and coke as against lime and sulphur. Labour difference is unsubstantial.

5. Principal alterations are:—

	Rs.	A.	P.
1933-34—			
Filtration Plant	4,375	4	0
1 Scum Tank (Conical).			
1 Treble Ram Pump.			
Defecation Plant	12,767	12	9
3 Horizontal Centr. Pumps.			
1 Treble Ram Pump.			
1 Juice Liming Tank with Stirrer.			
1 Aspinal Pan.			
1 Air Compressor.			
Steam Plant	44,616	3	9
1 B. & W. Water Tube Boiler (W. I. F. Type).			
1 Molasses Furnace (Brooks).			
Finishing Plant	7,985	11	0
Vertical Sugar Drier.			
Milling Plant	7,960	2	10
Cane Knife Motor.			
Reversing Gear for Corliss Engine.			
1 Horizontal Pump.			
Cane Carrier Extension	2,566	1	7
Storage Trucks	6,735	4	0
Bagasse Removing Tramway	2,625	11	0
Evaporation Plant	28,986	13	1
1 Horizontal Pump.			
Spray Pond Extension.			
Injection Water Pump.			
Vacuum Pan (Calandria).			
Curing Plant	9,206	13	0
Buildings	22,834	4	9
New Drain to river.			
Re-flooring.			
Site drain.			
Electric Plant	14,836	3	8
1934-35—			
Buildings—			
Manager's bungalow (Earthquake)	22,296	9	9
Indian Staff Quarters	2,645	8	9
Assistant's bungalow	14,653	9	9
Perfect Party Wall and Inside drain in Sugar Godown	3,440	8	0
Sugar Godown	23,605	1	6

Carried over

	Brought forward	Rs.	A.	P.
1934-35— <i>contd.</i>				
Finishing Plant—				
Sugar Cross Conveyor		606	5	2
Sugar Jigger		956	2	3
Curing Plant—				
2 Centrifugals		6,855	6	3
1 Rotary Displacement Pump		1,044	5	5
Steam Plant—				
Stop Valve		843	6	9
Evaporation Plant—				
Spray Pond Fencing		357	7	6
3rd Sugar Melting House		2,165	3	0
Seeding Mixer		1,799	14	9
Syrup Tank		1,119	3	3
1935-36—				
2 Seasonal Labour Quarters		713	6	9
4 Additional Subsiders for Kieselghur Process		4,898	2	1
4 Press Filters for Kieselghur Process		26,069	10	0
1936-37—				
Sugar Godown		31,344	0	0
Juice Heater		5,884	14	3
" Solovane " Pump		972	1	3
Weighbridge House		207	2	3
Centrifugal		6,472	14	2
Additional Railway Siding		2,443	9	6
Sugar Grader		2,732	10	3
Wooden flooring in old godown		631	10	9
Re-roofing 1st godown in contemplation				
GRAND TOTAL		3,30,255	3	0

6. With conditions as they are at present, we do not contemplate extensions but should there be an improvement we may consider installing an additional 3-mill roller unit.

7. (a) The main factors which determine the size of the factory are the amounts of cane available for milling and the transport facilities.

(b) The capacity of the factory should not be less than 400 tons per day.

8. Most of the equipment in Sugar Factories can now be obtained in India, but non-ferrous metals and tubes, heavy shafts for rollers, etc., boilers and special pumps and engines have to be imported.

9. (1) Our Managing Agents have a well qualified technical staff and have had no need to call on the Imperial Institute of Sugar Technology for assistance.

(2) The cane rate is not received early enough at the factory. The rate should reach the factory 2 days ahead of enforcement date.

10. Yes, we undertake cultivation of sugarcane, the crops of which are distributed to ryots for seed purposes. A part of the land is purchased outright and part is obtained on lease. We had no difficulties in this respect.

11. (a) Total area held 237 acres inclusive of Factory site.

(b) 40 Acres.

(c) Co. 213, Co. 210, Co. 299, Co. 313 and Co. 331, the latter variety have been discontinued as unsuitable this year.

(d) The rotation is as follows:—

October, 1935—Cereal crop sown—harvested, May 1936.

Fallow, May 1936—February, 1937.

February, 1937—Cane crop sown.

May, 1938—Cane harvest completed.

October, 1938—Cereal crop sown,

and so on.

The cultivation is carried out with bullock Iron turn over plough, Cultivator and Double Mould Board Ridging and Sowing Plough.

Farm yard manuring at 400 to 600 maunds per acre for cane, and 1 maund Niciphos per acre for Cereal Crops.

(e) The average yield per acre for different varieties of cane and their sucrose content for past two Cane Seasons have been as follows:—

Seasons.	Variety.	Yield.	Sucrose content.
			Per cent.
1935-36	Co. 331	741	11.16
	Co. 299	432	10.97
1936-37	Co. 299	488	11.55
	Co. 331	605	10.70
	Co. 313	491	11.85

12. (a) 10 acres.

(b) Complete area sown with cane, the seed being sold to ryots the rate charged being the Government current rate.

13. Annually Mill tests are held at the Factory on new varieties of cane when there is sufficient area under that to give the required maundage. Agricultural Departments have offered considerable assistance in this respect through their two Government Farms at Byreah and Lalseriah, where they continuously experiment with new varieties of cane, the seed from which they also distribute to ryots either direct or through this Factory.

14. (a) There has been a steady increase in the quantity of cane available since 1930 except for the year following the Earthquake.

(b) The quality of the cane has been subject to seasonal variation—vide reply to Question No. 80—Form III.

15. We very seldom have damage from frost but from disease and insect pests the damage is very considerable. During the month of February this season a detailed survey was carried out to determine to what extent the cane was infested with disease and this worked out to 48.7 per cent. on the average causing a sugar loss of 6,709 maunds for the month or Rs. 40,254 monthly.

16. The Factory will not be assured of sufficient supply of suitable cane until competition is eliminated. The principal varieties of cane crushed by this Factory are Co. 210 and 213. The field yields of these varieties are from 150—500 maunds per acre. It is impossible to give a more concise figure as the yields are dependent on the degree to which each field is attacked by Pests, cultivation given and the type of lands cultivated, all of which vary to a great extent. For sucrose contents see Question 80—Form III.

17. The supply of cane to each individual Factory is greatly influenced by the competition of Factories. It is difficult to say to what extent, but it may be realized from the fact that the closing date of all Factories,

irrespective of their capacities or what arrangements they have made during the off season for the supply of cane, all close down practically on the same date. We do not consider that the competitive rates which Factories pay at the end of the Cane Season have any influence on the areas sown. It is only in the latter three weeks of the Cane Season that this commences, so that comparatively speaking the extra rates have very little influence on the ryots due to the small number which receive them, these rates only rule for say three weeks out of a Cane Season of five months. Moreover when they are paid all cane sowings are completed.

18. (a) There has been a steady increase in cane cultivation for the past five years.

(b) (1), (2), (3) & (4) The factors mentioned have little effect in cane areas delivering to this factory. The most discouraging factor we know is an unusually long season.

19. Requirements is an elastic term. Regulation rather than restriction is indicated. We have been able, by extending the duration of the season and by additions to plant to take off practically all the cane which was offering in the areas serving our factory. We consider that control of the area under cane in Northern India is desirable, but coupled with a reduced production of sugar by white sugar factories, so that the quantity of cane available for manufacture conforms to a reduced output from the factories, so as to bring consumption and production into line.

While expressing this opinion we realize the great difficulty in co-ordinating the area to be put under cane with factory production owing to the millions of independent growers involved and the variations in yield per acre as influenced by seasonal conditions and the uncertainty as to the ultimate utilization—*e.g.*, gur or white sugar or eaten in the raw state.

20. The average cost per acre of cultivation of an average cultivator is as follows:—

	Rs. a.
Rent	3 0
Tamini—Once	4 0
Ploughing—10 times	10 0
Manure—Farm yard	30 0
Seed 50 maunds per acre at 4 annas per maund plus $\frac{1}{2}$ anna per maund Cartage	14 1
Jhorni	5 1
Total	66 1*

21. One, and possibly the greatest, objection which the ryot has to the cultivation of cane is the duration of time which it takes between the date when he has to reserve land for the crop till he receives money for its proceeds. This is not less than eighteen months unless he has cultivated an early ripening variety of cane. To partly overcome this difficulty we make a practice of advancing money to the ryot.

Then there are the difficulties of harvesting the crop—the diversion of labour from other agricultural pursuits and the loss of bullocks' time from farm work involved in the transport of cane. It is these difficulties which have so encouraged the practice of ratooning cane which even from the point of view of perpetuating disease should be discouraged if not prohibited by law. With a view to popularising the cultivation of cane we have the following suggestions to make—

- (1) The supply of sound seed cane of approved varieties. It is notorious that if left to his own devices the ryot will plant

* Does not include capital outlay and upkeep of bullocks and cultivation Implements. The manure is obtained from his own cattle and so may be deleted from the above. Against this he will get say 300 maunds per acre.

from the worst portion of his crop. This is where the Agricultural Department can do most valuable work.

- (2) The encouragement to factories to acquire land for the establishment of seed farms, from which good seed cane could be distributed. Government could assist in the acquisition of land for this purpose by suitable legislation.
- (3) Intensive education of the ryot in the best agricultural practice for the cultivation of cane, including the intelligent use of suitable fertilizers. The system of education to be that best suited to local conditions.
- (4) An examination of the prospects from irrigation by tube wells and canals might be valuable.
- (5) Every possible encouragement to be given to factories to lay down local tramways for the carriage of cane, so reducing the strain on the ryots resources in providing bullock transport.
- (6) Such terminal organisation at factories which will reduce as much as possible the time lost in keeping carts waiting to unload. We favour a system which ensures a cart being able to transfer its load as soon as possible after its arrival at the factory or other delivery station.
- (7) The provision of good road communications and we should particularly stress the maintenance of good bullock cart tracks.
- (8) We would advocate that Government should prohibit the weighing of cane during the hours of darkness except at factory or tramway depôts. It is our belief that when lighting facilities are very inadequate, as they generally are, the weighing of cane at railway stations tends to lead to abuses, however zealous the inspecting staff may be. If there were proper organization there should be no hardship in restricting weighments to daylight hours.
- (9) To ensure better control of cane deliveries at railway stations and factories the system of issuing passes for carts which we employ should be made compulsory. This by reducing the time carts are kept waiting would reduce transport charges where ryots employ professional carriers for the carriage of their cane and save sugar losses due to stale cane. We also suggest that carts should be licensed.

22. (a) We consider that a Factory has no right to be erected in an area where it would compulsorily have to lease lands for the cultivation of sugarcane.

(b) We have insistently advocated the introduction of a system of "zones" for sugar factories. If this had formed a part of the legislation which was introduced at the time Government decided to grant protection to the Sugar Industry many of the difficulties with which the manufacturing side of the industry is now confronted would never have arisen. We fear that in some areas it is now too late for any effective legislative action to be taken, but there do exist areas where conditions make it possible for groups of factories to come to a mutual agreement for the equitable distribution of local supplies of cane, and in this Government might be of assistance in an advisory capacity.

We are in favour of allotting special areas to Factories for the supply of sugarcane. The system of zones could easily be worked by allotting to each Factory all villages within its economic area, and either one or two of its neighbouring stations. In the case of those Factories who cannot obtain sufficient cane in their own economic areas, they would be allotted extra Railway Stations for the supply of cane. The areas and stations allotted would be proportionate to the capacity of the Factory.

23. Our policy is, and has always been, to do everything possible to develop local supplies of cane, by means of loans in cash at reasonable rates

of interest—the supply of sound seed, manures and the provision of rubber-tyred carts on the hire-purchase system. It will be naturally realized, however, that if a factory's local supplies of cane are liable to be taken by outside factories, there is obviously less encouragement to the home factory to undertake development measures.

24. (a), (b) & (c) We are in favour of the regulation of sugar production by means of quotas, and also the licensing of new factories, including extensions to those at present in existence.

Until there is a definite and material increase in domestic consumption, India's production of sugar may now be accepted as having reached saturation point, and to avoid the evils of over-production we consider that Government should at once take powers to limit the quantity of sugar which may be manufactured under a system of quotas. This remedy will not, however, be of any avail unless, linked thereto, the establishment of additional factories is prohibited and any extensions to the plant of existing factories, except for the purpose of increasing efficiency or improving the quality of the product.

This question becomes highly complicated by the position of Indian States towards the erection of their own factories and the export of sugar thus made into British India with possible non-reciprocity, but even if a satisfactory solution to this difficulty cannot in all cases be found, our opinion remains unaltered, that the regulation of sugar production in British India in the manner suggested is essential to the well-being of the Industry and to the many interests dependent upon it.

In this connection, we would emphasize the necessity of a decision being reached, if possible, before the end of the current year so that the cane planting programme during the ensuing winter can be worked out in relation to the sugar requirements of the country for the Crushing Season of 1938-39.

25. (a) & (b) 3rd Gate Cane and 3rd Rail. We have no Tramway. The proportion of cart cane has increased. In 1932-33 the cart cane was 1,109,248 maunds 30 seers as compared with 1,701,079 maunds 30 seers Rail Cane.

26. The Gate Cane is entirely transported by carts, the average load of which is 23 maunds. We have endeavoured to improve the type of country cane carts by the introduction of rubber tyred carts, but these are expensive and the ryot is very reluctant to pay Rs. 230 for a cart, even when it is given him as a form of advance. We consider, however, that several would purchase these carts next Cane Season if the cane rate increased. We find that the rubber tyred carts in operation here cart an average load of 50 maunds.

27. The mileage of roads here is adequate, but the condition of both the main and feeder roads is extremely bad. There seems to be no organisation for the upkeep of the feeder roads except what the ryots themselves do at their own expense.

28. 10 Miles—24 hours. No protection can be made against deterioration during this period.

29. The average cost of transport of cane by cart per maund per mile is 1.4 pies. Those cane-growers in possession of carts do their own cane carting. The rates for hired carts are 6 pies per maund up to 5 miles, 9 pies up to 8 miles and 1 anna above 8 miles and increasing accordingly.

30. The Municipal Tax is levied on all carts passing through the Bettiah Municipality to our loading station at Bettiah.

31. An adequate staff is maintained for the distribution of cane purjees. These purjees are distributed daily or weekly at certain times in the villages supplying cane. At the same time arrangements are made by the staff for the supply of hired carts to those ryots not in possession of their own. A cane cart is seldom detained for more than 3 hours at the Factory, each village at the commencement of the Cane Season being allotted a specified time for the arrival of its cane at the Factory. This system has been in

force since the erection of the Factory. As the Gate Cane supplies increased its organisation expanded accordingly.

32. Up to the present Cane Season the furthest station from which cane has been transported by rail to this Factory is 33 miles. This was necessary to work off 5 years Cane Agreement, which expired this season. In coming Cane Seasons the furthest station will be 10 miles. The average time taken between cutting of carted cane and delivery to the Factory is as per paragraph 28. In the case of Rail Cane this has increased considerably, and in many cases the cane does not reach the Factory for 44 hours after cutting, after which a further period of 12 hours often elapses due to it having to wait till other Rail Cane received previously is crushed off. Railway arrangements for the transport of cane are on the whole satisfactory, but sufficient time has not been allowed this Cane Season for loading the cane at stations. Also loading facilities at stations are poor, in many cases the loading coolies have to climb up steep embankments to which there is no ridge, to load the cane into wagons. This makes loading difficult and makes it necessary to pay a high loading rate. The Railway have done practically nothing in the way of building loading ramps, which we consider they should erect at the loading stations where no Factory is in existence. There is no protection given by the Railway against theft of cane from wagons, many of the wagons are open and large quantities of cane are stolen annually from these wagons during shunting and whilst stationary at the Sidings.

33. There is a scale of charges for each type of wagons per mile with a minimum rate per type of wagon and same is given herewith:—

Type of Wagon.	Rate per	Minimum rate
	Mile.	per type of wagon.
	As. p.	Rs.
Open cane wagons 6, 8 and 10 tons, 14 ft. .	2 6	5
Open cane wagons 10 tons, 16 ft. and 11 tons, 15 ft.	4 3	7
Cage trucks 10 tons	4 3	7
Cage trucks 12 tons	4 9	8
Covered wagons	3 6	6

These rates have been in force for several years now and are higher than they were eight years ago but the present flat rate basis is preferable to a maundage basis as cane being a bulky article does not fill wagons to their axle carrying capacity, and to introduce a maundage rate would, we feel inevitably increase the freight costs as the Railway would calculate the contents of a wagon on the carrying capacity rather than its actual load which is considerably less.

34. See Question No. 3 (a).

37. The loss through dryage and deterioration between cutting and milling varies according to the variety of cane but the loss is definitely serious in the months of March, April and May. The results of numerous tests carried out during these months in season 1932-33 indicated that the loss in weight through dryage amounted to 2.5 per cent. after 24 hours, 5 per cent. after 48 hours and 7 per cent. after 72 hours. Apart from the loss in weight, the purity of the juice in the cane deteriorated by one unit after 24 hours, five units after 48 hours and nine units after 72 hours. A detailed account of dryage and deterioration of cane varieties in Upper India is given in the 1933 issue of the International Sugar Journal.

38. 50 per cent. direct, 50 per cent. through Guarantors.

39. We give advances in cash and seed and loan of ploughs. We also give advice on all cultivation matters.

40. For cane purchased through Contractors (Guarantors) we have paid a commission of $\frac{1}{4}$ anna per maund up to the present season, but this has been

reduced for coming seasons to 4½ pies. We give the Contractors advances for distribution to their ryots at the same rate as those paid to our directly controlled ryots.

41. No.

42. An adequate number of weighbridges are in use at all weighment centres, each of which staffed by one or two Clerks and Controlling Peons. Payment is made one week after the delivery of the cane.

43. The rates paid by us in Cane Seasons 1932-33 and 1933-34 have been 5½ annas per maund, and in other seasons at the Government Cane Rate except in season 1934-35 and 1935-36 when the rate was increased by ¼ anna per maund in the latter few weeks to meet the rates paid by competing Factories. As regards rates varying at different periods of the season. The rates vary according to those of the sugar market, as the Government fix the cane rate on those.

44. The rate paid for sugarcane is based on the formula laid down by the Government of Bihar. It has, therefore a definite relation to the price of sugar.

45. The price of gur or khandsari sugar has not influenced the supply of cane or its price in this locality.

46. There have been considerable variations. We presume these variations are caused by the relation supply bears to demand.

47. In connection with this see paragraph 43.

48. Under present conditions, the basis is not satisfactory and calculations should be based more on the rates obtained for sugar by average factories than on the special rates obtained by a few factories employing more expensive processes. We feel that the rates are based on a small proportion of special sugars which are being produced by certain factories.

We would also suggest that the 8 annas margin which is at present used in arriving at a scale be reduced to enable the cane rate to be adjusted more frequently and equitably. We may have further suggestions to put forward at an early date.

49. Except for the illiteracy of the suppliers such a system would be feasible. Especially so when combined with zoning and with the suppliers looking to the mill for an equitable price fixation. A zoning system would be necessary as the mill would have to be in close touch with the growers and be able to fairly allocate the quantities of early, medium and late varieties.

Without control the danger of planting an excessive quantity of a heavy yielding late variety, with difficulty distinguishable from an early variety, would operate against any scheme of this nature.

50. The duration of the crop for the past seven seasons is given under Question No. 80. The variations in the duration can be attributed to available supplies of raw material and the economical operating purity of the cane supplies.

Until such time as early and late ripening varieties have been established, it is our opinion that the economic duration of a cane season can be given as from 1st December to 15th April.

51. It is possible that by the introduction of well established early and late varieties of cane to extend the crushing season in North Bihar and Eastern United Provinces from, say, 1st November and 31st May or a seven month operating period.

52. We consider the Imperial Council of Agricultural Research should have made more headway in stamping out the pests and diseases in cane. The Agricultural and Co-operative Departments have made a considerable effort this year to improve cultivation. We consider they should concentrate

on the improvement of the type of cattle used by the ryot for cultivation purposes and continual supplies of fresh seed cane.

*Seasonal Labour.**Silent Season.*

53. 1. Skilled 188 Total 157 of which about 75 per cent.
 2. Unskilled 359 is skilled labour.
54. Only panmen are imported from other parts of India. Others are local Bihar men.
55. Nil.
56. Other than local men, quarters or rental houses are provided with free medical attendance.
57. Yes. Nothing has been spent on additional fuel. We do not bale bagasse.
58. Molasses, Bagasse and Press Mud.

Season.	Maunds Molasses Produced.	Average selling Price.
	Maunds.	As. P.
59. 1932-33	113,066	6 0
1933-34	90,788	Disposed of free.
1934-35	83,955	0 6
1935-36	107,343	3 0
1936-37	131,588	1 2

The general fall in price is due to supply being much above demand.

60. Our contract is for ex-Tank delivery and we are unable to say how or where the molasses is finally disposed of by the contractor. Since last year the India Molasses Co. are buying our molasses and they have made their own arrangements for transport.

61. Surplus waste molasses are destroyed in a Brooks' Molasses Furnace or utilized for steam generation. For steam generation purposes, molasses are not very satisfactory on account of the large deposit of ash of a corrosive nature on boiler tubes, etc.

It is suggested that molasses may be utilized for the production of Power Alcohol, Acetic Acid, Ether, Chloroform, Glycerine, Acetone, Citric Acid, Butanol, Carbon dioxide for dry ice and Yeast.

62. At present there is no outlet for surplus bagasse, small quantities only being taken by the cane suppliers as fuel.

Bagasse could be manufactured into paper or board but the initial cost of the manufacturing plant will be high.

63. Sulphitation and well weathered carbonitation press mud can be utilised as a manure.

64. Sugar Stock at end of—

	Mds.	Srs.	Ch.
1932-33	164,132	35	8
1933-34	87,128	35	4
1934-35	126,279	11	0
1935-36	229,015	33	0
1936-37	237,535	32	13

Sugar Stock at beginning of—

1932-33 . . . . .	.....	
1933-34	15,959	18	0
1934-35	20	37	0
1935-36	15	38	4
1936-37	16,923	18	0

65. We stack sugar on wooden scantlings.

In 1932, we had storage capacity of 55,437 bags. Recently we have added two godowns with capacities of (i) 22,038 bags and (ii) 19,824 bags, making a total of 97,299 bags.

66. The extent to which sugar may deteriorate is chiefly dependent upon the period of storage and weather conditions. Apart from the period of storage and weather conditions factors influencing the keeping quality of sugar are numerous but it may be stated that the construction and condition of the godowns in which sugar is stored, temperature at which the sugar is bagged, packing, stacking and stacking medium employed together with sugar quality all play a part in the keeping quality of sugar.

67. We usually recondition damaged sugar.

68. The production of sugar of greater purity of bold and regular crystal free from dust and broken grain, will undoubtedly improve the keeping quality.

69. Damage is due to atmospheric conditions, transshipment at Ghats and due to Railway supplying coal dusty and leaking wagons for transportation.

70. Great difficulty is experienced in obtaining wagons for transportation of sugar. As for example, we quote that contracts for 58,500 bags were cancelled in March, 1934, and 21,000 bags in February, 1937. A sufficient number of suitable type wagons should be provided for the requirement of sugar traffic.

71. Water-tight wagons should be provided for sugar traffic. These wagons may be used in grain or cereals transportation but not for coal, oil or any other material which may thus spoil the floors of the wagons for sugar transport.

72. Our sugars are sold on an f.o.r. factory basis, the price being one for all markets. We have no record of second hand prices for our product at the ports and up-country, but give below the actual f.o.r. prices obtained during the past 5 years. We also give the freight from the factory to the ports and certain up-country markets:—

F.o.r. Prices.

Seasons.	1st Sugar.	2nd Sugar.	Both Sugars.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
1932-33	8 7 7.7	7 14 10.2	8 4 6.2
1933-34	8 1 11.9	7 8 5.7	8 1 10.1
1934-35	7 15 16.3	...	7 15 10.3
1935-36	8 1 0.2	..	8 1 0.2
1936-37	6 4 4.1	...	6 4 4.1

Stations.	Rail freight.	Rail and Steamer freight.
	Rs. A. P.	As. P.
Allahabad	0 11 0	...
Cawnpore	0 11 11	...
Lucknow City	1 0 4	...
Calcutta	0 13 4	12 1
Bombay	1 2 0	15 3
Madras	1 1 0	15 3
Karachi	1 2 3	15 3

73. We enclose copies of Balance Sheets.

74. This factory belongs to the Champaran Sugar Co., Ltd., and depreciation has been provided only as from 1932-33 the year in which it commenced operations, also the statutory amount allowed under the Income-tax

Act, 1922. Depreciation is usually a round sum based, as nearly as possible, on the statutory scale.

Year.	Statutory.	Written off.
	Rs.	Rs.
1932-33	1,97,929	2,00,000
1933-34	2,26,804	2,00,000
1934-35	2,33,004	2,33,000
1935-36	2,35,093	2,35,000

The figures given are for the Champaran Sugar Co., Ltd., of which this unit forms a part.

75. We give below the amounts set aside for Reserve Fund:—

		Reserve.
		Rs.
30th June, 1932	x . .	5,99,650 (Transferred from Debenture Sinking Fund.)
" "	1933 . .	1,00,000
" "	1934 . .	...
" "	1935 . .	...
" "	1936 . .	2,10,000 (Premium on new issues of shares transferred to Reserve Account.)

The above figures have reference to the Champaran Sugar Co., Ltd., of which this unit forms a part.

76. We give below amounts distributed as dividends by the Company:—

	Rate.	Amount.
	Per cent.	Rs.
30th June, 1932	15	1,80,000
" " 1933	25	3,00,000
" " 1934	5	60,000
" " 1935	10	1,20,000
" " 1936	20	2,40,000

These figures refer to the Champaran Sugar Co., Ltd., of which this unit forms a part.

77. The Bank allows overdrafts under agreement for cash credit, by which stocks, etc., are pledged. The rate at which the Company, of which this unit forms a part, is able to borrow is a minimum of 3 per cent.

78. Head Office expenses and Managing Agents' commission amount to Rs. 1,58,515 for 1935-36 in respect of the Champaran Sugar Co., Ltd., of which this unit forms a part.

Managing Agents' commission is calculated at 2½ per cent. on the gross proceeds of all sugar and other produce manufactured, refined or dealt in by the company.

79. Considering the hazardous nature of the enterprise, the risks of drought, floods, pests, the machinations of buyers, the Excise Duty, the costs of maintenance, the demands of taxation, a balance of 10 per cent. at credit of revenue, after allocations to depreciation and reserve accounts, is not excessive.

80. Forms 1, 2 and 3 referred to are attached. As regards Forms 1 and 2, the figures in respect of 1936-37 cannot be submitted as our financial year is not yet closed.

81. Owing to the complicated nature of the returns called for we are unable to submit the information in the allotted time, and we will do so as soon as the returns are completed.

82. Every possible economy has been effected in the works and efficiency brought to a high standard, comparing favourably with other sugar producing countries, that there is very little margin for further reductions in the works and we must now look to a higher sucrose content and for further reductions in cost of cane.

83. Calcutta.

84. We are unable to give particulars of the relations between dealers and retailers, but so far as we are concerned, we are put into touch with our dealers by our brokers. Up to this year we had several brokers working on a commission basis from 8 to 12 annas per Rs. 100. These brokers would make us offers, which, if accepted, would be confirmed by contract between ourselves and the dealers, a deposit being required as earnest money, which the dealers paid; interest was allowed on this deposit. During the current season, we have obtained Sole Distributors for the whole of India—Messrs. Ralli Brothers, Ltd. While the system of their making us offers on behalf of dealers still continues to a lesser extent, the chief method of doing business is for us to give them option for a fixed period on quantities of each grade of sugar which we wish to dispose of, fixing the minimum price at which they can sell. In this case also, the arrangement between them and ourselves is by agreement, the actual contract, which is supplementary to the agreement being entered into primarily between them and their dealers.

85. The new Indian Sugar Mills' Association contract form is satisfactory except as regards Clause 8. The responsibility for the condition of sugar *sold f.o.r. factory* should be more clearly defined, as falling upon the buyer. Unless the buyer takes delivery at factory it is impossible to prove in what condition the sugar was despatched, and whether damage took place while in the hands of the carrier.

86. The figures with regard to this question can be obtained from dealers, importers and brokers. We ourselves are unable to give accurate figures, especially as most of our business in the past has been done through dealers in the Cawnpore market, and on an *f.o.r. factory* basis.

87. Variations in this case will occur when comparing wholesale forward business with ready petty sales, but for spot business there is little fluctuation between wholesale and retail prices, though the difference between these actually varies according to quantity, up to approximately 4 annas per maund.

We have taken the retail prices as covering lots of 5 to 25 bags, which are not necessarily in shopkeepers' hands, there possibly being a further difference in the actual shop price to the consumer.

88. We have very little information as to the storage arrangements made by dealers, but from our experience we understand that they are disinclined to keep stocks, preferring to utilise factory storage space, even to the extent of getting 3 or 4 months in arrears in deliveries. We have already given you our experience with regard to deterioration in storage against Question No. 66. We have no definite information with regard to conditions prevailing in dealers' godowns.

89. Under similar storage conditions we are of the opinion that Java sugar will deteriorate to the same extent as a good quality Indian sugar.

It is only in very recent years that the keeping quality of sugar produced in India has become a subject for serious consideration, since large stocks of sugar must now be stored throughout the monsoon period. Since it has been recognised that there has been a vast improvement in the quality of sugar manufactured in India, the keeping quality has also undoubtedly improved.

90. With the exception of the demand for Indian made sugar by a limited number of orthodox Hindus on religious grounds, Java, or other imported sugar is preferred, particularly by the middle and upper class

Indian consumers. The reason for this is, we believe, the uniformity of grain and superior, consistent colour of the imported sugar.

91. The average quality of sugar manufactured in India is inferior to imported Java sugar but there are many factories in India producing a finer product equal if not superior to that of Java.

The average Indian sugar is inferior to imported Java sugar in respect of purity, colour and uniformity of crystal size.

92. In our opinion the manufacturers carry the bulk of the stocks of Indian made sugar, the only dealers carrying stocks to any large extent being those at ports where storage facilities are offered by the Carrying Companies. Up-country dealers normally carry only sufficient stock for the immediate need of local retailers.

93. Yes. We consider this most desirable.

94. We favour a Central All-India Selling Organization, provided licensed control of production is also introduced. We consider, however, that it should be independent of Government control.

95. We think that the present system of standardisation is open to grave question. The value of a sugar does not depend on the size of the crystal or on its appearance in bulk in a glass container. Further, it is impossible to get two observers to agree as to the standard on such a crude system. This reply is continued in the attached note.

We would favour standardisation on rational which would include—

- (1) The polarisation or sugar content.
- (2) The colour determined in some formal way in apparatus such as the Lovibond Tintometer and expressed in definite colour units.
- (3) The quantity of suspended matter.
- (4) Possibly, but not necessarily, the quantity might also be included. Ash is of importance to the sweetmeat maker but he is not yet educated enough to appreciate its influence.
- (5) Uniformity of grain and absence of dust may be included.

96. (a) We have done no business so far on the basis of sugar standards. The reason we have not yet sold on this basis is that the graduated scale of price difference has not yet been agreed upon and the Industry as a whole is not prepared to sell on the basis of the standards. It is also felt that most factories are not yet in a position to turn out a uniform product capable of being graded under the standards.

(b) Yes. These standards are being used extensively at all our factories for internal control.

97. As opposed to standardising sugars, Messrs. Begg Sutherland & Co.'s group of Factories are to base their selling standard in respect of the next season, as follows:—

Factory Managers are to be asked to lay aside a certain number of bags of sugar now of a standard which they except to maintain during the next season. These bags are to be used as samples next season and the output based on these samples. Special care will be taken in storing these bags during the monsoon.

98. The possibilities of establishing a central marketing organisation, including a complete survey of markets, has been before the Indian Sugar Mills Association from time to time, but no progress has been made. We are in favour of an organisation on the lines of the Cement Marketing Board being set up, provided its control is vested in an independent body and it embraces all producers, with Government prohibition of new factories and extensions for purposes other than improvement of quality and efficiency.

The establishment of a "futures" market by dealers' Associations, on the lines of the East India Cotton Association should make for stability in prices by providing security for dealers operations, and thereby improving the general trade in sugar.

99. Over a period of seven years we believe the consumption of sugar, including Khandasari, and sugar refined from gur, to be about 1,300,000 tons annually, but as a result of the lower prices now ruling this figure should be exceeded.

An increased advertising campaign by the Industry through its Associations and possible collaboration with the Tea Industry, would, we believe, lead to increased consumption, the necessary funds being provided on the lines of the India Tea Cess.

100. We believe that factory sugar is replacing gur in the trade in increasing quantities, but we have no reliable information.

101. We see no immediate prospects of the establishment of fruit canning in India.

102. This information can be given much better by importers such as Messrs. Ralli Brothers, Ltd., Calcutta, Bombay, Madras and Karachi, Messrs. A. H. Bhiwandiwalla, Bombay, Messrs. Parasram Paroomal and Co., Calcutta, and Messrs. Kian Gwan Co. (India), Ltd., Sassoon House, Calcutta.

103. It may be accepted that Java, the chief importing country, has not realized remunerative prices for her sugars in any year between 1930 and 1936. In support of this view there is the knowledge that Java's production has fallen from 3,250,000 tons in 1930 to 500,000 tons in 1936.

104. None by sea so far as we know. A relatively small quantity finds its way across the Northern Frontiers.

We do not consider India could profitably export sugar unless world prices advance very considerably and then only if Indian sugar received specially favourable treatment on entry into the United Kingdom. There is, of course, the very remote possibility of India being in a position to sell a portion of her production for export at a loss, provided there was a compensating rise in internal prices.

105. The imposition of the first levy of Excise had some effect in not inducing unadvised expansion which would, however, have been better prevented by a system of licensing and zoning at the time protection was given, and in relation to a considered estimate of the demand existing for sugar in India. The latter imposition coincided with a period of abnormally low prices for sugar, which persists to-day. Owing to trade conditions the manufacturer except for a very brief period has not been able to pass on any share of the excise to the consumer. We have never understood why the cane growing section of the industry has not been called on to bear some share of the excise. The industry could have accepted with comparative equanimity a levy on profits on a reasonable scale.

106. A certain quantity is absorbed in the manufacture of country tobacco. Where distilleries exist molasses form a base for the production of alcohol. Recently a molasses exporting corporation has set up an organisation for the collection and export of molasses and has made extensive purchases. No data is available with us regarding the extent of these transactions but they must be of considerable magnitude. The prices realized do little more than cover handling charges. The residue we destroy in specially designed furnaces.

107. This has partly been dealt with under the preceding question. We understand the destination of the molasses exported by the Corporation is the United States and United Kingdom and it is used for the production of industrial alcohol. The possibility of export is handicapped by the inadequacy of transport facilities.

108. We are not altogether clear as to what is meant by "effective". If the development of an industry by an increase in production of 1,000,000 to us is effective the answer is "yes". If "effective" means the establishment of an ordered industry with security of capital combined with sound finance the answer is "no".

The effect of the import tariff, created in 1932 has been to create a barrier against imports from abroad behind which the industry has developed

at an extraordinary rate of progress—a very unhealthy rate as events have turned out. This expansion has taken place without any control either by Government or the industry itself. What appeared to be an attractive outlet for capital seeking employment has resulted in the launching of numerous undertakings without any proper consideration being given to local conditions. Suppliers of suitable raw material—financial requirements and in many instances without adequate, or even any, expert knowledge. The result has been that although India has been rendered self-supporting as regards her sugar requirements, her revenues have suffered severely from an almost complete stoppage of imports, while the domestic industry due to the reckless establishment of factories—many of which are unsuitably situated, the need of replacing revenue hitherto realised from the import of tariff by the imposition of an excise duty an utter absence of any organization for the marketing of its sugar finds itself to-day confronted with a situation which, to say the least of it, can only be described as extremely critical even in the case of the most efficient units of the industry.

109. The original object of protection aimed at the country producing its total sugar requirements, and this object has already been attained. We therefore consider that the extent of protection should be kept at such a level as to limit imports of foreign sugar.

We are of opinion that the existing level of protective duty is such that the ryot obtains an equitable return for his enterprise, and that this will only continue provided the position is not aggravated by imports of sugar from abroad.

It does not follow that world conditions will remain unaltered between now and 1946, and we therefore recommend the present level of protection being maintained, and further, that the Government should take powers to regulate it as and when necessary, to limit the entry of foreign sugar into the country.

110. (1) Improvement in Agriculture and communications and the application of research so as to reduce the cost of cane and improve its sugar content.

(2) Means to control borer infestation and simultaneously increase the sugar content of the cane.

(3) The adoption of the zoning system which will allow factories to help the small grower to make use of the results of research.

(4) Means to ensure the manufacturer obtaining a fair share of the protection by correlation between the cost of cane and effective selling price of sugar (after deduction of Excise) which will demand a centralized marketing organization with power to regulate sugar prices.

111. So far as we are aware, no industry has been affected by the import duty on molasses.

The Pursa Sugar Factory, Champaran.

REPLY TO QUESTIONNAIRE.

1. 1906, 500 tons.

2. Output of Factory for the last 7 years:—

Year.	1st Crystal.		2nd Crystal.		Total.	
	Mds.	Srs.	Mds.	Srs.	Mds.	Srs.
1929-30	48,265	10	18,103	10	66,368	20
1930-31	65,895	0	28,640	0	94,535	0
1931-32	97,260	0	34,327	20	131,587	20
1932-33	114,180	0	41,280	0	155,460	0
1933-34	90,407	20	33,659	30	124,067	10
1934-35	87,043	0	30,027	20	117,072	20
1935-36	131,194	32	43,420	0	174,614	32
1936-37	141,600	16	40,717	20	182,317	36

(up to April 30th).

3. The Factory is advantageously situated in respect of (a) cane and labour supply (b) but unfavourably for (b).

4. Single Sulphitation.

5. (a) Cane knives value Rs. 10,066-6-3.

(b) Clandria Pan, Rs. 31,066-0-6.

6. Double Sulphitation.

7. Overhead charges decrease in proportion to the size of the mill, which depends on the amount of capital available and the cane available.

(b) Minimum economic size is 500 tons.

8. Almost all sugar machinery has to be imported.

9. (i) and (ii) Yes.

10. We cultivate sugarcane. Land purchased outright for the most part. No difficulty.

11. (a) Total area held 2,800 acres.

(b) One-third.

(c) Co. 213, 210, 326, 299 & 313. Yield 300/400 maunds per acre.

(d) Cane, Fallow, Rabbi, Green manure.

(e) 400 Maunds per acre.

12. (a) 6 acres for new varieties of cane.

(b) We sell large quantities of seed to cultivators when of approved quality.

13. I have experimented with Co. 299, 313 & 331, all cane has manuring with green manure and or cattle dung and superphosphates, nicifos, castor cake, etc. The agricultural department has helped with seed and advice.

14. (a) An enormous increase, owing to increased planting and the unattractive prices of gur.

(b) Coimbatore canes have largely taken the place of the local indigenous Hemja.

15. Damage from frost is negligible but that from disease and insect pest is very great. The percentage of the loss varies greatly but can never be less than 20 per cent.

16. Ample supplies, as the area has been nursed for 30 years.

Hemja.

213

210

} Field yield between 200 and 650 maunds when per acre.

In addition to these will be Nos. 299 and 313 when distributed next planting season.

17. Our supply is ample and we pay the rate fixed by Government. Other Factories take off some cane from our area but conditions do not warrant any raising of price on our part in order to prevent this.

18. (a) It has been large for many years as ours is not new mill but the area has still further increased in the last few years.

(b) Erection of new mills caused the increase. The slump in sugar and cane prices is not causing the reduction.

(i) Excessive rain and floods are responsible for more damage than in drought.

(ii) The drop in sugar prices and consequently of cane has caused a reduction in planting.

(iii) Ryots much prefer to send cane to the mill rather than crush it in small bullock-mill.

(iv) Sugar cane is the Ryot's last cash crop. A big rise in grain crop would cause further reduction in the area under cane if sugar prices do not improve.

19. It is not in excess of requirements if mills can be sure of a profit. Six months crushing has cleared off all cane and this year was a bumper crop, the yield being higher than the average, and the area planted was the largest to date.

20. The average yield may be put at 270 maunds per acre. An estimate of costs would be of little value as it would depend on what value is placed on the Ryot's own time.

21. We have two tramlines and ample carts.

22. (a) It should not be necessary if sugar price are good. The local Ryots like to grow cane.

(b) Zones are desirable but so far no arrangement has been arrived at between mills except the home convention whereby the mills home station is free of the weighbridge of other mills.

23. We have always given large cane advance, which are at present Rs. 12 per hundred maunds. We have two tramlines and are always anxious to supply good seed at the mill price for cane.

24. (a) I do not think the surplus of sugar justifies this course at present. A reduction of 10 per cent. on last years' cane would turn the surplus into a shortage, and less cane has been planted this year and it is unlikely to be a second bumper crop.

(b) (i) Yes, Government, when fostering an industry should obviously have controlled its growth. If most provinces make their own sugar, Bihar and United Provinces mills will have to close. (ii) This is less easy to answer, A Mill with present small margin of profit can be hardly expected not to demand the right to increase its crush and so help out a meagre profit.

25. (a) 75 per cent.

(b) Nil.

(c) 25 per cent.

The proportion remains approximately the same.

26. All by carts. 20 maunds per cart. I use rubber carts for my own farm cane, but I doubt whether they would suit the Ryot who has no housing for it, and the tyres would be very liable to damage, wilful and accidental. My carts carry fifty maunds cane.

27. Adequate, Condition fair.

28. Up to 8 miles. Usually cut the previous day. No protection from deterioration *en route*.

29. Half anna per maund, up to five miles. They employ their own or hire them. Rates vary according to distance from half to three-fourth anna per maund.

30. No.

31. Supply is organized by Europeans, and no carts are kept unweighed over night. The exact quantity is sent so there is no detention except an hour or two.

32 & 33. No rail cane.

34. The rates of Railway freight on lime stone and manure, etc., are very high.

35. 18 miles. Average cost varies according to quantity of repairs to trucks but the up keep is heavy and as the charge is borne by the mill, not the grower who gets gate rate, we may be forced to close them. We have petitioned for the right to pay lower rate for tram-borne cane but without result. The Ryots would prefer to accept lower rate rather than cart to the mill.

36. It is no longer advantageous unless the price of tram-borne cane is reduced.

37. No Rail Cane.

38. All cane is purchased direct from growers.
39. Cash advances of Rs. 12 per hundred maunds. May be reduced to Rs. 10 if cane prices remain low.
40. No commission. All purchased direct.
41. All purchased direct from growers, none from associations. We prefer to insure direct payment to Ryots.
42. All accounts are paid by Europeans on demand, when advances are covered.
43. We now pay Government rate. Previously rates were fixed by the mill and were higher as were sugar prices.
44. Government scale in accordance with sugar price.
45. Government scale in accordance with sugar price, therefore unaffected by price of gur.
46. Large variations. Supply and demand.
47. We have not paid in excess of Government rates.
48. The basis has sometimes been fixed unfairly on quotations rather than on actual sales. The local Mills Association could give a full answer to this point as it has had frequent correspondence on the subject and it, rather than individual mills, can give a reply.
49. The bonus system would be most difficult to operate for the different varieties are most difficult to distinguish and carts could and would contain a mixture if supplies sold on bonus system.
50. From 4 to 6 months. The period has increased annually as new mills increased their gate cane rather than encroach on our area for rail cane, 6 months is the maximum season desirable.
51. Six months is the maximum.
52. Their assistance has been of great use. The great need now is a cure for cane disease.
53. All labour is Indian except for 3 Europeans.
54. Local Indian labour except for 3 Europeans.
55. See 53.
56. Most of the men live in nearby villages; others are housed in brick houses at the mill.
57. Three years before we have never been able to meet whole of our requirements of fuel from the bagasse available in our factory. But for the last three years since we have bought Thompsons' Boiler we require much less fuel from outside than before. Heating value of fibre varies every year. (2) No. We give it away if any bagasse is left.
58. Molassea.
59. Price depends on demand, which the supply now exceeds.
60. There is now almost no market for molassea.
61. It has to be run into pits and its destruction is a difficult problem. We should welcome any scheme by which it could be utilised, economically, for conversion into petrol or otherwise.
62. See above.
63. No.
64. See separate list.
65. Godowns at mill and Rail head have a capacity of 110,000 maunds. We have increased by building two new godowns.
66. Sugar made by the Sulphitation process is more liable than sugar made by carbonitation. The damage occurs almost entirely during the rains, and is about 2 per cent.
67. We sell it at reduced price.
68. We know of no method.

69. Saturating due to humidity.
70. There is very often delay in obtaining wagons for sugar.
71. No.
72. See separate list.
73. There are in England and not available.
74. Depreciation is done as authorised by Income-tax Department.
- 75 & 76. See 73.
77. The Company is privately owned and financed.
78. No Managing agents.
79. 10 per cent.
80. Forms* returned herewith.
81. The quality of sugar is improved.
82. There seems very little scope for further reduction.
83. Cawnpore and Calcutta.
84. Our sugar is sold through our Selling Agent Messrs. Bird & Co., who enters into contracts with the dealers and send despatching instructions and accordingly sugar is booked to the address of our agent who collect the value and make over the Railway receipt to the dealers.
85. Yes. We have no suggestion to make.
86. See Mills Association Records.
87. The difference is not very large and represents the retailers profit.
88. Godowns. Loss by sweet during Rains.
89. We are not in a position to say. Have no information about it.
90. Preferred by a small minority.
91. No colour and keeping qualities.
92. We have financed our Concern so far without giving a lien on sugar except for recent years we have never had a surplus of unsold sugar by the time new season starts.
93. I leave this point to the Association who are in a better position to judge.
94. Most desirable if it can be organised.
95. I accept the proposed reply of the Association.
96. None.
97. Not sufficient experience as yet.
98. I do not favour the establishment of "future" and "terminal" markets as yet.
99. The Association has better access to these figures than I have.
100. I have no means of estimating.
101. I have no information.
- 102 to 104. See 99.
105. It has reduced profits to vanishing points.
106. None.
107. See 99.
- 108 & 109. The Import duties have undoubtedly kept down the Import of Java sugar and if they are withdrawn or reduced the Indian sugar industry will be completely ruined. The Duties have, as was intended, made India self-supporting in sugar supply and I cannot see what complaint the Government can have that they have succeeded in their avowed intention. They cannot expect both to receive Import duties and exclude Java sugar. If, owing to the size of the duties, the Indian Industry had taken the opportunity of charging extortionate prices for sugar the position

would demand enquiry but the price of sugar is so low that it cannot well go lower without grave damage. Now that India is self supporting, the Import duty should be high enough to make import unprofitable. The consumer would seem to be amply protected from profiteering by the keen internal competition. Loss of Revenue there must be but this must have been foreseen when the policy of making India self supporting was initiated. The Industry gives employment to large numbers and provides the agriculturists with his one cash crop. The cane crop has undoubtedly saved the ryot from bankruptcy in these years when the price of grain has been so low.

110. The careful licensing of new mills. The lack of this has brought the Industry into great danger already. The Industry itself should too arrange a selling Organisation. At present mills are at the mercy of dealers even if surplus is small or nil, and sugar is sold at low prices for no good reason. Both Mills and growers suffer loss that could be avoided.

111. See 99.

Enclosure No. 1 (Question No. 64, *re* Sugar Stocks.)

Seasons.	Beginning of Season.		End of Season.	
	Mds.	Srs.	Mds.	Srs.
1930-31 . . . . .	...		70,666	35
1931-32 . . . . .	...		66,647	20
1932-33	20,026	3	85,077	5
1933-34 . . . . .	...		50,417	20
1934-35	6,493	24	66,638	0
1935-36 . . . . .	...		100,707	12
1936-37	43,355	10	86,197	20.

Enclosure No. 2 (Question No. 59, *re* Molasses).

	Outturn.	Sales.	
	Maunds.	Rs.	A. P.
1930-31	49,500	70,856	9 6
1931-32	66,500	41,626	11 9
1932-33	70,500	3,412	14 3
1933-34	62,000	76	9 9
1934-35	43,600	5,462	11 0
1935-36	24,500	2,614	14 9
1936-37 (to April)	17,500	1,029	0 0

Enclosure No. 3 (Question No. 72, *re* average price of sale for sugar for seven years).

	Price per Md.
	Rs. A. P.
1930-31	8 8 0
1931-32	9 13 2
1932-33	8 12 0
1933-34	7 14 0
1934-35	8 1 2½
1935-36	7 1 1
1936-37	5 13 9

The New Swadeshi Sugar Mills, Ltd., Champaran

REPLIES TO TARIFF BOARD QUESTIONNAIRE.

1. Our factory began the manufacture of sugar in the season 1932-33. Its present capacity is 500 tons cane per day.
2. The Output of our factory has been as follows:—

	Cry. No. 1.	Cry. No. 1.	Cry. No. 2.	Crushed No. 2.	Total.
	Mds.	Mds.	Mds.	Mds.	Mds.
1932-33 .	84,547	25,803	43,927	18,173	172,450
1933-34 .	145,542	2,335	83	—	147,960
1934-35 .	133,740	24,371	—	11,813	168,924
1935-36 .	228,430	1,670	—	10,310	240,410
1936-37 .	262,520	5,316	17,122	9,212	294,170
			Special		

3. Our factory is at a disadvantage in respect of (a) and (b).

(a) Owing to low level of land and paddy crops, the available gate cane is insufficient, and freight on lime, sulphur, coal and sugar, etc., is heavy.

The condition of roads and bridges is very bad and hence transport of gate cane is very difficult and irregular.

(b) Period allowed for loading and unloading of cane wagons require to be increased and timings should be altered to suit requirements. Shortage of wagon supply for sugar is a constant difficulty.

4. Our process of manufacture is sulphitation.

5. The following amounts have been spent by way of extensions of building and machinery:—

	Rs.	A. P.
1933-34	77,893	6 9
1934-35	1,16,605	10 0
1935-36	58,832	14 9

6. Some small extensions have been made during 1936-37 and no further extensions are contemplated.

7. (a) The main determining factors are the quantity of suitable cane available at gate and the period for which it is available. (b) Under present conditions small factories are more advantageously situated, as they are in a position to obtain sufficient supply of fresh cane at gate, with consequent benefits of Railway freight and higher recovery.

8. Simple parts such as cast iron pipes and tanks, etc., comparatively easy to manufacture are obtainable in India. Sugar machinery being a specialised manufacture all machinery and important parts have to be imported.

9. The Imperial Institute of Sugar Technology should have sufficient staff of Technical experts to be in a position to render sure and prompt assistance.

10. We undertake cultivation of sugarcane, but on a small scale. Some of the land has been purchased while some has been obtained on lease. We are unable to obtain on reasonable terms land in the neighbourhood of the factory.

11. Total area held is about 800 acres, average under cane each year being about 200 acres since last 2 years. Varieties of cane grown chiefly Co. 213 and partly 331, 299 and 313. Yield irregular with an average of about 300 maunds per acre.

12 & 13. The Agricultural Department is experimenting upon about 4 acres set aside by us for the purpose. We have no separate area reserved for seed distribution.

We made an experiment with Belapur cane but could not achieve satisfactory results on account of irrigation difficulty.

14. (a) The quality of cane available in the locality has increased in recent years, but the gate cane is still irregular and insufficient. Still about 35 per cent. has to be imported by rail, with consequent loss on freight and in recovery.

(b) The quality has improved gradually but not yet satisfactorily.

15. About 5 to 10 per cent. one year the cane damaged by excessive rain and floods.

16. The factory is not assured of a sufficient supply of suitable cane. Principal varieties of cane crushed in our factory are Co. 213 & 210. The field yield is about 300 maunds per acre and the average sucrose about 12 per cent.

In the absence of zoning, if at the end of any season supply runs short competition starts. Its effects varies according to the circumstances. Such competition is however very harmful.

18. (a) Yes.

(b) The variations are due to climatic conditions, price of cane and price obtainable for alternate cash crop.

19. The production of sugar cane in our gate area falls short of our requirements. As we require more cane at gate so question of any restriction does not arise in our area.

20. The approximate cost per acre is estimated at Rs. 55 to Rs. 60 including cartage, with an outturn of about 300 maunds per acre.

21. Absence of good roads is a very great handicap. The road difficulty required to be promptly remedied by the local Boards.

22. (a) We are not in favour of compulsory acquisition or leasing of land which should be left to voluntary negotiations.

(b) With a view to remove uneconomic and harmful competition for cane and to establish more intimate and mutually beneficial personal relations between factory and the cultivators it is desirable to introduce a system of zoning, with due regards to the requirements of individual factories each of which should thus be enabled to get its full requirements at gate.

23. The development and proper maintenance of feeder roads is a legitimate function of local Boards. As regards advances of cash or supply of seed and manure we do advance every year about a lakh of rupees, and if a zone system is introduced we shall be glad to continue advances upto this extent. It is however essential that the timely recovery of such advances should be well secured.

24. (a) We are in favour of fixing a quota but do not consider its necessity to have arisen as yet.

(b) The erection of all new factories and extensions of existing factories should be made subject to License. The Licensing should be made subject to License. The Licensing should be entrusted not to Provinces but to an All-India body.

25. The proportions of gate and rail cane vary from year to year. This year gate cane 66 per cent. and rail cane 34 per cent.

Last year gate cane 40 per cent. and rail cane 60 per cent.

We have no tramway communications in our area.

26. Our gate cane is entirely transported by carts. The average weight of cane carried per cart is about 16 to 17 maunds. We use a few rubber tyred carts which carry about 40 maunds of cane, but unsatisfactory condition of roads is a great handicap.

27. The mileage of roads in our area is inadequate and the condition of main and feeder roads is very bad.

28. Cane is brought by road from about 5 to 6 miles. The average time taken between cutting and delivery at factory of gate cane is approximately 18 to 20 hours.

No protection is provided against deterioration during road transport.

29. The average cost of transport of cane by cart is about 6 to 7 pies per maund for a distance upto 6 miles. The cost does not vary exactly in proportion to mileage. Some growers employ their own carts while some have to hire them. The average cost of hiring is about 7½ pies per maund.

30. No.

31. We have sufficient weighbridges which are in continuous use. The normal detention of a cart at our factory is about four hours. Number of weighbridges has been increased, space for parking of carts has been extended and proper tracks have been provided for speedy regulation of the carts.

32. Our rail cane is normally transported from a distance upto 30 miles. The average time taken between cutting of cane and delivery at factory is about 36 to 40 hours. The railway arrangements for loading and transport of cane are not satisfactory. The time allowed for loading and unloading of wagons should be extended and the rules regarding demurrage should be relaxed in cases of crushing stoppages owing to breakdowns.

33. Railway freight on cane—

Types of vehicles.	Wagon	Minimum
	mile rate (Owners Risk).	rate per wagon (Owners Risk).
	Rs. A. P.	Rs. A. P.
1. Open cane wagons 6 & 8 tons 14 feet, and open wagon 10 tons 14 feet	0 2 6	5 0 0
2 & 3. Covered goods wagon four- wheeled, 4 inches, and open wagon, 11 tons, 15 feet 7 inches	0 3 6	6 0 0
4. Cage trucks, 10 tons	0 4 3	7 0 0
5. Cage trucks, 12 tons	0 4 9	8 0 0

There has been no change in recent years. We consider that a maundage rate per mile—so devised however that the rate applicable to the maximum zone distance does not exceed the present flat rate—would be more advantageous.

34. The rates of freight on lime, sulphur, coal and manure should be reasonably reduced.

35. There is no tramway line in our area.

36. We consider a tramway system to be generally advantageous. There would be no special difficulties in laying out a tramway system.

37. Delay in delivery results in much deterioration, the extent of which varies according to weather.

38. The proportions vary from year to year. Presently however about half is purchased from growers through Gumastas and the rest through contractors. A small quantity is purchased from growers direct.

39. The cultivators execute sattas for the supply of cane. We give advances in cash or provide seed and manure of about Rupees one lakh as necessary according to circumstances.

40. We employ Gumastas at a remuneration of As. 8 per 100 maunds while to contractors we pay commission varying from Re. 1 to Rs. 1-9 per 100 maunds.

41. No.

42. We have 2 weighbridges for loaded carts and 2 for empty carts for weighing gate cane. The rail cane is weighed over a separate Railway weighbridge. At each of the stations from which we draw rail cane, one weighbridge is provided.

The normal interval between delivery of cane and payment is 10 days. For non-satta cane (the proportion of which is very small) payment is made at the time of delivery of cane.

		Per maund.		
		A.	P.	A. P.
43.	1932-33	5	6	excluding Railway freight and commission.
	1933-34	5	0 to 5	3 Ditto.
	1934-35	5	0	Ditto.
	1935-36	4	9 to 5	0 Ditto.
	1936-37	4	9 to 4	0 Ditto.

At the end of the seasons 1933-34, 1934-35, and 1935-36 annas 2 to annas 4 more per maund had to be paid on account of competition due to scarcity, while at the end of 1936-37 the minimum rate was reduced to annas 3 on account of the cane available in the district being in excess.

44. The price of cane is regulated by Government.

In case of supplies being found insufficient at the end of any season competition starts and prices much higher than the then prevailing minimum are paid.

45. Normally the price of Gur or Khandsari sugar have no appreciable influence on the supply and price of cane in our area.

47. Owing to available supply being short at the end of seasons 1933-34, 1934-35 and 1935-36 we had to pay about 2 annas to 4 annas higher due to competition.

48. We consider the present system of fixing minimum prices as unsatisfactory. It creates a very uncertain and vicious side. We would suggest that the minimum (at or about 4 annas) be made applicable for the whole season.

49. The question of "Bonus" payments for superior early and late varieties should be left for settlement between the factories and growers, by mutual arrangements in each case. In their own interests the factories will be inclined to give such bonus. If however "Bonus" is fixed by legislation its proper working would be very difficult and a compulsory bonus may give scope for malpractices.

50. The duration of the crushing season has been as under:—

1932-33	—11th November, 1932, to 2nd June 1933.
1933-34	—5th November, 1933, to 24th April, 1934.
1934-35	—24th November, 1934, to 2nd April, 1935.
1935-36	—19th November, 1935 to 14th April, 1936.
1936-37	—24th November, 1936, to 16th May, 1937.

The duration of the season depends upon the cane supply. For economical working longer seasons are desirable. Longer seasons would however result in increased production for which an outlet by way of export to foreign countries is necessary to be provided.

51. Introduction of early and late varieties would not be necessary until consumption of sugar increases or export is permitted.

52. The agricultural Department should keep in each District sufficient number of trained hands to try for achieving sufficient increase in yield and improvement in the quality of cane.

53. Factory labour (skilled and unskilled) during crushing season about 750.

54. Panmen were during one season imported from abroad. Skilled labour is partly recruited from other provinces as and when necessary.

55. In full.

56. We provide free quarters, fresh tubewell water and free medical aid and support educational institutions of the town.

57. The following amounts were spent for fuel:—

	Rs.
1932-33	23,187
1933-34	15,547
1934-35	9,887
1935-36	3,465
1936-37	9,419

58. Bagasse, molasses and press cakes.

59. The Outturn and the price realised for molasses for the five years are as under:—

Year.	Outturn in maunds.	Price realised.
		Rs.
1932-33	80,000	235
1933-34	70,000	3,276
1934-35	64,000	3,910
1935-36	94,000	13,773
1936-37	120,000	6,000

Outturn depends chiefly upon the quality of cane. The price depends upon demand and Railway freight.

60. We have practically no market for molasses. Recently our molasses have been purchased by the Indian Molasses Co., Ltd., who supply their own tank wagons. The Railway do not supply tank wagons to factories. The rate of freight from Narkatiaganj to Samariaghat where the Indian Molasses Co.'s depôt is situated is 1 anna 7 pie per maund.

61. If the Indian Molasses Co., Ltd., do not buy the molasses their disposal would be difficult problem.

The Indian Sugar Mills Association has repeatedly dealt with this matter and we consider that the remedial measures should not be delayed any further.

62. We do not have any surplus bagasse.

63. Increased use should be made of filter cakes for manuring purposes.

64. The stock figures at the beginning and at the end of each crushing season are as under:—

	Beginning.	End.
	Mds.	Mds.
1932-33	Nil	87,055
1933-34	7,917	17,700
1934-35	17	99,870
1935-36	196	131,196
1936-37	3,995	96,584

65. Our storage capacity has been recently increased, the present capacity being about 60,000 bags.

66. About 5 per cent. of the Sugar deteriorates or suffers damage in storage, mostly due to atmospheric influence, heavy rains and floods.

67. Such sugar as requires reconditioning is reconditioned in the following season while the rest is sold outright at some lower price.

69. Complaints are sometimes received of damage to sugar in rail transit. This may be due to improper arrangements at transhipment stations.

70. We do not get sufficient wagons for sugar transport and are put to heavy loss owing to delay in delivery of sugar to the markets. Shortage of wagon supply is a standing difficulty which requires to be removed as early as possible.

71. The free period allowed at destination stations for taking delivery requires to be lengthened and the scale of demurrage charges requires to be satisfactorily reduced.

72. Year.	Cry. No. 1.	Cry. No. 1-A.	Cry. No. 2.	Crushed No. 2.	Actual price realised.
	Rs. A.	Rs. A.	Rs.	Rs. A.	Rs. A. P.
1932-33	10 0 to 8 14	9 8 to 8 14	9 to 8	9 0 to 7 0	8 9 3 ...
1933-34	9 4 to 7 14	9 0 to 7 12	...	...	8 4 6
1934-35	9 12 to 7 14	9 8 to 7 12	...	...	8 3 9
1935-36	8 8 to 7 0	...	...	8 8 to 6 14	8 1 9
1936-37	7 0 to 5 12	...	...	...	...

The freight rates are as under:—

	Rs. A. P.
Calcutta	0 13 9
Bombay	1 2 3
Madras	1 1 3
Cochin	1 3 2
Tuticorin	1 3 5
Mangalore	1 0 9
Calicut	1 3 1
Asansol side	0 13 1
Tatanagar side	1 1 5

73. Copies of 4 balance sheets are enclosed herewith.

74. The amount of depreciation written off is as under:—

	Amount provided by us.	Amounts allowed by Income-tax Department.
	Rs.	Rs.
1932-33	75,000	44,408
1933-34	80,000	75,567
1934-35	87,000	82,721
1935-36	90,000	Not yet decided.

75. The amounts set aside for Reserve (against Debentures) are as under:—

Year.	Amount.
	Rs.
1932-33	60,000
1933-34	60,000
1934-35	10,000
1935-36	75,000

76. Amounts distributed as dividends:—

Year.	Amount.
	Rs.
1932-33	58,000
1933-34	43,500
1934-35	43,500
1935-36	50,750

77. At an average rate of interest about 5 per cent. Working capital is lent by the Managing Agents. A cash credit account against stocks is arranged with the Bank.

78. Head Office expenses about Rs. 6,000 per annum.

The Managing Agents were paid following amounts as commission:—

Year.	Amount.
	Rs.
1932-33	40,771
1933-34	58,229
1934-35	35,417
1935-36	59,635

The Managing Agents receive 2 per cent. on Sales and 5 per cent. on profits upto Rupees one lakh and 10 per cent. on profits in excess of Rupees one lakh.

79. 10 per cent. on the total gross block amount.

80. Forms* enclosed.

83. Our principal marketing centres are Eastern and Southern India, and partly Bombay. In respect of Sugar Marketing our factory is very disadvantageously situated.

84. The Sugar is sold through commission agents to dealers.

85. We consider the latest contract form recently adopted by the Indian Sugar Mills Association to be a suitable one.

89, 90 & 91. The best quality Indian Sugar is as good as the imported sugar in keeping and other qualities.

Java sugar is preferred in hotels and restaurants run in the European style for their customers. Europeans and Europeanised Indians. But even here high grade Indian sugars are replacing Java Sugar.

93. No.

94 & 95. Yes.

96. (a) Nil.

(b) Yes, for classification of output.

97. A material reduction in the price of the standards is essential.

98. "Futures" or "Terminal" markets if established at Calcutta, Bombay and Cawnpore are likely to prove very advantageous to the interests of all concerned.

99. About 1,100,000 tons. Continuance of cheap price accompanied by good propaganda should not fail to achieve in course of time a substantial increase in consumption. More uses of sugar should be found by encouraging subsidiary Industries such as sweets, syrups, etc.

100. Unable to estimate the extent. While for certain sweets Gur is still preferred, the substitution of sugar for Gur has gone far in the sweetmeat trade.

103. Java Sugar was landed at unremunerative prices during 1934. The following c.i.f. quotations speak for themselves.

	Price in Indian currency per Md.	
	Rs.	A. P.
1934—August 21st to 26th September	3	0 4½
September 27th to 6th October	2	13 4½
October 7th to 10th	2	12 1
October 11th to 27th	2	13 4½
October 29th	2	11 6
November 13th	2	9 9
November 14th	2	9 3

104. Facilities should be given for export of Indian Sugar to the United Kingdom by admitting it at certified colonial rates.

105. The excise duties have placed a premature burden on the sugar industry, as well as the consumers, while the growers have suffered on account of consequent reduction in cane prices.

108. The measure of protection has been justified as will be found from the increase in the number of new factories, reduction in the quantity of sugar imported, increase in the Indian production of sugar and consequent decline in the price of sugar, benefiting the consumers. Growers of cane and labour (skilled and unskilled) have also benefited.

109. The present extent of protection requires to be continued throughout the remaining period.

110. Permission for and encouragement to the exports of Indian sugar. Development and maintenance of good roads. Utilisation of molasses. Establishment of an organization for increasing yield and quality of cane.

111. No Indian Industry has suffered as molasses are available at nominal prices in India.

Harinagar Sugar Mills, Ltd., Champaran.

ANSWERS TO THE QUESTIONNAIRE OF THE TARIFF BOARD.

Production of Sugar—Introductory.

1. The factory began its first working season in 1933-34. Its present capacity is 1,000 tons per day of 22 hours.

2. The output of our Factory has been as follows:—

	Mds.	Srs.	} Only one class of sugar has been produced.
1933-34	116,522	20	
1934-35	212,432	0	
1935-36	297,522	0	
1936-37	368,089	0	

3. (a) So far as cane supply is concerned, the situation of the factory is neither advantageous nor disadvantageous. The cane supply is annually

increasing. But there is likely a danger of set back, if the price of other staple crops (rice) rises high. The other danger of set back in the supply of cane is feared because of low price of cane due to low price of sugar and also from the stock borer insect disease which requires to be controlled immediately.

So far as supply of raw materials (limestone, etc.) is concerned, our factory is decidedly situated at the disadvantage being farthest from all ports and markets. Our factory is equally at the disadvantage from the point of view of Sugar Consuming Centres; it being situated farthest from all important markets.

(b) Regarding Facility of Rail, etc. We have got the railway facility at the site of our Factory, but the roads are very bad being ill-maintained by District Board. Other communications are not bad.

(c) There is no special complaint regarding adequate supply of labour from near localities. We get enough labour.

4. Double Sulphitation is the process practised in our factory. The Sulphitation is the cheaper process of manufacturing white sugar, while Carbonation process though costs more gives much superior sugar in colour as well as in keeping quality in comparison to the former process and slightly higher recovery. In our opinion the best process is the process of making raw sugar in the first instance and refining it afterwards by vegetable carbons which would yield sugar best in colour and keeping quality, but this is costliest of all processes.

5. In 1934-35 we spent Rs. 2,06,648-9-3 on addition of Mill and Engine, Generator, Heater, Sulphitor, Pumps, Evaporator, Centrifugals, Crystallisers, etc.

In 1935-36 we spent Rs. 1,19,803-4-0 on one Mill, Dorr Clarifier, Vacuum Pan, Crystallisers and Centrifugals, etc.

In 1937 Rs. 3,50,000 to be spent on extension of Dorr Clarifier, New Turbo Generator, New set of Evaporators, Boilers and Vacuum Pan, Crystallisers, Centrifugals, Condensers, Water Pumps, etc.

With the above addition of Machineries and some other changes in the mill the crushing capacity of the Factory will come up to 1,250 tons per day.

7. (a-i) Cane supply of early and late variety to have crushing at least 5 to 6 months in a year.

(a-ii) Overhead charges, interest on capital, expenditure and depreciation which all make up the cost of manufacture, would be well distributed over the whole output if the crushing season is reasonably long enough.

(b) In our opinion, the smallest unit for producing white or raw sugar under the present conditions should not be less than 1,000 tons per day, in order to have overhead charges reduced to a reasonable figure.

8. With the exception of structural work such as staging, etc., steel tanks and some other minor things, we are yet entirely dependent for most of the factory equipment on foreign countries. It is however, a matter of satisfaction that Indian firms are making best endeavours to supply the needs as far as possible of the sugar mills.

9. (i) There is no question of satisfaction of the assistance from the Imperial Institute of Sugar Technology as we hardly receive or experience any such thing which we may call assistance from the Institution save and except the supply of figures.

(ii) The above remarks apply equally to the Industries Department of the local Government.

Our suggestion is that the Government should depute very capable technologists with very vast experience of practical work for going round groups of Factories situated in several districts and after collecting working data of factories suggest to them the ways and means of overcoming their respective difficulties if any, and assist them as far as possible to get the best results in working, efficiency and recovery.

Raw Materials.

10. Yes; not directly, but through private concern of the Managing Agents.

Part of the holding is outright purchase and part of it is on Usufructory mortgage.

Though much land is lying fallow, but it is not easily available for cultivation of cane as the owners refuse to part with their holdings as they cannot make up their mind on reasonable value and ask exorbitant price thinking that they can get any price from the Mill which they demand, Ramnagar Raj has got big areas of *parti* lands but inspite of being approached several times they have not yet settled any land.

Position of our mills in respect of supply of cane is very precarious, i.e., if the price of paddy goes up at any time, there is every likelihood of the cultivators reverting to the cultivation of paddy crops. In order to safeguard against such emergencies as above, in our opinion, the mills to be partly self-sufficient must have at least as much land of their own as would be sufficient to supply them at least half the requirements of their cane for a season; and so much *parti* land is lying that the mill can get sufficient land without affecting anybody's interest provided the Landlords are reasonably-minded.

Our suggestion is that the best way the Government can assist the Mill-owners to safeguard their position in respect of supply of cane is by passing necessary legislation which would enable the Mills to acquire sufficient lands in one consolidated piece which is absolutely necessary for scientific and mechanical cultivation on a large scale for economic results.

11. (a) 1,200 acres.

(b) 1935-36 crops 230 acres land under cane.

1936-37 crops 450 acres land under cane.

(c) Varieties grown are mostly Co. 213 the following other varieties are also being tried: 299, 313, 331, 210,

(d) *System of Cultivation*.—Partly by Tractors and partly by bullocks. But the cultivation by tractors appears to be rather costly on small scale and scattered areas of land. We harvest two crops from plant cane. And after green manuring it, plant cane in the following season. We do not leave land fallow. Apart from green manuring the land, farm yard manure as far as it is available is applied at 200 to 300 Maunds per acre. But farm yard manure is available only for a small area. For the rest major portion mixture of Castor cake, Sulphate of Ammonia, Double Super Phosphate are applied so as to give 40 lbs. of nitrogen and 50 lbs. of P₂O₅ per acre. Half is applied at the time of planting and half at the time of earthing.

(e) Average 213 variety about 500 maunds per acre.

Sucrose content average 11.6.

Cost of cultivation per acre 112-5-4.

12. (a) No big special area is yet set aside for experimental purposes. But small experiment plots are laid every year in representative areas.

(b) Seeds are distributed and sold to cultivators.

13. As mentioned above, we are trying early and late varieties, i.e., Co. 299, 313 for early and 331 for late harvest with results we prefer 313 to 299 for early variety and as regards the results for 331 we have not been able to decide its superiority over 213 cane.

We have been trying different mixtures and kinds of manures but so far we have not been able to find out most suitable manure for maximum results.

Although we have been receiving now and then assistance from the Agricultural Department which is no doubt helpful to us in a way, yet we think that there is much greater scope for the agricultural Department of the

Government to assist us and the cultivators particularly in many and various ways, and we desire that the attention of the Government should be particularly drawn to this fact, as the future of the Sugar Industry is mainly dependant on what the Government can do to reduce the cost of production of cane per acre and improvement of the quality.

14. (a) The cultivation of cane has been keeping fairly steady pace with the growth of Mills in the district which in our opinion has been due mostly to low and unremunerative price of the paddy crops. Now that the price of sugar has considerably declined, the cane growers are not getting in our opinion sufficiently attractive prices for their product and, therefore, in order to make them keep sustained interest in the cultivation of cane, it is absolutely necessary for the Government and the public to make vigorous endeavours to assist the growers in getting considerably greater tonnage of cane with better sucrose content from the same area of land with improved cultivation. We think that the need for rationalisation of industry has now come and unless the whole house is put in order, there is danger of ruining the industry which is yet in its infancy.

(b) We do not think that the quality of cane has improved in any way so far as sucrose content is concerned. On the contrary we notice that diseases have been on an increase for some time past which must be controlled and subdued if the crops have to be saved from further deterioration.

15. So far as our area is concerned, we have not had any attack of frost on any extensive scale and therefore we cannot give any accurate estimate of the damage that may be done by such attacks. As mentioned elsewhere, diseases such as borer etc., have been doing in our opinion considerable damage to both tonnage from an acre and to the sucrose content, varying between 20 to 30 per cent. according to the nature and severity of the diseases.

16. With the exception of the current season, supplies of canes to our factory have been irregular and scanty and insufficient to enable the factory to crush for a reasonable length of time. Also the average sucrose content as recovered has not been sufficiently satisfactory.

Principal varieties crushed in the past have been consisting mostly of Co. 213, 210, very little of 299 and 331.

Although we have not in our possession any reliable and accurate figures of yield of cane per acre to the cultivators, but to give a rough idea, the average yield to the cultivator per acre varies between 200 to 300 maunds of cane per acre which in our opinion leaves much to be desired. Sucrose content is about 11½ per cent. average.

17. With the exception of this season, generally towards the end of the season the supplies of the canes begin to fall short giving rise to unhealthy competition between the mill-owners to the extent that at times the prices paid have been almost uneconomic.

18. (a) Since we started our factory the area under cultivation of cane from which we ordinarily obtained our supply has been increasing every year. The causes for increase of area under cane cultivation has been as follows:—

(i) Price of other staple crops, i.e., paddy has gone down considerably low.

(ii) The other alternative crop has been the only cane crop which has brought cash money to the cultivators.

(b) (i) The climatic conditions and excess and deficient rain fall will not affect or vary the cane cultivation in the sense that if there is excess or scanty rainfall in any particular year it will not discourage the cultivator from continuing the cane cultivation though it affects the production.

(ii) The prices obtainable for sugar will affect cane cultivation as it has done during the year 1937. Due to fall in price of sugar the price of cane had gone down and consequently it discouraged the cultivators from

cane cultivation and there is only about 40 per cent. new plantation as compared with the last year crop and at places even less though there will be ratoon crop which will hardly meet the demand of the Mill for 1937-38.

(iii) Similarly the price of Gur Jaggery has gone down an affected the cane cultivation.

(iv) The cultivators are getting less profit from other crops when compared with cane otherwise they will not cultivate cane.

19. Yes, it was in bit excess of the requirements, but there seems to be no necessity of any restriction to be imposed. Due to fall in price of sugar, there has been less cultivation, this year. But for future some organised cultivation is necessary so that it may neither be in excess nor there be any shortage. There has been enough of extensive cultivation and in our opinion it is now time that the cultivators should be trained in the method of intensive cultivation bringing forth maximum quantity of cane from the minimum area of land with higher sucrose contents.

20. The Cost of Cultivation of one acre of sugarcane by an average cultivator in Champaran District (Bihar) is near about the following figures:—

	Rs. A.
<i>Murahan Crop (New Plantation)—</i>	
Cultivation	10 0
Plantation costs	2 0
Seed at 35 maunds per acre at annas 4 a maund	8 12
Manure	3 0
Interculturing	6 0
Rent	3 0
Cutting and Striping at 1½ pice per maund on 250 maunds	7 0
Watching	2 0
	41 12

Cost of 1 Maund=2 annas 1 pie.

<i>Ratoon Crop—</i>	
Interculturing	4 0
Manure	3 0
Rent	3 0
Cutting and Striping at 1½ pice per maund on 200 maunds	4 11
Digging out roots to clear the field	3 8
	18 3
Watching	1 0
	19 3

Cost of 1 Maund=1 anna 9 pies.

21. The main difficulties of the cane growers in the proper cultivation of cane are as follows:—

- (i) General poverty of the cultivators—Mills reluctant to advance sufficient money to cultivators for want of security as cultivators take away cane to others.
- (ii) Want of training and timely guidance for improved methods of cultivation.
- (iii) Timely irrigation when there is dearth of rain.

The main difficulties of cane growers in delivery of cane to the factory are as follows:—

- (i) Transport difficulties.
- (ii) No proper roads and whatever there are in existence they are badly maintained.
- (iii) No bridges and culvert for rivers and nalas.

22. (a) The position specially of our mills in respect of full supply of cane by the cultivators is at present very precarious, i.e., if at any time the price of other crop such as paddy rises there is substantial danger of the cultivators at once reverting to paddy crops from cane cultivation and, therefore, in our opinion, to safeguard against such emergencies as above, which are not very unlikely to occur, the mills should be enabled to become partly self-sufficient by their own cultivation of cane on their own land. Acquisition of large pieces of land say 2 to 3 thousand acres is at present absolutely impossible without the intervention of the Local Government.

(b) Although we are entirely in favour of Zoning system for supplies of cane to the Mills, in absence of any other organised method, yet it is our confirmed belief that necessity of acquisition of land by the mills stated in the above paragraph still remains.

No factories should be allowed to purchase cane within a radius of 10 miles of another factory and in case two factories fall within the 10 miles radius, the zoning should be divided in equal proportion and the other factories should not be allowed to load to the next station to the factory station.

23. Even at present many mills are quite prepared to finance the cultivators and do advance against the future crops, but if their money is adequately secured which would be the case if the Zoning System is in existence, the mills would still more freely finance the cultivators in advance against their future crops.

We shall give cash, supply seeds and manure to the extent of 50 per cent. of the value of the crop. The development of feeder roads should be undertaken by the Local Boards.

24. (a) We feel that time has now come for some sort of restriction on production of sugar in excess of the normal requirements of the country, if the Industry, is to be saved from the evils usually attendant on the excess production. In our opinion there are several ways for practising this restriction of which the following few suggestions would, we trust, prove useful:—

- (i) To allot quota for individual mills in accordance with their respective crushing capacities, to be determined by the size and the number of Rollers. But no consideration be given where the number of rollers are more than seventeen.
- (ii) To restrict the length of the season by number of days beyond which the mills should not be allowed to crush.

(b) We are also in favour of licensing and restricting erection of new factories until such time that the consumption has overtaken the production. In our opinion, the restriction on extensions of existing factories which are done with a view to getting economic results would handicap the

Mills to bring down the cost of manufacture to a minimum level. We are, therefore, not against such extensions as mentioned above except doubling of mill trains and increasing of the number of mills beyond five.

We believe that to meet the situation as it has arisen at present, it is necessary in order to achieve rationalisation of the Industry to restrict the production of sugar in excess of the normal requirements as well as to restrict erection of new factories.

		Gate Cane.		Rail Cane.	Tram-borne.
25.	1933-34	564,648	plus	857,197	N/A
	1934-35	706,466	„	1,514,959	„
	1935-36	1,319,389	„	1,790,264	„
	1936-37	2,596,777	„	1,439,451	„

Yes, there was a variation from year to year due to the following reason:—

Our Mill has been encouraging the cultivators to increase the cane cultivation in the neighbourhood of the mill, by making cash advances to the extent of Rs. 1½ lakhs without interest. Loans are also advanced to the cultivators in the time of their need at a nominal rate of interest.

26. Entirely by bullock carts. The average weight of cane carried per cart is 17 maunds.

Part of the cane from the Farms owned by the Managing Agents is transported by pneumatic-tyred carts which are two dozen in number. The additional maundage carried by the tyred carts is about 17 maunds. Due to heavy load these carts get sunk in sandy and muddy roads and are difficult to be driven at steepy places. These carts are not at all suitable to the village roads and the initial cost is very high, and they cannot be used in rains.

27. The mileage of roads in our vicinity is not adequate. The condition of main and feeder roads is deplorable. The roads are under the control of the District Board and they are ill-maintained and it becomes difficult for the loaded carts to pass safely on them. Some times they are washed away by overflow of water and no immediate repair is made.

28. The average distance from which canes are brought to our factory varies from 10 to 12 miles radius for cart cane. Time taken between cutting canes and delivery at factory usually is not less than 30 hours. As at present the cane remain exposed to sun with maximum deterioration that is possible.

29. Average cost of transportation by cart is about 2 pies per maund per mile. Some cane growers have their own carts and some have to hire them at the above rates.

30. No tolls or taxes are levied on carts supplying canes to our factory at the gate. But at our out stations when they have to pass through Municipal towns, they are to pay Municipal dues.

31. For the continuous and uniform supply of gate-cane we send regular "permits" to the cultivators. The period of detention of carts at our factory is five to six hours. In the first year we used to give "permits" for one week together with the results that the cultivators used to come irrespective of days in an irregular way and there used to be a great rush at the gate and the carts remained standing for much longer periods. Now we send permits for each day with dates and time mentioned upon the permits. This has resulted in more regular arrival of the carts, but still

they are not in the habit of punctuality. If they are asked to start in the morning, they start in the evening and *vice versa*. By and by they are getting organised and more they are organised, less they will have to be detained at the gate.

32. Maximum 35 mils. But when there is shortage of cane we take cane from a longer distance also.

The average time taken between cutting of cane and delivery at factory is 50 to 60 hours. Railway arrangements for transport of cane is not satisfactory. Following are the difficulties:—

- (1) Mostly covered wagons are supplied which are difficult to be loaded and unloaded.
- (2) Wagons are placed at late hours and taken away early thus getting very little time for loading.
- (3) Pilferage of cane out of wagons has some times occurred in transit, while returning from the out stations to the factory.

33. Railway freight on sugar cane traffic is calculated on each description of wagon on distance basis, but with certain minimum of freight for each description of wagon irrespective of distance. The minimum needs some reduction or there should be no minimum charge and charge should be made on mileage basis.

Class.	Scale of Charges per mile - maximum.	Minimum per mile.	Class.	Scale of Charges per mile maximum.	Minimum per mile.
1	.38	} .100	4B	.72	} .166
2	.42		5	.77	
2A	.46		6	.83	
2B	.50		6A	.89	
2C	.54		7	.96	
3	.58		8	1.04	
4	.62		9	1.25	
4A	.67		10	1.87	

34. The rate should be reduced, the freight of limestone and manures, coal, etc., is very high.

35. Nil.

36. Yes, it is an advantageous system. The main difficulties are for acquiring land for the same. The other difficulty is that at present the factory gets cane at its gate from 10 to 12 miles and has to pay minimum price including cartage, but under the existing cane rules if the factory takes cane at the field of the cultivators in its tram car, it shall not be given any deduction for tramway freight which the mills will have to bear additional burden. The cane rules should be so revised as to provide for such deductions.

37. We get about .3 to .5 less recovery by rail cane when compared with gate cane.

38. (a) All gate cane from growers, (b) and all rail cane from contractors.

39. We give advances of cash, seeds and manures to the growers and bond their canes direct at the gate and at the outstations through the purchasing agents.

40. We pay commission to the contractors varying from one Rupee to Rs. 1-9 per hundred maunds of cane.

41. Nil.

42. We have weighbridges at our gate and outstations also. Payments are made for contracted cane within 7 days to every cultivator. For uncontracted cane payment is made at the time of delivery of cane.

43. The prices go high when there is a shortage of cane towards the end of the season.

	Average.
	Rs. A. P.
1933-34	0 5 2-63
1934-35	0 5 2-61
1935-36	0 5 3-14
1936-37	0 4 1

44. Now it bears relation to the price of sugar since enactment of Sugar Cane Act. Before that, the prices used to depend upon the supply and demand. Wherever there are more mills the price used to rise at the latter part of the season when there was shortage of cane.

45. In our area the price of cane is not influenced by price of Jaggery or Khandsari sugar, because Jaggery and Khandsari sugar is very little manufactured in our area.

46. Our area is not a market for Jaggery.

47. Generally the minimum prices are paid which are fixed by the Government under Sugar Cane Act, but as stated above when there has been shortage of cane in the latter part of the season, very high price even to the extent of being uneconomical has been paid because of the unhealthy competition.

48. The basis for fixing the minimum price of cane is right. But the minimum price for cane below which it should not go even if the price of sugar goes down should be fixed. The reason is that if the price for cane goes down due to fall in price of sugar because of unhealthy competition to such an extent that it becomes unremunerative to the cultivators, the cultivator will be discouraged from cane cultivation and it will materially affect them. The minimum price for cane in our opinion should be at least annas 4 below which it should not go, till such time as present protection is allowed to continue or the Government through its agricultural department has trained the cultivators to produce cane at a cheaper rate as in foreign countries.

49. It is a good system but it is difficult to work out.

50. (a) 1933-34—4 months 17 days, *i.e.*, from 10th December, 1933 to 27th April 1934.

1934-35—4 months, *i.e.*, 3rd December 1934 to 2nd April 1935.

1935-36—4 months 22 days, *i.e.*, from 23rd November 1935 to 15th April 1936.

1936-37—6 months, *i.e.*, from 28th November 1936 to 27th May 1937.

(b) The reasons for variations for the first three years is cane shortage.

(c) We do not consider the period sufficiently long for economical working.

51. In our area, till now, the early and late variety of cane have not been successful to an extent as to give a scope for extending the crushing season.

52. In answer to this question the remarks contained in paragraph IX apply equally to the Imperial Council of Agricultural Research and the Agricultural and Co-operative Department of Bihar Government.

Labour.

	(In season.)	Skilled.	Unskilled.
53. Factory (Eng.)		166	60
Workshop		20	15
Electric		6	4
Manufacturing		19	310
Manufacturing staff		25	—
Engineering		7	—
Donga (cane carrier)		—	150
		<hr/> 243	<hr/> 539
	(In Off Season.)		
Factory (Eng.)		64	7
Workshop		20	10
Electric (3)		3	2
Engineering		7	—
Manufacturing		3	—
		<hr/> 97	<hr/> 19

54. We have one Engineer and one Chemist imported from abroad.

55. We have not imported any skilled labour from abroad.

56. We have got well ventilated tiled houses for the sufficient accommodation of the labour. We think ours are the best housing arrangements in Champaran District. These quarters have playing grounds for the labour. We give free medical aid to the labourers.

Power.

57. Sometimes we are able to meet the whole of our requirements from the bagasse in our factory. But it generally depends upon the fibre contents of the cane. We use coal and fire-wood, the amounts spent thereon are as under:—

	Coal.		Fuel.	
	Weight. Tons Cwts.	Cost. Rs. A. P.	Weight. Mds. Srs.	Cost. Rs. A. P.
1933-34	1,216 13	20,825 11 6	105,264 25	23,492 0 0
1934-35	675 6	9,263 13 6	25,720 26	4,823 2 6
1935-36	402 0	4,771 9 0	25,949 20	4,412 13 6
1936-37	186 0	2,218 12 9	10,087 25	1,802 12 3

We have begun balling the surplus bagasse from this year.

By-products.

58. Molasses and Bagasse. Filter mud and waste water.

59. Price of molasses:—

	Outturn.		Price.		
	Mds.	Srs.	Rs.	A. P.	
1933-34	57,000	0	386	5 9	} for the whole.
1934-35	83,692	0	1,480	1 0	
1935-36	107,919	20	10,000	0 0	
1936-37	150,000	0	Nil so far		

Prices vary upon demand and supply.

60. Bengal and Assam are the markets for our molasses. We fill the tins or drums with molasses and send them by rail.

Railway facilities are most unsatisfactory so far as the transport of molasses is concerned. The freight rates are much prohibitory; no tank wagons are provided.

Rates:—

Bharat Khali (Bengal) Re. 0-7-9 per maund.

Dibrugarh (Assam) Rs. 1-3-3 per maund.

61. We have no other alternative but to allow the molasses remain and rot. Our suggestion for utilisation of molasses is:—

(1) 3 or 4 central distilleries for the whole of India at central places for making motor spirit be started.

(2) In other sugar growing countries their respective Government assist the Industry by allowing them to turn the molasses, which is otherwise waste product, into motor spirit by granting them legislation under which all the petrol imported and consumed in the country is compulsorily to be mixed with 25 per cent. of motor spirit made in the country. Our suggestion is that if substantial assistance is given to the existing industry, a sort of similar legislation may also be passed by Government of India.

(3) In other countries molasses are also used as cattle food. We suggest that the Government of India should make experiments on this.

62. At present, there has been hardly any use been made of bagasse other than for purposes of fuel in the boilers. However, we think that it is possible for those mills that are situated near the coal mines to sell or usefully utilize their bagasse for manufacture of paper, ceiling boards, etc., provided paper-making from bagasse is found to be profitable. Research and experiments are necessary on these points.

63. Filter mud or waste water of the factory can be very usefully utilized by way of manure and irrigation, if sufficient co-operation forthcoming from landholders adjoining the mills. The Government Agricultural Department should make experiments on this.

Storage and Transportation of Sugar.

64. Season.	Stocks at the beginning.		Stocks at the end.	
	Bags.	Maunds.	Bags.	Maunds.
1933-34 . . . . .	...	Nil	4,802	12,005
1934-35	262	655	45,362	113,405
1935-36	40	100	85,204	213,010
1936-37	6,720	16,800	85,204	230,547

65. Sugar bags are carried to the godowns by hand trolleys and stacked in the godowns in layers of 20 bags.

The present capacity of sugar godowns is about 90,000 bags. The storage capacity was increased this year by addition of one more godown

52. In answer to this question the remarks contained in paragraph IX apply equally to the Imperial Council of Agricultural Research and the Agricultural and Co-operative Department of Bihar Government.

Labour.

		(In season.)			
				Skilled.	Unskilled.
53.	Factory (Eng.)			166	60
	Workshop			20	15
	Electric			6	4
	Manufacturing			19	310
	Manufacturing staff			25	—
	Engineering			7	—
	Donga (cane carrier)			—	150
				243	539
(In Off Season.)					
	Factory (Eng.)			64	7
	Workshop			20	10
	Electric (3)			3	2
	Engineering			7	—
	Manufacturing			3	—
				97	19

54. We have one Engineer and one Chemist imported from abroad.

55. We have not imported any skilled labour from abroad.

56. We have got well ventilated tiled houses for the sufficient accommodation of the labour. We think ours are the best housing arrangements in Champaran District. These quarters have playing grounds for the labour. We give free medical aid to the labourers.

Power.

57. Sometimes we are able to meet the whole of our requirements from the bagasse in our factory. But it generally depends upon the fibre contents of the cane. We use coal and fire-wood, the amounts spent thereon are as under:—

	Coal.			Fuel.		
	Weight.		Cost.	Weight.		Cost.
	Tons	Cwts.	Rs. A. P.	Mds.	Srs.	Rs. A. P.
1933-34	1,216	13	20,325 11 6	105,264	25	23,492 0 0
1934-35	675	6	9,263 13 6	25,720	26	4,823 2 6
1935-36	402	0	4,771 9 0	25,349	20	4,412 13 6
1936-37	186	0	2,218 12 9	10,087	25	1,802 12 3

We have begun balling the surplus bagasse from this year.

By-products.

58. Molasses and Bagasse. Filter mud and waste water.

59. Price of molasses:—

	Outturn.		Price.		
	Mds.	Srs.	Rs.	A. P.	
1933-34	57,000	0	386	5 9	} for the whole.
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65. Sugar bags are carried to the godowns by hand trolleys and stacked in the godowns in layers of 20 bags.

The present capacity of sugar godowns is about 90,000 bags. The storage capacity was increased this year by addition of one more godown

of 15,000 bags capacity. Another set of godowns is under construction to accommodate 30,000 bags from 1937-38 season.

66. *Deterioration.*—There was not much appreciable damage or deterioration to sugar in storage in the past except in one season when most of the damage was due to the heavy stacking of bags amounting to 25 to 30 bags above each other and almost touching the roof, thus getting most of the heat of iron roof over them.

In our opinion sugar is also subject to heavy deterioration from bad clarification of the juices and to a certain extent due to the extensive humidity of the atmosphere in the monsoon, if the godowns are not well-built.

67. At times it is sold outright and at times reconditioned.

68. Under the present process of sulphitation practised in almost all the factories in India, there does not seem to be any very great scope for improving keeping quality of sugar which is possible only by adoption of more costlier and complicated method of carbonitiation or refining.

69. The sugar gets wet and damaged due to unsatisfactory arrangement of wagons of Railway and improper handling at transshipment stations. The transshipping railways are using ordinary wagons in rainy season instead of water-tight wagons and are not using tarpaulins to cover the goods. At the transshipment stations the goods are much exposed to the rains as they are not transshipping from one wagon to the other under sheltered places and sometimes the transshipping railways are using coal and lime wagons instead of clean ones. At least 10 per cent. damage occurs because of railway mismanagement.

70. We never get required number of wagons in time. There is general shortage of wagons and in addition to that factories remain at the mercy of the railway authorities down from station master to the Agent. If the station master, District Traffic Superintendent or any connected officer in the office of the District Traffic Superintendent wants to give preference in supply of wagons to any factory over others he can do so without any result of the complaint made by the factory to the Traffic Manager or the Agent. Instances on the point are numerous. Owing to shortage of wagons regular supply to market was never possible and complaints and claims of merchants are required to be faced frequently.

71. As regards improvement of rail transport of sugar in the existing type of wagons, roofing of wagons is suggested to be cemented to stop leakages and moisture.

72. The average prices at which we sold sugars of our factory are as under. We sell only on f.o.r. factory basis.

For the season—

1933-34—Rs. 8-5-0 per maund.

1934-35—Rs. 8-2-0 per maund.

1935-36—Rs. 8-0-7 per maund.

For the season 1936-37, we think the average will not be over Rs. 6 per maund.

The freight rates are as under:—

	Per Md. (Owner's Risk).
	Rs. A. P.
Calcutta	0 14 1
Bombay	} 1 2 6
Karachi	
Ahmedabad	} 1 1 6
Cocanada	
Madras	0 15 5
Narainganj	0 14 10
Gauhati	

Capital Account and Overhead Charges.

73. Copies of Balance Sheet are attached herewith.

74. The statement of Depreciation provided by us and that allowed by the Income-tax Department are as under:—

Year ended—	Provided	Allowed by	Difference.
	by us.	Income-tax Department.	
	Rs.	Rs.	Rs.
30th September 1934	60,000	87,769	27,769 (<i>plus</i>)
30th September 1935	95,000	93,288	1,712 (<i>minus</i>)
30th September 1936	1,05,000	Assessment pending.	

75. The amounts set aside by us for Reserve Fund are as under:—

Year ended—	Rs.
30th September 1935	50,000
30th September 1936	75,000
Total	1,25,000

76. The actual amounts distributing as Dividends on our Capital which is only in Ordinary Shares, are as under:—

Year ended—	Rs.
30th September 1934	65,000
30th September 1935	60,000
30th September 1936	60,000

77. The Managing Agents are financing the working Capital at 5 per cent.

78. The Head Office Expenses and the Managing Agents' Commission are as under:—

For the year ended—	Head Office Expenses.		Managing Agent's Commission.	
	Rs.	A. P.	Rs.	A. P.
30th September 1934	9,943	8 5	(Foregone, not charged.)	
30th September 1935	11,132	2 0	26,241	13 0
30th September 1936	16,483	3 9	30,337	13 6

The Agents' Commission is determined at the rate of 10 per cent. on all profits of the Company after making all proper and necessary allowances and deductions from revenue for working expenses including Excise duty, chargeable against profits, but before making deductions from profits for Income-tax, Super-tax or Excess profit tax or any other assessments or taxes payable to Government or for Depreciation of the minimum of Rs. 12,000 per year, whichever is larger.

79. Considering the present cheap money conditions a Dividend of seven and a half per cent. is a fair return on the Capital; otherwise it should not be less than ten per cent.

Efficiency of Production.

80. Forms* completed are annexed hereto.

81. In order to bring down the working cost and overhead charges, the initial plant of 600 tons was extended to 800 tons in the season 1934-35 and a further extension of 200 tons of crushing capacity was added in the season 1936-37.

82. The works cost may be reduced if we get cheap materials such as Sulphur, Lime, Gunny bags and Stores and intelligent labour. Recovery can be improved if we get cane containing more sucrose, fresh and unstale, within 24 hours of cutting.

Marketing.

83. The principal sugar marketing centres in which we deal are:—

Bombay.	Calcutta.
Cawnpore.	Karachi.
Cocanada.	Bezwada.
Madras.	Ahmedabad.
Narainganj.	Gauhati.

84. We generally appoint Agents in the principal centres such as Bombay, Cawnpore, Karachi, Calcutta and Madras, who take offers from the wholesale dealers and commission Agents of the retailers and send the same to us.

85. The Indian Sugar Mills Association's Contract Form No. 1 adopted in January last with the mutual consent of the representatives of Indian Sugar Mills and the representatives of all Indian sugar merchants, we think is suitable. It is too early to make any suggestions at present, as it is not given a full trial.

86. We have not maintained such records.

87. We do not think so.

88. The dealers are storing the sugar in ordinary shops if the quantity is small. When bigger stocks are concerned, they are stored in hired godowns. The sugar generally deteriorates if the stock is exposed to weather. Where the stocks are stored in first-class air conditioned godowns, the sugar generally does not deteriorate.

89. Yes. Some mills in India are producing sugar just like Java quality under double curing process, and this sugar does not deteriorate.

90. No. Not particularly.

91. In our opinion some of the Indian Mills are producing sugar equal to the ordinary quality of Java. The special Java qualities and other imported sugar, except African and Russian, being refined, are superior to the Indian sugar.

92. Where there are equally distributed monthly forward sales by the mills, the burden of stock is divided between manufacturers and dealers; otherwise the burden generally falls on the manufacturers. Stocks are generally financed by the Managing Agents or by the Banks under cash credit system on hypothecation of stocks.

93. We think so.

94. Yes.

95. Yes. There have been various suggestions regarding all Indian Central Organisation and Standardisation of Indian Sugar and we just put one more suggestion,

There are at present, no doubt, complaints about the uniform standard of Indian sugar. We also think that now it is time that the consuming public of India might require good and uniform standard of Indian sugar. In our opinion the following scheme which is also existent in other sugar producing countries should go a long way to bring about standardisation

* Not printed.

of Indian sugar and the elimination of mutual unhealthy competition among the mill-owners.

We suggest that Central Refinery should be started in different centres to which all mills round-about should contribute their production of raw sugar for refining. The mills should be interested in the capitalisation of the refinery *pro rata* to the capacity of their respective mills. Under this scheme mills joining the refinery do undertake not to sell any of their production to the markets except the refinery.

96. (a) No, we have not done actual business on the basis of these Standards.

(b) Yes, to some extent.

97. We think the standard prescribed by the Director, Imperial Institute of Sugar Technology are too theoretical. If they are adopted on the basis of Dutch Standards they will be more useful.

98. The establishment of futures or terminal market will greatly tend to the improvement of sugar marketing.

99. Over eleven lakhs tons. The possibility of increasing the consumption lies in making the article still cheaper which can be only done by reducing the excise duty and railway freight to long distant places in India.

100. We do not think that the factory sugar is replacing Gur to any extent, as Gur is cheaper than the factory sugar. If our suggestion contained in the latter part of Answer No. 99 is accepted and given effect to, we think factory sugar will replace Gur on an extensive scale.

101. If sufficient protection against foreign dumping and importation is granted by the Government of India for a number of years, there is no reason why subsidiary industries such as manufacture of sweets, syrups, fruit preservation and canning should not come into existence and develop on substantial line as the sugar industry itself.

102. These figures shall be submitted by our Association.

103. Yes. Number of times throughout the protection period foreign sugar has been landed in India at unremunerative prices. Sugar was also imported through Indian Maritime States Ports and sold in British India at much lower prices than imported sugar of similar quality sold in Bombay, Calcutta, Madras, Karachi, etc.

104. There has been export of Indian Sugar to Burma by sea. Such exports are also feasible to United Kingdom under colonial preference and assistance by the Government of India by securing cheap railway and steamer freights.

105. The imposition of Excise Duty on sugar in 1934 which mostly fell on consumers and addition made in 1937 which wholly fell on the shoulders of cultivators, has in our opinion, been the main cause for retarding total consumption of the country.

106. Nobody is prepared to purchase molasses.

107. There is one Indian Molasses Company which is exporting molasses barring that there is no other channel of export.

Claim for Protection.

108. It has been effective to its maximum extent, so much so that the whole of foreign sugar has been replaced by Indian made sugar.

109. We think that it is necessary to continue the existing rate of duty on imported sugar for protecting the Indian Sugar Industry which is still in infancy from its agricultural side.

110. The internal efficiency of the mechanical and chemical sides of the factories has been reached by most of the factories to the extent of 80 to 95 per cent. And, therefore, there is not much scope for bringing any reduction in the cost of production.

The only remedy now open to bring in substantial reduction in the cost of production of sugar is the cheap supply of cane. The price paid to the

cultivators for cane is just sufficient to meet the cost of production of cane. And unless, therefore, the cultivator is assisted by the Agricultural Research to improve his method of cultivation resulting in considerable increase in the yield of cane, it is not possible to get cheap supply of cane for the mills.

Our suggestion is that the Government of every Province should start an Experimental Research Station on a wide scale with the assistance of expert chemists. Such stations are to be divided into two groups, one dealing with the chemical side and the other dealing with the Agricultural side of the Industry and thus bring home to the cultivators the knowledge of the scientific method of agriculture and thus increase his profits combined with reduction in cost of production of cane.

Apart from this, as we have mentioned elsewhere in answer to several questions, the utilization of molasses and bagasse wherever possible with the assistance of the Government is also equally essential for assisting the mill-owners to keep the cost of production of sugar to a minimum level.

111. The effect of import duty on foreign molasses has been useful to a certain extent to the Mills in disposing of a little of their molasses. It has not adversely affected any industry in India.

The Gaya Sugar Mills, Ltd., Gaya.

REPLY TO TARIFF BOARD QUESTIONNAIRE.

1. January, 1934. Present capacity is 550 tons.

	GS.	I.	IA.	IB.	CB.	TOTAL.
	Mds. sr. ch.	Mds. sr. ch.	Mds. sr. ch.	Mds. sr. ch.	Mds. sr. ch.	Mds. sr. ch.
1933-34 .	..	21,045 0 0	18,010 0 0	16,385 0 0	4,477 20 0	59,917 20 0
1934-35 .	13,472 20 0	64,135 0 0	27,147 20 0	..	8,070 0 0	113,095 0 0
1935-36 .	2,538 10 0	122,098 10 0	39,794 0 0	..	7,130 0 0	171,560 20 0
1936-37 .	10,827 0 0	165,020 30 12	63,667 20 0	..	1,532 20 0	241,047 20 12
Rememb. .	..	7,865 4 0	5,777 20 0	..	82 20 0	13,725 4 0
TOTAL .	27,107 30 0	380,164 4 12	164,396 20 0	16,385 0 0	21,292 20 0	599,345 34 12

3. (a) There is no special advantage when compared to situation of other factories but this is a good area under sugarcane cultivation in South Bihar.

(b) & (c) Nothing special.

4. Double sulphitation.

(1) Carbonitation process yields better product than sulphitation ones, but the cost of manufacture usually rises higher than the other one of the same efficiency and the same capacity.

(2) For a carbonitation factory raw materials such as limestone, etc., has to be obtained in bulk and therefore only special neighbourhoods of such material are well suited whereas for sulphitation factory no such thing is required.

5. The plant has been extended in 3 instalments since it started. The following are the details of extension:—

1934—Original Capacity 250 tons. Expense Rs. 6,98,000

1934—Boilers increased from 2 to 3.

Settling tanks increased.

Pans increased from 2 to 3.

Capacity 400 tons. Expense Rs. 1,63,000

Carried over

...

Brought forward

1935—Boilers increased from 3 to 4.

Rollers increased from 11 to 14.

A separate engine fixed up.

Sulphitation tanks increased from 2 to 3.

Juice Heaters increased from 2 to 3.

Eliminators increased from 2 to 3.

Settling tanks increased.

Pan supply tank increased.

Crystallisers increased.

Centrifugals increased.

Capacity 500 tons. Expense Rs. 85,200

1936—Separate engine for the cane carrier fixed up.

Another cane cutter engine set up so as to prepare the cane twice.

Filter Press increased.

Centrifugals increased.

Dryers increased.

Capacity 550 tons. Expense Rs. 35,500

Rs. 9,87,700

6. We contemplate this year setting up new machinery so as to convert all the second sugars into first.

(a) At present they might be the following:—

1. Adequate cane supply.

2. Adequate market for distribution of sugar.

3. Overhead expenditure and manufacture cost.

(b) 800 tons approximately.

8. Minor things of sugar factory equipment are upto now obtainable in India. Almost all the equipments that are in the market are imported.

9. (1) The Industries Department has not done anything tangible for the sugar industry. We suggest that sugar being the most important industry of Bihar, the Industries Department ought to keep a separate unit working under it for the development of sugar industries in collaboration with the factories and their representatives.

Raw Materials.

10. We do not undertake cultivation of sugarcane.

11 & 12. Does not arise.

13. We have not tried any experiment ourselves. The Agricultural Department in these parts have not played any important role in the development of cane cultivation. This is due partly to the lack of interest of the Department and partly due to the apathy of the cultivators.

14. (a) The cultivation since the starting of our mills in 1934 has been increased about 5 times.

(b) There is no marked improvement in quality. The original varieties had been replaced by Co. 213 even before our mills started.

15. (i) Frost, disease, insect pests and draught can each cause considerable loss.

(ii) The loss per cent. in yield may go up to roughly 60 per cent. when even one of the causes is present.

(iii) In our locality irrigation is the main difficulty and canes suffer mostly from draught.

16. Yes, Co. 213. Field yield is approximately 400 maunds per acre and sucrose content 12.

17. Competition used to raise price by an anna per maund in previous years, but this year mutual agreements between factories have eliminated the difficulty.

18. (a) The area has increased by 2 to 5 times according to registers of the locality from the factory.

(b) Due to the starting of the sugar factory which yields ready money to the cultivators.

(b) (i) Defect in rainfall as well as its excess spoil the cane crop as well as paddy which is the other crop, so in that respect it does not make any difference.

(ii) Higher prices of sugar and the consequent rise in the prices of cane encourage the cultivation.

(iii) Gur was the keen competitor of sugar till last year, but in 1936-37 the very low price of gur eliminated it from the competition.

(iv) Prices obtainable from the alternative paddy is about 10 times lower than cane, therefore the factor is immaterial.

19. The production is not much in excess in our close neighbourhood and the production has already decreased for the next season. This excess has also resulted from the stoppage of gur making this year which used to consume about 40 per cent. of the cane in previous year. No restriction, therefore are further necessary in this area.

20. Details are not yet available but approximately it come about As. 2 per maund.

21. The main difficulty of the cultivator is the want of adequate irrigation during the dry season.

The difficulty in delivery to the factory is due to the congestion arising from their anxiety to sell cane to the factory as quickly as possible. This can very much be helped if the minimum price of cane fixed by the Government is such that it is lower towards the middle of the season and higher towards the beginning and the end. Such a basis which also take into account the ruling price of sugarcane be prepared without difficulty.

22. (a) Compulsory acquisition or leasing of the land are still impracticable and would arouse unfriendly suspicions amongst the cultivators. The Government can set an example by leasing Khasmahal lands where available to factories for long terms. This would be emulated by Zamindars and cultivators.

(b) A system of "rooms" can be easily arranged for by the Divisional Advisory Committee where the representatives of all the mills in the area may be specially invited.

23. Its details can be worked out by the Divisional Advisory Body.

24. (a), (b) (i) & (ii) Yes.

25. (a) 33 per cent.

(b) 66 per cent.

(c) None

} Approximately.

The proportion of gate cane to rail cane has speedily increased since the starting of the factory, due to the encouragement given by us.

26. Entirely transported by carts. Average weight is 20 maunds. It is no good improving the carts until roads are improved and they are all kucha roads in a very bad state. With the improvement of roads the average weight loaded in the cart can be increased to 30 to 40 maunds and the improvement of the carts can be attended to afterwards which may increase the load of 50 maunds or over.

27. The mileage of roads is entirely inadequate. The main roads are kucha and barely passable by carts. Feeder roads are almost non-existing

and only tract cut through bare fields serve the purpose. Much of the canes which could have otherwise been utilised for the factory are made into gur and much of the land as on this score are made to yield much less cane crop.

28. On an average 3 miles. About 24 hours. No special care is taken to protect the canes during transport.

29. 1 pie. They employ their own carts as well as hire them. 2 pice.

30. Choudhriana toll is levied which has absolutely no fixed basis and varies from nothing to 1 anna per cart.

31. Purjees are issued to the cultivators according to the area under their cultivation which are served before the season starts. Detention is on average about 4 hours.

32. From 5 miles to 40 miles. The average time taken between cutting of cane and delivery to the factory is 50 hours. Railway arrangements for the transport of cane are not satisfactory so far, though they have improved upon their previous arrangement this year.

33. The Railways have flat wagon rates. The minimum freight is Rs. 10 for the maximum distance of 35 miles. The rates increases afterwards. The freight has been increased during the recent years. We prefer flat rate to maundage rate.

34. We are not interested in limestones as for manures. The existing rates are not too high, but before trying to reduce the rates the cultivators have to be taught to use manures in sufficient quantity. The question of transport of manures only rises consequently.

35. No.

36. Tramway system is impracticable in our area due to the very small land holdings scattered in patches in all directions unapproachable even by roads.

37. In our locality rail canes are much inferior to gate canes when they arrive in the factory specially during the hotter parts of the season. The difference in the yield of sugar per cent. cane goes even to 2 per cent. in May and in the best cold part of the season even it goes to about 7 per cent.

38. (a) 33 per cent.

(b) 66 per cent.

39. To the gate cane suppliers we sometimes give advance in cash.

40. The contractors make purchase directly from the cultivators and paid by us commission of 1 pice per maund of cane excluding the dryage, loading and the railway freight which are also paid by us.

41. No.

42. Loaded and empty carts are reweighed on weighbridges. Cultivators are free to take payment since they present the cane receipt to the counter.

43. The following are the prices (excluding other charges) of cane purchased during last four years of our work and the prices do vary at different periods of the season which are based on the price of sugar and fixed by the Government under Sugarcane Rules from time to time, during the period from latter part of 1935-36 season up-to-date. In previous years the prices varies less at the earlier and more at the latter part of the crushing season.

List of prices—

	Per md.
	As. P.
1933-34	5 9
1934-35	5 6
1935-36	5 3
1936-37	4 3

44. Yes, minimum price of cane is fixed by the Government of the basis of the price of sugar.

45. Khandsari sugar has big importance in our locality. The price of gur has however been potent factor influencing the price of cane during last year.

47. Not this year.

48. It is not satisfactory in so far as it does not encourage early and late supply of cane to the factory by making a difference in the price paid.

49. The payment of bonus is not easy under the present circumstances.

50. The duration of our last 4 crushing seasons are follows:—

1933-34 (January, 1934, to 30th April, 1934).—As this was the very first year the plant was not complete before January, 1934, the crushing began so late as January.

1934-35 (3rd December, 1934, to 27th April, 1935).—The crop was not mature before December.

1935-36 (1st November, 1935, to 9th April, 1936).—Although cane was not properly ripe, the crushing was started a month ago, as an experiment for the yield of sugar.

1936-37 (1st December, 1936, to 19th May, 1937).—As large stock of sugar remained unsold in most of the factories, it was decided by the factory owners to start crushing from December in order to control overproduction.

51. The season can be extended from 5 months as at present to 7 months if early and late crop cane is cultivated.

52. The Agricultural and Co-operative Department are not giving help but they may be of much practical help if the units working in rural areas collaborate with the factories who have better idea of the circumstances under which they have to work.

53. We employ both skilled and unskilled labours in our factory during the crushing and/or silent season as the necessity arises.

54. We do not import labour from out of India, but suitable portion of labour is got from the North Bihar or East United Provinces where the sugar industry originated mainly.

55. It does not arise.

56. All the labour reside in quarters specially built by the factory and we have adequate arrangements of their lighting, sanitation, water supply, amusements and are going to open a school for their children.

Power.

57. During the normal period of working bagasse suffices. During other times coal and to some extent firewood are used.

Coal and firewood expenses—

1933-34—Rs. 17,637—This includes gur season when much larger quantities of coal are used.

1934-35—Rs. 6,804—Only cane season.

1935-36—Rs. 25,689—Includes gur season

1936-37—Rs. 8,047—(Till April) cane only.

58. Molasses and press mud.

59. The following are the outturn and price of molasses for the respective years noted against them:—

1933-34—31,126 maunds at As. 9-3 per maund.

1934-35—42,075 maunds at As. 7-1 per maund.

1935-36—109,502 maunds at As. 7-3 per maund.

1936-37—83,027 maunds at As. 4 per maund (till April, 1937).

60. The market for the consumption of our molasses is as follows:—

Calcutta and distilleries.—The transportation of our molasses from mills is arranged by railways in ordinary covered vans loaded with tins and drums and in tank wagons.

As regards the supply of wagons it is not adequate, the details of which have been stated in our reply to Question 70. The special reduced freight for a consignment of 270 maunds and over of molasses is as follows:—

Station.	Per maund.	
	Re. A. P.	
Howrah	0	4 7

For smaller quantities the freights are charged at a much higher rates.

61. We always sell molasses.

62. Does not arise. Our bagasse is fully consumed as fuel.

63. We have not contemplated yet to utilise any other by-product.

64. Statement showing the figures of our stock as required under this question is given below:—

	Stock at the	Stock at close
	beginning of season.	of season.
	Mds.	Mds.
1933-34	Nil	4,990
1934-35	Nil	28,712
1935-36	Nil	59,196
1936-37	{ 22,972 Gur 1,400 Cane }	123,274 on 18th May 1937.

65. We store our sugar output in pucca brickbuilt corrugated-roofed godowns the capacity of which is 50,000 bags in two godowns at 25,000 bags each. During the last off season we increased one of these godowns to about 50 per cent. of its capacity.

66. Sugars of inferior quality suffer more during storage.

67. It is reconditioned.

68. It requires research.

69. Due to the railway having supplied leaky wagons from time to time specially during the rains, our sugar sustained damage to some proportion.

70. Difficulties are experienced for transportation of our sugar and molasses due to the following irregularities, observed:—

- (a) Non-supply of adequate number of wagons from time to time against our indents which is said to be owing to scarcity of wagons as the railway state.
- (b) Supply of wagons containing the stain of kerosine oil, coal tar and other such materials and sometimes emanating strong offensive smell of hide and bones, etc., rendering them unfit for loading a commodity like sugar.
- (c) Wagons are sometimes found leaky and consequently they are to be rejected specially during the rains.
- (d) Molasses tank wagons are sometimes placed in mills' siding in a defective condition and need repairs by railways before loading, thus entailing delay in despatches.

Due to the above reasons the deliveries of our sugar and molasses in the market are necessarily delayed which is detrimental to the interest of the sugar industry specially when the market is unsteady.

71. (a) Railway's attention should be drawn to the fact that the wagons must be thoroughly examined before placement in the mill siding to give a remedy to the defects already mentioned in answers to the Question 70.

(b) The make of the wagons should be improved so as to doorways and roof may be water-tight.

72. Selling rates of sugar—

	Ports.		Up country.	
	Rs.	A. P.	Rs.	A. P.
1933-34	Nil		8	11 6
1934-35	Nil		8	7 0
1935-36	Nil		8	6 3
1936-37	6	7	6	11 0

Freight rates:—

Bihar—

(Manbhum) Local at As. 5-9 per maund.

(Singhbhum) Tatanagar at As. 9-7 per maund.

Orissa.—Puri and Cuttack at Rs. 1-2-9 per maund.

Bengal.—Calcutta at As. 7-11 per maund.

South India at As. 15 per maund.

Burma at As. 11-11 per maund.

73. Copies of the Balance Sheet enclosed herewith.

74.	1233-34.			1934-35.			1935-36.			1936-37.
	Per cent.	Rs.	A. P.	Per cent.	Rs.	A. P.	Per cent.	Rs.	A. P.	
Machinery	5	32,112	0 0	6½	54,197	12 6				Not yet calculated. Our financial year closes in September every year.
Buildings	2½	8,178	8 4	2½	10,693	14 0				
Weighbridges	10	1,313	1 6	6½	1,138	2 6				
Furniture	10	542	5 0	5	479	10 3				
Rly. Siding	2½	665	2 3	6½	1,662	13 6				
Tube Well	10	399	11 0	6½	277	3 0				
Motor Car	20	1,415	10 5	15	509	4 6				
		44,626	6 6		68,958	12 3				

75. Reserves—

1933-34.	1934-35.	1935-36.	1936-37.
	Rs.	Rs.	
Nil	15,000	40,000	Not yet kept. Our financial year closes in September every year.

76.	1933-34.			1934-35.			1935-36.			1936-37.
	Per cent.	Rs.	A. P.	Per cent.	Rs.	A. P.	Per cent.	Rs.	A. P.	
Ordinary	Nil	8	59,428 8 6	8	64,992					Not yet declared. Accounts will be closed in September 1937.
Preference	Nil	7	805 0 0	7	805					
			60,233 8 6		65,797					

77. Overdraft from our Bankers at 7 per cent. during 1933-34 and 1934-35. By cash credit system with Imperial Bank of India on varying rates at 4½ per cent. during 1935-36 and 1936-37.

78. Head Office expenses are follows :—

	Rs.
1933-34	2,17,172
1934-35	2,31,468
1935-36	2,76,030
1936-37 till April	2,05,926

Managing Agents' commission during 1933-34—Nil. Since then Managing Agency abolished.

79. 7 per cent.
80. Forms* enclosed duly filled in (Forms I, II and III).
82. There is practically no scope now.
83. *Marketing*.—Bihar, Orissa, Bengal, South India and Burma.
85. Nothing fixed.
86. Yes, Indian sugar deteriorates more rapidly than Java one.
90. Yes, but by foreigners.
91. Average Indian sugar is still inferior to Java sugar specially in respect to its colour.
92. Stock about 50 per cent. carried by mills. By merchants nil.
- 93 & 94. Yes.
95. Yes, on the face of colour and size of crystals as at present contemplated by Sugar Standard Bureau
96. (a) No business has been done.
(b) Yes, only for grading purpose in the factory.
97. The standards will be of use only when a Central Selling Organisation is set up.
98. No.
99. The present consumption whatever it be can be increased by a propaganda work on the same basis as the tea producers are carrying out at present.
100. The process of replacement is steadily going. Figures are not available.
101. It can be started at an experimental basis in North Bihar which is both the fruit producing and sugar producing area.
103. No.
104. No export is possible to United Kingdom, Persia and many other countries, if the duty is levied on Indian sugar.
105. The excise duty of 1934 did not so much harm to the industry, but the duty of 1936 has proved disastrous.
106. Molasses are mostly purchased by distilleries and tobacco factories.
107. There is not much export.

Claim for protection.

108. The entire sugar industry depends for its existence on the protection granted even now. If protection be removed the industry would collapse almost instantly.

109. The protection ought to be continued as at present till the remaining period.

110. Fixation of quota of production, licensing of extensions and prohibition of new factories, lowering of cane cost by improved cultivation and varieties of proper canes, utilisation of molasses as power alcohol and its compulsory mixing with petrol, better selling organisation akin to Indian Cement Marketing Board, reduced duty, increasing consumption by suitable propaganda similar to tea propaganda and improvements

of feeder roads, quicker transport of sugarcane, lower railway freight of sugar and its quick transport.

The South Bihar Sugar Mills, Ltd., Patna.

1. In the year 1933-34. Its original capacity was 850 tons, but was subsequently increased and now it is 1,200 tons.

2.	1934-35.	1935-36.	1936-37.
	Mds.	Mds.	Mds.
	241,688-36	343,487-4	428,718 (from cane). 229 (from gur).

3. (a) Our mill is one amongst those situated nearest to Calcutta and, therefore, South India markets are also served with facility.

(b) Nothing special.

(c) There is nothing particular about labour supply. We are a bit disadvantageously situated than the North Bihar Factories.

4. Double sulphitation.

5. A new set of Quadruple (17,000 sq. Heating surface), two Calandria Pans (one from Java), a few filter Presses from Java, Shredder, a few more Centrifugal Machines, Vacuum Engine, Pumps Sulphur Furnaces, Juice Heaters, Boilers, Spray Tanks, etc., have been installed. Amount spent is Rs. 4 lakhs approximately.

6. None at present.

7. (a) The most important factor is the availability of canes at the gate.

(b) Six hundred tons.

8. We understand, Factories with 300 tons capacity have been manufactured and erected by one of the Firms in India, but it has not yet been possible to erect Pans and Quadruples as also Cast-steel of bigger dimension for the factories.

9. (i) Practically no technical assistance in its true sense is available from the Imperial Institute of Sugar Technology. They ought to from time to time, supply the factories with ideal datas obtainable under Indian conditions in their own factory at Cawnpore—which they never do.

(ii) The Industries Department, save and except forwarding applications from the unemployed are, practically, of no help. The advises they tender, from time to time, to the Government for the control of sugarcane prices, are detrimental to the interest of the factories as well as the Cultivators. The Industries Departments specially of United Provinces and Bihar should have a Sugar Technologist to look after the interest of this Industry.

10. Yes, on a very small scale. We obtained our land by purchase. We could get only the worst land in the locality and that also on payment of abnormal price.

11. (a) & (b) Nil.

(c) 213 and 231.

(d) The lands have been under cultivation only last year. There is nothing special about the method of cultivation.

12. (a) As the area of cane under cultivation is only about 10 to 15 acres and that also purchased only last year, nothing special could be done on these scores.

13. None.

14. (a) The quantity of cane available has considerably increased during the last three years, but this year, due to low prices of cane (as reduced by Government), the cultivation has declined all round.

(b) The cane mostly cultivated is 213, which is deteriorating in the quality gradually.

15. In our area there is no damage from frost, but diseases and insect pests are enormous. The average loss owing to these causes can be estimated at 20 per cent.

16. Not exactly. Even during the last season we ran short of cane during the month of April. The principal variety of cane crushed is Co. 213. The average yield is about 350 to 400 maunds per acre. The average sucrose content is 11.75.

17. There is practically no competition between the factories for the purchase of cane.

18. (a) Yes, since the last year.

(b) (i) Rainfall since the last season is helping the cultivation.

(ii) Low prices have certainly adversely affected the cultivation, and the cultivation this season has diminished by about 25 per cent.

(iii) As above.

(iv) Prices obtainable for paddy and *rabby* crops in certain localities, are much higher than what the cultivators obtain for cane at the rate of As. 3 or As. 3-6 per maund delivered at factory.

19. Yes, the total production has been the highest in the year 1936-37 in the whole of Bihar, but it is not in excess of the requirements in the South Bihar.

21. The main difficulties are the low prices of cane and, at times the failure in supply of water by the Canal Department. So far as the delivery of cane is concerned, the poor cultivators who have not their own bullock carts have to pay heavy charges for delivering their canes to the factories and also, at times, the factory roads get damaged and impassable for the carts passing over them. Government should provide facilities to the factories who intend to construct Tramway lines for feeding the factories and they should at least devote a portion of the excise duty towards the improvement of these factory roads which are maintained by the local bodies. The local bodies, as is everywhere the case, are very poorly financed and are not in a position to maintain the roads in proper condition.

22. (a) Certainly the compulsory leasing of land is not practicable under conditions existing in the province, but we do not find any difficulty in the compulsory acquisition of land for sugarcane cultivation. We do strongly feel that every factory must have at least 2 to 3 hundreds acres of land for experimenting on early and late varieties of cane and for growing seeds for distribution to the cultivators.

(b) Zoning system as the yield of cane and its cultivation are factors that cannot be determined before the factory actually commences crushing. It is very difficult to predetermine the zones for each factory and if no laxity is afforded for re-adjustments wherever any shortage arises, any rigid zoning will instead of helping will place the factory in awkward position.

23. Under the present circumstances, it is very difficult to vouchsafe the actual assistance which a factory rendered to the cultivators as they are themselves running at a loss and cannot afford to spend on the development of feeder roads and to give advances to the cultivators.

24. (a) Yes, this would certainly be a check to the overproduction of sugar.

(b) (i) Yes.

(ii) Yes. All these measures are certainly tending towards the control of production of sugar and in view of the present situation no new sugar factory should be allowed to be erected and the existing factories should in like manner be not allowed to effect any extensions.

25. (a) 49.7 per cent.

(b) 50.3 per cent.

(c) Yes, the proportion has varied, from year to year, to a slight extent due to the increase in cultivation in the local areas.

26. The gate canes are entirely transported by carts. The average weight of canes carried on each cart is about 21 maunds. The substitution of rubber tyred carts will, undoubtedly, reduce the cost of transport, but it does not appear to be possible for the cultivators or private agencies to purchase these expensive carts.

27. No, not exactly. The feeder roads are in a very bad state and, at times, the mill has to repair them at their own cost.

28. The maximum distance from which the canes are brought by road is about 12 miles and the average time consumed is about 12 hours. In the time so consumed, there is no appreciable deterioration in the quality of cane, but in cases where canes are harvested and retained overnight in the fields, certainly they deteriorate.

29. Average cost of transport is about 9 pies per maund by cart. About 50 per cent. of the cane-growers employ their own carts and the rest pay cartage at the above rate.

30. No.

31. We have six weighbridges for the weighing of cane carts and this number is quite adequate to cope with the passing of carts without any detention. The normal period of detention may be taken as two to three hours in the factory area including the weighbridges and the cane carrier.

32. Even from distances of 200 miles and over. The average distance comes to about 30 miles and the average time taken about 48 hours.

32. Yes, railway arrangement can be termed satisfactory, though, in cases, when the railway employees are not well tipped by the contractors, they do try to harass them.

33. No, maundage rate per mile give rise to many difficulties as the weight of cane, when loaded and unloaded, differ to some extent due to dryage as also wastage.

34. The freight rate on manure, specially, filter muds should be reduced appreciably so that the cultivators on outside stations should be benefited by the free supply of this stuff.

35. Nil.

36. Yes, Tramway system must be advantageous to a very great extent but, certainly, there would be difficulties in acquisition of land for the purpose of laying out tramway lines.

37. The extent of depreciation may be estimated at 10 to 15 per cent. for transport by rail.

38. (a) The gate canes are purchased direct from the cane-growers and the rest through contractors from outside.

39. We do not contemplate any arrangement with the cultivators but we do advance cash to some who apply for same and we also supply manure on a liberal scale to practically all the cultivators applying for the same, the prices whereof are recovered at the time of their actually supplying the canes.

40. We appoint contractors for out-station canes and pay them commission of Rs. 1-9 per 100 maunds and dryage of average 3 per cent.

41. No.

42. Yes, payments are made at the time of delivery of canes.

44. The prices paid to the cultivators are now controlled by the Government rates and they certainly are related to the prices of sugar.

45. In our area, specially, the supply of cane is very much dependant on the price of gur, owing to Bihta and other markets being very big centres for the supply of gur to other Provinces.

46. Yes, there has been considerable variation which is attributable to less demand for gur from other from other consuming centres.

47. Yes, we have paid prices in excess of those fixed by Government specially, during last crushing season. It was mainly due to the abnormally low prices fixed by the Government.

48. No, the basis, in our opinion, is not quite satisfactory there ought to be a minimum below which the prices should, under no circumstances be allowed to fall. Regardless of any reduction in the prices of sugar we propose this minimum to be As. 4-6 per maund, this, in our opinion, would go a great deal in stabilising the sugar market also.

49. Yes, the introduction of a system of bonus would certainly tend to the improvement of the varieties of cane and also earlier and late varieties and it can be easily introduced if the factories employ reliable hands in the Cane Department.

50. The cause of variation of the duration of the crushing season has been the quantity of cane available for crushing. Yes, now the period is sufficiently long for economical working.

51. By the introduction of early variety of cane, the recovery will be improved—as, during the latter part of November and the first fortnight of December, the cane crushed are of very low sucrose contents. But in this connection we may suggest that this early variety of cane should not be taken advantage of—for the extension of the crushing period in view of there being apprehension of overproduction of sugar in consequence thereof.

53. During the crushing season about 175 skilled and over 1,000 unskilled labours are employed and in the silent season about 20 former and 50 latter labours are retained.

54. There is no foreigner employed in our mills and the number of employees belonging to provinces other than Bihar is also very limited.

55. Since the very beginning we have no foreign-employed.

56. We have in our factory compound well-lighted quarters even for the factory coolies and electric lights and water hydrants are provided in almost all the quarters; besides, there is a well managed and liberally equipped Club and Library, Children's Park, Foot Ball ground, Regular Tennis Court and varieties of Indoor games, such as Snake and Ladder, Chess, Playing Cards, Draughts, Ping-pong, etc., etc., for the amusement of the employees.

57. Yes, we have to supplement our requirements of fuel with coal, specially during the first week of the start of the factory and towards the closing of the factory.

58. Molasses.

59. The outturn of molasses from the beginning of the factory up till now varies from 4 per cent. (on cane) to 3.3 per cent. It depends on the quality of the cane and also on the clarification of juice and process of boiling. The price of the molasses varies according to demand. In the beginning the price was rather high but it has now-a-days dropped to 3 annas or even less per maund.

60. Sold through Agents and partly locally too.

61-64. No answer necessary.

65. There is no appreciable depreciation in the quality of sugar stored, but certainly due to moisture few bags got damped. Generally, sugars bagged hot deteriorate in colour during the rainy season.

67. The damaged sugars are reconditioned.

68. The keeping quality of sugar can be much improved if it is thoroughly cooled before bagging.

69. No case of any damage in transit has been detected.

70-72. No answer necessary.

73-78. Answers can be found in the Balance Sheet attached hereto.

79. 12½ per cent. to 15 per cent. we consider would be a fair return for the capital invested towards the industry.

80. Separate forms* (answers supplied in there).

81. The capacity has been increased from 850 tons to 1,200 tons per day by installing efficient machineries (Maxwell Shredder)—better arrangement of feeding efficient pumps and engines, etc., installing another set of quadruples, juice heaters, filter presses, etc. [vide answer to Question No. 5 (iv)]—strictest economy is being practised in everything.

82. The cost of producing sugar depends directly on the recovery of sugar from cane, and as this factor varies in different years due to the variation in the sucrose contents of cane, it is evident that with the canes with higher sucrose content, the manufacturing cost might decrease. As regards efficiency of the manufacturing side, we believe, we have attained a standard which is very difficult to exceed under Indian conditions.

83. Patna, Calcutta, Madras, Bangalore and Mangalore are our Depôts and main centres.

84-86. Nil.

87. The difference between the two prices are not very wide, still efforts have to be made to minimise the difference.

88-90. Java sugar is preferred to Indian sugar mostly in the Port towns, and more so by the European Hotels and Confectioners.

91. On an average Indian sugars are certainly inferior to Java sugar but there are a few factories who are manufacturing as good sugar as is imported from Java. Average Indian sugar has small grains and less brilliant colour as compared with Java.

92. (a) It is only since two years that we hear of sugars stocked by manufacturers. Last year, factories in North Bihar and Gorakhpur areas had very sad experience due to heavy rains and about 40 to 50 per cent. of sugar stocked got damaged during the rains and hence, this year, naturally, they are making efforts to clear off their stock before the rains set in.

(b) Previously dealers did stock sugar to their full capacity as they gained considerably due to the difference in prices obtained at the close of the season and during the rains and after, but last year had very sad experience due to the gradual decline in sugar prices and this year, practically, no dealer has got any appreciable stock in hand.

93 & 94. Yes.

95. Yes, as regards the present basis of standardization, there is nothing to be complained about.

96. (a) & (b) Nothing.

97. With the setting up of the All-India Central Selling Organisation, the usefulness of these standards will automatically increase.

98. Nil.

99. The normal consumption of sugar in India is about 12 lakhs of tons. The current year is regarded as the year when the price of sugar is at its lowest, and as such, our forecast is that there would be maximum consumption during the year.

100. Yes, the gur is being replaced by sugar to a very small extent in the villages, specially in the localities and villages adjacent to sugar factory.

101. Some factories have already taken to these manufacturers and if special facilities are provided by the Government, there would be a glut in the market for these articles also.

102 & 103. Nil.

104. Sugar can be exported by land from India to Afghanistan, Nepal and Bhutan, provided the All-India Central Selling Organisation, as con-

templated, materialises and under its supervision the sugar factories lying on the borders of aforesaid countries export their product and are allowed remission of the excise duty on such exported sugar.

105. These excise duties have not affected the sugar industry in any appreciable manner, rather, on the other hand, it has discouraged the erection of more factories in the provinces of United Provinces and Bihar.

106. Some of the factories sell a small percentage of their produce locally as also a certain percentage is taken away by the distilleries and consuming centres like Assam and other places, since the last two years, the Indian Molasses Company of Calcutta have been purchasing molasses at a very cheap rate from certain factories who were not able to dispose of their produce otherwise.

108. To a great extent, in fact, it has made sugar industry as one of the biggest industries of India and thereby it has saved crores of rupees of the Indians, helped the Indians in taking interest in industries—solved the unemployment question to a great extent.

109. The import of foreign sugars into India should be completely prohibited and in the event of it being not possible at least the import duty at the existing basis should be permanently imposed.

110. The following things may be suggested for the improvement and development of the industry:—

- (a) Formation of a Central Board to organise selling of sugar to avoid unfair internal competition.
- (b) Preference given to Indian skilled labours to that of the imported labour and thereby encourage the Indians to take more interest towards the economic improvement of the industry.
- (c) Experimental factories to be installed in every province to deal with different difficult problems arising in factories and technicians of different factories should be encouraged to carry on research work and give trial to their inventions in these experimental factories.
- (d) Factory owners should be requested to have their own plantation and Local Government may kindly be requested to help the factory owners wherever necessary in acquiring lands for cane cultivation.
- (e) Extensive research should be carried by the Agricultural Department to produce varieties of canes most suitable to the conditions of the locality.
- (f) Propaganda should be made to increase the consumption of sugar in India. People should be tempted to eat more sugar in different forms, confectionery, jelly, jams, preserved fruits, etc.
- (g) The Director of the Imperial Institute of Sugar Technology and other responsible qualified people of the Industries and Agriculture Departments should be requested to visit each factory at least once during each season or more, if possible to see the working of the factories and give new and helpful suggestions and advise wherever necessary.
- (h) The factory owners should encourage their employees to carry on independent work to improve the present system and the Local Government too should grant some kind of remuneration to people carrying on substantial work in this line.

The Dumraon Raj Sugar Factory, Shahabad.

REPLIES TO GENERAL QUESTIONNAIRE.

1 This factory started crushing in the year 1933-34. Its full capacity is 300 tons of cane crushing per day.

2. The output of this factory running is as follows:—

Year.	Total.	
	Mds.	Srs.
1933-34	...	...
1934-35	...	...
1935-36	91,795	20
1936-37	100,174	16

3. (a) This factory is advantageously situated in respect of cane supply, if no sister factories pour for their cane supplies into this area.

(b) There is a facility of rail by the Arrah and Sasaram Light Railway yet the charges of this railway is very high. This factory has great difficulty in cane traffic transshipment at Arrah and Sasaram. There is no adequate number of wagons in this railway.

(c) Labour supply is tolerably fair.

4. This factory adopts sulphitation process and not carbonitation process the recovery and crystal of carbonitation are better than what they are in the sulphitation process, but the cost of production is bit higher than that of the latter.

5. Settling tanks and six rollers with one engine in the milling plants have been added in the year 1934-35 and 1936-37 respectively costing about a lakh of rupees.

6. This factory is contemplating the extension of one boiler, one pan, one juice heater and some pumps so that the crushing capacity may be increased to 500 tons of cane per day.

7. (a) Proportionate placements of all machineries and proportionate crushing determines the size of an economic plant.

(b) Only 400 tons plant can anyhow flourish in the present day.

8. Much of the repairing materials required for store is available in India and major machinery plants are taken from outside India.

9. (i) Yes.

(ii) Nil.

Raw materials.

10. This factory undertakes a small acreage of sugarcane cultivation under direct management. This factory tries to purchase lands from neighbouring tenants with utmost difficulties. They demand more prices for the same. It would be a difficult task to acquire lands for this factory under Land Acquisition Act.

11. (a) 100 acres of land held for cane cultivation.

(b) 50 acres of land each year.

(c) 213, 290.

(d) Improved system of cultivation in regard to fallows and manuring.

(e). Average yield per acre is 400 maunds and their sucrose content is 12 to 13.

12. (a) Experiment in cane cultivation 2 acres.

(b) Nil.

13. The Agricultural Department of this province is giving us late and early variety of cane and assisting us in the method of manuring, etc.

14. (a) The cane plantation has increased.

(b) The quality is improved.

15. The damage caused by frost, insect pest, etc., is very little in this area say roughly about 5 per cent.

16. The principal varieties crushed in this factory are 213, 290 and Co. 286.

17. Sometimes the prices of cane is increased by 20 to 25 per cent. by competition with the other factories.

18. Nil. No.

19. In this area the cane cultivation was a bit higher in the season 1936-37, but it could fairly cope with the demand of this factory. It was neither more nor less. But because of the abnormal low price of sugar, the railway freight being high, and the excise duty enhanced, the factory was not in a position to draw cane from outside railway stations. I do not think that any restriction is necessary on such an acreage of cultivation except the railway authority should reduce the cane freight, and the Government should reduce the excess duty.

20. The cost of cultivation by a cultivator as per acre and its outturn—

	Rs.
1. Cost of seed, 28 maunds	7
2. Cost of labour, etc.	10
3. Water charges	10
4. Maintenance of bullocks	10
5. Rent	5
	42

Outturn 300 maunds at the rate of annas four=Rs. 75.

Less cartage Rs. 18-12: Rs. 56-4 only.

Hence the nett profit is nearly Rs. 14 per acre.

21. Fairly good seed should be supplied to cultivators by the Industry Department. Canal water charges should be lessened and there should be less harassment by the canal authorities in regard to bribe, etc. The carts should be allowed to go on the pucca road of District Board. There should be zone system for the supply of cane to the neighbouring sister factories.

22. (a) I agree with the previous Tariff Board's conclusion in regard to the acquisition of land. It will increase the poverty of India all the more.

(b) The number and name of village together with the acreage of land under cultivation should be the basic principle for zone system of cane supply.

23. If a fair zone system is established, this factory may advance cash money to the cultivators at the rate of Rs. 10 per acre and, may also arrange to supply some manure and seed to some extent, and some free molasses for public roads.

24. This factory is in favour of sub-clauses (a) and (b) because it will check overproduction of sugar in the market and will also effect the sugar price to some extent.

25. Proportion of cane supply—

- | | | |
|-------------------------------|---|-----------------------|
| (1) Gate cane—60 per cent. | } | for the year 1936-37. |
| (2) Railway cane—40 per cent. | | |
| (3) Tramway—Nil. | | |

The above fluctuated in the previous years as the gate supply was less due to jaggery making and low acreage of cultivation.

26. The gate cane of this factory is entirely transported by carts and 2 per cent. by railway lorries. The average weight of cane carried per cart is 17 to 18 maunds. The prices of rubber-tyred carts should be lessened to substitute the country carts. The factory has employed 12 rubber-tyred carts. The average weight of cane carried by such carts is 50 maunds.

27. The mileage of road in the vicinity of this factory is quite adequate.
28. Within the radii of 10 miles the cane from road is arrived at the local gate. Nearly 8 hours are taken between cutting the cane and delivery at the factory gate.
29. The average cost of transport of cane per maund per mile is 3 pies. Nearly 80 per cent. carts men employ their own carts and only 20 per cent. employ hired carts and they have to pay the above cartage per mile.
30. Not in this area up till now.
31. For uniform supply of cane purji system is introduced at the local gate. The normal period of detention of carts at the factory gate is 5 to 6 hours. Nice parking system of carts has been introduced.
32. Nearly 50 miles distance the cane is transported by railways. From East Indian Railway where transshipment takes the average time taken between cutting of cane and delivery at factory gate is generally 84 hours. But in Arrah and Sasaram Light Railway it is only 20 hours.
33. The railway freight is calculated on flat rate. I prefer the maundage rate per mile. There has been no change in the freight of Arrah and Sasaram Light Railway in the recent years.
34. The railway freight is comparatively higher and the railway authorities have little consideration for deplorable condition of the industry in regard to the freight.
35. Nil. No tramway.
36. The District Board in this District has some objection in starting tramway line.
37. The purity of road cane is always higher than that of railway cane by at least 5 to 6 units.
38. (a) 60 per cent. direct purchase.
(b) 40 per cent. through contractors.
39. Nil.
40. This factory allows 3 pies per maund of cane supply to the contractors as commission over and 2 per cent. to 5 per cent. dryage and 6 annas per cent. cane as loading charges plus free delivery of weighbridge from the factory.
41. Nil.
42. This factory has daily payment system.
43. In season 1936-37 the price fixed by the Local Government were between annas 4-9 to annas 3-6 in this factory and there has been no price competition this year by the neighbouring factories. But previous to this season the prices by the Government and the factories were decided higher and the competition prices by the factories were also very high.
44. The prices of cane have some relation to the prices of sugar in this province and thus Local Government fixes the prices of the cane.
45. This year the jaggery making has not affected the prices of cane, but in the previous year when the price of jaggery was higher, it has affected 20 per cent. in the supply of cane at the factory gate.
46. This year the prices of jaggery was very low because the factories were reluctant in the purchase of the same. Moreover the price of sugar was abnormal so it has affected the cane as well as jaggery prices.
47. It all depends on the supply of cane. If the cane supply is sufficient, the factory owner will not increase the price of cane fixed by the Local Government and if it is less, they can increase the same to meet their demand.
48. The basis of minimum price of cane fixed by the Local Government is not satisfactory when the price of sugar is so low. The price ought to be lower than the minimum one.
49. Nil.

50. In the year 1935-36 the duration of crushing was 135 days while that in the year 1936-37 it was 133 days.

51. The Government of India should allow high percentage of expenditure out of sugar excise income for the mass education of cane cultivation in India. Thus the activities of Industry Department should be extended for mass education. Then the people will adopt new improved system of cane cultivation of early and late varieties.

52. This factory is satisfied with the assistance given by both the Departments. The factories or the people of India are not satisfied with these types of small helps, but are craving after more help and assistance. Under the circumstances the Government of India should help these two departments with more monetary side in the annual budgets, and thus better heads are added up in these Departments.

Labour.

53. In the crushing season skilled and unskilled labour is employed in the factory but in the silent season only skilled labour is employed.

54. Only 7 per cent. of the labour is imported from outside neighbouring districts, and 93 per cent. of labour is recruited from local area.

55. No skilled labour in this factory is imported from abroad, because here is cent. per cent. in Indian labour. Only one Chief Engineer is a foreigner.

56. Mostly pucca quarters are allotted to the factory labour and some semi-pucca quarters. Free water and medical aid are given to them.

Power.

57. This factory cannot meet the whole of its requirements of fuel from the bagasse available in this factory. The money spent on fuel is given below:—

	Rs.
In 1935-36	8,616
1936-37	19,926

58. Only molasses.

Outturn of molasses.

	Money received on sale portion only.
	Rs. A. P.
59. In 1935-36: Mds. 40,000 (approx.)	3,520 15 3
1936-37: Mds. 48,000 (approx.)	1,368 6 0 till 6th June, 1937.

The causes of variation are due to high crushing and jamming in the boiling house.

60. The market for molasses of this factory is simply local. There is no satisfactory arrangement of transport by Arrah-Sasaram Light Railway to send its molasses to big markets such as Calcutta, etc. The railway freight on molasses are comparatively very high. Hence much of the molasses are wasted in this factory only 28 per cent. of total production of molasses is consumed by the local area and the rest is thrown away as wastage.

61. The surplus molasses are drained in the rainy season.

62. *N/A.*

63. Molasses can be used as a manure, but it required great labour.

Storage and Transportation of Sugar.

64. Stock position--

	Beginning of the	At the end of	
	season.	the season.	
	Mds.	Mds.	Srs.
1935-36	268	41,930	0
1936-37	26,555	48,729	12

65. This factory has a pucca sugar godown which can at one time contain 500,000 maunds of sugar. This factory is in contemplation of extending the present sugar godown.

66. Only in the rainy season the sugar in the godown is slightly moisted and quality affected a bit.

67. The damaged sugar is sold on lesser price.

68. By double curing the 2nd sugar in the centrifugals and 3rd sugar being used as seed into the pan and thus making one quality of sugar.

69. The sugar in transit is damaged mainly in rainy season and further if the bags are not of good quality.

70 & 71. No.

72. Nil.

Capital account and overhead charges.

74. Our rate of depreciation is the same as allowed by the Income-tax Department.

75 & 76. Nil. The factory being a sole proprietary one.

77. The working capital is advanced by the Dumraon Raj Treasury.

78 & 79. Nil.

Efficiency of production.

80. A separate form* has been fully filled up.

81. (i) One engine with six rollers has been added to milling plant to lessen the losses in bagasse in 1936-37.

(ii) Centrifugal settling tanks have added to avoid jamming of process sugar in the year 1935-36.

(iii) Nil.

(iv) High salaried staffs have been removed to lessen the cost of production in the two seasons, 1935-36 and 1936-37.

82. By adding one pan and one boiler, the crushing will be higher and the fuel consumption will be lessened.

Marketing.

83. The principal markets for sugar for this factory are Calcutta, Madras and local markets.

84. (a) The principal dealers get some commission on sugar sales by the manufacturers, and

(b) The dealers keep some margin of profits while selling the sugar with the retailers.

85. The present sugar contract form is suitable to some extent, yet the sugar dealers are never free from botheration when the market is towards low.

* Not printed.

Sugar rates.

Year.	Out side.		Local.	
	Rs. A.	Rs. A.	Rs. A.	Rs. A.
86. 1935-36	9 4	7 12	9 10	7 15
1936-37	7 12	5 13	7 15	6 4

87. No.

88 & 89. Not definite.

90. Java sugar is mostly consumed by the foreigners in India, and by the Anglo-Indian and Christian.

91. Of course on the whole Java sugar quality is better than many Indian sugars, yet some factories in India produce better quality of sugar than the Java ones. The reason are this that this industry has newly sprang up in India, so it will take time for producing better sugar.

92. (a) Generally this factory at the end of the season holds only 1/3rd of sugar stock into its godown.

(b) 1/3rd of the stock are sold off in the running season. The carrying of stocks is financed by the Raj treasury.

93 & 94. No.

95. Yes.

96. (a) Not substantial.

(b) No.

97. Nil.

98. Not definite.

99. The present Indian production of sugar can be consumed in India if foreign sugar is totally stopped.

100-102. Nil.

103. Not definite.

104. Indian sugar can only be exported if the cost of production is lessened.

105. (i) The sugar excise duty of 1934 had already checked the margin of profit and the sugar industry in India was not in a prosperous condition.

(ii) But the addition made in 1937 has marvelously ruined the industry. Practically there is no margin of profit in this industry in the present status of affairs.

106. For this factory the molasses are consumed locally.

107. Not definite.

108-110. The development of the sugar industry in this country has been phenomenal, and the Government of India deserve to be congratulated for having decided to promote the industry by giving it suitable fiscal assistance. The establishment of this industry has doubtless been of great and direct assistance to the cultivators of cane who are greatly benefited by the higher return from this crop and who have also considerably extended their cultivation under the impetus of such return. The time has now come when the Government should implement their policy of protection which has been completely vindicated by the industry which has made the country practically self-sufficient in the matter of her requirements of sugar within a short period, by further constructive measures of assistance like provision of research work in accordance with the recommendations of the Tariff Board, particularly with a view to effect improvement in the qualities of cane, and the utilisation of the by-products of industry. I hope however, that the various Provincial Governments will urge upon the Government of India the necessity of continuance of protection on an adequate scale, in consideration of the beneficial effects of protection on a large number of cultivators, and the country as a whole and I trust that the Government of India will carry out their pledge to protect

the industry adequately, for a period of 15 years, as the industry has come into existence relying on such definite assurance. The sincerity of the Government's desire for helping the industrial development of the country is on the test and I hope they will inspire confidence in the minds of the public about their *bond fides* by taking vigorous and whole-hearted measures for the establishment on sound lines of this second largest industry of the country, which satisfy fully the three conditions laid down by the Fiscal Commission for the grant of protection.

The Rohtas Industries, Ltd., Shahabad.

REPLY TO GENERAL QUESTIONNAIRE.

1. Started in the year 1933-34—Capacity 1,800 tons of cane per day.

1933-34—			1935-36—				
	Mds.	Srs.	Chs.		Mds.	Srs.	Chs.
2. 1933-34—							
R. S.	109,798	1	0	R. S.	247,919	6	0
X. S.	1,519	26	0	No. 1	47,067	7	2
No. 1	40,744	14	8	Pisa 1	18,630	2	1
Pisa	31,416	37	8	Pisa 1	13,149	0	0
Ungrade	5,883	30	0	No. 2	18,705	24	0
Total	189,362	29	0	Total	345,470	39	2
1934-35—				1936-37—			
R. S.	192,885	12	0	R. S.	184,952	28	0
No. 1	74,652	12	0	Special	136,341	36	0
Pisa	47,593	28	0	No. 1	86,653	32	0
Total	315,131	12	0	No. 1A	88,489	32	0
				Pearl	14,550	12	0
				R. S. A.	4,706	4	0
				No. II	16,294	20	0
				Total	531,939	4	0

3. (a), (b) & (c) Yes.

4. Double carbonitiation.

In the sulphitation process, the plant is less expensive and the process cheaper to work. On the other hand the carbonitiation process yields a bit higher recovery and the sugar produced is of superior appearance and of better keeping quality. The principal items which raise the cost of carbonitiation process are lime-stone and coke and filter cloth. The determining factors will therefore be the distance of the factory from quarries and the coal field.

5. Since starting the plant in 1933-34 (when its capacity 1,000 tons) its capacity was increased to 1,500 tons in the year 1935-36 and finally to 1,800 tons in the year 1936-37. Charges in the layout of the factory were also made to suit convenience where required.

Amount spent may be seen from the Balance Sheet attached.

6. None very important except a few minor charges.

7. (a) The overhead charges of a factory decreases relatively per unit increases of crushing capacity. The larger the factory the less are the proportionate charges on skilled directing staff, depreciation and certain factory operation. The size will ultimately be determined by the capital available, the availability of raw material at a reasonable price in the neighbourhood and the facility of access of market.

(b) The determining factors are the quality of cane and the duration of the working season. Generally speaking for Northern India, the minimum economic size is 400 to 500 tons crushing capacity.

8. Simple parts such as cast iron tanks and pipes and other plants comparatively easy to manufacture are obtainable in India. Generally speaking, Sugar machinery is a specialised manufacture and have to be imported (I.S.M.).

9. We are not aware of having been given any practical assistance either (i) the Imperial Institute of Sugar Technology or (ii) the Industries Department of your local Government.

10. Yes, we do undertake cultivation. The land that we could obtain from the big Zamindars was only of their self cultivation. We have been unsuccessful to acquire land for cultivation even at the price more than 3 times than at what we purchase from the Zamindars. Their ground was that the land was only the source of their income.

11. (a) Total area held is about 1,000 acres.

(b) As this is the first year of our cultivation we have put in about 250 acres under cane.

(c) Co. 213 and Co. 331.

(d) System of cultivation is the preparation of land with the mechanical power, planting and all operations after that with the manual labour. Cane ratoon fallow Green manured is the rotation we have taken in view. We are supplying S. Amonia at 4 maunds per acre.

(e) As this is the first year of the plantation no answer to this question can be given.

(f) No cost per acre can be given at this stage.

12. (a) We have not kept any area for experiments this year.

(b) Nothing has been done for the production of seed for sale to the tenants being the first year of plantation.

13. No experiments have been tried. Agricultural department has done practically very little for us in this direction.

14. The quantity of cane available has been steadily increasing in local area, since the start of our factory. No appreciable variation was noted in the quality of cane except that caused by weather sometimes.

15. Unknown; cannot give any figure.

16. As stated in answer of question No. 14 the area under cane has been steadily increasing but we are not yet assured, of full supply. The quality generally available here is Co. 213. The field yield varies from 200 to 600 maunds per acre according to soil and irrigation facilities. The sucrose contents in average is

17. There is very little competition where our factory is situated. During the first two three years there was competition and the prices went upto Rs. 7 per maund. During last crushing season there has been practically no competition due to increased crop. In any case, it has not effected the price of cane, but in case there be less crop than that required by the factories there is likelihood of competition.

18. No.

19. In our area no restriction is necessary as the cane in our area is not in excess of our requirements.

20. We regret, this information is not available with us.

21. The main difficulties are very small holding, lack of manuring and irrigation facilities, absence of good roads, pressure for payment of Government dues and also Salukars debts, etc.

22. Yes. But due consideration will have to be kept of providing suitable zones to factories with greater capacity. It will be rather difficult to arrange it in practice especially in areas where a number of factories are situated closely and every one is to depend on due supports for its cane supply.

23. Does not arise. We agree with the Association.
24. (a) We consider that at present there is no need for fixing a quota, but realise that the need may arise in the near future.
- (b) The last Tariff Board rejected a proposal for licensing on the grounds mainly (1) that enlightened self-interest would prevent capitalists from starting new factories where old ones already existed and where there was no room for expansion and (2) that the only safeguard for maintenance of fair prices for cane was competition between factories. The expectation underlying the first ground has not been realised and the second ground has been removed by Act XV of 1934. We consider that all new factories and extensions of existing factories should be subject to license. The licensing should be entrusted not to Provinces but to an all-India body including Indian Native State.

	1933-34.	1934-35.	1935-36.	1936-37.
	Per cent.	Per cent.	Per cent.	Per cent.
25. Gate cane	27.8	25.8	21.7	23.6
Broad Gauge Rail cane	58.6	48.8	47.6	53.8
Narrow Gauge Rail cane	13.6	18.9	13.9	12.6
Canal cane . . . . .	...	6.5	16.8	10.0

26. Our gate cane is entirely transported by carts. No lorries are used. The average weight of cane carried per cart is:—

Season.	Mds. Srs.	Season.	Mds. Srs.
1933-34	16 2	1935-36	18 14
1934-35	17 19	1936-37	17 20

We understand that at several places trial was given on Dunlop Tyre Carts. These carts carried double the weight of ordinary carts but being too expensive we do not hold that these carts can be introduced at such a large scale.

27. All roads in our vicinity are Kutchra and in very bad state of repairs.

28. Cane is brought by road from 1 to 14 miles distances. Average time between cutting and delivery is above 48 hours.

29. The average cost of cane transport is one pie per maund per mile. Over 50 per cent. employ their own carts and the rest hire carts.

30. No tolls are levied within or near the factory area.

31. Local area is divided into 7 blocks. Cane is obtained from each block in proportion to the estimated crop therein. We have appointed one jamadar for each block who issues Purjies for the requisite number of carts and ensures that the said number actually reaches the factory every day. The average period of detention during rush hours under normal conditions is 6 to 10 hours. The rush hours during the winter months is between 10 A.M. to 6 P.M. and in summer months between 6 P.M. to 8 A.M.

32. The distance varies from 9 miles to 102 miles. Average time between cutting of cane and delivery at factory is about 48 to 72 hours. Railway arrangement for transport of cane are as far as they go but there is room for improvement. It is being brought to the Railway Authorities notice every now and then.

33. Railway freights are calculated on mileage per wagon for a minimum distance of 35 miles. There have been changes. The freight is Rs. 10 per 35 miles. Maundage rate per mile is not preferred.

34. Yes. The rates for limestone and manure ought to be reduced considerably.

35. We have no tramway.

36. Not having had any actual experience we cannot say anything definitely, but we feel that a tramway line properly maintained should assist the cultivators and result in quick transport of cane to the factory.

37. We have lost by over 1 unit in the sucrose content and over 5 units in the purity figures on cane, going by rail, when compared to that going in carts.

38. Proportion of cane purchased—

	1933-34.	1934-35.	1935-36.	1937-38.
(a) Direct from cane-growers	...	15.5	21.7	30.7
(b) Through contractors	100	84.5	78.3	69.3

39. Advances in cash are given to the local cultivators who ask for advance. Advance for preparing wells for irrigation are also given when authorities are approached. Advances are also given when cultivators need money for paying taxes, rents, etc.

40. Cane is purchased through contractors on commission basis and also by self purchase. Men are arranged on commission basis at Rs. 1-9 per 100 maunds and not on a monthly salary.

41. No such association exists in the territory from which we draw our cane supplies.

42. One cart-weightbridge is fixed at an out-station or centre where the supply is under eight wagons per day and two where more than 8 wagons. Inside our factory for local carts we have fixed four five tons weightbridges, weighing carts with bullocks yoked without detaching, which saves a lot of time and trouble. Payments are being made weekly.

43. The prices we have paid are as follows:—

Season—

1933-34—From As. 5 to As. 6-6 per maund.

1934-35—From As. 4-9 to As. 7-3 per maund.

1935-36—From As. 5 to As. 5-6 per maund.

1936-37—From As. 2-6 to As. 4-9 per maund.

which shows that the prices do vary at different periods of the season.

44. During the first 2 or 3 years prices of sugar cane have been regulated by the amount of sugar cane in demand and did not have any direct relation with the prices of sugar. During the last two years however, the Government have controlled the supply and rates have been fixed in direct relation to the prices of sugar prevailing according to the rules under the Indian Sugarcane Act, 1934.

45. The prices and supply of cane have been affected considerably by the demand for jaggery during the period before the Government started fixation of prices. Even during 1935-36 the prices of gur being attractive the quantity of cane available for the sugar factories was reduced by about 33 per cent. During 1936-37 however the prices of gur having gone down, almost all the crop was available for the sugar factory.

46. Yes. The area from which we draw our sugar cane used to supply the requirements of gur refinery before our factory was put up. The prices of gur for refining purposes are based on the prices of sugar made from gur. Owing to the sugar prices having gone very low during the last year it has not been profitable for gur refineries to purchase gur at the rate that they have usually been. There was no attraction therefore for the cultivators to undergo the hardship for turning sugarcane juice into jaggery and they all supplied their sugarcane to the factory for crushing.

47. On one occasion during 1935-36 we paid a higher rate in cartage of 3 pies per maund to the local men and again in 1936-37 during April we paid 6 pies per maund than the existing Government rate to our local area

cane cultivators, as we had previously informed them that those who wait patiently to supply canes during the month of April would receive our rate for a certain period no matter what the Government rate would be.

48. Not satisfactory.

49. In view of the very small holdings and the general poverty of an average cultivator, we do not think payment of bonus will help either the cultivator or the factory. If however, better quality of cane in large quantities can be hoped for, a scheme for paying bonus for superior cane may prove useful.

50. Except during the season 1936-37 the period of crushing during the previous years has not been long enough.

51. The crushing season can be extended by at least a month by the introduction of early and late varieties of cane. The factory could start at least a fortnight earlier and close a fortnight later.

52. We have not had any practical assistance from either the Imperial Council of Agricultural Research or the Agriculture and Co-operative Departments of the Bihar Government.

	In Season Time.		In Off-Season.	
	Daily.		Daily.	
	Skilled Labour.	Unskilled Labour.	Skilled Labour.	Unskilled Labour.
53. 1934	151	733	51	200
1935	136	536	89	212
1936	149	635	63	168
1937	186	819	176	276

54. No skilled labour has been imported from abroad, but a large number of skilled labour is imported from other parts of the country mainly from United Provinces and the Punjab.

55. Does not arise.

56. Nice pucca quarters are made for them with necessary arrangements of tap water. A sanitary inspector has been engaged to supervise the sanitation. There is ample space to provide for out-door recreation.

57. We have had to supplement it by coal. The figures for the amount spent on fuel are as follows:—

From 1934 to 1937 Rs. 1,40,411-9-1.

58. Bagasse, filter-press cake and final molasses.

59. Price—

1933-34—As. 2 to As. 9 per maund.

1934-35—As. 3 to As. 12 per maund.

1935-36—As. 10 to As. 2-9 per maund.

1936-37—As. 5 to As. 2-3 per maund.

Outturn—

Year.	Maunds.	Year.	Maunds.
1933-34	103,853	1935-36	155,752
1934-35	151,753	1936-37 . . . .	...

60. The main market for our molasses is Calcutta and most of the supplies are made by tanks. Railway facilities are not adequate and therefore we have to transport molasses by tins and drums also. The average freight vary and is approximately As. 4-6 per maund.

61. We sell our molasses. We suggest, license may be granted for manufacture of power Alcohol and some steps may be taken by the Government to enforce compulsory use of Alcohol mixing the same with petrol.

62. We have no outlet for surplus bagasse.

63. No.	Mill started.	Beginning of the Season.		End of the Season.		
		Mds.	Srs.	Mds.	Srs.	Ch.
64. 1933-34	..	..	..	..	..	..
1934-35	..	..	..	..	..	..
1935-36	6th December 1935.	3,212	18	345,607	8	0
1936-37	7th December 1936.	32,923	9	322,692	20	14

65. We have three godowns to store sugar with a capacity of accommodation 120,000 bags. During recent two years, we have not built any godown nor do we contemplate.

66. A small quantity gets damaged in the godown on account of moisture during the monsoon but this quantity is negligible compared to the total stock in the godown.

67. Major part of the damaged sugar is sold after being reconditioned. A very little quantity has been sold outright, also.

68. We are not aware of.

69. Generally the sugar booked to distant parts is damaged due to moisture there.

70. Only occasionally.

71. Yes, the wagon should be water-tight and air-tight as well so that the sugar therein may not absorb moisture.

72. The average freight rate is As. 12 per maund approximately.

73. The copies of our balance sheets are being sent herewith.

74. Same as allowed by Income-tax Authorities.

75-76. Please see Balance Sheet.

77. Arranged by Managing Agents.

78. The Managing Agents' Commission is 1 per cent. on sales and 10 per cent. on profits.

79. We think 10 per cent. on block account.

80. Form* duly filled in is enclosed herewith.

83. South India, whole Bengal Nagpur Railway, Calcutta and Burma.

84. The agents are appointed to canvas and to secure order for our products on a commission basis.

(b) We are not aware of.

86. We regret, we cannot give any figure.

87. In case the market being on upward trend the difference between wholesale and retail prices may be wide but generally it is very low.

88. We are not aware of.

89 & 91. It will be convenient to deal with these two questions together. The best quality of Indian Sugar is as good as the best imported foreign sugar in keeping and other qualities.

90. Java sugar is preferred in hotels and restaurants run in the European Style for their customers, Europeans and Europeanised Indians. But even here high grade Indian Sugars are replacing Java Sugar. To a very small extent, in the preparation of some special Indian sweets where customers like a bright, white colour, Java sugar is used.

93. We consider that a marketing survey would be of advantage as it is an essential preliminary to the operations of the central marketing organization.

* Not printed.

94. We are in favour of establishing a Central Sales organisation to be controlled by the Industry itself. Detailed proposals are under the consideration of a special sub-committee of the Association.

95. We are in favour of standardisation as it is an essential preliminary to the operations of a Central Sales Organization. Experience was not available when standards were tentatively suggested and factories were not able to adopt them. They had therefore to do business on the basis of samples of individual factories.

96. (a) & (b) Actual business on the basis of the Director's Standards has been done only by a very few factories. Several factories have however utilised the standards for grading their own sugar, and others have with their help classified their daily output.

It is stated by several factories that while they use the standards for grading their sugar, they are unable to do actual business on them as buyers, merchants and dealers do not possess a set of them.

97. A material reduction in the prices of the standards may tend to popularise them.

98. We consider that the time is not yet ripe for the establishment of a "Future" or "Terminal" market. Futures markets are difficult to control. No amount of rules will secure it as the working will depend on the men and not on the rules.

99. This may be estimated as a million and one hundred thousand tons.

Considering that the consumption of white sugar is only 7 lbs. per head as against 100 lbs. in Western Europe, the United States and Australia, and that there has been a large increase in world consumption in recent years, there do seem to be possibility of increasing the consumption. The present low prices are another factor in favour of an extension.

100. It is not possible to say to what extent factory sugar is replacing Gur as judging from statistics both industries are expanding. In the sweetmeat trade however it is a matter of common knowledge, that while for certain sweets gur is still preferred, the substitution of sugar for gur has gone far. It is impossible to make an estimate of the extent of this substitution.

101. We have no useful information on this subject.

103. In 1934 Java landed her sugar in India at unremunerative prices. The fact will be clear from the following statement of prices ex-duty of Java sugar c.i.f. Calcutta.

Date.	Price in
	Indian currency per Mtd.
	Rs. A. P.
1933:	
January to March	3 12 2.
April	3 12 5½
May	3 10 7
June	3 13 6
July	3 13 0
August and September	3 11 6
October	3 10 6½
November	3 9 1½
December	3 4 1

Date.	Price in
	Indian Currency per Md.
	Rs. A. P.
1934:	
January	3 1 8
February	3 6 1
March and April 1 to 24	3 5 1
April 25 to May 3	3 3 1½
May 4 to 10	3 1 9
May 11 to 28	3 1 3½
May 29 to June 21	2 15 4½
July 9 to 16	2 15 10½
July 17 to 30	3 0 9½
July 31 to August 9	3 0 4
August 10 to 20	3 1 3½
August 21 to September 26	3 0 4
September 27 to October 6	2 13 4½
October 7 to 10	2 12 1
October 11 to 27	2 13 4½
October 29	2 11 6
November 13	2 9 9
November 14	2 9 3

The last Tariff Board considered that under normal conditions the price of Java sugar landed in Calcutta would be Rs. 4 a maund *ex-duty*, but in circumstances of exceptional competition or for special reason, Java manufacturers might go down to as low as Rs. 3-4 per maund. At the time Java was suffering from large accumulated stocks of unsold sugar.

The facts were brought at the time to the notice of the Government of India by a Deputation from the Indian Sugar Mills Association which met the Hon'ble Members concerned on 24th November.

Export of Sugar (in tons).

	By sea.	By land.
104. 1930-31	493	40,126
1931-32	226	28,885
1932-33	437	27,729
1933-34	425	33,110
1934-35	363	34,084
1935-36	389	25,836
1936-37 (for ten months up to January, 1937)	521	23,381

In our opinion facilities should be offered for exports of Indian sugar to the United Kingdom by admitting it at certificated colonial rates (Is. 5-3d.). Exports will become possible when Indian price *plus* freight *plus* this preferential rate is equal to or lower than the price of non-Indian sugar landed in England after paying the regular customs duty. India at the moment does not make sugar of 96 polarisation as there is no internal demand for it, Indian sugar is about 99 polarisation.

Exports of molasses from India.

	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Aden and Dependencies.	13	12	11	13	..	..	..
Ceylon	390	658	707	890	890	925	925
United Kingdom . . . . .	..	..	7	179	153	..	13,622
Union of South Africa.	13	12	9	14	..	..	9,500
Zanzibar & Pemba	14	15	17	17	..	..	..
Other British Possessions.	13	21	13	19	..	..	..
Other Countries . . . . .	..	..	..	..	110	101	140
Total	433	718	764	1,041	1,153	145	24,187

111. The following statement shows molasses produced in India and molasses imported into India in the last six years:—

	Indian Production.	Imports into India.
	Tons.	Tons.
1930-31	269,000	102,204
1931-32	365,809	40,191
1932-33	461,658	31,991
1933-34	430,000	2,401
1934-35	406,000	415
1935-36	494,000	Nil.
1936-37 . . . . .	..	..

It is the increase of Indian production that affected imports of molasses and not the duty. No Indian Industry has suffered as molasses are available at nominal prices in India itself.

Sitalpore Sugar Works, Ltd., Saran.

REPLIES TO GENERAL QUESTIONNAIRE.

Production of Sugar—Introductory.

1. 1933-34.	600 tons.	1934-35.	600 tons.	1935-36.	800 tons.	1936-37.	800 tons.	1937-38.	1,800 tons.
									(Expected).
2. 1933-34—		Maunds.		1935-36—		Maunds.			
Crystal I		46,207		Crystal I		123,686			
Crystal II		3,565		Crystal II		38,051			
Crushed II		16,117		Crushed II		52,769			
Crystal IA		7,367							
Crystal IB		3,970		Total		214,507			
Total		77,227							
1934-35—				1936-37—					
Crystal I		74,122		Crystal I		211,110			
Crystal II		9,790		Crystal II		21,560			
Crushed II		46,279		Crushed II		8,975			
Total		130,191		Process		312			
				Total		241,958			

3. (a) Gate cane supply is very poor—the lands around being low and unsuitable for the cultivation of cane; no lime-stone nearby.

(b) All sorts of communication facility exist.

(c) Yes, plenty of local unskilled labour—but skilled labour comes from outside.

4. Double sulphitation—though less costly the percentage recovery is lower and quality inferior compared to carbonitiation. At present there seems to be no special advantage of carbonitiation process.

5. After putting up of original factory in 1933-34, before 1935-36, one vacuum pan, 10 centrifugal machines, 4 filter presses, one sugar dryer, one liming sulphuring vessel and 6 settling tanks have been put up.

6. One complete 1,000-ton plant has been purchased from Java and is just now under erection.

7. (a) Overhead charges per maund of sugar is reduced in a factory of bigger capacity than in a smaller one. No other special advantages can be cited. At present it seems 800 to 1,000 tons is the minimum quantity a factory should crush to compete effectively.

(b) 500 tons is the minimum quantity.

8. They cannot be obtained ready for supply.

9. (a) Not very much excepting repair works.

(b) Practically no suggestion.

Raw Materials.

10. No, we do not undertake sugarcane cultivation. We try to get land on lease and also efforts were made to purchase big plots of lands at stretch but local people were not prepared to sell or give the land on lease.

11. (a) Total area about 3,500 acres.

(b) About 1,100 acres.

(c) Co. 213, 210, 313, 331 and 299.

(d) Cultivation in our local area is done on simple basis in rotation, mostly cow dung mixed with ashes and cane-leaves are used. Only since last year we are introducing nicifos 22/18 of the Imperial Chemical Industries.

(e) Average yield per acre varies little. We get average about 350 maunds per acre; only Co. 331 variety gives an average of about 400 maunds. The sucrose in cane vary according to type of cane matured in different months.

12. (a) Sorry we have no land for experimental purposes.

(b) We get seeds from the Government Farms and distribute the same locally.

13. We have started giving early and late varieties since last year and our experience is not so solid as to give you consolatory opinion in the matter. The Agricultural Department has employed an overseer who has very big area to look after. He generally supervises and advises the growers to plant the cane according to different methods.

14. (a) Area at certain railway stations is enormously increased.

(b) The quality of cane has improved.

15. Our local cane mostly is damaged by insect pests and heavy floods. We hardly get 50 per cent. of the canes planted. There is loss of 1 to 2 per cent. due to this.

16. No, we have no sufficient supply at the gate. We crush mostly Co. 213 and 210. The sucrose in cane is about 10 per cent. in these canes and the yield is about 350 maunds per acre.

17. Since last year there is no competition of rate with other factories due to increased plantation but number of factories used to work at each neighbouring station a year back when the prices used to go very high.

18. (a) Yes.

(b) Due to recurring floods in our local area which is on low level, cane crop is damaged to great extent sometimes unfavourable climate and insufficient rainfall further harming the cultivation and thus the supply. Gur is not manufactured in our area.

19. There was no excess cane in our area. At certain railway stations from where we were drawing canes there were excess canes and restriction at such station is necessary.

20. Please refer to our reply under item No. 11.

21. The main difficulties experienced by the cultivators is the area which is always under the danger of floods. They are insisting upon to have a canal in the *Hardia Chaur* to which Government is paying little attention, due to the heavy cost of the canal. Besides, the District Board roads are very badly kept up which goes to hamper easy delivery of cane to the factory.

22. (a) We have hardly to comment at the present juncture.

(b) We have no objection in allotting area to different factories provided the local area is improved enormously. Zoning system could be worked only if the nearer area is so developed so as to get at least 80 per cent. of the total supply is received by carts.

23. We are already giving cane seeds and manure every year worth about Rs. 25,000 in our area and we shall be too glad to give necessary assistance to increase acreage under cane.

24. (a) Yes, certainly if we want to exist at all.

(b) Yes, licenses should be made compulsory for new factories; so far the extensions are concerned enquiries be made from different factories whether they have purchased machinery for extension and if so they should be allowed to do so.

25. (a) 33 per cent. gate cane.

(b) 67 per cent. rail cane.

(c) Nil.

There is no change during the last 3 years. We are practically getting the above percentage of canes.

26. All local cane come by cart which contains usually 20 maunds. In rubber-tyred cart usually 40 maunds of cane can be loaded. Local people are not prepared to purchase these rubber-tyred carts.

27. Very bad condition of road.

28. About 10 to 12 miles: It takes about 6 hours.

29. The rate of cartage is 3 pies per mile but it varies according to mileage. Mostly growers bring their canes on their own carts.

30. Nil.

31. In view of the gate cane position we take specified number of wagon from the very beginning of the season so that the gate cane is distributed from beginning to end equally. No cart is detained here more than 4 hours as we have definite system of chalans for each day.

32. (a) The longest distance of railway station that we drew cane this year was 90 miles.

(b) 3 days.

(c) Yes.

33. The railway has their own system of charging the freights according to the type of wagons they supply for loading cane and the mileage.

34. We have little to comment on this matter.

35. No, we have no tramway lines.

36. Yes.

37. The main difficulties in acquiring of lands.

37. The more deterioration takes place in the rail transportation; dryage comes to about 3 to 4 per cent.

38. Our gate cane is taken directly from cane growers and rail cane comes through purchasing agent.

39. Yes, we give advances in form of cane seeds and manure.

40. We appoint licensed purchasing agents through whom the cane is purchased at Railway Stations to whom we pay at Rs. 3-4 per 100 maunds.

41. Yes, through co-operative union on the same terms.

42. Yes, we make payment immediately after delivery of cane within 24 hours.

43. We are working since 1933-34 and prices are governed according to the fixation of minimum prices of Government.

44. The Government takes this into consideration while fixing the price.

45. So far we are concerned this does not concern us.

46. Nil.

47. We have paid 6 pies as cartage for the local cane to enable the growers to give reasonable cartage to the carters for traversing long distances.

48. While fixing the minimum prices of cane the Excise Duty should be taken into consideration. The present formula is not workable any more as the Excise Duty being a permanent charge should alter the basis of present calculation. Moreover there should be no difference in price in Bihar and United and Provinces cane.

49. This may be encouraged but it will be at the sacrifice of exhaustive organisations bearing high cost.

50. (a) 1933-34—from 30th January, 1933 to 22nd May, 1934.

1934-35—from 15th November, 1934 to 30th March, 1935.

1935-36—from 20th November, 1935 to 7th April, 1936.

1936-37—from 3rd December, 1936 to 30th April, 1937.

In the second and third seasons the factory had to stop for want of cane.

In the first and fourth seasons the sucrose of cane had gone down heavily.

(b) Nil.

51. Yes, season could be extended thus provided other factors work economically.

52. The assistance should be on more elaborate basis. Agricultural Department should take up intense propaganda in the vicinities of sugar factories for plantation of varieties of canes.

Labour.

53. Both skilled and unskilled labour are both from Bihar and United Provinces. In the off-season only fitters are kept for overhauling.

54. None usually—only last season 3 Javanese pan-boilers were imported.

55. Does not arise.

56. Quarters have been made and provided free—electric light free—tubewells made for water supply—free medical aid given.

Power.

57. No, never. Both wood and coal used as extra fuel.

Expenditure—

1933-34—Rs. 26,612-9-9.

1934-35—Rs. 22,575-13.

1935-36—Rs. 30,604.

1936-37—Rs. 35,875-0-6.

By-products.

58. Molasses and Press Mud.

		Molasses outturn.	Molasses price obtained.
		Maunds.	As. P.
59.	1933-34	37,000	1 0
	1934-35	78,000	2 6
	1935-36	94,800	3 6
	1936-37	113,400	1 7½

Overproduction is lowering the price every year.

60. Mostly Bengal. We usually sell our whole output to some customer. He boils the molasses in open pans and converts it into *chita* and puts in canisters and despatch same by steamer, rail and boat to different parts of Bengal. There are some local sales as well. Facilities of transportation fair.

61. Production of power alcohol.

62 & 63. None.

Storage and Transportation of Sugar.

		Stock in bags in beginning of season.	Stock in bags at the end of season.
64.	1933-34	None	9,713 23rd May, 1934.
	1934-35	1,328 15th November, 1934.	14,639 4th April, 1935.
	1935-36	Nil. 20th November, 1934.	42,667 11th April, 1936.
	1936-37	14,706 3rd December, 1936.	46,943 7th May, 1937.

65. Ordinary godown (pucca walls and floor with tin roofing).

Yes, we have increased. Present capacity=60,000 bags.

66. To a very great extent. By moisture partly due to heavy rains, nearness of a river, due to wasps getting in by millions. We cannot say to what extent due to quality.

67. Sometimes sold as it is sometimes reconditioned.

68. Not known.

69. In steamers to a certain extent; due to absorption of moisture.

70. No trouble of wagons in running season but mostly in the off-season.

71. None.

72. Average price obtained—

		Rs. A. P.
	1933-34	8 6 3
	1934-35	8 2 3
	1935-36	8 0 0
	1936-37	6 6 9
		(up to 31st May, 1937).

Capital Account and Overhead Charges.

73. Balance Sheets for 1933-34, 1934-35, 1935-36 sent herewith. 1936-37 not yet ready.

74. 1933-34—Rs. 26,168-8.
 1934-35—Rs. 50,170-6-2.
 1935-36—Rs. 72,131-10-3.
 1936-37—Not yet ready.

We do not follow the rates of depreciation allowed by Income-tax Department.

Our rates are as follows:—

	Per cent. in a year.
Building	2½
Machinery	5
Furniture and Fixture	10
Electric fittings	10
Laboratory apparatus	10

75. Amount set aside for Reserve Funds—

	Rs.
1933-34	5,000
1934-35	10,000
1935-36	85,000
1936-37	Not ready.

76. Issued only ordinary shares, dividend distributed as follows:—

- 1933-34 at 6 per cent.—Rs. 27,790-7-3.
 1934-35—Nil.
 1935-36 at 8 per cent.—Rs. 66,500.

77. By hypothecation of sugar stock and other loan borrowing interest rate—6 per cent.

78. Management and other overhead charges:—

- 1933-34—Rs. 64,883-1-7.
 1934-35—Rs. 91,937-4-1.
 1935-36—Rs. 1,10,804-15-3.

Managing Directors' remuneration determined at Rs. 12,000 per year or 7 per cent. on the profit of the Company whichever is higher after allowing depreciation and income-tax.

79. 10 per cent. dividend is a fair return on capital.

82. Working cost can yet be reduced to a further extent by having non-stop crushing with extra set of quad and some other small equipments. If every factory can get cent. per cent. local cane and need not bring rail-borne cane not only the production cost will be less but better recovery will be guaranteed due to the freshness of the cane.

83. (1) Calcutta.

(2) Cawnpore.

84. (a) Through the sole Selling Agent.

(b) Not known.

85. Yes. No suggestion.
86. The retail price is higher by As. 2 per maund than the wholesale rate.
87. No.
88. Not known to us. Usually, it deteriorates only to a small extent during the rainy season; but last year due to abnormal rains and floods in this area sugar deteriorated to a very large extent.
89. Yes. No, so far as our sugar is concerned.
90. Indian sugar generally. By the majority of the public because it is cheaper and easily available.
91. No. In crystal uniformity and lustre and whiteness. But we have seen some Indian sugar which is as good as the Java sugar.
92. (a) 50 per cent. by manufacturers.
(b) 20 per cent. by dealers.
- Cash credit through Bank. Interest charged about 5-6 per cent.
- 93 & 94. Yes.
95. Yes. Same as the standards established by the Indian Sugar Standard Bureau, Cawnpore.
96. (a) Practically none.
(b) No, so far as we are concerned.
97. No.
98. None.
100. To a appreciable extent due to the low price of sugar prevailing just now.
101. We do not know.
102. We do not possess these data at our disposal.
103. Yes, certainly from Java—for wiping out their surplus stock.
104. We do not know. If favourable freight rates are obtained a certain amount of export out of India would greatly minimise the internal over-production.
105. A great burden on the infant industry, before it had time to stand erect.
106. Usually sell through brokers to contractors either whole production or part thereof.
107. We understand the Indian Molasses Company export to Great Britain. We have seen reports in the International Sugar Journal that Great Britain is now importing from Java alone about 2-3 lakh tons of molasses. We see no reason why Great Britain should not be induced to purchase at least 2-3 lakh tons of molasses from India whose sugar content is much higher than that of Java molasses and will therefore yield a higher percentage alcohol. This is a very important factor which should be pressed hard in the Indo-British Trade Agreement.
108. Not to a very great extent because the internal excise duty has to a certain extent minimised the effect of the protection. But the industry has grown enormously within the short period of three years after imposition.
109. At least the present protection duty should be maintained if it cannot be increased. Of the protective duty. Otherwise it would never have been possible for the industry to grow up like this.
110. Fixation of minimum selling price of sugar and quota of production both fixed up and maintained by the Government legislation and taking effective steps for the export of sugar out of India to favourable foreign markets.
111. Good. No—none so far as we know.

Cawnpore Sugar Works, Ltd., Marhowrah Factory, Saran.

REPLIES TO TARIFF BOARD GENERAL QUESTIONNAIRE, 1937.

Production of Sugar.

1. The factory commenced manufacture of sugar in 1904.
Capacity 950 tons cane per day.

Season.	Total Maunds Sugar.	No. 1 Sugar.	No. 2 Sugar.
2. 1930-31	170,409	79,452	90,957
1931-32	263,714	129,823	133,891
1932-33	356,233	260,708	95,525
1933-34	322,058	297,940	24,118
1934-35	254,185	253,710	475
1935-36	292,799	291,868	930
1936-37	357,053	356,650	403

3. (a) The factory is advantageously situated as regards cane supplies, but not of the best quality cane as compared with the Bombay Presidency and the Deccan, but with regard to Limestone the freight is very high amounting to approximately seven times the value of the stone. The same applies to coal and other stores but to a lesser degree.

(b) Rail, road and other communications are satisfactory.

(c) Labour is adequate.

4. *Double Sulphitation: Sulphitation.*—Lower capital cost, lower operative cost, more careful control required (less "foolproof"), lower grade of sugar produced which is more susceptible to damage in unfavourable climatic conditions, lower yield varying from 2 per cent. with high purity juices to 4 per cent. with low purity juices.

Carbonitation.—Higher capital cost, higher operative cost, easier control (more "foolproof"), superior sugar made, less liable to deterioration in the monsoon. Higher yield, from 2 per cent. to 4 per cent. dependent on purity of juices.

The additional capital cost for a factory milling 25,000 maunds per day is about £3,500 e.r.w. The critical factor in deciding the process is cost of limestone as laid down at factory; operative costs are essentially those of stone and coke as against lime and sulphur.

Labour difference is unsubstantial.

5. See attached Statement No. 2.

6. With conditions as they are at present we do not contemplate extensions, but should there be an improvement we may consider installing further equipment.

7. (a) The main factors which determine the size of the factory are the amounts of cane available for milling and the transport facilities.

(b) The capacity of the factory should not be less than 400 tons per day.

8. The most of the equipment in sugar factories can now be obtained in India, but non-ferrous metals and tubes, heavy shafts for rollers, etc. boilers and special pumps and engines have to be imported.

9. (i) Have not seen much of their work yet except tabulated data which they have received from the various sugar factories.

(ii) The cane rate is not received early enough at the factory. The rate should reach the factory 2 days ahead of enforcement date.

Raw Materials.

10. Yes, to a limited extent. The Company holds its lands by virtue of Mokurry and Thika leases obtained mostly during the Indigo period.

No special difficulties were encountered provided always that the Company were prepared to pay the high prices demanded. It is observed that whenever the Company wishes to obtain lands, very high rates for same are demanded and that whenever we wish to sell or sub-let land only low rates of salami and rent are obtained.

11. (a) 1,276.32 acres (including Buildings).

(b) 258.75 acres.

(c) Co. 213, 313, 299, 281, 331, 419. Small areas of M. 16 and POJ. 2878.

(d) The Rotation has been Cane—Fallow—Cane. Ratoons have been ploughed up by tractor, then one ploughing by bullocks is given. Then a Sonai green manure crop is planted, 1 maund of seed per acre. This is then ploughed in by tractor when ready, and the henga put over with bullocks. Later five ploughings with bullocks are usually given each ploughing being followed by the henga. The standard amount of manure given at time of planting is 400 lbs. castor meal and 110 lbs. nicifos per acre, but in addition, farm yard manure at the rate of 400 maunds per bigha ($\frac{1}{4}$ acre) has been given during the past two years.

(e) Co. 213, 407 maunds.

Co. 214, 290 maunds.

Co. 299, 464 maunds.

Co. 281, 542 maunds.

Co. 331, 598 maunds.

Co. M. 16, 498.

POJ. 2878, 496 maunds.

12. (a) 2.72 acres.

(b) 190.33 acres.

13. The Company's three Estates with a total acreage as shown previously have always been regarded as Experimental Seed Farms, complementary to those run by the Department of Agriculture. Early and late varieties such as Co. 299 and 331 are grown experimentally and mill trials have been made from time to time, of each variety. Thus information as to the suitability or otherwise of a cane for distribution to the public is obtained.

The Agricultural Department is of assistance when seed canes are required.

14. (a) The following figures show the total purchase weight for the past seven seasons. The high figure for season 1932-33 is due to the fact that some 15 lakhs of Co. 205 were crushed. This variety is not now accepted.

	Maunds	Srs.		Maunds	Srs.		
1930-31	.	1,750,207	20	1934-35	.	2,681,234	10
1931-32	.	2,970,247	20	1935-36	.	2,949,596	20
1932-33	.	3,956,333	20	1936-37	.	3,724,235	10
1933-34	.	3,210,900	30				

(b) The quality of the cane has been subject to seasonal variation, *vide* reply to Question No. 80, Form III.

15. We very seldom have damage from frost but from disease and insect pests the damage is very considerable. During the month of February this season a detailed survey was carried out to determine to what extent the cane was infested with disease and this worked out to 40 per cent. on the average causing a sugar loss of 8,401 maunds for the month or Rs. 50,406 monthly.

16. Provided excessive pirating of cane by concerns operating weigh-bridges at Mashrak, Khairah and Paterhi stations does not take place, an adequate supply is fairly well assured of. The principal varieties milled are Co. 213, Co. 210. Yields vary over the large area from which we draw cane.

16. Average figures are:—

Co. 213, 250-400 maunds per bigha.

Co. 210, 200-300 maunds per bigha.

For sugar content of cane refer to reply to Question 80, Form III.

17. The supply of cane would be influenced to the extent of perhaps 5 lakhs maunds in the event of a general shortage of cane, and the absence of any working agreement or Zoning arrangement with the Sitalpore Company. The extent to which the price would be influenced would depend on the price which the two concerns could in competition with one another afford to pay.

18. There has been a steady increase during the past seven years, due largely to our efforts to assist growers with cash, seed and manurial advances, etc., etc.

(i) Failure or large defect in rainfall would seriously deplete a year's crop.

(ii) The price obtainable for sugar is the basis on which the Government minimum price for cane is fixed, and a high price for cane naturally tends to encourage cultivation.

(iii) & (iv) No effect.

19. There is no excess here and no restrictions are at present necessary, or desirable.

20. The following are average figures:—

	Rs. A.	Rs. P.
Seed 40 maunds at 4 annas	10 0	Manure 20 0
Rent of land	6 8	Planting costs 3 0
Cultivation	10 0	Weeding, etc. 3 0
		Total <u>52 8</u>

It must be borne in mind that of the above only the item of the rent is an actual cash expenditure to a cane grower. His seed he either gets from his own standing crop or from the Company. The manure is from his own cattle and most of the planting, cultivating, etc. is done by members of his own family. There are many cultivators who grow cane at less than Rs. 30 per acre which with a yield of 300 maunds only per acre and cane at only 4 annas per maund, gives a profit of Rs. 45 per acre.

21. One, and possibly the greatest, objection which the ryot has to the cultivation of cane is the duration of time which it takes between the date when he has to reserve land for the crop till he receives money for its proceeds. This is not less than eighteen months unless he has cultivated an early ripening variety of cane. To partly overcome this difficulty we make a practice of advancing money to the ryot.

Then there are the difficulties of harvesting the crop—the diversion of labour from other agricultural pursuits and the loss of bullocks' time from farm work involved in the transport of cane. It is these difficulties which have so encouraged the practice of ratooning cane which even from the point of view of perpetuating disease should be discouraged if not prohibited by law.

With a view to popularising the cultivation of cane we have the following suggestions to make—

- (1) The supply of sound seed cane of approved varieties. It is notorious that if left to his own devices the ryot will plant from the worst portion of his crop. This is where the Agricultural Department can do most valuable work.
- (2) The encouragement to factories to acquire land for the establishment of seed farms, from which good seed cane could be distributed. Government could assist in the acquisition of land for this purpose by suitable legislation.

- (3) Intensive education of the ryot in the best agricultural practice for the cultivation of cane, including the intelligent use of suitable fertilizers. The system of education to be that best suited to local conditions.
- (4) An examination of the prospects from irrigation by tube wells and canals might be valuable.
- (5) Every possible encouragement to be given to factories to lay down local tramways for the carriage of cane, so reducing the strain on the ryots resources in providing bullock transport.
- (6) Such terminal organisation at factories which will reduce as much as possible the time lost in keeping carts waiting to unload. We favour a system which ensures a cart being able to transfer its load as soon as possible after its arrival at the factory or other delivery station.
- (7) The provision of good road communications and we should particularly stress the maintenance of good bullock cart tracks.
- (8) We would advocate that Government should prohibit the weighing of cane during the hours of darkness except at factory or tramway depots. It is our belief that when lighting facilities are very inadequate, as they generally are, the weighing of cane at railway stations tends to lead to abuses, however zealous the inspecting staff may be. If there were proper organization there should be no hardship in restricting weighments to daylight hours.
- (9) To ensure better control of cane deliveries at railway stations and factories the system of issuing passes for carts which we employ should be made compulsory. This by reducing the time carts are kept waiting would reduce transport charges where ryots employ professional carters for the carriage of their cane and save sugar losses due to stale cane. We also suggest that carts should be licensed.

22. (a) We consider the compulsory acquisition of an adequate area impossible.

(b) We are in favour of Zones. The system would depend on local conditions.

We have insistently advocated the introduction of a system of "zones" for sugar factories. If this had formed a part of the legislation which was introduced at the time Government decided to grant protection to the sugar industry many of the difficulties with which the manufacturing side of the industry is now confronted would never have arisen. We fear that in some areas it is now too late for any effective legislative action to be taken, but there do exist areas where conditions make it possible for groups of factories to come to a mutual agreement for the equitable distribution of local supplies of cane, and in this Government might be of assistance in an advisory capacity.

23. Our policy is, and has always been, to do everything possible to develop local supplies of cane, by means of loans in cash at reasonable rates of interest—the supply of sound seed, manures and the provision of rubber-tired carts on the hire-purchase system. It will be naturally realised however, that if a factory's local supplies of cane are liable to be taken by outside factories, there is obviously less encouragement to the home factory to undertake development measures.

24. (a), (b), (i) & (ii) We are in favour of the regulation of sugar production by means of quotas, and also the licensing of new factories, including extensions to those at present in existence.

Until there is a definite and material increase in domestic consumption, India's production of sugar may now be accepted as having reached saturation point, and to avoid the evils of overproduction we consider that Government should at once take powers to limit the quantity of sugar which may be manufactured under a system of quotas. This remedy will

not, however, be of any avail unless, linked thereto, the establishment of additional factories is prohibited and any extensions to the plant of existing factories, except for the purpose of increasing efficiency or improving the quality of the product.

This question becomes highly complicated by the position of Indian States towards the erection of their own factories and the export of sugar thus made into British India with possible non-reciprocity, but even if a satisfactory solution to this difficulty cannot in all cases be found, our opinion remains unaltered, that the regulation of sugar production in British India in the manner suggested is essential to the well-being of the industry and to the many interests dependent upon it.

In this connection, we would emphasise the necessity of a decision being reached, if possible, before the end of the current year so that the cane planting programme during the ensuing winter can be worked out in relation to the sugar requirements of the country for the Crushing Season of 1938-39.

	Gate Cane.	Rail Cane.	Tram Cane.
	Per cent.	Per cent.	Per cent.
25. (a), (b) & (c) 1930-31	58.66	20.18	21.16
1931-32	42.22	9.48	48.30
1932-33	36.92	10.91	52.17
1933-34	41.95	Nil	58.05
1934-35	19.74	Nil	80.26
1935-36	17.82	4.99	77.19
1936-37	19.84	3.91	76.25

The high percentage of gate cane in Seasons 1930-31 to 1933-34 is due to the fact that the tramway extension to Ramkola was not then working. Rail cane is not taken unless there are indications that supplies in our own areas are less than average.

26. Cane from the areas in the immediate vicinity of the mill whilst shown as "Gate Cane" actually comes into the mill on the tramway. It is loaded on ramps outside the mill yard and then pulled in by engine. This arrangement results in no carts going direct to the carrier and also prevents detention of carts at the factory. The average nett weight of cane per cart is 27 maunds.

Carts with rubber tyres carrying loads up to 80 maunds are an undoubted asset, but the price puts them beyond the reach of the ordinary supplier or professional carter.

27. The mileage is adequate, but the condition of the cart links along which cane carts have to pass, is disgraceful.

28. Cane is brought from distances up to 12 miles from the several tramway termini. The bulk of the cane comes from under 10 miles from these places of weighment—cane is in the mill within 24 hours of being cut. There is no protection for the cane in transit on bullock cart, but loss by dryage in the hot part of the crushing season is discounted by minimising the time which it takes to reach the carrier, viz., by transport on the Company's tramway.

29. It is difficult to state a figure. The cost varies according to the distance travelled, and whether the supply of carts is in excess or not of the demand for same. Growers always use their own carts if they have

them, otherwise they employ hired carts at varying rates. The average is about 9 pies per maund.

N.B.—The Company allows cartage to suppliers at the following rates:—

Up to 6 miles—Nil.

Between 6 and 9 miles—3 pies.

Over 9 miles—6 pies per maund from any tramway station.

30. No.

31. As stated above, all cane (with the exception of the small amount taken on the Bengal and North-Western Railway) comes into the mill yard on the Company's tramway from the 5 weighment and payment centres which it serves. The average cart is certainly not detained more than three hours at any place of weighment.

32. Usually not more than 10 miles, the average time between cutting and delivery of rail cane is probably 36 hours.

33. There is a scale of charges for each type of wagon per mile with a minimum rate per type of wagon and same is given herewith:—

Type of Wagon.	Rate per	Minimum rate
	mile.	per type of Wagon.
	As. P.	Rs.
Open cane wagons, 6, 8 and 10 tons 14 ft.	2 6	5
Open cane wagons 10 tons 16 ft. and 11 tons 15 ft.	4 8	7
Cage trucks 10 tons	4 3	7
Cage trucks 12 tons	4 9	8
Covered wagons	3 6	6

These rates have been in force for several years now and are higher than they were eight years ago but the present flat rate basis is preferable to a maundage basis as cane being a bulky article does not fill wagons to their axle carrying capacity, and to introduce a maundage rate would, we feel, inevitably increase the freight costs as the Railway would calculate the contents of a wagon on the carrying capacity rather than its actual load which is considerably less.

34. See Question 3 (a).

35. The total mileage is 37. The cost of transport is 6 pies per maund, borne by the Company.

36. Most certainly. The principal difficulty is in the Acquisition of the necessary land by means of the Land Acquisition Act. This takes time, and the Authorities will not hurry over it. Unless arrangements are made by negotiation with the various land owners, (Compensation for standing crops being paid there and then) considerable delay will result, before the line can be worked.

37. The loss through dryage and deterioration between cutting and milling varies according to the variety of cane but the loss is definitely serious in the months of March, April and May. The results of numerous tests carried out during these months in Season 1932-33, indicated that the loss in weight through dryage amounted to 2.5 per cent. after 24 hours, 5 per cent. after 48 hours and 7 per cent. after 72 hours. Apart from the loss in weight, the purity of the juice in the cane deteriorated by one unit after 24 hours, five units after 48 hours and nine units after 72 hours. A detailed account of dryage and deterioration of cane varieties in Upper India is given in the 1933 issue of the International Sugar Journal.

38. The following figures show the actual weight of cane and the percentage of the total crop purchased direct from growers:—

	Actual weight.	Percentage.
(a) Direct from cane growers—		
	Mds. Srs.	
1930-31	1,397,006 20	79-82
1931-32	2,688,702 30	90-52
1932-33	3,524,511 20	89-09
1933-34	3,219,900 30	100-00
1934-35	2,681,234 10	100-00
1935-36	2,704,398 0	95-01
1936-37	3,578,688 0	96-09
(b) Through Contractors—		
1930-31	253,201 0	20-18
1931-32	281,544 30	9-48
1932-33	431,822 0	10-91
1933-34 . . . . .	...	...
1934-35 . . . . .	...	...
1935-36	245,198 20	4-99
1936-37	145,547 10	3-91

The policy of the Company is as far as possible to deal direct with the individual grower and not with Purchasing Agents.

We are definitely opposed to the employment of Contractors unless they possess market influence and have a financial stake in the area in which they operate.

39. Growers are encouraged to Bond cane with the Company. Advances in cash, seed and manure are made and the following are the figures for the period under review:—

Total advances from 1930-31 to 1936-37—

	Rs.	A.	P.
1. Cash advances	5,09,804	15	9
2. Cane seed advances	61,366	1	9
3. Manurial advances	1,11,768	12	3
Total	6,82,939	13	9

40. In the event of a Purchasing Agent being employed, as for cane taken by rail, he receives commission at the rate of 3 pies per maund, but he *does not make weight of or payment for the cane* which is done by Staff supplied by the Company for the purpose.

41. No.

42. Cane weighments and the payments for cane purchased are made at each of the Company's five tramway termini. Gross and tare weights are never made on the same weighbridge. The carts pass over one of the gross weighbridges where the gross weight is taken and noted on the pucca receipt and in addition, a special gross weight receipt showing the gross weight only is handed to the supplier or his representative. After unloading on to the trollies, the cart passes to a tare bridge, is tared and the pucca receipt completed and handed (in duplicate) to the supplier, a triplicate or Record copy is retained by the Company. Payments

for cane purchased are made daily at all five centres so that a supplier can if he wishes, obtain his money immediately he gets his receipt. When taking payment, he hands in his receipt in duplicate and the money is then paid, and one copy of the receipt, "the supplier's Record copy" is handed to him for his own record.

43. 1930-31--As. 5-9 per maund.
 1931-32--As. 5-9 per maund.
 1932-33--As. 4-6, As. 5 and As. 6 per maund.
 1933-34--As. 5, As. 6 and As. 7 per maund.
 1934-35--As. 5, As. 5-6, As. 6, As. 6-3 and As. 6-9 per maund.
 1935-36--As. 5-6, As. 5-3 and As. 5 per maund.
 1936-37--As. 4-9, As. 4-6, As. 4-3, As. 4, As. 3-9, As. 3-3 and As. 3 per maund.

44. The price paid is that fixed by Government under the Sugar Cane Rules and is variable directly as the market price of sugar rises or falls.

45. The price of Gur has no influence as so little is made here.

46. See Question No. 45.

47. We pay a premium of 6 pies on Co. 299 on account of its high sugar content and in order to encourage the growing of this variety.

48. Under present conditions, the basis is not satisfactory and calculations should be based more on the rates obtained for sugar by average factories than on the special rates obtained by a few factories employing more expensive processes. We feel that the rates are based on a small proportion of special sugars which are being produced by certain factories.

We would also suggest that the 8 annas margin which is at present used in arriving at a scale be reduced to enable the cane rate to be adjusted more frequently and equitably.

We may have further suggestions to make at an early date.

49. There should be no difficulty whatever, but the option of paying premiums should be left entirely to the discretion of the mills. We should not favour a *compulsory* rate in excess of the Government minimum rate, for a given variety.

50. The duration of the crop for the past seven seasons is given under Question No. 80. The variations in the duration can be attributed to available supplies of raw material and the economical operating purity of the cane supplies.

Until such time as early and late ripening varieties have been established, it is our opinion that the economic duration of a cane season can be given as from 1st December to 15th April.

51. We are in favour of encouraging the growing of early ripening varieties. In the event of a sufficient quantity of a cane like Co. 299 being available, it should be possible to start crushing operations on November 1st.

The difficulty with late ripening varieties is that unless they are very easily distinguishable from the ordinary mid-season canes, there is always the danger of unripe cane being taken, resulting in serious loss to the mill.

Late ripeners would also have to be crushed in the hot time of the year (April and May) when such questions as dryage in transit, resulting in loss in purity of the juice, must be considered.

52. We have had considerable assistance from the Imperial Council of Agricultural Research and the Agricultural Departments of our Local Government. We feel, however, that their efforts are not sufficiently co-ordinated and that therefore they fail to give the help which we really need.

It occurs to us that the staff of these Departments should be more mobile. The demonstrations and help which are required by us should be available on the spot, and we would suggest that a motor van equipped

with cinematograph and loud-speaker equipment would meet a long felt want.

Propaganda could be carried on in this manner from village to village in the neighbourhood of established factories and the ryot could see demonstrations and hear actual explanations in his own language of all problems attached to the growing of his crops.

Labour.

Seasonal Labour.		Silent Season.
53. 1. Skilled	227	Total 181 of which about 75 per cent. is skilled labour.
2. Unskilled	584	

54. No skilled labour is imported from outside the Province of Bihar with the exception of four Electricians employed on our staff who are from Bengal.

55. All our skilled labour is Indian.

56. All labour is comfortably housed in pucca masonry quarters married and single with necessary conveniences. A play ground is provided for football, hockey and sports; there is also an Indian Institute consisting of Reading Room, etc. Free medical attention is provided and we have our own Dispensary. We contribute to local Schools.

Power.

57. Fuel as bagasse depends on the fibre content of the cane being crushed. This varies from season to season, but when crushing cane of 17 per cent. fibre or over no additional fuel is required at this factory. Boiler capacity is another factor in the fuel problem, and this must be balanced with the steam requirements for the factory otherwise coal has to be resorted to to keep up steam.

Cost of Fuel—

	Coal.		Wood.		Total.	
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
1930-31	10,595	2 3	173	9 6	10,768	11 9
1931-32	4,378	14 0	137	8 0	4,516	6 0
1932-33	31,979	4 0	383	0 9	32,362	4 9
1933-34	3,027	1 6	133	7 3	3,160	8 9
1934-35	15,731	3 6	542	11 9	16,273	15 3
1935-36	13,164	12 0	322	14 0	13,487	10 0
1936-37	5,918	8 0	365	10 0	6,284	2 0

Our surplus bagasse is baled.

58. Molasses, Bagasse and Press Mud.

Season.	Maunds Molasses Sold.	Average Selling price.	
		Rs.	A. P.
59. 1930-31	64,298	1 3	5.8
1931-32	116,434	0 12	9
1932-33	152,981	0 1	2.7
1933-34	98,360	0 2	0
1934-35	75,862	0 2	0
1935-36	83,735	0 1	9
1936-37	107,247	0 3	0

The general fall in price is due to supply being much above demand.

60. We consider railway facilities inadequate. All our molasses is used by our Distillery in the making of Country and Methylated Spirits.

61. Surplus waste molasses are destroyed in a Brooks Molasses Furnace or utilised for steam generation. For steam generation purposes, molasses are not very satisfactory on account of the large deposit of ash of a corrosive nature on boiler tubes, etc.

It is suggested that molasses may be utilised for the production of Power Alcohol, Acetic Acid, Ether, Chloroform, Glycerine, Acetone, Citric Acid, Butanol, Carbon Dioxide for dry ice and Yeast.

62. At present there is no outlet for surplus bagasse, small quantities only being taken by the cane suppliers as fuel.

Bagasse could be manufactured into paper or board but the initial cost of the manufacturing plant will be high.

63. Sulphitation and well weathered carbonitation press mud can be utilised as a manure.

Transportation and Storage of Sugar.

		Beginning of Season.			Close of Season.		
		Mds.	Srs.	Ch.	Mds.	Srs.	Ch.
64.	1930-31	7,961	30	0	86,575	0	0
	1931-32	8,122	20	0	139,500	30	0
	1932-33	14,170	0	0	154,210	0	0
	1933-34	47,872	20	0	60,455	0	0
	1934-35	967	20	0	113,883	0	0
	1935-36	1,050	5	0	125,847	35	15
	1936-37	7,159	31	9	255,682	0	0

65. We have six pucca masonry godowns for storage of our sugar, the capacities of which are given below:—

Godown No.	Capacity. Bags.	Godown No.	Capacity. Bags.
1	18,540	5	19,623
2	18,540	6	29,667
3	8,864		
4	8,868		
		Total Bags	104,102

Our storage capacity was increased in 1933-34 by one additional godown capacity, 29,667 bags.

66. The extent to which sugar may deteriorate is chiefly dependent upon the period of storage and weather conditions. Apart from the period of storage and weather conditions factors influencing the keeping quality of sugar are numerous but it may be stated that the construction and condition of the godowns in which sugar is stored, temperature at which the sugar is bagged, packing, stacking and stacking medium employed together with sugar quality all play a part in the keeping quality of sugar.

67. Damaged sugar is usually reprocessed.

68. The production of sugar of greater purity of bold and regular crystal free from dust and broken grain, will undoubtedly improve the keeping quality.

69. Leaky wagons are the cause of damage to sugar in transit to some extent probably also damage is sustained during the monsoon at transshipment stations.

70. Difficulty is only experienced in obtaining wagons when Mokameh-ghat is congested, and during the monsoon when lines are breached. Restrictions on booking are frequently applied by the Railway throughout the year on all goods to all stations excepting *via* Mokameh.

71. Water-tight wagons should be provided for sugar traffic. These wagons may be used in grain or cereals transportation but not for coal, oil or any other material which may thus spoil the floors of the wagons for sugar transport.

72. Our sugars are sold on a f.o.r. factory basis, the price being one for important markets. We have no record of second-hand prices for our product at the ports and upcountry, but give below the actual f.o.r. prices obtained during the past 7 years. We also give the freight from the factory to the ports and certain upcountry markets:—

F.o.r. Prices.

Season.	I. Sugar.		II. Sugar.		Both Sugars.	
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
1930-31	9	7 9-9	8	4 7-5	8	13 5-1
1931-32	10	9 0-1	9	5 2	9	14 10-4
1932-33	9	6 4-8	8	4 11-4	9	2 0-9
1933-34	8	15 4-4	8	3 10-9	8	13 11-6
1934-35	8	8 1-3	8	11 2-4	8	8 1-5
1935-36	8	10 3-9	7	6 0	8	10 3-1
1936-37	6	9 0-7	...		6	9 0-7

Freights.

Station.	Railway Freight.			Rail & Steamer Freight.	
	Rs.	A.	P.	As.	P.
Allahabad	0	7	10	...	
Cawnpore	0	11	2	...	
Lucknow City	0	11	5	...	
Calcutta	0	10	9	9	6
Bombay	1	0	6	12	8
Madras	0	15	6	12	8
Karachi	1	1	6	12	8

73. We enclose copies of the Balance Sheets.

74. We give below amounts of depreciation written off by the Company from 1930, also the statutory amount allowed under the Income-tax Act, 1922. Depreciation is usually a round sum based, as nearly as possible, on the statutory scale.

	Written off.	Statutory.
	Rs.	Rs.
1930	...	2,49,444
1931	2,00,000	2,52,784
1932	3,25,000	2,74,216
1933	3,25,000	2,83,938
1934	3,30,000	2,97,598
1935	3,00,000	2,60,275
1936	3,00,000	2,82,610

Of the amount provided in 1936 Rs. 2,00,000 was transferred from Reserve Account.

The figures given are for Cawnpore Sugar Works, Ltd., of which this unit forms a part.

75. We give below the amounts set aside for Reserve Fund:—

30th June—	Rs.
1931	1,38,087
1932	1,00,000
1933	48,640

The above figures have reference to Cawnpore Sugar Works, Ltd., of which this unit forms a part.

76. We give below details showing amounts distributed as dividends by the Company:—

30th June—		Rate.	Amount.
		Per cent.	Rs.
1930	P.	8	80,000
	O.	7½	1,12,500
1931	P.	8	80,000
	O.	20	3,00,000
1932	P.	8	80,000
	O.	35	5,25,000
1933	P.	8	80,000
	O.	30	4,50,000
1934	P.	8	80,000
	O.	30	4,50,000
1935	P.	8	80,000
	O.	25	3,75,000
1936	P.	8	80,000
	O.	10	1,50,000

P = Preference.

O = Ordinary.

76. These figures refer to Cawnpore Sugar Works, Ltd., of which this unit forms a part.

77. The Bank allows overdrafts under agreement for cash credit, by which stocks, etc., are pledged. The rate at which the Company, of which this unit forms a part, is able to borrow is, bank rate subject to a maximum of 8 per cent. and a minimum of 3 per cent.

78. Head Office expenses and Managing Agents' commission amount to Rs. 44,423 for the year 1936. Managing Agents' commission is calculated at 7½ per cent. on the net profits before providing depreciation and income-tax.

79. Considering the hazardous nature of the enterprise the risks of drought, floods, pests, the machinations of buyers, the Excise Duty, the costs of maintenance, the demands of taxation, a balance of 10 per cent. at credit of revenue, after allocations to depreciation and reserve accounts, is not excessive.

80. Forms* 1, 2 and 3 referred to are attached. As regards Forms 1 and 2, the figures in respect of 1936-37 cannot be submitted as our financial year is not yet closed.

81. Owing to the complicated nature of the returns called for we are unable to submit the information in the allotted time, and we will do so as soon as the returns are completed.

82. Every possible economy has been effected in the works and efficiency brought to a high standard, comparing favourably with other sugar producing countries, that there is very little margin for further reductions in the works and we must now look to a higher sucrose content and for further reductions in cost of cane.

83. Calcutta.

84. We are unable to give particulars of the relations between dealers and retailers, but so far as we are concerned, we are put into touch with our dealers by our brokers. Up to this year we had several brokers working on a commission basis from 8 to 12 annas per Rs. 100. These brokers would make us offers, which, if accepted, would be confirmed by contract between ourselves and the dealers, a deposit being required as Earnest Money, which the dealers paid; interest was allowed on this deposit. During the current season, we have obtained Sole Distributors for the whole of India—Messrs. Ralli Bros., Ltd. While the system of their making us offers on behalf of dealers still continues to a lesser extent, the chief method of doing business is for us to give them option for a fixed period on quantities of each grade of sugar which we wish to dispose of, fixing the minimum price at which they can sell. In this case also, the arrangement between them and ourselves is by agreement, the actual contract, which is supplementary to the agreement being entered into primarily between them and their dealers.

85. The new Indian Sugar Mills Association contract form is satisfactory except as regards clause 8. The responsibility for the condition of sugar sold *f.o.r. factory* should be more clearly defined, as falling upon the buyer. Unless the buyer takes delivery at factory it is impossible to prove in what condition the sugar was despatched, and whether damage took place while in the hands of the carrier.

86. The figures with regard to this question can be obtained from dealers, importers and brokers. We ourselves are unable to give accurate figures, especially as most of our business in the past has been done through dealers in the Cawnpore market, and on an *f.o.r. factory* basis.

87. Variations in this case will occur when comparing wholesale forward business with ready petty sales, but for spot business there is little fluctuation between wholesale and retail prices, though the difference between these actually varies according to quantity, up to approximately 4 annas per maund.

We have taken the retail prices as covering lots of 5 to 25 bags, which are not necessarily in shopkeepers hands, there possibly being a further difference in the actual shop price to the consumer.

88. We have very little information as to storage arrangements made by dealers, but from our experience we understand that they are disinclined to keep stocks, preferring to utilise factory storage space, even to the extent of getting 3 or 4 months in arrears in deliveries. We have already given you our experience with regard to deterioration in storage against Question No. 66. We have no definite information with regard to conditions prevailing in dealers' godowns.

89. Under similar storage conditions we are of the opinion that Java sugar will deteriorate to the same extent as a good quality Indian sugar.

It is only in very recent years that the keeping quality of sugar produced in India has become a subject for serious consideration, since large stocks of sugar must now be stored throughout the monsoon period. Since it has been recognised that there has been a vast improvement in the quality of sugar manufactured in India, the keeping quality has also undoubtedly improved.

90. With the exception of the demand for Indian-made sugar by a limited number of orthodox Hindus on religious grounds, Java, or other imported sugar is preferred, particularly by the middle and upper class Indian consumers. The reason for this is, we believe, the uniformity of grain and superior, consistent, colour of the imported sugar.

91. The average quality of sugar manufactured in India is inferior to imported Java sugar but there are many factories in India producing a final product equal if not superior to that of Java.

The average Indian sugar is inferior to imported Java sugar in respect of purity, colour and uniformity of crystal size.

92. In our opinion the manufacturers carry the bulk of the stocks of Indian-made sugar, the only dealers carrying stocks to any large extent being those at ports where storage facilities are offered by the Carrying Companies. Upcountry dealers normally carry only sufficient stock for the immediate need of local retailers.

93. Yes, we consider this most desirable.

94. We favour a Central All-India Selling Organisation, provided licensed control of production is also introduced. We consider however that it should be independent of Government control.

95. The standardisation of sugar produced in India presents so many difficulties that we are not in favour of adopting such a system, *e.g.*, classification of sugar quality will be dependent upon visual examination by producers, brokers and buyers and the various visual examinations will undoubtedly lead to many controversies which will necessitate the appointment of official referees, etc. Further, it is known that sugar, especially sulphitation, deteriorates in colour during storage and this deterioration will present a difficulty if a standardisation system is adopted.

96. (a) We have done no business so far on the basis of sugar standards. The reason we have not yet sold on this basis is that the graduated scale of price difference has not yet been agreed upon and the Industry as a whole is not prepared to sell on the basis of the standards. It is also felt that most factories are not yet in a position to turn out a uniform product capable of being graded under the standards.

(b) Yes. These standards are being used extensively at all our factories for internal control.

97. As opposed to standardising sugars, Messrs. Begg Sutherland & Co.'s Group of Factories are to base their selling standard in respect of the next season, as follows:—

Factory Managers are to be asked to lay aside a certain number of bags of sugar now of a standard which they expect to maintain during the next season. These bags are to be used as samples next season and the output based on these samples. Special care will be taken in storing these bags during the monsoon.

98. The possibilities of establishing a central marketing organisation, including a complete survey of markets, has been before the Indian Sugar Mills Association from time to time, but no progress has been made. We are in favour of an organisation on the lines of the Cement Marketing Board being set up, provided its control is vested in an independent body and it embraces all producers, with Government prohibition of new factories and extensions for purposes other than improvement of quality and efficiency.

The establishment of a "Futures" market by dealers Associations on the lines of the East India Cotton Association should make for stability in prices by providing security for dealers operations, and thereby improving the general trade in sugar.

99. Over a period of seven years we believe the consumption of sugar, including Khandsari, and sugar refined from gur, to be about 1,300,000 tons annually, but as a result of the lower prices now ruling this figure should be exceeded.

An increased advertising campaign by the Industry through its Associations and possible collaboration with the Tea Industry would, we believe, lead to increased consumption, the necessary funds being provided on the lines of the Indian Tea Cess.

100. We believe that factory sugar is replacing gur in the trade in increasing quantities, but we have no reliable information.

101. We see no immediate prospects of the establishment of fruit canning in India.

102. This information can be given much better by importers such as Messrs. Ralli Brothers, Ltd., Calcutta, Bombay, Madras and Karachi, Messrs. A. H. Bhiwandiwalla, Bombay, Messrs. Parasram Paroomal and Co., Calcutta, and Messrs. Kian Gwan Co. (India), Ltd., Sassoon House, Calcutta.

103. It may be accepted that Java, the chief importing country, has not realised remunerative prices for her sugars in any year between 1930 and 1936. In support of this view there is the knowledge that Java's production has fallen from 3,250,000 tons in 1930 to 500,000 tons in 1936.

104. None by sea so far as we know. A relatively small quantity finds its way across the Northern frontiers.

We do not consider India could profitably export sugar unless world prices advance very considerably and then only if Indian sugar received specially favourable treatment on entry into the United Kingdom. There is, of course, the very remote possibility of India being in a position to sell a portion of her production for export at a loss, provided there was a compensating rise in internal prices.

105. The imposition of the first levy of Excise had some effect in not inducing unadvised expansion which would, however, have been better prevented by a system of licensing and zoning at the time protection was given, and in relation to a considered estimate of the demand existing for sugar in India. The latter imposition coincided with a period of abnormally low prices for sugar, which persists to-day. Owing to trade conditions the manufacturer, except for a very brief period, has not been able to pass on any share of the excise to the consumer. We have never understood why the cane growing section of the industry has not been called on to bear some share of the excise. The industry could have accepted with comparative equanimity a levy on profits on a reasonable scale.

106. A certain quantity is absorbed in the manufacture of country tobacco. Where distilleries exist molasses form a base for the production of alcohol. Recently a molasses exporting corporation has set up an organisation for the collection and export of molasses and has made extensive purchases. No data is available with us regarding the extent of these transactions but they must be of considerable magnitude. The prices realised do little more than cover handling charges. The residue we destroy in specially designed furnaces.

107. This has partly been dealt with under the preceding question. We understand the destination of the molasses exported by the Corporation is the United States and the United Kingdom and it is used for the production of industrial alcohol. The possibility of export is handicapped by the inadequacy of transport facilities.

108. We are not altogether clear as to what is meant by "effective". If the development of an industry by an increase in production of 1,000,000 tons is effective, the answer is "yes". If "effective" means the establishment of an ordered industry with security of capital combined with sound finance the answer is "no".

The effect of the import tariff, created in 1932, has been to create a barrier against imports from abroad behind which the industry has developed at an extraordinary rate of progress—a very unhealthy rate as events have turned out. This expansion has taken place without any control either by Government or the industry itself. What appeared to be an attractive outlet for capital seeking employment has resulted in the launching of numerous undertakings without any proper consideration being given to local conditions. Supplies of suitable raw material—financial requirements and in many instances without adequate, or even any, expert knowledge. The result has been that although India has been rendered self-supporting

as regards her sugar requirements, her revenues have suffered severely from an almost complete stoppage of imports, while the domestic industry due to the reckless establishment of factories—many of which are unsuitably situated, the need of replacing revenue hitherto realised from the import tariff by the imposition of an excise duty—an utter absence of any organisation for the marketing of its sugar finds itself today confronted with a situation which, to say the least of it, can only be described as extremely critical even in the case of the most efficient units of the industry.

109. The original object of protection aimed at the country producing its total sugar requirements, and this object has already been attained. We therefore consider that the extent of protection should be kept at such a level as to limit imports of foreign sugar.

We are of opinion that the existing level of protective duty is such that the ryot obtains an equitable return for his enterprise, and that this will only continue provided the position is not aggravated by imports of sugar from abroad.

It does not follow that world conditions will remain unaltered between now and 1946, and we therefore recommend the present level of protection being maintained, and further, that the Government should take powers to regulate it as and when necessary, to limit the entry of foreign sugar into the country.

110. (1) Improvement in Agriculture and Communications and the application of research so as to reduce the cost of cane and improve its sugar content.

(2) Means to control borer infestation and simultaneously increase the sugar content of the cane.

(3) The adoption of the zoning system which will allow factories to help the small grower to make use of the results of research.

(4) Means to ensure the manufacturer obtaining a fair share of the protection by correlation between the cost of cane and effective selling price of sugar (after deduction of Excise) which will demand a centralised marketing organisation with power to regulate sugar prices.

111. So far as we are aware, no industry has been affected by the import duty on molasses.

STATEMENT No. 2.

Question No. 5.

MARHOWRAH FACTORY.

Statement showing Cost of Alterations and Additions.

Year.	Machinery.	Electrical Plant.	Buildings.	Railway & Tramway.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.
1930-31	17,057	...	...	...	17,057
1931-32	40,590	...	10,423	8,469	59,482
1932-33	93,772	...	3,927	1,76,861	2,74,560
1933-34	1,02,806	28,633	34,717	3,531	1,69,687
1934-35	3,376	15,958	2,925	1,10,927	1,33,186
1935-36	14,204	...	...	...	14,204
1936-37	3,465	460	...	...	3,925
			Grand Total		<u>6,72,101</u>

The Industrial Corporation, Ltd., Saran.

(1) *Letter dated the 27th June, 1937.*

It was not our intention to reply to your questionnaire. We are members of the Sugar Mills Association of Calcutta and the Association will, no doubt, deal with the matter in full. But there are certain matters on which we wish to draw the attention of your Board and we give below replies to some of your questions:

Production of Sugar.

1. 1923. The crushing capacity then was 400 tons. At present it is 1,000 tons.

3. (a), (b) & (c) Yes, but we suffered a good deal due to the failure of the Bengal and North Western Railway, to provide, what we consider to be, the minimum, reasonable facilities which a public utility Company is expected to do.

4. Double carbonitation. We prefer this to any other process.

7. (a) From time to time it has become necessary to increase the production of sugar to maintain a fair level of profit, as profit has been recently down since two or three years due to increase in competition. This is a healthy sign of progress. But the going down of profits due to increase in revenue charges on account of excise duty made it necessary to enlarge our plant.

9. (i) & (ii) Yes. But we wish that their intervention had been more fruitful with the Railway Company to provide more facilities and the Government of India in respect of excise duty and the recent increase in its incidence.

Raw Materials.

10. No. We do not grow any sugarcane, but assist to the extent we can by supplying seeds, etc., to cultivators.

16. There was shortage previously but since two or three years there would have been plenty of cane provided the Railway discharged its obligations. Our profit would have been more by a few lakhs if the policy of the Railway Company in respect of wagon supply had been different from what it was.

22. (b) No. We strongly favour a Joint Purchasing Board for gâté as well as rail cané. Such an organisation would purchase cane both at the factory and at railway stations and scientifically and economically distribute to the nearest factories. This will also remove suspicion in the minds of the growers that they are not always paid for full weight by some factories. The factories which pay for full weight will have no room for suspicion that some of the competing factories unfairly pay less. We understand that several factories have put their cart weighing machines near the carrier. We have no doubt that, though not intended, it gives room for this suspicion as checking by Government Inspectors become more difficult when cane is weighed and immediately emptied in the carrier than what would be the case if carts weighed at a distance and weights could be verified by the Government Inspectors before it is emptied in the carrier. We had submitted a scheme many years ago to the then Association which had its Headquarters then at Gorakhpur, a copy of which will be forwarded to you.

24. (a) & (b) No. Consumers of sugar had to pay more because of protection. When there was internal competition and the benefit would have gone

to them by reduced prices of sugar, Government imposed excise duty. If there are proper facilities by the railway and the Government do not meddle by imposition of duties, which become a revenue charge, the industry can be relied upon to adjust itself in such a way as not to require such measures.

36. In so far as our factory is concerned, no.

Power.

57. We have to use coal as bagasse is not sufficient. Our factory is running on double carbonitiation process.

By-products.

58. None.

63. Spirit or alcohol to be mixed with petrol for motor vehicles.

Storage and transportation of sugar.

70. The arrangement for supply of wagons for transportation of sugar is very unsatisfactory. Very often we had to rely on wagons coming to factories with limestone, coal, etc., to take sugar to up-country centres, from the factory. We have lost thousands due to shortage of wagons to carry sugar. Probably, the railway have a system of rationing wagons. But it seems that this system is far from satisfactory. We request the Board to ascertain from the Railway Company what system they follow in rationing wagons when there is shortage in carrying sugar from factories, to carry cane to the factories and for transportation of important stores such as limestone, coal, etc.

71. Type of wagons would be an important factor, but then we suffer from want of adequate facilities. There are more important things to be done than to improve the type of wagons. The Bengal and North Western Railway seem to be working on a system which does not inspire reasonable hope of improvement unless the Railway Company is taken over by the State. Efforts in the past to acquire the line were not successful. The Company has been paying a dividend of about 15 per cent. since many years. While embarking on capital expenses such as purchase of wagons, extension of cane loading platforms, running the trains faster it seems to be the policy of the Company to undertake such expenditure provided there is no diminution in its present earnings. Representations and pressure from the Railway Board, we fear, will be of no avail. The Railway Company has been working on this policy since years and efforts to change its policy are not likely to be successful. While on this subject it may be mentioned that subject to its anxiety to maintain its earnings the Railway Company does everything in its power to give such facilities as it can. But even then, though we may feel grateful for its courtesy and desire to assist, it cannot possibly do so unless the Company puts in more money to supply the reasonable needs of the industry and of the general public. Even then the dividend that the Company would be able to pay would be very substantial.

Capital account and overhead charges.

77. We have some capital debt and this amount of the capital debt and working capital are secured by borrowing from the Managing Agents, and from Banks on the guarantee of the Managing Agents. The rate of interest varies from 3 to 4 per cent. as the Bank rate is 3 per cent.

78. The Managing Agents do not get any minimum commission but 12 per cent. on profits before providing for depreciation.

79. 8 per cent. on gross book value of block without providing for depreciation (depreciation included)

Marketing.

98. A Marketing Company on the lines of the Cement Marketing Board be formed. But we do not expect that any such marketing arrangement will succeed or such a combine is possible.

105. (i) The imposition was unsound and had a bad effect on the industry. It also adversely affected the interests of growers, which Government claim to improve.

(ii) Disastrous both for the industry and the country. It is difficult to understand why Government imposed excise duty to make up loss of revenue due to imports going down due to protection. In England, Motor Car, Chemicals, Dyes and various other industries were and are heavily protected. As a result it stimulated the industries in England, but the revenue of the Government from import duty must have gone down. We are not aware of any excise duty put on motor cars, etc., on a plea similar to the one on which imposition of excise duty on sugar is justified by the Government of India. Government should largely depend on the general improvement in the economic condition of the country for more revenue. We would go so far as to suggest that, if it is necessary, it would be better to levy income-tax than super-tax on a higher scale on protected industries than on others. But such higher tax should apply to profit in excess of reasonable profit. This would certainly be better as it would be a charge on profit then excise duty which becomes a charge on revenue. Our accounts for the year are not ready, but we expect that the excise duty will amount to 3 to 4 lakhs, while the profit, before providing for depreciation, will be about one-third or half the depreciation amount. It will not be sufficient even to provide for depreciation.

Claim for protection.

109. Yes, at the present rate.

110. Greater railway facilities, legislation and use of alcohol or spirit to be mixed with petrol in a certain proportion.

Replies to 2, 5-6, 16-19, 21, 25-26, 28-34, 37-44, 47-51, 56, 59-61, 64-69, 72-76, 78 will follow. We shall also forward to you in due course detailed statements and copies of correspondence with Bengal and North Western Railway, the Director of Industries and Imperial Institute of Sugar Technology to support our statements regarding inadequate facilities of the railway and the extent to which crushing was low due to wagons for cane not being supplied in 1934-35 and 1935-36. The railway asked for equal number of wagons to be taken right through the season for cane. This is very unsound as in that case we would have been forced not to take some of the cart cane. But such cane will have to go by rail to other factories. This would no doubt increase the earnings of the Company, but discourage growing cane in areas in which factories are situated. Moreover cart cane is always more fresh than rail cane and outturn in sugar would also be less. A statement will also be sent for wagons asked for sugar and the number supplied by the railway showing short supply.

e We have to apologise for sending the reply after the 25th and in not being able to submit a full statement, etc. This is due to the principle of the firm, Mr. Ambalal Sarabhai being on a holiday, as not like to delay the statement any longer. He is sending this in advance before his return to Ahmedabad. It is therefore not possible to consult the Board of our Directors. He has no doubt that the Board will approve of it. But we have to request you to take this as the official representation of the Company, but which contains views of the undersigned, being the Managing Agents of the Company. We are forwarding a copy of this statement to the Agent, Bengal and North Western Railway at Gorakhpur. We are sorry we are unable to forward 6 copies as desired, but these will be sent to you early by the Ahmedabad office.

(2) Letter dated the 9th July, 1937, from the Industrial Corporation, Ltd.

With reference to our letter dated the 27th June, 1937, which is acknowledged by your No. 410, dated Octacamund, the 2nd July, 1937, we beg to forward herewith with five copies of Zone Scheme.

We have also requested the manager of our factory to send direct to you replies to items of questionnaire as referred to in our letter of the 27th ultimo.

SCHEME " A ".

The Sugar Producers Association shall constitute a Cane Control Board, headquarters during cane season and a few days before and after at Gorakhpur. It shall be in charge of a permanent and paid Secretary. Salary Rs. 750-50-1,000. He shall work under the orders of a Committee composed of a representative of each factory the cane supply of which is not exclusive from certain areas and which does not draw cane from an area from which any other factory draws it. (It is assumed for the purpose of this scheme that every factory joins the Association).

The Committee shall appoint an Executive Committee consisting of four members to control the organisation and to take emergent decisions.

As far as possible, all decisions regarding alterations in cane rates and any principle laid down by the Committee shall be considered by the Committee. But in case of emergency it shall be open to the Executive Committee to take decisions in anticipation of the sanction of the Committee. But such decisions shall be subject to confirmation or otherwise by the Committee.

Functions of the Board.

- (1) To control rates of cane.
- (2) To make payments for cane purchased by each factory.
- (3) To see that the regulations laid down by the Board are strictly adhered to by each member.
- (4) To fix subject to the consent of the members concerned the area from which the factory will draw supplies.

Organisations.

Each factory will keep a representative at Gorakhpur during the season. There will be a daily meeting which the representative of each factory will attend. Daily reports received from the outstations will be reviewed at daily meetings of the representatives. The Secretary shall be the Chairman of the Committee.

This Committee shall be only advisory and the Secretary shall be at liberty to take such decisions as he thinks necessary after hearing the views of the representatives of the factories.

There shall be a representative of the Board at each station where any factory on the Board makes purchases. The Board shall also have a representative in each factory. The Board shall also employ a cashier at each station. At small station the cashier and the representative may be one and the same person. All payments for cane at stations or at the factories shall be made by the cashier of the Board on authority being given to him by the representative of each factory to make payment. The cashier shall not be responsible for any payment that he shall make according to the instructions he may receive to make payment from the representative of the factory.

Covenant.

There shall be a legal agreement laying down the obligations of each member, which shall bind the member for a period of cane season. It shall lay down the obligations of the member to accept the regulations of the Board.

Indemnity.

Each member shall undertake to pay to the Association if called upon to do so at the entire discretion of the Association an amount equal to annas two per maund of cane crushed by the factory or assumed to have been crushed by the factory from the time of the breach of any regulation of the Board upto the completion of the season.

Each complaint against a member not admitted by a member shall be referred by the Committee to a Board of inquiry consisting of the three persons out of the following panel:—

(To be named.)

Each member shall on signing of the agreement deposit as earnest money with the Board Rs. 500 for every 100,000 maunds of cane that it expects to crush during the coming season. It shall also pay to the Association an amount equal to the price of cane it wishes to get during one week. A second payment shall be made three days after the first payment and then at the interval of each week.

It shall be open to the Association to stop purchases for a member without any liability if the member does not pay the amount called upon to do so within a certain time by the Board.

If any factory does not join or breaks away from the Board, the Board shall arrange to purchase cane at the factory station at such rate as will make the working of the factory unprofitable. Each member will send a requisition of the first week's requirements for cane a week in advance of the opening of the season by the factory. Each member in case he does not get sufficient cane from the stations allocated to him by the Board have a right to draw from other stations, payment, of course, being made by the Association. If any factory gets less than its *pro rata* due during a week, that factory shall be compensated for it, if it so desires, by a payment at the rate of "X" annas per maund for every maund of cane supplied short to it or if it so desires by additional cane to that extent during the following week. ("X" equal to amount by which the profit fell short due to short supply).

SCHEME " B ".

The particulars similar as Scheme " A " but with this exception that the Board shall make purchases at each station.

(3) *Letter No. 158/339, dated the 28th July, 1937, from the Industrial Corporation, Ltd.*

We beg to refer to you our representation dated, Madras, the 27th ultimo, in which we gave replies to some of your questions.

We had stated that replies to some of your other questions, numbers of which were given in our representation, would follow. We have now pleasure in sending replies to these questions and enclose herewith five spare copies, making in all six as desired by you.

Enclosure.

THE BIHAR SUGAR WORKS, PACHRUKHI.

TARIFF BOARD ENQUIRY: REPLIES TO QUESTIONNAIRE.

2. As per statement given below:—

Sugar Manufactured (in Maunds, seers omitted).

Qualities.	Cane seasons.						
	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Crystal No. I .	75,987	110,085	128,655	115,182	127,737	185,545	257,574
Crystal No. II .	3,100	45,990	15,972	5,015	627	..	47,680
Crushed No. I .	6,202	3,412	2,385	3,397	1,535	1,600	562
Crushed No. II .	77,490	37,730	65,705	105,297	91,797	123,952	66,537
Crystal No. I-A .	..	4,875	6,352	2,700	..	..	..
Crystal No. I small.	..	..	..	..	..	..	3,907
Total .	162,779	202,102	219,069	231,591	221,696	311,097	376,240

5. Two sets of cane cutting knife with Engines, etc., complete.

Two mills of Three-Rollers each.

Two Horizontal Mill Engines.

One Twin Engine for cane carrier.

One Lime Kiln.

Four vertical juice Heaters.

One Carbonitation Tank.

Five Filter Presses.

Thin juice Sulphitation Plant.

One dry Air Pump.

Condenser Plant (in replacement).

One set of Quadruple Effect Evaporators.

Two Magma Mixers.

One vacuum pan.

One Crystalliser.

Thirteen Centrifugals.

One Sugar Dryer with Sieve.

One Sugar Crusher.

Spray Cooling Plant.

Pumps, etc.

One Electrolyser.

One Boiler.

One Water Softening Plant.

One Generator for Electric Light.

Lathe drills, etc.

Total cost Rs. 6,75,000.

6. One Vacuum Pan.

Seven Centrifugals.

One Boiler.

Two Generating Plants (A.C.)

16. The principal varieties of cane crushed in our factory are Co. 213, Co. 210 and Reora.

17. During the first part of the season cane is obtainable at Government minimum price as there is no shortage of it. Shortage, however, occurs generally during latter part of season and prices rise owing to competition between factories.

18. (a) Yes.

(b) (i) Excess or defect in rainfall usually leads to shortage and hence increase in price of cane towards the latter part of the season due to competition.

(ii) Government minimum price is based on price of sugar.

(iii) From 1930 to 1934 the price of cane was to some extent influenced by price of gur/jaggery which was reflected in the availability of cane.

(iv) The price of alternative cash crop had been low and so plantation of cane which maintained a steady level of prices went up making more cane available to factories.

19. The cane in our area was not in excess of our requirements. We do not consider any restriction necessary.

21. Want of proper cane seeds, lack of good roads for bringing the cane to the factory.

The Government Agricultural Department should pay greater attention in respect of supply of seeds in the areas from which the factories get their supply of cane. Government of India should allocate a certain proportion of Excise Duty for the development and proper maintenance of roads.

25. The following is the proportion of gate cane and rail cane for the last three seasons for our factory. We have no tram borne cane.

Seasons.	Gate Cane.	Rail Cane.
	Per cent.	Per cent.
1934-35	38.7	61.3
1935-36	39.6	60.4
1936-37	57.5	42.5

Gate cane has increased due to encouragement given to growers by our factory. Such railway cane as was required to supplement our gate cane has varied according to supply of wagons by railway which has been usually inadequate.

26. Our gate cane is entirely transported by carts. Except that in one year for part of a season it was transported by motor lorry. The average weight carried by a cart is about 17 maunds. Rubber tyred carts will certainly be a great improvement but the price is prohibitive for most of the cane growers.

28. Cane is brought by road from within a radius of 10 to 12 miles. The average time taken between cutting of cane and delivery at factory is from 6 to 36 hours. Cane is not protected by growers from deterioration during transport.

29. The rate of cartage is approximately 1½ pies per maund per mile. The cane growers mostly hire carts to bring their cane.

30. No. Not in our case.

31. We have a number of people who go round the country and arrange supply.

The normal period of detention of a cart at our factory is between 2 and 24 hours.

For speedy release of carts we have adopted the following:—

- (i) Lengthening of the carrier.
- (ii) Increasing the number of weighbridges inside the factory.
- (iii) Opening of more gates.
- (iv) Employment of more men to unload cane and giving preference to carts over wagons.

32. Cane is transported by rail on an average distance of 40 miles.

48 to 60 hours.

No.

33. On mileage basis subject to a minimum according to type of wagons.

Some changes have taken place.

We prefer flat rate.

34. In our case limestone freight is out of all proportions too high being about 500 per cent. on the price of limestone.

37. Deterioration by road about 7½ per cent. and by rail about 10 per cent. to 15 per cent.

38. (a) About 57 per cent. }
(b) About 43 per cent. } For season 1936-37.

39. We do not enter into any arrangement with cultivators except sometimes providing seeds.

40. We appoint licensed Purchasing Agents for Railway Cane on commission from Rs. 1-2 to 1-8 per 100 maunds of cane besides giving them a staff allowance of Rs. 25 per mensem.

With regard to gate cane, growers tender the cane to our factory.

41. A part of cane supply is obtained from Cane Growers' Co-operative Societies on the same commission and staff allowance as given to our Purchasing Agents.

42. Cane is weighed on cart weighbridges by Weighment Clerks.

Payment is made for gate cane during day at any time after weighing on presentation of the vouchers. At railway stations payment is made within the period fixed by the Bihar and United Provinces Governments.

43. Average cost of cane landed at factory for the last seven years:—

Season.	Rate.		Season.	Rate.	
	As.	P.		As.	P.
1930-31 . . .	7	0-9	1934-35 . . .	6	4-16
1931-32 . . .	6	8-48	1935-36 . . .	5	11-37
1932-33 . . .	6	6-05	1936-37 . . .	4	9-35
1933-34 . . .	6	0-64			

Prices usually rise at a latter part of the season depending upon the crop position.

44. We are purchasing according to minimum prices fixed by Government from time to time. These prices bear relation to the prices of sugar.

47. We have occasionally paid prices in excess of minimum price in latter part of the season due to competition of factories the excess being about 30 per cent. of minimum price.

48. The basis on which the minimum price is based has on the whole worked satisfactorily.

49. System of bonus will not successfully work in practice.

50. Duration of the cane crushing season for each of the last seven years :

Season.	No. of days.	Season.	No. of days.
1930-31	161	1934-35	140
1931-32	163	1935-36	150
1932-33	165	1936-37	163

We considered 180 days as the minimum period for economic working.

51. There are great possibilities.

56. We are employing mostly local labour; so, we have not to provide housing for all but still free quarters are provided as necessary with water and sanitary arrangements.

We provide medical aid.

We keep a full time qualified doctor and run a dispensary. We have recently opened a lying-in Hospital. But, it is not working fully, as the necessary staff for the hospital was not available. But, a few beds are kept for the purpose. We also give a certain educational facilities by paying fees and cost of books to employees getting less than a certain salary.

In special cases, assistance is given to widows and children of deceased employees. Financial assistance is given in hard cases of continuing illness. There is a Club and Gymkhana to which the Company contributes. It is proposed to extend welfare activities.

59. The following are the figures of the outturn and prices of molasses for the last 7 years :—

Season.	Mds.	Price per Md.	
		Rs.	A. P.
1930-31	69,436	2 5	7-5
1931-32	80,601	0 15	8-87
1932-33	91,430	0 4	0
1933-34	93,602	0 0	5
1934-35	78,116	0 2	4
1935-36	104,688	0 4	1
1936-37	117,990	0 1	6

The variation in quantity is mainly due to difference in crushing and variation in price is due to production being in excess of consumption from year to year.

60. Local and Bengal.

Carts and Railway Waterways.

No.

We sell our goods factory delivery.

61. We sell all our molasses.

64. Stock of Sugar at the beginning and at the end of each season from 1930-31—

Seasons.	Stock of sugar at the begin- ning of the season.	Stock of sugar at the end of the season.
	Mds.	Mds.
1930-31	10,055	101,357
1931-32	...	73,910
1932-33	217	109,687
1933-34	13,287	43,475
1934-35	137	78,075
1935-36	47	163,485
1936-37	47,527	97,010

65. We have two large godowns and two small godowns with total capacity to store 60,000 bags of sugar of 2½ maunds each.

We are erecting a new godown of improved type to hold about 30,000 bags.

66. Our sugar does not deteriorate much in storage. The better the quality and the more it is free from adhering molasses, the better the sugar keeps. Monsoon and damp floor also affect sugar.

67. Only in one season we met with slight difficulty and we re-conditioned the sugar. This was largely due to the demand for crushed sugar No. II being poor as compared with that of Crystal No. I.

68. The keeping quality of sugar is susceptible of improvement by double curing and removing the adhering molasses and storing it in better class of godowns.

69. Much of the damage is due to leaking wagons and negligence on part of railways during transshipment.

72. The following are the average net prices at which sugar was sold during the last seven years. All our sugar was sold f.o.r. Pachrukhi basis.

Season.	Rs. A. P.
1930-31	8 13 11·2
1931-32	10 2 1
1932-33	8 14 11·5
1933-34	7 13 11·9
1934-35	7 4 3·3*
1935-36	7 8 9·3*
1936-37	5 3 7·2*

Freight rates from Pachrukhi to principal ports per maund are as follows:—

	Rs. A. P.		Rs. A. P.
Kantapokar (Calcutta)	0 10 5	Karachi	1 1 3
Bombay (Wadibundar)	1 0 3	Cochin	1 2 1
Madras	0 15 9		

73. A copy of each of the Balance Sheets of the Industrial Corporation, Ltd., for the years 1930-31, 1931-32, 1932-33, 1933-34, 1934-35, 1935-36, are forwarded herewith. A copy of the Balance Sheet for the year ending 30th April, 1937, will be forwarded hereafter as it is not yet passed by the Directors and Shareholders.

* Nett after deducting excise duty.

74. We have given below the amounts written off for depreciation in the accounts of the following years: —

Year.	Depreciation.		
	Rs.	A.	P.
1929-30	...		
1930-31	1,75,085	8	0
	1,33,560	0	0
	3,08,645	8	0
	1,00,000	0	0
	4,08,645	8	0
1931-32	4,72,491	8	8
1932-33	2,38,957	3	4
1933-34	1,47,822	4	0
1934-35	1,55,474	8	0
1935-36	1,73,506	15	0
1936-37	The net profit subject to depreciation is Rs. 99,152-3-7. The Directors will decide as to what amount to carry to Depreciation Fund when they consider the accounts next month. It may be noted that the amount of depreciation for the year 1936-37 comes to about Rs. 1,76,000.		

Our rates of depreciation are almost the same as those allowed by the Income-tax Department except in Furniture and Fixtures on which we calculate depreciation at 10 per cent. while Income-tax Department allows same at 5 per cent.

75. Nil.

76. Actual amounts of dividends distributed on the share capital of the Company out of the profits of the following years:—

Years.	Dividend Distributed.	Years.	Dividend Distributed.
	Rs.		Rs.
1929-30	...	1933-34	1,00,000
1930-31	...	1934-35	...
1931-32	62,500	1935-36	1,00,000
1932-33	1,00,000	1936-37	...*

78. With regard to Head office expenses, no fixed allowance is made to the Managing Agents, but the Company bears actual out of pocket expenses. These includes salary of the manager at Pachrukhi and other salaries of the staff employed in Bombay and Ahmedabad. The amount of Head office expenses for the year ended 30th April, 1937, comes to about Rs. 75,000 of which Rs. 23,557 is for insurance including Earthquake and Rs. 28,371 is for interest.

The Managing Agents' commission is calculated in terms of the agreement between the Company and the Agents at 12½ per cent. (and not at 12 per cent. as mentioned in our representation dated Madras 27th June, 1937, in reply to Question No. 78) of the net profit of the Company, before providing for depreciation. The Managing Agents' commission on the profits for the year ended 30th April, 1937, amounts to Rs. 14,164-9-8.

* Subject to Boards' sanction.

(4) Letter No. 158/849, dated the 30th July, 1937, from the Industrial Corporation, Ltd.

In the last paragraph of our representation, dated Madras, the 27th ultimo, we had stated that the Railway (Bengal and North Western Railway) asked for equal number of wagons to be taken right through the season for cane. We beg to enclose herewith:—

- (1) Copy of the Traffic Manager's Letter No. RCO/30/36/1, dated the 11th/12th August, 1936.
- (2) Copy of our letter No. CD/4542 of the 15th August, 1936, in reply thereto.
- (3) Copy of Traffic Manager's letter No. RCO/30/36/2 of the 20th August, 1936.
- (4) Copy of our letter No. CD/4692, dated the 24th August, 1936.

We also stated in our representation of the 27th ultimo that we would forward to you copies of correspondence regarding inadequate facilities of the Railway in addition to the shortage of wagons previously except during the season 1936-37, which is just closed for cane. There was shortage of space for loading platforms. The railway administration were prepared to pay half the cost of extending some of the platforms. We believe that it is not open to a railway administration to ask for any contribution in capital expenditure merely on the ground that exigencies of traffic required extension of facilities. In support of this statement we beg to enclose herewith:—

- (a) Copy of D.O. letter No. 10633-41 of the 10th July, 1936, addressed by Saran District Office, Chapra, to our manager and copies* of confidential letter No. 560, dated the 29th September, 1936, No. 20/593, dated the 7th October, 1936, and No. 643, dated the 13th October, 1936, addressed by our Mr. Ambalal Sarabhai to Mr. B. M. Birla.
- (b) Copy of letter from the Indian Sugar Mills Association No. 2037, dated the 17th October, 1936, together with a copy of Mr. Sarabhai's letter No. 19/688, dated the 20th October, 1936, in reply to it. In respect of our complaint of inadequate supply of wagons for cane in 1934-35 and in 1935-36 we enclose herewith the following statements and copies of letters:—
 - (1) Copy of letter No. 2084, dated the 23rd October, 1936, from Indian Sugar Mills Association, to the Secretary, Railway Board, New Delhi.
 - (2) Copy of letter No. 2080, from the Indian Sugar Mills Association dated the 23rd October, 1936, to the Traffic Manager.
 - (3) Copy of letter No. 357, dated the 2nd November, 1936, from the Traffic Manager, to the Indian Sugar Mills Association.
 - (4) Copy of Mr. Ambalal Sarabhai's letter No. 21/663, dated the 13th October, 1936, addressed to Mr. N. C. Mehta, I.C.S., Chairman, Imperial Council of Agricultural Research, Government of India, New Delhi.

The following statements will show the extent to which wagons for cane were supplied short in 1934-35 and 1935-36 season and the hours of crushing lost:—

- (1) Statement showing wagons received during the cane season 1935-36 and stoppage due to short supply of wagons.
- (2) Comparative statement showing cane shortage per week for 1933-34, 1934-35 and 1935-36.
- (3) Statement showing wagons indented and received during the cane season 1934-35.

Enclosure No. 1.

THE BENGAL AND NORTH WESTERN RAILWAY CO., LTD.

No. R.C.O. 30/36/1.

Traffic Manager's Office,
Gorakhpur, 11th/12th Aug, 1936.

The Manager,
The Bihar Sugar Mills,
Pachrukhi.

Weighbridges.

Dear Sir,

Please send me a statement showing the names of stations at which you wish to put down weighbridges for the next cane season 1936-37.

Kindly let me know also the number of wagons you propose to load daily at each station and from what date you propose to take rail cane. It is particularly requested that you will regulate your gate cane supply so that you can take a regular and equal supply of rail cane throughout the season. If indents are suddenly enhanced during the latter part of the season it is unlikely that the supply of wagons can be enhanced as the demand for wagons for general traffic will also be very great during that period.

Enclosure No. 2.

CD/4532.

15th Aug, 1936.

The Traffic Manager,
Bengal and North Western Railway,
Gorakhpur.

Weighbridges.

Dear Sir,

We are in receipt of your letter No. R.C.O. 30/36/1 of 11th/12th instant. As desired by you, we are enclosing herewith a provisional list giving the names of stations for weighbridges for the next season. We might add this list is liable to alteration later on according to circumstances.

With regard to the number of wagons, we beg to give below an idea of our estimated requirement for the next season. This will of course be liable to change according to circumstances.

November	} 80 wagons per day.
December	
January	
February	
March	} 100 to 125 wagons per day.
April	
May	

We regret we are unable to give you any idea of the number of wagons we propose to load at each station daily as we are unable to form any idea of the crop at different stations as also due to other reasons.

We propose to take rail cane from the beginning of the season. It is, however, not possible to take the same number of wagons throughout the season due to practical difficulties which we believe apply to almost all the factories.

Enclosure No. 3.

THE BENGAL AND NORTH WESTERN RAILWAY CO., LTD.
 No. R.C.O. 30/36/2. Traffic Manager's Office,
 Gorakhpur, 20th Aug, 1936.

The Manager,
 The Bihar Sugar Works,
 Pachrukhi.

Weighbridges, Season 1936-37.

Dear Sir,

In acknowledging the receipt of your letter No. CD/4532 of 15th August, 1936, I beg to state that the increase in indents from 80 to 125 is what we wish to avoid.

Would it not be possible to take, say, 60 daily throughout the season.

It should of course be remembered that supplies are dependent on the demand from factories and the siding accommodation available.

Enclosure No. 4.

No. CD/46/92. 24th August, 1936.

The Traffic Manager,
 Bengal and North Western Railway Co., Ltd.,
 Gorakhpur.

Weighbridges, Season 1936-37.

Dear Sir,

We are in receipt of your letter No. R.C.O. 30/36/2 of 20th instant, contents of which are noted. It is not possible for us to manage with only 60 wagons per day during the next season neither it is practical to indent the same number of wagons throughout the season. It should not, however, be conceived that we are in any way averse to co-operate with the railway in solving the wagon problem. Far from it, we have always tried to do so to the furthest extent possible in the past and will do so in the future. We are obliged provisionally to give you our requirement of wagons as per our letter No. CD/4532 of 15th August, 1936, due to circumstances attending our gate cane supplies and any variation in this will affect our crushing as it did during the last season to our great loss.

We should like to mention here one or two points to show why we are not able to do with the number of wagons proposed by you and secondly why we are not able to indent the same number of wagons throughout the season.

Our crushing capacity is large, nearly 1,000 tons per day and due to certain additions we are making, it is expected to increase next season. On the other hand our gate cane supply, which is not very large as compared to some other factories, is shared by three other factories in the vicinity which are quite close by. Due to these facts we have to rely largely on railway cane.

You might as well say that we should distribute the available gate cane supply over the whole period of the season and take equal number of wagons. This is not feasible as due to the nature of the soil in the surrounding area the cane gets dried up very quickly from March. The growers, therefore, in spite of our best efforts dump the cane at the factory. Most of the people also cut the cane in the earlier months due to pecuniary difficulties. Besides, our local area is shared by other three factories

and also one station which is operated by many other factories. It is not, therefore, possible for us to reserve cane for use during the latter part of the season and we trust you will kindly take into consideration our view points while considering our letter.

Yours faithfully,

For The Bihar Sugar Works,

(Sd.) P. V. Mehd,
Asstt. Manager.

Enclosure No. 5.

SARAN DISTRICT OFFICE, CHAPRA.

D.O. No. 10633-41.

10th July, 1936.

Dear Sir,

It was suggested at a meeting of the District Sugar Advisory Committee that facility for loading platform at Bhatapokhar and Jalalpur was inadequate. A reference was made to the railway authorities on the subject. The Railway Administrator is prepared to pay half of the cost and the remaining half is payable by the Mills interested. Would you please let me know if you are prepared to contribute your share.

To

The Manager,

Pachrukhi Sugar Mill.

Enclosure No. 6.

INDIAN SUGAR MILLS ASSOCIATION.

Calcutta,

2037.

17th October, 1936.

Ambalal Sarbhai, Esqr.,

C/O The Industrial Corporation, Ltd.,

P. O. Box. No. 28,

Ahmedabad.

Dear Sir,

Mr. B. M. Birla has referred your letter No. 560, dated the 29th September, 1936, and a subsequent one dated the 7th October, 1936, to me for taking up the matters raised therein with the railways. The matters raised by you were informally discussed as desired, in the last Committee meeting and I am taking adequate steps in connection with these matters as per talk at the Committee meeting. I shall write to you in details in this connection shortly.

Enclosure No. 7.

19/688.

20th October, 1936.

Dear Mr. Dhadha,

I am much obliged to you for your confidential letter No. 2037 of the 17th instant. I wrote to Mr. Birla to request him to move your Association to object to the demand of the Railway Company for equal number of

wagons to be taken right through the season and of contribution towards expenses of extending loading platforms, etc. I trust on both the matters you will move the authorities soon so that there may be some redress during the coming season.

Yours sincerely,
(Sd.) Ambala Sarabhai.

To
S. R. Dhadha, Esqr.,
Indian Sugar Mills Association,
Calcutta.

Enclosure No. 8.

(Copy.)

2084.

Indian Sugar Mills Association,
135, Canning Street, Calcutta,
23rd October, 1936.

The Secretary,
Railway Board,
New Delhi.

Dear Sir,

I am directed by the Committee of the Indian Sugar Mills Association to invite your urgent attention to the great difficulty experienced by the sugar factories in the matter of adequate wagon supply for sugarcane traffic during the season. I have written to the Bengal and North Western Railway also in this connection and I am also enclosing a copy of the same for your information. I need hardly point out that the question is of vital importance to the industry and in view of the cane crushing season fact approaching the Committee Trust that you will kindly look into the matter immediately and impress upon the Bengal and North Western Railway the necessity of making adequate arrangements for wagon supply so that sugar factories may not have to suffer during the coming season.

Yours faithfully,
Offg. Secretary.

Enclosure.

Enclosure No. 9.

(Copy.)

2080.

Indian Sugar Mills Association,
135, Canning Street, Calcutta,
23rd October, 1936.

The Traffic Manager,
Bengal and North Western Railway,
Gorakhpur.

Re SUPPLY OF WAGONS FOR SUGARCANE TRAFFIC.

Dear Sir,

I am directed by the Committee of the Indian Sugar Mills Association to invite your attention to the question of supply of wagons to the factories for sugarcane traffic. As you are aware the next cane crushing season is approaching and several members of this Association must have already approached you with indents for wagons for loading cane. In this connection, the Committee may point out that in the past there have been continuous complaints regarding shortages in the supply of wagons during

the season for sugar cane traffic. As is well-known sugar factories have to depend on rail cane to a very great extent throughout the season and more so towards the end when factories have to get cane for their daily crush from long distances. The Committee have brought this matter to your notice previously also and they take this opportunity of reiterating the necessity of placing adequate number of wagons at the disposal of factories throughout the cane crushing season. The Committee understand that the railways insist on the factories intending for a fixed number of wagons per day throughout the season. While the Committee appreciate the difficulty of the railway in supplying increasing number of wagons as the season advances, they hope that the railway will also realise the fact that towards the end of the season factories have to depend more on rail cane and hence require a larger supply of wagons at that time.

The question of shortage in the supply of wagons is still more important. The Committee understand that factories are not given even that number of wagons daily which they indented for at the beginning of the season and factories who place their requirements before the beginning of the season are told to manage with a small number of wagons on the ground that the sugarcane traffic is a seasonal one. Still it is but reasonable that as public carriers, the Railway Company ought to have sufficient rolling stock to meet the industrial and trade requirement whether they be seasonal or otherwise. The Committee strongly feel that in view of the large number of sugar factories situated on your railway, you should make arrangements for a larger supply of wagons to factories. The importance of this question to the industry cannot be exaggerated and the Committee hope that the Railways would co-operate with the industry and make available to factories adequate number of wagons both for sugarcane and sugar traffic.

An early reply will oblige.

Yours faithfully,

Offg. Secretary.

Enclosure No. 10.

Copy of letter No. R.C.O. 357/36, dated the 2nd November, 1936, from the Traffic Manager's Office, the Bengal and North Western Railway Co., Ltd., to the Secretary, Indian Sugar Mills Association.

I have to acknowledge receipt of your letter No. 2080 of 23rd October and would remark that the matter of an adequate supply of wagons for carriage of cane receive constant attention.

In recent years this Railway has increased its stock for carriage of cane by 600 wagons and a further order for four hundred special cane trucks has been placed and it is hoped to have them working before the ensuing cane season is over.

It is of course, to the interest of the factories and the railway that an adequate supply of cane should be maintained and if, by a little co-operation, between factory and railway, this end can be achieved with a conservation of the use of stock it is, I think, necessary that such co-operation should exist. Many factories, still insist on using up their cart cane before taking their rail cane supplies and it is in this respect that co-operation will conserve stock and assure more regular supplies.

It should not, I think, be difficult for all factories to space out their supplies of gate and rail cane so that an even supply is maintained throughout the season and this would mean that ridiculous indents, for beyond the capacity of a station to deal with, let alone the question of supply of stock, would be necessary.

With regard to your general statement that complaints were frequent I would remark that in an organisation of this size some mistakes do occur and possibly these may have led to a certain amount of hardship

but it is a well-known fact that most factories manufactured a considerable percentage of sugar in excess of their recognised output and I would also point out that the railway on its part transported some 53,000 more wagon loads of cane that was done in the previous year and these two facts in themselves would tend to show that the needs of the industry are not being ignored.

Enclosure No. 11.

(Copy.)

21/663.

13th October, 1936.

My Dear Mehta,

I understand that you are the Officiating Chairman of the Imperial Council of Agricultural Research, Government of India, and hence I write this letter to you. But, I doubt if your department has any connection with the subject matter of this letter. If it has no connection, please take no notice of this letter.

A friend told me to-day that your department would be interested in what I write below, and as nothing can be lost by my writing to you I do so. But, as suggested above, if you cannot do anything in the matter, please take no notice of this letter.

You are probably aware that cane sugar factories get their supplies of cane in bullock carts and in railway wagons. At my factory in Pachrukhi, we get major portion of our requirements in carts during the first few months of the season. The number of carts go down gradually and then we have to depend more on cane coming in wagons. As the season advances this process continues and from about the middle of January we have got to get large quantities of cane in wagons, and from the middle of February practically the entire requirements of cane have to be brought in wagons. But, I do not think that we are an exception. Most of the factories are also similarly placed. This is as it should be.

The area under cane cultivation has been steadily going up and the supply we get in carts from adjacent areas have been going up steadily year after year. The cane which comes in carts is usually more fresh than the cane coming in wagons. It costs less even to encourage cultivation of cane in adjacent areas. It has been our policy to pay a little more per maund for cane which comes in carts than at the railway stations, where it is purchased by our contractors for loading in wagons. The railway company evidently do not like this. We have to depend on the railway company for the transport of cane coming in wagons. Some years ago where there were not so many sugar factories in the area served by the Bengal and North Western Railway it was possible for the railway company to give a certain number of wagons to each factory to be used for transport of cane as and when required. As the demands for wagons went up due to new factories being put up the railway company found that they did not get the maximum earning out of the wagons, this was correct and to get the maximum work from the wagons, the Railway Company decided to supply wagons at the railway stations, and railway company created a special department to deal with the requisitions for wagons received from factories. I send herewith copies of the following letters:—

- (1) Letter No. R.C.O. 30/36/1 of the 11th/12th August received by us from the Bengal and North Western Railway Traffic Manager's Office, Gorakhpur.
- (2) Our letter No. CD/4532, dated the 15th August, 1936, to the Traffic Manager, Bengal and North Western Railway, Gorakhpur.
- (3) Letter No. R.C.O. 30/36/2, dated the 20th August, 1936, from the Traffic Manager, Bengal and North Western Railway, Gorakhpur, to the Bihar Sugar Works, Pachrukhi.

(4) Letter No. CD/4692, dated the 24th August, 1936, from the Bihar Sugar Works, Pachrukhi, to the Traffic Manager, Bengal and North Western Railway Co., Ltd., Gorakhpur.

In the first letter they particularly require us to regulate our gate cane supply so as to be able to take a regular and equal supply of rail cane throughout. It is difficult to regulate supply of local cane. The growers are anxious to get the value of the cane as early as possible. This is as it should be and the policy therefore allowed by most factories is to take as much cart cane as they can get and to get the balance in wagons from longer distances. This particular railway company cannot say that it cannot afford to invest more fund in wagons to meet the legitimate requirements of factories. It pays a very big dividend. They are public carriers and owe a certain responsibility to the areas served by it to do everything in their power to assist trade, commerce, industry, agriculture, and other interests. We discussed this matter with the railway very often, but we are unable to convince the railway that their attitude is wrong. The wagon supply is inadequate and the accompanying statement marked "A" will show to what extent our crushing was reduced during the previous seasons due to shortage of wagons for carrying cane to our factory. The matter has been before the Indian Sugar Mills Association, but I do not know that the efforts of the Association have been successful. I venture to say that the railway company take a very short view which is not even in its own interest. If the industry does well it is bound to reflect on the prosperity of the province and the railway company will benefit most by such prosperity. So even in their own interests and in order that the railway company may give the minimum service that one can expect from it, if you can, please move the Railway Board and the Government of India to look into them and to see this the factories do not experience any difficulty in getting cane to maintain their crushing at their full capacity. At a certain time in the year the cane is likely to get too ripe to give good results. If there is quick transport, losses due to such cane being left over with the growers will be considerably diminished, and this will benefit the growers. Your department takes a keen interest in the sugar industry due to its close connection with Agriculture and I think that it is a legitimate part of the department to assist in this matter.

I enclose herewith a copy of D.O. letter No. 10633-41 of the 10th July addressed from the Saran District Office, Chapra. Is the railway company not bound to increase facilities for loading, etc. as may be required for legitimate increase in traffic? It is open to the railway company to ask for a contribution from those who may be interested in loading from certain stations in the cost of expenditure of platforms and other facilities. It seems to me that it not open to the railway not to do so and the railway company should bear the entire cost. Though I have not referred to the Act, I am inclined to think that asking for a part of the cost to be paid by the factories is irregular on the part of the railway company. That some factories have agreed to pay it is no justification for a wrong demand by the railway company and if asking for such contribution is irregular, it does not become regular, because some factories pay it. I trust you will forgive the trouble I am giving you.

With kind regards.

Yours sincerely,

(Sd.) Ambalal Sarabhai.

N. C. Mehta, Esq. I.C.S.,

Chairman, Imperial Council of Agricultural Research,

Government of India, New Delhi.

Enclosure.

Enclosure No. 12.

Statement showing wagons received during the cane season 1935-36 and stoppage due to short supply of wagons.

Date.	Wagons received.	Duration* of stoppage.		Date.	Wagons received.	Duration* of stoppage.	
		Hrs.	M.			Hrs.	M.
19th Mar., 1936 .	43	6	15	6th Apr., 1936 .	76	3	45
20th ,, 1936 .	63	2	55	7th ,, 1936 .	79	3	45
21st ,, 1936 .	58	4	40	8th ,, 1936 .	75	3	45
22nd ,, 1936 .	67	..		9th ,, 1936 .	63	6	30
23rd ,, 1936 .	44	9	10	10th ,, 1936 .	68	6	35
24th ,, 1936 .	56	4	45	11th ,, 1936 .	51	10	0
25th ,, 1936 .	72	0	30	12th ,, 1936 .	76	5	25
26th ,, 1936 .	44	9	0	13th ,, 1936 .	61	8	53
27th ,, 1936 .	50	6	10	14th ,, 1936 .	59	8	50
28th ,, 1936 .	74	1	40	15th ,, 1936 .	78	6	5
29th ,, 1936 .	60	4	45	16th ,, 1936 .	66	9	45
30th ,, 1936 .	54	7	40	17th ,, 1936 .	66	8	50
31st ,, 1936 .	65	3	35	18th ,, 1936 .	58	7	55
1st Apr., 1936 .	58	6	0	19th ,, 1936 .	66	9	10
2nd ,, 1936 .	54	8	15	20th ,, 1936 .	92	3	45
3rd ,, 1936 .	63	6	15	21st ,, 1936 .	72	8	0
4th ,, 1936 .	76	5	15	22nd ,, 1936 .	68	8	15
5th ,, 1936 .	52	9	15				

* This is without allowing stoppage of an hour or so during a day or every alternate day for cleaning and disinfection.

Enclosure No. 13.

Comparative statement showing cane shortage per week.

Week ending			1933-34.	1934-35.	1935-36.
1933-34.	1934-35.	1935-36.	Hrs. M.	Hrs. M.	Hrs. M.
19th Jan., 1934	19th Jan., 1935	17th Jan., 1936	28 47	..	..
26th 1934	25th ,, 1935	14th ,, 1936	..	5 25	..
2nd Feb., 1934	1st Feb., 1935	31st ,, 1936	24 5	12 30	..
9th ,, 1934	8th ,, 1935	7th Feb., 1936	2 30	17 10	..
16th Mar., 1934	15th ,, 1935	14th Mar., 1936	..	16 45	6 15
23rd Feb., 1934	22nd ,, 1935	21st Feb., 1936	..	51 30	4 5
2nd Mar., 1934	1st Mar., 1935	28th ,, 1936	4 20	35 20	12 5
9th ,, 1934	8th ,, 1935	6th Mar., 1936	3 0	39 10	..
16th ,, 1934	15th ,, 1935	13th ,, 1936	3 20	18 55	..
23rd ,, 1934	22nd ,, 1935	20th ,, 1936	2 55	16 44	21 30
30th ,, 1934	29th ,, 1935	27th ,, 1936	27 45	5 0	30 30
6th Apr., 1934	5th Apr., 1935	3rd Apr., 1936	53 8	..	37 40
13th ,, 1934	10th ,, 1935	10th ,, 1936	47 40	4 30	34 35
20th ,, 1934	..	17th ,, 1936	30 5	..	55 38
27th ,, 1934	..	24th ,, 1936	4 35	..	53 20
4th May, 1934	..	25th ,, 1936	34 15	..	17 55
11th ,, 1934	..	..	..	..	..
18th ,, 1934	..	..	7 0	..	..
Grand total *			273 25	221 55	273 33

* This is without allowing a stoppage of an hour or so during a day of every alternate day for cleaning and disinfection.

Enclosure No. 14.

Statement of wagons indented and received during the cane season 1934-35.

Date.	Wagons indented.	Wagons received.	Date.	Wagons indented.	Wagons received.
November, 1934.			December, 1934— <i>contd.</i>		
18th Novr., 1934 . . .	49	..	29th " 1934 . . .	37	37
19th " 1934 . . .	60	75	30th " 1934 . . .	37	37
20th " 1934 . . .	70	64	31st " 1934 . . .	37	36
21st " 1934 . . .	70	61	Total from 1st December, 1934, to 31st December, 1934 . . .		
22nd " 1934 . . .	60	62		1,162	1,148
23rd " 1934 . . .	9	55	January, 1935.		
24th " 1934 . . .	50	30	1st Jan., 1935 . . .	37	38
25th " 1934 . . .	52	52	2nd " 1935 . . .	37	38
26th " 1934 . . .	50	48	3rd " 1935 . . .	37	33
27th " 1934 . . .	50	52	4th " 1935 . . .	45	44
28th " 1934 . . .	48	48	5th " 1935 . . .	49	47
29th " 1934 . . .	40	45	6th " 1935 . . .	53	42
30th " 1934 . . .	33	38	7th " 1935 . . .	53	63
	641	630	8th " 1935 . . .	51	45
December, 1934.			9th " 1935 . . .	48	49
1st Dec., 1934 . . .	39	33	10th " 1935 . . .	33	32
2nd " 1934 . . .	44	38	11th " 1935 . . .	38	47
3rd " 1934 . . .	44	43	12th " 1935 . . .	40	41
4th " 1934 . . .	45	51	13th " 1935 . . .	42	34
5th " 1934 . . .	51	45	14th " 1935 . . .	40	31
6th " 1934 . . .	27	52	15th " 1935 . . .	44	52
7th " 1934 . . .	15	..	16th " 1935 . . .	40	41
8th " 1934 . . .	42	36	17th " 1935 . . .	35	33
9th " 1934 . . .	32	32	18th " 1935 . . .	31	37
10th " 1934 . . .	37	35	19th " 1935 . . .	41	28
11th " 1934 . . .	39	35	20th " 1935 . . .	38	50
12th " 1934 . . .	37	37	21st " 1935 . . .	38	38
13th " 1934 . . .	37	36	22nd " 1935 . . .	46	45
14th " 1934 . . .	36	30	23rd " 1935 . . .	50	42
15th " 1934 . . .	35	36	24th " 1935 . . .	50	36
16th " 1934 . . .	37	33	25th " 1935 . . .	48	60
17th " 1934 . . .	39	39	26th " 1935 . . .	47	48
18th " 1934 . . .	39	38	27th " 1935 . . .	43	40
19th " 1934 . . .	45	42	28th " 1935 . . .	43	33
20th " 1934 . . .	39	42	29th " 1935 . . .	47	40
21st " 1934 . . .	34	35	30th " 1935 . . .	49	53
22nd " 1934 . . .	36	29	31st " 1935 . . .	56	52
23rd " 1934 . . .	37	42	Total from 1st Jan., 1935, to 31st Jan., 1935 . . .		
24th " 1934 . . .	37	50		1,349	1,312
25th " 1934 . . .	37	30			
26th " 1934 . . .	37	44			
27th " 1934 . . .	37	29			
28th " 1934 . . .	37	37			

Date.	Wagons indented.	Wagons received.	Date.	Wagons indented.	Wagons received.
February, 1935.			March, 1935—contd.		
1st Feb., 1935	47	48	5th " 1935	90	36
2nd " 1935	53	42	6th " 1935	90	42
3rd " 1935	57	42	7th " 1935	90	41
4th " 1935	57	46	8th " 1935	93	52
5th " 1935	69	48	9th " 1935	93	43
6th " 1935	73	23	10th " 1935	93	46
7th " 1935	74	75	11th " 1935	93	61
8th " 1935	76	41	12th " 1935	93	39
9th " 1935	76	54	13th " 1935	93	45
10th " 1935	76	51	14th " 1935	93	63
11th " 1935	76	58	15th " 1935	89	43
12th " 1935	77	58			
13th " 1935	76	40	Total from 1st Mar., 1935, to 15th Mar., 1935	1,376	699
14th " 1935	80	50			
			16th Mar., 1935	93	53
Total from 1st Feb., 1935, to 14th Feb., 1935	967	676	17th " 1935	93	44
			18th " 1935	81	47
			19th " 1935	52	44
15th Feb., 1935	80	38	20th " 1935 . . . . .	..	19
16th " 1935	78	39	21st " 1935 . . . . .	..	..
17th " 1935	40	30	22nd " 1935	88	..
18th " 1935	81	35	23rd " 1935	93	46
19th " 1935	75	35	24th " 1935	93	46
20th " 1935	74	32	25th " 1935	94	63
21st " 1935	88	57	26th " 1935	94	74
22nd " 1935	90	40	27th " 1935	93	50
23rd " 1935	90	51	28th " 1935	94	81
24th " 1935	91	45	29th " 1935	94	40
25th " 1935	91	50	30th " 1935	94	50
26th " 1935	90	45	31st " 1935	93	66
27th " 1935	91	49	Total from 16th Mar., 1935, to 31st Mar., 1935 .	1,249	723
28th " 1935	92	25			
			April, 1935.		
Total from 15th Feb., 1935, to 28th Feb., 1935	1,151	571	1st Apr., 1935	93	51
			2nd " 1935	75	92
			3rd " 1935	70	56
			4th " 1935	70	40
			5th " 1935	69	70
March, 1935.			6th " 1935	55	55
1st Mar., 1935	92	74	7th " 1935 . . . . .	..	..
2nd " 1935	92	44			
3rd " 1935	91	30	Total from 1st Apr., 1935, to 7th April, 1935 .	432	383
4th " 1935	91	40			

Indian Sugar Works, District Saran.

1. Crushing operation started for the first time in January, 1934 (Season 1933-34). Rated capacity of the factory is 400 tons cane per day.

2. Statement, showing the production of different years, is appended, *vide* enclosure No. 1.

3. (a) With regard to cane quality and supply (local) the factory is very badly situated—firstly, because the area from which the gate canes are mostly received is an annually inundated one and therefore cannot give good quality cane. That also compels the growers to take to inferior variety stubborn cane. Secondly, we have got two factories on our left and right closely situated and they also draw canes from our area in addition to their own, resulting in our starvation. At the time of erecting the factory the impression was that different local areas will be properly developed by authorities concerned but that has not been. Hence our perishing difficulty.

As to other raw materials like lime or stone, etc., and important markets, their centres are far away from us but we stand in the same position as other neighbouring factories do.

(b) Rail facilities we have got, as our factory is situated at the important junction station, Saran (Bengal and North Western Railway), and we have got our own railway siding running inside the factory. But regarding the road communications, although in the mains that is alright (we have got a metalled District Board Road running on one side and a Kucha Local Board on another), the communication in general in the locality is very poor. Feeder roads are few and in very rotten condition. The carts are not allowed to pass on the Pucca (metalled road). They have got to ply always on the Kuchas and the traffic is immensely heavy, in consequence either with a slight trickling rain or in the draught, the cart roads become absolutely impassable, either due to mud or dust. In the villages they often make tracks by passing through fields, as they have not got necessary and sufficient feeder roads. That brings an unbearable hardship not only on the carters but more so on the dumb quadrupeds. The matter as a general problem needs serious attention.

3. (c) Sufficient labour is available in the neighbourhood, although higher class skilled labour we have often to indent from distant places.

4. Our process of manufacture is Double Sulphitation.

Carbonitration process is a lengthier one and involves higher cost, both in capital and in running, but that gives better clarification of juice and therefore superior sugar, fetching better prices. The process also gives comparatively a slightly higher recovery due to better clarification and easier workability of the juices. The most important point for the Carbonitration process is the cheap availability of good quality lime-stone and hard-coke, which it has to use in huge quantities.

5. Although on principle our plant remains the same yet to bring it to efficiency and to balanced capacity a lot of minor internal changes have been made from year to year at a cost of Rs. 23,788 (round figure) and many more are in contemplation.

6. The curious fact about Indian Sugar Factories is that they try to crush more and more and my own calculation is that most of the Indian Sugar Factories, as far as their crushing plant is concerned, can and do crush at the rate of 40 to 45 maunds per ton rated crushing capacity if the inside factory is properly balanced. Our factory is not yet well balanced for that purpose and we have got all the things in contemplation to do as time and circumstances permit to save our own neck from the further future onslaught.

7. (a) The main factors, determining the size of an economic plant in the sugar industry, are:—

(1) The duration of the season.

(2) The quality cane and the available sugar per cent. cane.

- (3) The relative price of the raw material (cane) the various stores required (lime or stone) sulphur, filter cloth, gunnies and lubricants, etc., and the price of resulting sugar, molasses and other By-products and their easy disposal.
- (4) Efficient working which also includes acclimatisation, satisfaction, permanency and stability of the working staff.
- (5) Profitable utilisation of By-products.
- (6) The critical highest capacity that can be achieved by a minimum but efficient staff (Technical, Mechanical and Administrative).

7. (b) Under the present circumstances, my opinion is that to operate economically a factory should crush an average of minimum 19 to 20 thousand maunds per day or 125,000 maunds in the week with a nett working of at least 150 days in the season with an extraction of 9.5 per cent. sugar on cane, provided the season's production can be disposed off within the years.

I prefer to give figures here in maunds rather than in tons to avoid the ambiguity explained above in question No. 6.

8. So far as I know essential parts of sugar factory equipment are not yet manufactured in India, although plenty of them are, in many cases, stocked here.

9. (i) Imperial Institute of Sugar Technology or for the matter of that its Director is getting all possible informations from the factories. But within my knowledge it has not rendered sufficient timely constructive assistance to the factories collectively or individually. Publication of its accumulated knowledge may be of academic value or of value for the days to come; but speedier and timely publication of things together with practical constructive suggestions in individual cases or personal guidance on the spot, where necessary speedy response to individual enquiries, as are done in Java, would be more calculative at this critical state of the Industry.

(ii) Similarly about the Industry Department of the Local Government. Under their guidance a better control of the cane cultivation of variety, quality and acreage as also their easy and convenient disposal with better provisions for transport could be achieved. But unfortunately nothing particular of effective value has been known in this locality. Speaking from personal experience and endeavours, I have been moving in different things the various departments concerned. Although things might be developing in their own way behind the screen, I have received no sympathetic or encouraging response. Putting on a comparative basis, I find my neighbouring Districts of Gorakhpur in United Provinces faring much better on a forward march than we have been doing in Saran.

Comparative figure of recovery in United Provinces and Bihar in season 1935-36.

Province.	No. of factories working.	Recovery sugar per cent, cane.
United Provinces	67	9.60
Bihar	35	8.93

Comparative figures of recovery in Saran and Gorakhpur Districts during season 1935-36 and 1936-37.

	1935-36.	1936-37.
Saran	9.226	9.40
Gorakhpur	9.555	9.94

10. We are in the vicinity of a Sub-Divisional town. Transfer of land is too dear here to suit our purpose of cultivation. Holdings being very small,

the lease is also not practicable, as we cannot combine lands to make sufficiently big plots. People are not easily amenable, either for sale or to lease out.

We have, however, got a few small plots of our own which we have just started using as demonstration plots for the varieties, manures, etc., to work according to recommendations of the Agricultural Department. The object is also to propagate seeds, if successful.

We are also trying to induce unaccommodative cultivators to grow better variety seeds through us. The idea is slowly gaining grounds.

11, 12 & 13. Do not arise in our case.

14. (a) The cane cultivation got a great impetus and the acreage increased enormously due to the erection of more factories and consumption of more canes. Cane is the only cash crop that brings in sufficiently immediate money. Like the growth of the factories, the acreage has also grown from year to year and has overdone. We have yet to obtain a good quality cane from outside (rail-borne), both for quantity and more for quality.

Regarding our comparative supply at gate, *vide* enclosure No. 3.

14. (b) *Quality cane*.—The old indigenous varieties like Rewra, Bhuraria, etc., are practically finished and replaced by Co. varieties. In some insuspicious moment some body introduced probably with a good motive Co. 210 as a good early variety. Now that has been the only variety in our locality all over the season, hanging as a curse on us. It might remain yet a good thing for particular areas elsewhere, but with us in this locality—degenerated, diseased, fibrous and inundated, it has become a most deplorable thing, goading us obstinately towards ruin, particularly due to the apathetic construction and application of the Cane Rules.

15. Frosts are occasional visitors here but not so very destructive. Diseases and insect pests are quite predominant. Can not give a definite estimate of loss through these causes at this stage, but might try to gather some idea for future reference.

16. Our proportion of available cane (but not good cane and only unwillingly suitable) is increasing from year to year, but we are not assured of a full and satisfactory supply from the beginning to the end of the season.

Co. 210 is the cane that we have got unwillingly to crush about 95 per cent. or more. The sucrose content of this, as we receive them for our purpose, is varying between 10 and 11½ with a fibre content between 18 and 22.

17. In previous years, specially during the latter part of the seasons when the available cane becomes comparatively less, the carters used to run the purchasers (factories direct or through purchasing agents) into competition to give higher prices. As the factories did not like to have short runs so long as they worked, some of them went to purchase as open bidders, dragging others also into the noose. Under such circumstances, the cane price went up sometimes to 8 to 10 annas per maund. That spirit seems now to be vanishing and so far as information goes, this season there was nothing of the sort.

18. (a) *Vide* answer to 14 (a). So far as acreage is concerned the only variation has been on the increasing way.

(b) (i) (ii) (iii) & (iv) The causes mentioned have got a great effective value in the real cultivation of canes, but so far they have not been, because the attractive easy disposal of cane at a sufficiently remunerative cash price and the repulsive difficult disposal of other alternative crops (that also at a very low price) have goaded the cultivators more and more to take to cane (*vide* Agricultural Department's forecast as a supplement to our observation). Up till now no other alternative crop had an equal or nearing value to cane or any easy cash return in this locality.

19. Although this year the crop has been the highest, it has not been enough for our area, there being 3 factories side by side to draw canes almost from the same area. We, three neighbouring factories, had even this year to draw about 33 lakh maunds of cane (rail-borne) from outside, partly due to quantity and partly to quality. So to have sufficient gate supply we require yet extension of cultivation rather than restriction in our area.

But, as I have detailed elsewhere, if we can open up the interior of the country by better road connections and cheaper and easier transport facilities, we may probably do without further extension of cane areas and yet with greater advantage to the growers of the interior country.

21. In our area the cane cultivation has not been put on a systematic organised scientific footing as in many other neighbouring places. We have been doing our might, but some authoritative pressure (moral as well as physical) can have better effects. I am afraid, in our area the cultivators have not got the same educative and constructive assistance from the Agricultural Department to give effective results in our neighbouring districts in United Provinces. I give below a few comparative figures which will be very eloquent:—

	Saran District.		Gorakhpur District.	
	1935-36.	1936-37.	1935-36.	1936-37.
No. of factories in the account	9	9	20	20
Local cane crushed	14,366,754	19,549,000	44,964,957	48,045,000
Railway cane crushed	9,107,210	5,845,000	6,686,821	3,778,000
Total cane crushed	<u>23,473,964</u>	<u>25,394,000</u>	<u>51,651,778</u>	<u>51,823,000</u>
Per cent. of local cane total	<u>61.20</u>	<u>77.00</u>	<u>87.05</u>	<u>92.90</u>
Sugar recovery per cent. cane	<u>9.226</u>	<u>9.40</u>	<u>9.555</u>	<u>9.94</u>

Individual factories in the Saran District like ours have fared very badly all along, mostly due to the cane. As already mentioned, our area is annually inundated and hence the growers cannot so easily control their canes. (There are better areas also which can be more profitably developed.)

Regarding the difficulty about delivery of canes to the factories, as I have already explained, the road conditions are very bad and therefore the carters cannot easily carry canes to the factories. (In this part of the country, the carters are not permitted to ply on the metalled portion of the roads.)

Further, the cane carters passing through Municipal areas or so called Municipal areas have got to pay an exorbitant Municipal tax (per season Rs. 4-2 per cart). This tax at present we are bearing ourselves for the convenience of the carters. But this is too heavy and unwelcome a burden which we cannot afford to bear and therefore must be abolished (compare the parallel case in United Provinces where the carter have not to pay Octroi Duty on cane, because that is a substance leading to the production of an excisable substance, namely sugar). I am glad to note that the District Executive Officers here are taking a favourable view (*vide* enclosure Nos. 7, 8 and 9). But unless some statutory provision is made, I am afraid, the cartman or for the matter of that we for ourselves cannot escape the harassment of the "Municipal dogs".

Incidentally it may be noted that although our factory is situated more than a mile away from the real Municipality limits, our factory area has

been annexed to the Municipality only for the purpose of taxation. As will be evident from the annexure above, last season we have paid more than Rs. 4,000 as cart tax and we pay annually Rs. 750 as holding tax in return to which we get absolutely no municipal privilege—light, scavengers sanitation, or even a municipal road connection or passage leading to the factory. I, therefore, pray and press that such undesirable and unjustifiable taxation be stopped.

Reverting to the question of easy delivery of cane to the factories, it is absolutely necessary that road connections be increased and conditions improved.

The question of finance may come in. Government are realising a very huge amount from factories as Excise Duty. They should spare some amount for the purpose. That amount supplemented by a handsome contribution from the Central Road Committee or the Public Road Cess Fund should be able to meet the emergencies.

Apart from that, if the carters and the growers are assured of an easy communication and quicker transport facilities, no wonder, they will be prepared to contribute something nominal per cart as a help to the road improvement. A simple arithmetical calculation will show what a huge amount these combined sources can bring in and if we can spend these moneys in actual constructive work instead of in overhead executive and administrative charges, I am sure, all the difficulties can be removed very soon and brighter times can shine. The last Indian Tariff Board on the Sugar Industry consider the cane cultivation as of the highest national importance. It is really so, if we can only see the easy and profitable disposal of the produce and we should not neglect it by any means. The cane cultivators are our backbone just as we, the millers, are also their backbones.

22. (a) The position does not seem to have changed much since the last Tariff Board reported. But I am not so very pessimistic about it. If the underlying principle be accepted and slow working methods adopted, it may not be impossible some day to bring round the land-holders to come to a long-term lease with the factories on reasonable terms or basis so that cane may be cultivated in their fields once in three years, leaving the other two years with the cultivators to grow other things under the direction of the factory owners or the Agricultural Department suitable rotation crops just as they do in Java. This will certainly bring better return and prosperity to the cultivators to which they are not so very indifferent.

(b) The zoning system or the area distribution for the factories is on principle a good idea. But the practical difficulty at present is that all areas are distributed just now, some factories will be at a great disadvantage with respect to others, so that there is likely to be a volley of opposition to the scheme at this stage; but if we accept the idea, to be brought into force sometime later on and work on with that idea in mind in the meantime to remove the appertaining obstacles, there is every reason to think that ultimately this will bring to a more constructive and practical situation.

There are other difficulties also. One of them being the freak of nature, causing destruction of cane in particular area and particular year; but "no risk no gain" is the motto that one has got to work with and some amount of risks everybody shall have to run. But by statutory measures it has got to be assured that canes of a particular factory area must not go to any other factory.

23. Cash advances may not be an absolute necessity more than it is at present. Supply of seed and helping with manures we are prepared to do under the proviso as mentioned at the close of the last paragraph. Regarding feeder roads, I have already given my views under 3 (a) and 21. This being a very costly problem we cannot give any definite assurance but certainly occasional little help that others can give we can also give.

24. (a) The fixation of quota for sugar manufacture by factories involves so many considerations. Some factories have already made their capacity sufficiently big to require no further extension, while others have not yet come to their economic limit. In my opinion it is, therefore, necessary that the extension of the bigger factories should be stopped while the smaller factories should be allowed a certain amount of time in which to bring themselves to the economic limit or to have further extensions but not more than a standard to be fixed. At the expiry of this time I will highly advocate the proposed quota system based on the individual the then proportionate capacity.

(b) We have certainly come to a point when no further new factories should be built in India and the produce of even the existing factories is becoming a menace unless we can find out proper outlets for the disposal of our excess production and if we can dispose off more sugar, there is no harm in making new factories which must be under a proper licence to be given after satisfying that all necessary materials like cane, stores, etc., the labour and other things will be available, and produces disposed off without doing harm to others. This I advocate only because while some localities are overcrowded with sugar factories others are starving, so that while in one area there may be high competition for cane in other areas cultivators are not benefited for want of economic disposal of their crops.

In this connection I would like to put in a suggestion, which I hope, will not be brushed aside as very far-fetched.

If cane goes through record one will find that in certain areas, like Savan-Gorakhpur Loop Line of the Bengal and North Western Railway, or the Ghaziabad-Shaharanpur Line of the North-Western Railway, the factories are very very congested; some stations containing even 2 factories. My suggestion is that for the benefit of the Sugar Industry, amongst the cultivators, the Government should establish a fund out of which factories should be helped to remove themselves from the congested area to places where the factories are very sparing and yet the cane cultivation is sufficient and can be sufficient. Such things would not have been necessary if the last Tariff Board were prepared to take a far-sighted establishing view.

24. (b) (ii) Regarding the extension of factories I have already expressed my views above.

25. Regarding cane supply from year to year, *vide* enclosure No. 3.

26. Up till now, our gate canes are transported entirely by ordinary bullock carts. Lorries cannot ply for the road difficulties as well as for the gag of the District and Local Boards for the use of their roads. Ordinary country carts carry an average of about 16 maunds cane per cart—loads varying between 8 to 25 maunds according to the condition of the bullocks and the distance of the place from, or the condition of the roads through which they have got to ply.

For the reasons explained before, the rubber tyred carts cannot work unless sufficient improved roadways are made.

We have not employed particularly any rubber tyred carts but we know from other places that conditions being favourable, such carts can easily carry 60 to 70 maunds per trip.

27. Already explained, *vide* Nos. 3 (b) and 21.

28. Taking into consideration all the tortuous ways that the carts have got to pass through, we receive canes at times from a distance of about 20 miles (these distances may be appreciably reduced by making suitable road ways) and the carts can travel an average of 2 miles per hour. Between the time of cutting canes and starting for factory, distant canes take 8 to 10 hours and nearer canes less. In the factory cart-stands also they take 8 to 24 hours (in our particular case they use to take 8 to 12 hours). So that the carts will take to deliver their canes into the factory cane carrier from the time of cutting 10 to 30 hours according to the distance from which they come.

Ordinarily during the road transport up till now the canes have been coming absolutely unprotected except for the slight guard against staling on the way. But they can be well partly protected against deterioration by properly covering and sprinkling water occasionally to keep them cool.

29. Cane growers (only those who can afford to keep sufficiently strong bullocks and necessary carts) are also carters. After finishing their own comes or in between their own canes, they cart canes of their neighbours as well. There are also professional but seasonal carters (plenty of them) whose only business is to cart canes from the villages to the factories or the purchasing centres, the carting charges being minimum 6 pies per maund and a maximum of As. 2-6 according to the distance, and for intervening distances cartages are ordinarily proportionate. But this year it is reported that carting charges were exorbitantly high even for short distances.

If the road conditions are improved and if a statutory provision is made for the cartage according to the mile maundage, it is possible, the cultivators may be better benefited. Or, as I have suggested on various occasions if the millers are permitted to purchase cane from the interior of the country at a reduced rate according to the distance, it is possible many factories may be induced to make their own transport arrangements or even make tramways so that the growers may get a better nett value for their produce, being saved from the clutch of the unscrupulous carters (compare United Provinces provisions).

30. Ordinarily no tolls or other dues are known to be levied on cane carrying carts; but the carts passing through the Municipal areas or so called Municipal areas, as in our case, (our factory being annexed to the Siwan Municipality without affording us any municipal privileges as detailed before) are charged by the Municipality to a tax of Rs. 4-2 each, for a season. As I have explained before, we have been compelled to pay, on behalf of the carters, more than Rs. 4,000 (over and above the holding-tax of Rs. 750) to alienate the difficulties of the carters and the growers. It is too heavy a burden to bear and I have already put in my appeal for the redress, *vide* No. 21.

31. We have got canvassers who go round the villages to procure canes to come to our gate. These canvassers are paid on the basis of the quantities that come through cash. Each one of them has got an area detailed to him and he cannot go beyond that limit.

According to our daily cane needs we distribute indent slips to the different areas through these canvassers and the carts come. As we issue just sufficient slips daily, canes continue to come according to our requirements and they are very easily and quickly emptied and carters released (utmost 8 to 12 hours as detailed before) unless of course detained by unforeseen breakdowns or accidents.

This is the ultimate process that we have come to by gradual development and we have found that working quite satisfactorily this season.

32. As at present we have got to get a lot of our railway canes from the neighbouring province of United Provinces on account of quality—the longest distance being 118 miles.

The railway canes take 3 to 4 days minimum from the time of cutting to the time of delivering into the cane carrier. It is hardly possible to reduce this time and of all even this will be a very strong argument against the crushing of rail-borne canes. As to the Railway arrangements of transport, although much has been done to improve condition, yet it is highly wanting in many respects. Sometimes the empties will not be received as indented or the wagon types as desired or sometimes the loaded wagons will be lying at the junctions, thus frustrating all our calculations of uniform working. During the latter part of the season when supply at gate naturally becomes less, we require more supplies from the Railways but we do not get sufficient empties. The Railway company have got their own

reasonable grounds for this but then they earn sufficiently well from the factories to keep an extra rolling-stock to meet the emergencies.

33. The Railway freight on cane transport is based on the type of wagons supplied, carrying capacity of the wagons and flat for a particular distance. A general list of schedule may be obtained from the Railway. No appreciable change in the railway freight is known in recent years except what was adopted as an emergency temporary measure in the latter part of April, 1937.

I am not in favour of a mile maundage rate due to the various complications it will introduce. But I would suggest a reduction in the existing rate and on that proportional basis to reduce the first flat distance so that even in case of rail-borne cane being used, people will be induced to develop canes round the nearest Railway stations, so that they can get them at a comparatively lower cost if not exactly at the gate cost.

34. As the factories pay annually a huge amount in freight of various stores, sugar and molasses, etc., transport, apart from the freight of cane transport they naturally should expect a co-operative and sympathetic treatment from the Railways as well, to develop the Industry in better ways so that a reduction in the transport charges of the major stores like lime, limestone, sulphur, gunnies, etc., as also the manurial substance. At present as they are, freights are really exorbitant and need revision.

36. Tramway systems involve a heavy capital outlay and difficulty about the acquirement of land, the danger being insecurity of the cane from the localities to be served by the tram-lines. In such cases, the outlay failing to be remunerative will be ruinous so that the first question to be solved before laying the tram-lines will be the security of service.

38. All our gate canes we purchase direct from growers and the rail-borne canes through the purchasing agents. For proportion, *vide* enclosure No. 3.

39. Up till now, we have not got any direct arrangement with the cultivators themselves for the supply of cane except the assistance that we give by procuring better variety seeds for them, loans of agricultural implements, the manurial substances and technical assistance and instructions, through the Agricultural Department. Further touch with the cultivators is through our canvassers who are influential people in the villages and are also money-lenders and their interest in us is that they get certain commission on the basis of the quantity canes received through them, as explained in detail before. The necessary cash advances are made by these canvassers on the understanding that the canes will be to their disposal so that these canes, in a sense, become bonded canes.

40. On canes that we purchase direct at the gate, we pay a total of Re. 1 per 100 maunds to our canvassers and at the Railway stations we pay about Rs. 3 to our Purchasing Agents, including their establishment, commission, loading charges, driage, etc.

We know these are very heavy expenses but we cannot help till we are absolutely assured of a secured cane from the particular locality undisturbed by other competitors or transgressors.

42. We have got our weighment clerks at our weighbridge. The loaded carts are weighed and the slip (of which the carbon copy is kept in the book), containing the name, village, etc., of the carters and growers as also the gross weight of cane and carts, is given to the cartman. When the cane is emptied in the cane carrier the cartman gets his slip signed by the Carrier Supervisor. He then offers his cart together with the certified gross slip to the empty cart weighbridge where the clerk prepares a separate slip in triplicate (Tare slip) containing names, etc., of both carters and growers, gross tare and nett weights of cane, rate per maund and the nett price of cane. This slip, after being properly checked and entered in a book, is given to the carter in duplicate who can take the payment at any time between 8 a.m. to 4 p.m. every day from a clerk, who is particularly

set apart for this purpose. When a man does take the payment immediately, he comes at any of his subsequent convenient moment and takes the payment.

43. For the comparative cane prices, *vide* statement No. 3. Except for the season 1936-37, cane prices have always, more or less, gone up during the latter part of the seasons due to cane shortage and internal competition between the factories.

44. Now-a-days, Government fix the minimum price for cane according to a schedule prepared on the basis of the recommendation of the last Tariff Board Report.

As at present, the application of this schedule and the fixation of cane rates is being done absolutely on a wrong way to the disadvantage of the factory owners, inasmuch as for the sugar prices only the highest rates are taken and that also including the excise duty that the factories have got to pay. The scheduled relative cane rate and sugar price was fixed by the Tariff Board at a time when they had taken the price of molasses at Re. 1 per maund (against the current price of practically zero or the negative value), which converted into price of sugar comes to 5 to 6 annas per maund.

Further the scheduled minimum price we have got to pay for any cane that is brought to the weighbridge, irrespective of kind or quality. This is certainly unfair.

46. Prices in Gur/Jaggery have come down enormously. It is reported that Gur can be had in the neighbourhood at Rs. 1-4 to 1-8 per maund.

Here also the question of demand and supply comes. Previously a huge quantity of Gur or Jaggery used to be consumed in the Refineries and Khandsaris, which they are not consuming now to the same extent.

47. *Vide* previous answers.

48. In fixing the minimum price of cane Local Government take highest prices of sugar from 12 factories or less. That seems to be unfair. All sorts of factories and all grades of sugar ought to be represented in their basis, so that if they want to take 12 factories they can distribute them suitably all over the Province and take 12 such factories which may represent all grades of sugar and various kinds of processes. Then, instead of taking the prices as reported in Journals, they can take the exact average prices of these factories from the Director, Imperial Institute of Sugar Technology, when all factories are bound to submit fortnightly reports.

Further, to come to the basic price of sugar, the amount to be paid to the Government as excise duty as also the equivalent price of molasses should be deducted from the average price of sugar.

49. The bonus system does not seem to be appealing under the present conditions of the low sugar market. On the other hand a depreciated rate for bad quality or poorer variety cane (to be certified by the Government Executives for a tract or a variety in a particular year or part of the year) will be more effective to extirpate poorer things in no time. Higher prices anybody is entitled to pay at any time for which no legislation need be necessary.

50. For duration of season, *vide* statement No. 1. All along availability of cane has so far been the determining factor or the duration of season. As I have explained above, a run of less than 150 days, on conditions noted therein, cannot be remunerative.

51. Chances of extending the season by introducing early and late varieties are quite fair; but unless suitable and remunerative outlets for the sugar, molasses, etc., produced be found out, extensions of seasons will be absolutely ruinous.

53. We employ all Indian labour mostly local, both skilled and unskilled, both for the crushing and silent season.

54. Higher class skilled labour we have got at times to import from other parts of India but none from abroad.

55. Does not arise.

57. We consume only bagasse as fuel for our factory except for a little quantity of wood and coal that we use before the start of the season as trial and at the start as also in the off season for workshop, etc. For the amounts spent on fuel, figures are appended (*vide* Statement No. 10).

We do not bale our bagasse but when possible we sell them loose or distribute them free (due to highly fibrous canes our surplus bagasse is so much that it is unmanageable and sometimes a menace to the run of the season).

58. The By-products of the Industry are molasses Press cakes and bagasse.

59. For the molasses outturn and prices, *vide* Enclosure No. 2.

60. Our molasses generally go to the villages in bullock carts (small quantities) and to and towards Bengal side in Railway wagons. So far we have nothing to complain about the Railway facilities, but there will be many as soon as the question of tank transport is increased. We have no tank transport at present. The main complaint about the transport is the heavy freight—sometimes 7 to 10 As. per maund as also the price of containers (6 to 8 annas per maund).

61. Our molasses goes particularly for curing tobacco, but that is no adequate outlet. On the results of the experiment of the Allahabad University, Agricultural Department should come to popularise the utilisation of molasses as manure. Distillation products of molasses and their utilisation as a commercial commodity, direct or in the form of power alcohol or as a helpmate to other Industries, preparation of various chemicals like acetates and potash, etc., *mixture of molasses and bagasse as fodder*, utilisation of molasses in road constructions and masonry purposes and similar various other sources, which have got to combine together, with adequate protection, patronage and backing of the State for the sufficient and proper disposal of all molasses. One source alone cannot possibly consume the whole output. They have, therefore, got to be distributed.

62. As noted before, we have got no other utilisation of surplus bagasse except free (or against nominal prices distribution to local people for their domestic purposes).

If the molasses-bagasse composition be successful and if that can be popularised, I think an enormous quantity of both molasses and bagasse may be disposed of that way.

Some experiments are going on about the manufacture of paper from bagasse. Up till now there does not seem to have much scope in that; but the manufacture of card board or cellotax seems to have a very bright and profitable future, cellotax being used in partitioning or walling up compartments, etc.

Some people are baling bagasse and putting them aside for sale or for use in off time. If, instead of that, bagasse could be pressed into small brick forms, it would be easier to put them aside in systematic way, both for handling and for use in silent season for either private use, using in the locomotives, etc., or in the factory workshop boilers in place of coal and firewood that they use.

63. Press cake, specially from the Sulphitation factories, has a very great manurial value and that is the best way for its disposal, A cane has recently been reported to me by the Government local Agricultural Department people that in a particular instance with press mud manuring they got a crop of over 1,500 maunds per acre (Co. 313) in a cultivator's field.

64. *Vide* statement No. 4 attached.

65. Our storage capacity of sugar is about 35,000 bags or about 88,000 maunds. Last increase of the godown was in the season 1935-36 and it looks likely that we may have to increase it further.

Our system of storage is to stack the bags to a depth of 18 to 20 with a sufficient head space at the top and an air space at the bottom, which is obtained by laying wooden sleepers on which the bags are stacked. The floor is sometimes sprinkled with sand or dust lime as an absorbent.

66. *Vide* Enclosure No. 6 attached.

Causes of deterioration.

White sugar in the pure form does not deteriorate. The impurities, which are in and around the crystals, cause deterioration of the sugar in moist surroundings.

The impurities inside the crystal may be avoided by proper control in the different stages of manufacture.

However, it has been stated, that there always remain impurities in a film of syrup or molasses around the crystal of white sugar. This is mainly due to insufficient separation of molasses from the crystals in the centrifugals. The proper separation is still more difficult when the grain is irregular.

Causes: Only cause is the absorption of moisture by this film of syrup or molasses, which is hygroscopic in nature.

Agents are bacteria, commonly Yeasts and Fungi. These agents invert the sugar. Other bacteria decomposes the sugar (Thermophilic).

Water alone cannot invert the sugar at temperature which prevail in the sugar warehouse. Neither can Fungi nor Yeast attack dry sugar. But when both causes co-operate, i.e., when Yeast and Fungi contaminate moist sugar, inversion proceeds smoothly. The newly formed invert sugar attracts more moisture with the result that a syrupy solution of inverted sugar oozes from baskets and bags.

With this knowledge of molasses film, it is obvious, the less the adhering molasses and lower the hygroscopicity, the better the keeping quality of the products.

Sugar which has been dried artificially and also sugar which is stored during a period with a low relative humidity in air, will absorb moisture upto a certain equilibrium, the optimum humidity. The different countries' experiments to find this optimum have been done and figures have been compiled on the polarization in relation to the maximum moisture percentage of sugar. To obtain this in one formula a safety factor was found.

This may be expressed by stating that when $\frac{\text{moisture}}{100 - \text{Pol.}}$ is less than 0.30 the sugar will not deteriorate.

As to the remedy the most important thing to observe is to see that sugar does not absorb moisture and therefore more attention should be paid to the sugar godowns which should be constructed with the following points in view:—

- (1) It should be in a place where the level of the ground water is rather high.
- (2) Buildings should be water tight.
- (3) To avoid that any ground water should suck through the foundation of the walls, a damp proof layer must be made on the godown floor before the walls are built higher.
- (4) The roof should be watertight.

(5) Doors should be as few as possible. Windows are of no practical use.

(6) Railway slips are to be put first at certain distances at the top of these bamboo wicker and hessian cloth.

Existing godowns may be made suitable by some changes—

(1) Dump proofing the basement.

(2) Side walls are to be painted $\frac{1}{2}$ " thick with coloster paint to make an impermeable layer up to the height of 7 feet.

To be too elaborate there may be heating installations in sugar godowns.

During the transport to wagons the bags should not get a least wet.

It is generally in the Railway transport that sugar gets damped direct or through absorption.

The Railway wagons are a sort of small sugar godowns, so that the Railway wagons should be made water proof and damp proof and particular attention should be paid to see that sugar may not attract moisture there, far less to get actually moist in the transit or at the destination. More often the trouble comes at the time of or immediately after unloading from railway wagons at destination, as it has often been seen that perfectly good sugar loaded has brought in complaint after delivery.

67. We were confronted with the problem of disposal of damaged sugar in quantity, only last year and we preferred to sell them off as they were.

68-71. *Vide* No. 66.

72. *Vide* Enclosure No. 5.

73. *Vide* Enclosure No. 11.

74. *Vide* Enclosure No. 12.

77. Our working capital is provided by a Bank against stock of sugar on 80 per cent. basis, the rate of interest being $6\frac{1}{2}$ per cent.

80. The necessary figures are given in the forms* supplied by you attached herewith.

82. With proper quality cane, recovery of sugar is sure to go up to 9.5 and higher. In this connection the responsibility of the Government as well as their Agricultural Department is very heavy to supplement our own individual efforts.

83. In general, our sugars are sold through Cawnpore and Calcutta. But the sugar goes up to Karachi and Bombay on the one side and Chittagong and Assam on the other. That means practically all over India.

84. So far as we are concerned, we have got our own Sole Selling against, who generally procure offers from big merchants and place before us. We then give them the options to accept or refuse according to the individual merits of the cases. These merchants then sell to retailers.

85. The present sugar contract forms, as proposed by the conjoint effort of the Indian Sugar Mills Association and the Sugar Merchants Association and is now being used as the Association form, is, in my opinion, quite suitable and sufficient to meet all requirements.

92. The manufacturers carry stocks of sugar from half to one-fourth of their produce, the remaining unconsumed portion being carried by the dealers.

* Not printed.

So far as our stock in the factory is concerned, it is financed by a bank on 80 per cent. basis, the stocks lying in the bank's custody.

109. Our production of sugar in India is apparently more than what we can consume. We have got to find out outlets for our product. If, instead of that, extra quantities come from outside to heap on the existing stocks, then there is very little scope of our factories working. It is, therefore, necessary that while we try here to make our sugar such that it can sell in various markets at par with the imported sugar, we shall have to stop all import from outside by legitimate means. The present protection wall has, therefore, to be increased rather than decreased to suit the occasion.

In the meantime, internal conditions have got to be carved in such a way that all our internal disablements and difficulties be so removed that at the expiry of the protection period, we may stand for an open market.

Amongst the internal disablements and difficulties we have got to consider very seriously the points raised in--

- (1) 7 (a), especially 7 (a) (4).
- (2) The heavy internal freight rate.
- (3) The keeping quality of sugar.
- (4) The holding power of the manufacturers.
- (5) The lowering the cost price of sugar, specially the fundamental raw material (cane).
- (6) Increasing the internal consumption of sugar, molasses, etc., by various means; and
- (7) Economic disposal of the surplus production.

Enclosure No. 1.

Statement of sugar from year to year and duration of season.

Season.	Crystal.		Crystal IB.		Crystal II.		Crushed.		Total.		Duration of season.		Total No. of days.
	Mds.	Srs.	Mds.	Srs.	Mds.	Srs.	Mds.	Srs.	Mds.	Srs.	From	To	
1933-34	44,652	20	3,610	0	30,615	0	432	20	79,310	0	6th Jan., 1934	11th Apr., 1934.	96
1934-35	66,612	20	..	..	8,762	20	27,135	0	102,510	0	16th Novr., 1934.	20th Mar., 1935.	125
1935-36	137,875	8	5,612	20	722	20	31,177	20	175,187	28	8th Novr., 1935.	15th Apr., 1936.	160
1936-37	179,278	24	..	..	..	..	1,972	20	181,251	4	1st Dec., 1936	3rd May, 1937	153

Enclosure No. 2.

Statement of outturn of molasses with prices and quantity of wastage.

Season.	Total production.		Quantity sold.		Amount.	Quantity destroyed.	
	Mds.	Srs.	Mds.	Srs.	Rs. A. P.	Mds.	Srs.
1933-34	29,350	0	13,077	27	389 2 6	16,272	13
1934-35	44,369	6	44,369	6	2,678 11 0	..	..
1935-36	72,900	0	58,015	32	10,074 14 3	14,884	6
1936-37	72,628	14*	..	..	..	..	..

* The total production has been sold but not removed completely yet.

Enclosure No. 3.

Statement of sugarcane crushed and average price per maund.

Season.	Gate cane.		Rail Cane.		Total.		Cost including commission, Railway freight, etc.	Average price per maund.	
	Mds.	Srs.	Mds.	Srs.	Mds.	Srs.	Rs. A. P.	As.	P.
1933-34	368,044	10	473,393	30	841,438	0	307,910 7 3	5	10-25
1934-35	589,336	25	663,329	10	1,252,665	35	479,901 15 0	6	1-55
1935-36	1,097,278	10	917,383	0	2,014,661	10	731,578 1 9	5	9-22
1936-37	1,483,348	20	567,773	10	2,051,121	30	596,409 13 9	4	7-99

Enclosure No. 4.

Statement of sugar stock at the beginning and at the end of the crushing season.

Seasons.	At the beginning of the season.		At the end of the crushing season.		
	Bags.	Mds.	Bags.	Mds.	Srs.
1933-34 . . .	..	..	2,265	5,662	20
1934-35 . . .	..	..	26,743	66,857	20
1935-36 . . .	..	..	47,616	119,440	0
1936-37 . . .	21,898	54,820	30,996	81,300	24

Enclosure No. 5.

Statement regarding selling rates of sugar.

Season.	Rate per maund.
1933-34	7 14 0
1934-35	8 1 9
1935-36	6 10 4
1936-37 (Up to May 1937)	6 2 6

Enclosure No. 6.

Statement of sugar deteriorated, damaged and found shortage in weight in storage.

Season.	Shortage in weight in rebagging damaged sugar.	Shortage in weight of sugar destroyed by Haddas.	Total destruction.	Sugar deteriorated.		
	Mds.	Mds. Srs.	Mds. Srs.	Bags.	Mds.	Srs.
1933-34 . . . . .	..	80 0	80 0	..	..
1934-35 . . . . .	..	77 20	77 20	..	..
1935-36	258	47 20	205 20	5,095	12,737	20
1936-37 . . . . .	..	..	..	..	..

Enclosure No. 7.

Copy of the resolution passed in the Saran District Sugarcane Advisory Committee held on 31st March 1937.

1. Considered the question of recommending to the authorities to exempt bullocks carts carrying sugarcane through municipal limits from payment of cart tax to the Municipalities.

Resolved that the enquiry be made to ascertain whether the Municipal tax is being paid by the carters, or the mills or is being passed on to the growers, may also be ascertained whether the canes are carried by professional cartmen or by growers in their own carts.

Considered the complaint that some mills are not accepting canes of 210 variety of which a very large amount still remains with the contractors unsold.

Resolved that the mills concerned be requested to help the contractors by accepting their canes as this variety is being accepted by the other mills in other mills in other districts.

Enclosure No. 8.

2007/37.

14th April, 1937.

The Secretary,

Sugarcane Advisory Committee, Chapra.

Dear Sir,

Reference your No. 4802-11, dated the 12th April, 1937 enclosing a copy of resolution passed in the District Sugarcane Advisory Committee held on 31st March 1937.

In previous years we did not take much notice of how the cane carters were being handled by the Municipal people. In consequence the supply of canes at our gate was much less—the carters diverting their way to other places where there was no such interference.

When we felt the pinch very seriously and were constantly receiving complaints from the carters about their handling by the Municipal people, we had no other alternative but to take the responsibility upon ourselves and pay for the passage of carts, as will be evident from the attached copies of correspondence and money receipts, for a smooth running. For the year 1935-36 we had to pay Rs. 3,693-12 and for the year 1936-37 up till now we have paid Rs. 4,153-11 as will be evident from the copies of receipts attached, none of which was ever contemplated or can possibly be, to pass on to the growers or the carters by us.

From the position and location that we occupy, we are sure, you will realise what a heavy burden—rather an oppression this is being on us.

Regarding the nature of cartmen, we have just gone through our records for the last 4/5 days and we find that 92 per cent. of the entries are carters and growers the same. It is possible, as is suggested by many, that the carters by mutual agreement with the real growers, but it is also true that most of the carters are really growers themselves and in between times or when they finish their own cane, they carry cane of their neighbours at a rental and they may be called professional only in this restricted sense.

The best available information that we have been able to gather is that most of these grower-cartmen ply only during the cane season and for cane.

There are other really professional cartmen, who ply throughout the year from season to season for various things as demanded by the occasions. Their carts are properly and separately registered with the Municipalities and the registration tokens are fixed to on such carts. But the proportions of such carts as coming to our factory may hardly be about 4 to 5 per cent. their regular source of income being much better in other ways.

We hope your Committee will be in a position to devise some immediate relief for us and thus save us for the heavy losses and inconveniences.

As to the resolution 2, regarding cane variety Co. 210 we have even reluctantly to note that under existing circumstances we are compelled to receive and are receiving at our gate canes variety Co. 210 about 95 per cent. of the supply. In consequence our extraction of sugar is compara-

tively lower and there is such a heavy accumulation of bagasse that we do not know how to dispose of them even after free distribution to the neighbouring people. This accumulation of bagasse is almost being a menace to our further progress of the season.

Enclosure No. 9.

Copy of Resolution No. 4 from the Proceedings of the 9th Meeting of the Divisional Sugarcane Advisory Committee held on the 14th April 1937.

Taken up by permission.

4. We consider Collector Saran's letter No. 4727, dated the 10th April, 1937, regarding refusal of mills to accept cane of Co. 210 variety.

Resolved that the committee see no justification for discriminating against Co. 210 cane as this is universally accepted by mills in the other districts of the Division, they also consider it undesirable that a separate price should be fixed for this variety in view of the reduction made by Government in the general minimum price.

Copy of resolution passed by the Saran District Cane Advisory Committee in its meeting held on 30th April 1937.

Considered the representation made by the Indian Sugar Works, Siwan, against the realisation of Municipal tax from the carters who bring canes to the factory within the Municipal area. Resolved that the realisation of Rs. 4,135 as cart tax from the factory is a hardship and that the question be referred to the Divisional Committee for redress of the grievance if possible.

Enclosure No. 10.

Statement showing the amounts spent on fuel.

Season.	Amount spent on fuel.
	Rs.
1933-34	800
1934-35	700
1935-36	650
1936-37	700

Sasa Musa Sugar Works, Ltd., Saran.

ANSWERS TO THE GENERAL QUESTIONNAIRE ISSUED BY THE TARIFF BOARD.

1. Our factory began manufacturing of sugar in the year 1932 with a capacity of 450 tons per day and now increased to about 700 tons per day of 22 hours leaving 2 hours for usual daily cleaning.

2. The output during each of the previous years is detailed below:—

	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
	Mds.	Mds. Srs.	Mds. Srs.	Mds.	Mds. Srs.
1st .	70,745	34,840 0	73,672 5	116,895	238,182 5
2nd .	64,755	33,942 5	53,012 5	89,934	Nil.
	<u>135,500</u>	<u>68,782 5</u>	<u>126,685 0</u>	<u>206,829</u>	<u>238,182 5</u>

3. (a) Regarding Cane supply, we should think we are fairly well situated, provided supplies are assured as we have had this season, i.e., 1936-37; whereas during previous years we had to depend on about 30 per cent. out-station cane.

As regards Limestone, etc., we also consider we are fairly well situated.

Regarding markets for sugar we are very badly and hopelessly handicapped, for we have no near market for our sugar. The factories situated nearer Bengal and in Bengal take cane of the Calcutta and the internal markets of Bengal; United Provinces and Punjab Factories for up-country Markets, Bombay Factories for Bombay and Madras Factories for Madras. Therefore our position comes to this and we have to pay the same cane price as others, who are favourably situated in regard to good cane growing tract and near as well as advantageous market with less freight to pay on their sugar and consequently obtaining higher price for their sugar. In view of these facilities, the factories situated near a certain market are able to sell far cheaper than we and still make a profit and we have to compete with them, which invariably since 1933 had always landed us in losses. For 1933-34 season we have lost Rs. 46,650-2-9, for 1934-35 our loss is Rs. 4,208-14-9 and for 1935-36 our loss is Rs. 7,075-11-6 (last figure not yet audited). The only solution is a marketing Board scheme and an even distribution of the finished product and facility for the utilisation of by-products.

(b) Wagon supplies for importing Cane and loading sugar are most unsatisfactory and we can prove innumerable instances where wagons were supplied after a delay ranging from a fortnight to a month, causing serious handicap to the industry and the obligations attached to it.

We have a most inconvenient telegraph communication. Owing to the absence of the Government Telegraph Office, we receive our telegrams as late as 36 hours, hampering our business. We want quick telegraphic and trunk telephonic connections at concessional rates and less initial expenses.

(c) Labour supply is adequate.

(d) The process of manufacture in our factory is double sulphitation. In a Carbonitration Plant a better class of sugar is produced, but as a huge quantity of limestone is required the expenses incurred are not sufficiently compensated by the price of sugar. Moreover extra labour is required for lime kiln, presses, etc. At the present market rate the differences in the price of sugar produced by both process is negligible.

5. Since the erection of our Factory we had to replace the Raw Juice Pump, Injection Water Pump, two Mill Rollers and have extended since 1933 Cane Carrier, 1 Boiler B. & W., 1 Sulphur Furnace, a Concenco screen for filtering raw juice, Cush cush elevator, 1 Air compressor, 1 sulphur Tank, 2 First Settling Tanks, 5 Second Settling Tanks, increase of Tubes in Juice Heaters, 2 Syrup Tanks, 2 Molasses Tanks, 1 Calendria Pan, 2 Crystallisers, 1 Magma Mixer and Pump, 1 small Dryer and 2 Filter Presses, all new machineries, costing approximately Rs. 2,17,220.

6. We do not intend to extend any further for the present.

7. (a) The main factors which determine the size of an economic Plant are:—

- (a) Site location regarding ample supplies of raw product at Gate.
- (b) Sufficient Capital.
- (c) Easy and Cheap rail and steamer services.
- (d) Marketing facilities, and
- (e) Labour supplies.

(b) In our opinion, we consider a Plant capable of crushing 800 tons per day can be operated economically under present day conditions.

8. Only very little equipment is now available in India and we have to depend on almost for everything upon foreign supplies excepting the materials for day to day repairs and sundry store materials.

9. To some extent we are satisfied with the assistance given by the Imperial Institute of Sugar Technology, but we need and expect greater assistance from this body in the way of utilising the by-products, advice on economical production of sugar and on so many other subjects connected with the Sugar Industry.

(ii) The Industries Department in addition to the assistance already rendered by them, can further increase their utility by helping us to obtain a few acres of land to enable us to start a model farm for the sake of experimenting new varieties of cane, teaching the growers scientific methods of cultivation and distributing seeds from such a farm to the neighbouring villagers. Unless such an experimental system is found out, we do not see any scope of bettering the lot of growers in influencing the plantation for increased tonnage and higher sucrose contents.

11. Because we are not in direct touch with the cultivation of cane, owing to reasons explained in paragraph 10, we are not in a position to answer this question with any precision.

12. (a) Same answer as paragraph 11.

(b) We have been distributing some seeds during the past two years through the help of the Government Agricultural Farm, Sepaya, but not in a satisfactory degree.

13. We have not been able to try any experiments owing to aforesaid reasons.

14. (a) The quantity of cane has increased in our area by 100 per cent. and we expect an average supply of approximately 18 to 20 lakhs of maunds, if ZONING is introduced.

(b) The quality of cane is also improving. During 1934-35 the red-rot disease was appearing in an epidemic form and on analysis of some carts at different times we found Juice Purity below 70, sucrose per cent. cane was 5.8, while the glucose ratio was 18.5. This cane was Co. 213, whereas the best cane gave a Purity of 83, Sucrose per cent. Cane 12.9 and Glucose ratio 2.9. This disease was only starting and we approached the Government at that time in this respect and no steps were taken and still the disease continue to some extent.

16. Yes, we crush generally Co. 213, 210 Reora, Co. 285 and Co. 331, the former three varieties being the bulk of our supplies.

17. During the season just ended there was no competition evident at all in cane supplies or price, but during previous years and particularly during 1934-35, the competition was very keen, when shortage of cane was apparent and commencing from the month of March the price began to rise up and went as much as ten annas a maund at the close of the season in our area.

18. (c) The area under cane cultivation in our locality is subject to considerable variations due to:

(i) Climatic conditions and slight early rainfall.

(ii) Higher prices obtained for sugarcane during previous years in comparison to the close of the campaign, and

(iv) Prices obtained for other crops not being so much appealing and Cane Crop fetching ready cash, especially at festival and marriage seasons.

19. The cane cultivation in our area during 1936-37 is not in excess of our requirements as we do not favour any restrictions at this stage. In this connection we would welcome further increase in cultivation in areas within a radius of 15 miles surrounding a Factory and decrease in areas situated far distant to a sugar factory. This would result in lesser transport charges and availability of fresh cane.

21. We do not see any difficulties to cane-growers in their old ways of cultivation of cane and its delivery to the Factory except to stress on the

up-keep of roads and construction of new roads for cheap and quick transport to the Factory and the District Boards should get themselves interested in this direction.

22. Acquisition or leasing of land for cultivation by Factories is an impossibility owing to the villagers' fond attachment to their holdings handed to them by their forefathers. Therefore it is not at all possible to acquire an accumulated plot of land near any Factory.

(b) We are in favour of ZONING and without Zoning no improvement of the raw product either economically or of better varieties is possible.

23. If Zoning is introduced we shall be prepared to give all supports to the growers, because we can be sure of getting the cane for which we shall be labouring hard and spending much funds.

24. (a) We are not in favour of fixing a quota at present, as any quota fixation will immediately push up the cost of production. Further we feel Indian sugar has not exceeded consumption, but we do not favour at all any further increased production than 1936-37 campaign by way of new Factories cropping up or extensions to existing Plants.

(b) No more new Factories of extension to existing Factories shall be allowed, as any further extension or new erections will seriously affect the market owing to overproduction, unless export markets outside India is found out. The Government must immediately introduce legislation stopping further additions or fresh erections.

25. The proportion of our Gate and Rail cane during previous years is as follows:—

	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Gate Cane	50	56	80	79	100
Rail Cane	50	44	20	21	...

and the proportion has always varied, i.e., on the increase on account of reasons given in paragraph 18.

26. Our Gate Cane is entirely transported by carts, the average weight being 16 to 17 maunds nett. We used to receive one or two carts of Rubber Tyred, which use to average 35 to 40 maunds nett. We tried to impress on some of the wealthy growers to use Rubber Tyred Carts, but they loath to adopt themselves to the changing conditions. We do not keep any carts of our own.

27. The roads in our locality is insufficient and their condition is far from satisfactory.

28. It takes about 18 to 24 hours for the cane to be brought to our Factory since cutting from the Fields, depending of course upon the distance and no proper protection is adopted from dryage in transport.

29. Some cane-growers employ their own carts and some hire them and the average hiring per trip varies according to distance ranging from As. 14 to Rs. 1-4.

30. No tolls are levied in our locality.

31. We issue poorjies for our daily requirements a few days ahead for the particular day intimating the number of Carts to be sent to us by a particular grower to enable us to get a uniform supply. Generally there is a detention of 8 to 12 hours at our Factory. We have opened two more Gates for carts coming from a distance to enable their early release.

32. During previous years we used to draw cane from a distance of 40 to 50 miles and cane coming from such distance by means of rail usually took 3 days from the time of cutting to arrive at our Factory, but this year owing to our development of local cane, we did not take in rail cane.

34. We have special rate for Limestones, but we require equally special rates for Gunny Bags, Sulphur and Manures.

35. We have no tramways.

36. Tramway system is always advantageous, as fresh cane can be obtained, but the difficulties are obtaining land for layout and capital, which will not be forthcoming owing to the present uneconomic position of the Industry.

37. Deterioration of cane by road will be about 1 per cent. and by rail not less than 3 per cent.

38. During previous years we used to purchase about 75 per cent. from Cane-growers and the balance 25 per cent. from Contractors. This year we had purchased a hundred per cent. from the Cane-growers.

39. The Cultivators enter into a sort of arrangement with us to supply a certain quantity of cane and we agree to take over their supplies. In some cases we had provided seeds.

40. Since we purchase cane from the growers, this question does not arise.

41. No. We had no connection with the Cane Growing or Supply Associations.

42. As soon as a Cart enters our Gate, the Cane is inspected by an inspector and weighed in a 3-ton Cart, Weigh-bridge by the Weighment Clerks, a receipt showing growers' name and his parentage is given with the Gross Weight. Then the Cart is unloaded in the Cane Carrier, after which the cart passes through the tare Gate, where he gets his nett weight and also payment for his Cane either immediately or within a week.

43. We give below the average price at which we had purchased cane during previous years:—

	As. P.		As. P.
1932-33	5 3	1935-36	5 9
1933-34	5 9	1936-37	4 3
1934-35	6 0		

The above average price includes transport charges also. The price generally varies at the end of a closing Campaign.

44. The price of cane is fixed by the Government every fortnight and is supposed to be in relation to the quotations of sugar prevailing during the preceding fortnight ending on the last day of the 15th day of each month, but the price fixed has been very seldom in the correct way.

45. No such influence exists in our locality.

46. Same answer as 45.

47. Many a time we have paid excess rate over and above the minimum price fixed by the Government to attract supplies from a distance of over ten miles and due to competition from neighbouring Factories.

48. We consider the minimum price fixed most unsatisfactory and unfair to the manufacturers. We suggest the following slight modifications in the Rules or procedure. The Government shall invite from not less than 12 different Factories situated in the extremity of North Bihar their *actual average selling price* (for ready sales of different grades) during the preceding fortnight ending on the last day and 15th day of each month and the basic minimum price should be fixed in relation to the calculated average price of the said 12 factories less any duty or cess that may be imposed by the Central Government from time to time.

49. We consider an increased rate of payment for the different varieties of early and late maturing cane at the time of delivery being an inducement for planting and delivering such canes at the scheduled period would be feasible.

50. The duration of crushing season since we started our Factory is as follows:—

	Days.		Days.
1932-33	163	1935-36	161
1933-34	88	1936-37	159
1934-35	119		

the reasons for variations being the same as explained in paragraph 25.

51. The possibilities are great for extending the season with early and late varieties of cane, at least the Factories can run nearly 7 months, but the important question is finding a market for the increased sugar, which at present has neared consumption, if not actually overproduction.

52. We have already dealt with this in paragraph 9.

Labour.

53. We employ 547 skilled and 50 unskilled labour per day in the season and 88 and 20 in the off season.

54. We used to get only the Heads of Departments, i.e., the Chief Engineer and Chief Chemist from abroad and excepting these two people we always employ Indian labour.

55. Even in the above two posts, we had replaced the European Chief Chemist with an Indian during last year.

56. We have built 12 Blocks of different type of well ventilated and decent quarters, with plenty of water supply arrangements from Tube Well. We also supply to all the staff free Electric Current and sufficient fuel for their consumption. We have also a dispensary and all sporting amenities for the staff.

By-products.

58. We produce Molasses and Filter Mud and whatever Bagasse we get, is consumed by our Boilers.

59. We give below the outturn of Molasses since we started crushing:—

	Maunds.		Maunds.
1932-33	64,000	1935-36	93,000
1933-34	25,000	1936-37	95,050
1934-35	58,000		

The reasons for the variations being increased crushing.

60. Previously we used to sell our Molasses to local dealers who used to make Chitta (boiling Molasses thereby increasing its thickness) and sell them in Bengal and Assam markets, but at no time they were able to clear our Molasses stocks, till the advent of the Indian Molasses Company. Since the past two years, we have been selling a greater bulk of our productions to this firm and we consider the Railway facilities given to the Indian Molasses Company are fairly adequate.

61. The price paid by the Indian Molasses Co., i.e., 1 anna per maund just covers hardly the labour and other handling expenses we have to incur in loading one wagon, but we have to sell them irrespective of the price in order to get rid of the Molasses, the outlet for which has become a problem to us. The Molasses can be used as fertiliser and Road surfacer, but further research work in this direction and extensive use for above purposes will have a very salutary effect. It would be of considerable help if the Government enabled and assisted the Industry in utilising it for manufacturing Power Alcohol for use as Motor Fuel, as is being done in various sugar producing countries. We understand the Government is

already feeling the pressure of this argument and we are very eagerly awaiting some developments in this direction.

62. We have no Surplus Bagasse.

64. Stocks of Sugar is detailed below:—

	Beginning of Crushing season.	End of Crushing season.
	Mds.	Mds.
1932-33 . . . . .	...	7,705
1933-34	3,500	...
1934-35 . . . . .	...	63,310
1935-36 . . . . .	...	143,146
1936-37	38,352	78,769

65. The capacity of our Godowns is about 60,000 bags or 162,000 maunds. We have increased the capacity in recent years and we are further building two more godowns of about 15,000 bags capacity each.

66. The bottom layer and in some cases even to three to four layers of bags get moist owing to long storage and the deterioration is due mainly to climatic conditions and as the sugar gets moist the colour of the sugar also gets slightly dull.

67. We sell such damaged sugar outright.

68. Question illegible.

69. Specially in the rainy season and during the period just after the rainy season the sugar gets generally badly moist in transit and we have seen personally a consignment of sugar loaded in good condition at the Factory siding arriving in Bombay with more than 50 per cent. badly moist and during the rainy season is still more badly affected. This is due to chiefly faulty and leaky wagons supplied by the Great Indian Peninsula Railway and transhipment at Naini. We have also examined many wagons supplied by the Railway that arrive in Bombay with large leakages and all the time during transit the sugar bags were getting wet by rain water. Unless the Great Indian Peninsula Railway supplies better wagons, there is no solution for this problem.

70. We also get much difficulties in wagons for sugar loading and particularly to Ghat Stations. Sometimes partial restriction to a particular market followed by total restriction are the features of the day, resulting in innumerable troubles between the purchasers and sellers for delay in the fulfilment of contract terms.

71. All the Railways, particularly the Great Indian Peninsula Railway should be approached to provide and tranship sugar in only perfect wagons free from leakage and utmost precaution and supervision by a covenanted staff of the Railway is necessary at the transshipping centres, specially in the rainy season.

72. We give below the average price per maund of sugar realised by us since we started:—

	Rs. A. P.
1932-33 season	8 6 10 per maund.
1933-34 "	8 1 0 "
1934-35 "	7 15 6 "
1935-36 "	6 9 3 "

Since we have plenty of unsold stocks with us for the current season, we could not give the final average price, but we have so far sold at an average rate of Rs. 5-12-6 per maund during the current season. Regarding variations of prices between Port and Up-country markets, we have very little of the latter and therefore have given above the average price only. The

freight rates to the markets we supply are ranging from Rs. 1-0-9 to Rs. 1-5-6 per maund and they are mainly Malabar Coastal ports, Bombay and Guzerat markets.

Capital Account.

	Rs.	A.	P.
73. Land	22,017	2	6
Buildings	2,09,193	1	3
Plant and Machinery	7,87,285	13	0
Other Assets	1,20,145	9	2

74. We allow the same rate in respect of depreciation as allowed by the Income-tax Department and the following are the amounts depreciated by us since we started:—

	Rs.	A.	P.		Rs.	A.	P.
1932-33	60,179	0	0	1934-35	69,234	3	6
1933-34	47,268	7	3	1935-36	66,218	0	0

75. We have not set aside any amount for Reserve Fund.

76. Only during 1932-33 season, *i.e.*, before Excise Duty was imposed we had distributed Rs. 63,437-8 in the shape of dividends.

77. We borrow our working Capital from the Imperial Bank of India against our sugar stock.

78. Our Head Office expenses amount to Rs. 5,000 per annum.

79. We consider a minimum of 12 per cent. on Capital a fair rate of return, the reasons being that when the Factories started at the boom period, money was obtained at a higher rate of interest than is available now and the industry being quite young and in view of the anticipated risks of breakdown, heavy overhauling with costly yearly replacements such as substitution of New Rollers or Re-shelling Rollers, faulty Pumps, etc., etc., it would be a sound policy to build up a Reserve Fund and after deducting all these items, hardly 6 per cent. will be available for dividend out of the said 12 per cent.

80. Forms enclosed.*

81. Since the year 1934 we have managed to run the factory very economically in all directions. Our establishment remains the same. Whereas our recovery percentage at the beginning was only 8.2 per cent., we have now closed 1936-37 season with 9 per cent. We have considerably reduced fuel charges, stores, repairs and renewals, etc., *vide* the statement enclosed.

82. We do not consider any further economy possible in overhead charges, but the only improvement possible is in the direction of Raw-products side and Sale Policy.

83. Our principal sugar marketing centres are Cawnpore, Bombay and Madras and Calcutta to some extent.

84. We have only contacts with dealers, who contracts with us through our Selling Agents for quantities above 100 bags for ready or forward positions, at ruling market prices according to our Contract form, which is usually signed by the sellers as well as purchasers.

85. Yes. We consider the present contract form quite suitable, which was made as a basis for sale after prolonged discussions between Millowners' representatives and dealers.

87. The difference between wholesale and retail price fluctuate to a little extent depending upon the stock position of the importing market.

88. The dealers have very little of storage godown of their own and they generally keep sugar at some time at rented godowns of the Railway, such as Khantapokher sheds of the East Indian Railway or Bonded Warehouse of Bombay and the sugar generally deteriorates more than they deteriorate at Manufacturers' godowns, especially in the rainy season.

89 & 91. The best quality Indian sugar is as good as the best imported foreign sugar in keeping and other qualities.

90. Java sugar is generally preferred in Hotels and Restaurants of High Class Indians and Europeans, but even here the high grade Indian sugars are replacing the Java sugar. To a very small extent in the preparation of some special Indian sweets and in the preparation of a sugar called Burro Sugar in Bombay, which is used for cakes, where bright white colour is required, Java or British refined sugar is used.

92. We generally keep the stocks up to the commencement of the following season or in some cases even after commencement of the subsequent crop, depending of course on the sale and despatches made. The dealers, of course do not carry stocks for a long period, they right through purchase and sell.

The stocks are financed by the Banks after deducting Rs. 1-8 for Excise Duty per maund and 25 per cent. for market fluctuations on the prevalent market price, i.e., Market price less duty and less 25 per cent. and the Banks usually charge interest ranging from 4 to 5 per cent. per annum on the daily balances.

93. Yes. We consider that marketing survey of the Sugar Industry is most important and essential, as any scientific selling and distribution of sugar is dependent upon such survey.

94. We are in favour of establishing a Central Sales Organization to be controlled by the Industry itself and details for establishing such an association is already under the consideration of our Association.

95. We are in favour of standardisation of sugar and on the basis of the standard already made by the Imperial Institute of Sugar Technology with further improvements. The present standards set up by this body are so numerous that it causes much confusion between the Sellers and Purchasers and the fewer the standards, the greater will be the facility in trading.

96. (a) We have not done any business on the basis of the Sugar Standards, as the purchasers are not conversant with such standards.

(b) We have of course used the standards for comparing our sugar and fixing our own standards.

97. If the manufacturers as well as dealers get themselves fully acquainted with the standards, it will greatly help the Industry in not only easier selling policy, but also in settling disputes at destinations.

98. It would be a good proposition to establish a Terminal market, but the time is not yet ripe for the establishment of a "Futures" or a "Terminal" market. Furthermore future markets are difficult to control and no amount of rules will secure it as the working will depend on the men and not on the rules.

99. We estimate the normal consumption of sugar in India round about 1,100,000 to 1,200,000 tons and considering the increase in consumption in other countries in recent years and the lower price ruling for Indian sugar, we anticipate further increase in consumption.

100. It is not possible to say to what extent Factory sugar is replacing gur, as judging from statistics both Industries are expanding. In the sweetmeat trade, however, it is a matter of common knowledge that while for certain sweets gur is still preferred, the substitution of sugar for gur has gone far.

101-103. We have no useful information to give.

104. The only export that has been made so far, although of a very negligible nature is to Rangoon only and no export of Indian sugar has been made to any other country. Export of Indian sugar is possible to the

United Kingdom if the Government could assist the Industry by obtaining specially reduced Steamer and Railway freights and securing a lower preferential duty as is levied on "certified colonial sugar" and this will greatly facilitate the Indian manufacturers to produce sugar at a low cost.

105. (i) The imposition of Excise Duty in 1934 put an end to some extent towards starting of new Factories owing to less margin of Profit and (ii) the subsequent imposition of further duty caused extraordinary loss to the Growers and Manufacturers alike and it will be no wonder if many of the Factories close down or change hands. In this respect it should not be taken for granted that even if some Factories owing to their favourable Geographical situation regarding raw-product and market, are able to exist under present condition, that all factories will come over the present situation successfully.

106. No arrangements exist for marketing Molasses except to sell the same to the Indian Molasses Co., at just a price to cover loading expenses, i.e., 1 anna per maund or below.

107. We understand the Molasses purchased by the Indian Molasses Co., are exported to America and it is also possible that exporting to other countries such as United Kingdom can be developed.

108. The protection given has enabled this Industry to advance unexpectedly within a couple of years and India is now self-supporting as far as sugar is concerned. Further this new Industry has assisted in the prevention of the drain of about 20 crores of Rupees from India to foreign countries, has been responsible for developing subsidiary industries like the manufacture of gur, has ameliorated the condition of the Cultivators by enabling to obtain a larger and cash return than from any other alternative crops and at the same time helping the cultivators to obtain higher prices for such other alternative crops, such as wheat, etc., owing to their restricted cultivation in view of cane cultivation being more prominent. This industry has provided employment to about a lakh of trained labour and a further 50 to 60 unskilled labour during the period of heavy depression.

109. We consider the protection should be continued at least up to 31st March, 1946, and even after this period we are not sure whether the industry can stand on its own legs unless important steps are not taken for finding out on the raw-products and by-products side. Looking to the present conditions and the parity of Indian sugar selling price, with that of Java sugar selling price, which is as much as Rs. 5-8 per cwt., in the ports, the question of protection occupies a second place only, the predominant fact being the Excise Duty and particularly the additional excise duty of 11 annas should be summarily repealed. In view of the possible restricted cultivation of cane, following in its wake with higher prices for the raw products, naturally bearing the same relation on sugar prices, it is possible any reduction in the Import Duty on Javas may seriously affect the Indian Industry and therefore we favour the retention of the present scale of Duty, i.e., Rs. 9-4 per cwt. till 1946, after which period the question shall be reviewed according to the circumstance that shall be prevailing at that time, so that at no time there shall be any dumping of foreign sugar, as had happened in the year 1934, when Java c.i.f. price ex-Duty at Ports was ruling as low as Rs. 2-9 per maund and caused a havoc to the Indian Sugar Industry.

110. We have dealt at great length at the foregoing paragraphs what other assistance we consider necessary for the development of the Industry by our answers to the various questions and again give below a summary of same—

- (1) Export of sugar to United Kingdom.
- (2) Utilisation of Molasses as land fertilizer, Power Alcohol and for its compulsory admixture with Petrol.
- (3) Cheaper Railway and Steamer freight on sugar despatches to distant markets.

- (4) Research work on the raw-products side enabling the cultivators to grow early and late ripening varieties of cane and by employing modern methods of cultivation for ensuring maximum yield and of higher sucrose contents.
- (5) Formation of a Central Marketing organisation and controlling of selling price of sugar.
- (6) Facility for sufficient wagon supplies at short notice for sugar loading as well as cane loading.
- (7) Facilities for Telegraphic and telephonic communications.
- (8) Facilities for acquiring land near a factory for experimental and demonstration purposes to cane-growers and propaganda by means of lantern lectures and Cinema slides for scientific cultivation and thus lower the cost of cane.

111. The import of Molasses into India has practically stopped in recent years owing to the increased production of same in India and it is not the import duty that has brought about this situation of lessening imports and as far as our information goes no industry has suffered on account of the stoppage of import of molasses, as Indian molasses are available, as detailed in a previous paragraph, at very nominal prices, as low as 6 pies to 1 anna per maund.

The Vishnu Sugar Mills, Ltd., Saran.

REPLIES TO QUESTIONNAIRE.

Production of Sugar—Introductory.

1. The factory commenced manufacture of sugar in the season 1932-33. It was started with a capacity of 450 tons a day but subsequently some extensions and improvements have been made and the capacity has now been raised to 650 tons a day.

2. The output since the start is as below:—

Season.	1st Sugar. Mds.	2nd Sugar. Mds.	Molasses. Mds.
1932-33 . . .	...	...	...
1933-34 . . .	99,757	57,135	57,000
1934-35 . . .	83,744	48,994	53,500
1935-36 . . .	140,059	77,850	81,300
1936-37 . . .	147,744	90,674	83,647

3. We do not consider that our factory is advantageously situated on the following grounds:—

(a) (i) *In respect of cane supply.*—Almost all the fertile lands in our locality lie in Diara where the cane thrives spontaneously without much labour and consequently major portions of cane is grown in Diara side. But the cane itself is not good. It contains a very low purity and is always subject to so many diseases and damages due to occasional floods and heavy rain. The cane grown on high lands contain higher percentage of sucrose and also resists disease but unfortunately very little, which is practically negligible, is grown on such land in our area due to the lack of irrigation arrangements. Thus we do not get good cane for the price what others pay for a comparatively better cane.

(ii) We have to take all of our raw materials from outside, viz., Calcutta, Bombay, etc., etc.

(iii) *Important markets.*—All of our important sugar markets (Calcutta, Bombay and Cawnpore) are at a considerable distance from our mills to which

the railway freight is very high. The question of railway freight should be taken into consideration.

(b) We have some facilities by rail and by roads as well but these are not adequate. Bullock carts are not allowed on metalled roads which is a drawback. We have no other source of communications.

(c) We have nothing to complain about the labour supply.

4. Our process of manufacture is by sulphitation. The carbonation process is more positive in its action, yields a higher recovery and the sugar produced is of a better keeping quality but it is more expensive than sulphitation process due to the facts that quarries and coal-fields are situated at a considerable distance to the opposite side of the Ganges on broad gauge which invariably involves in loss in transshipment and high railway freight.

5. Certain extensions and improvements have been made in almost all the plants and machineries except crusher at a cost of about Rs. 3 lakhs.

6. No further extension or replacement are at present being contemplated due to the condition of sugar market being so very disappointing.

(a) The overhead charges of a factory decrease per unit increase of crushing capacity. The larger the factory, the less are the proportionate charges on skilled directing staff, depreciation and certain factory operations. The size will ultimately be determined by the Capital available, the availability of raw materials and the market facility.

7. (b) In our opinion the minimum economic size of a sugar factory is 500 tons crushing capacity.

8. No sugar factory equipment, except simple parts such as iron tanks and pipes, are available in India.

9. Some assistance is received by us from either the Imperial Institute of Sugar Technology or from the Industries Department of the Bihar Government.

10. We do not cultivate sugarcane.

11 & 12. Does not arise.

13. We have not ourselves made any experiment on early and late varieties of cane or manuring. The growers are, however, trying these varieties since 1935-36. These varieties are received from Government Agricultural Department and have so far been successful. The Government Agricultural Department is giving some assistance in the shape of instructions and directions to the cultivators.

14. The quantity of available cane, since the start of our factory, is always increasing as will appear from the crushing figures. But there has not been any marked improvement in the quality. The improved varieties that are being cultivated since the last year are not yet available for crushing.

15. About 25 per cent. of Diara and low land canes are subject to diseases and insect pests. These canes are generally not affected by frost.

16. As the cultivation of cane entirely depends on the choice of the cultivators we, in no way, can be assured of sufficient supply of suitable cane. The Principal varieties of cane crushed in our factory is Co. 213, 210 and Reona. The field yield of each of these varieties is about 400 maunds per acre.

17. About 25 per cent. of cane, at gate and at outstations, and its prices are subject to competition with the neighbouring factories when the cultivation of cane crop is short and at the latter part of the season when the cane shortage begins.

18. There has not been any considerable variation in the area from which we obtain our supply of cane.

(b) Does not arise.

(i) Climatic conditions are generally normal.

(ii) Price of sugar varies according to the demand and supply. Generally the price ranges from Rs. 5-8 to Rs. 6-8 per maund.

(iii) We have no information as to the price of gur.

(iv) We cannot give any definite information about the price obtainable for alternative cash crop.

19. Although the production of sugarcane is highest during the season 1936-37, still it is not in excess of our requirements and consequently not any restriction at present appears necessary.

20. The detailed cost of cultivating sugarcane in one acre of land is, as far as available, given below:—

	Rs. A.
Field rent for one acre	7 8
Cost of ploughing	9 0
Labour	4 8
Cost of seed	14 0
Cost of manure	10 8
Irrigation	7 8
Interculturing	4 8
Cutting cost	7 8
Total	65 0

The outturn is about 400 maunds per acre.

21. Only the cane-growers on high land experience considerable difficulties of irrigation during the dry part of the season and when there is scarcity of rain fall. They have no difficulty in delivering the cane to the factory.

22. (a) In our opinion the acquisition of land for factory purpose should be left to voluntary negotiations.

(b) We are in favour of special areas being allotted to different factories for their cane supply and highly approve the idea of "Zoning" system in the manner set forth by the Indian Sugar Mills Association.

23. We are already giving cash advance for the purpose of cane cultivation to the growers and we are also supplying them with better varieties of seeds and manures as well as any other help that they reasonably demand but we are unable to make any contribution for the development of feeder roads which is the legitimate function of Local Board. We would propose that the summary process be provided for the recovery of the advances in which case the system of giving cash advance for the purpose of cultivation will be extended considerably.

24. (a) No we are not in favour of fixing a quota for sugar manufactures by factories.

(b) We are in favour of new factories and extensions of existing factories being licensed.

The reasons are best explained by the Indian Sugar Mills Association.

25. We give below the supply of cane at gate and by rail since 1932-33:—

	Gate Cane.	Rail Cane.
	Maunds.	Maunds.
1932-33	473,000	228,532
1933-34	1,280,760	511,513
1934-35	1,165,197	421,153
1935-36	1,742,368	648,345
1936-37	2,475,869	78,209

There is no tram in our area.

The changes are due to the area of the fields under cane cultivation which is always going up except in the season 1934-35.

26. Our gate cane is transported by carts only. The average weight of cane carried by cart is about 16 maunds. Rubber tyred carts may be substituted to some extent but since the roads are very bad and mostly Kacha the rubber tyred will not be suitable everywhere. These are good for metalled roads only. We have not employed any improved type of carts. The rubber tyred carts are used by the Agricultural Department and from the information we have gathered that these carts can safely be loaded with about 50 maunds to be drawn by one pair of bullocks with lesser strain than a country cart with a load of 16 maunds.

27. The mileage of roads, in our vicinity is adequate but the condition of roads, main and feeder, is very deplorable. A light shower of rain makes it knee-deep muddy which puts too much strain on the bullock. As a matter of fact the roads stand in immediate need of general improvements.

28. The cane is generally brought in our mill from a distance of about 10 miles by road and the average time taken between cutting cane and delivery at factory is about 18 hours. There is no other deterioration other than by dryage which is something about 2 per cent.

29. The average cost of transport of cane by cart per maund is as follows:—

Up to 4 miles at As. 9 per maund.

Above 4 miles and up to 6 miles at As. 1 per maund.

Above 6 miles and up to 8 miles at As. 1-3 per maund.

Above 8 miles and up to 12 miles at As. 1-6 per maund.

Some have got their own carts while other have to depend on hired carts and the average cost of hiring is from As. 12 to Rs. 1-8.

30. No tolls or any other dues are levied.

31. We have organised ticket system in our area which we issue to the growers according to cane requirements. This facilitates in continuous and uniform supply of gate canes and the carts are unloaded within six or seven hours of their arrival at gate.

32. The average distance from which the cane is brought by rail is 35 miles and about two days time is taken between cutting of cane and delivery at factory. The railway arrangements are not satisfactory so far the speedy transportation of cane is concerned.

33. At present the railway freight for cane is calculated on mileage basis according to the capacity of the truck. This system is satisfactory but the freight is very high. Since the present system is satisfactory there does not appear any necessity of substituting any other system neither we are in favour of this.

34. The railway freight for raw materials and manure is also a bit high.

35. There is no tramway system in our area.

36. No, we do not consider that tramway system will be advantageous in our area.

37. The deterioration of cane after it has been loaded in railway trucks and wagons till its arrival in the factory is about 3 per cent. and loss by dryage in cane brought by road is 2 per cent.

38. Three-fourth of our total cane is taken at gate direct from the growers through canvassors and the rail cane, which is about $\frac{1}{4}$ of our total supply is taken through purchasing agents at different stations. It was only in the last season that almost all the cane was taken at gate.

39. We do not enter into any agreement with the growers for the supply of cane. Yes, we do give cash advances to the growers and provide seed and manures also to them and give other assistance that they reasonably may demand.

40. We engage Canvassers for the gate cane to whom we pay a commission at the rate of As. 6 to 12 per hundred maunds of cane. We engage purchasing agents or contractors for the cane taken by rail. To these we give commission at the rate of Rs. 2 per hundred maunds of cane *plus* the cost of cane supplied by them.

41. No cane supply is obtained from cane growing or cane supplying associations.

42. Our arrangement for weighment is that the carts loaded with cane is weighed at the gross weighbridge and the carts are tared after the cane has been unloaded in the cane carrier. Similarly the wagons of cane, received by rail, is first weighed with the cane in it and then after the cane has been removed from the wagons.

The price of the cane taken at gate is paid immediately on demand. The price of the rail cane is paid any moment, the purchasing agent or the contractor demands.

43. The prices of sugarcane since the start of our mill are noted below:—
Season—

1932-33—	{ for Co. 213, 210 and Reorha at As. 5 to 5-3 per maund.
	{ for inferior cane at As. 3 per maund.
1933-34—	for good cane at As. 4-9 to 6-6 per maund.
1934-35—	for good cane at As. 5 to 7-6 per maund.
1935-36—	for good cane at As. 5 to 8 per maund.
1936-37—	for good cane at As. 4-9 to 3 per maund.

Prices higher than that fixed by the Government was paid at the later part of the seasons when the cane was influenced by the competition of the neighbouring factories, and also when the cane shortage had begun.

44. The prices of the sugarcane is fixed by the Government and varies according to the price of sugar which is determined by the Government.

45. When the gur market is high the grower beyond 8 miles of our mills prefer to make gur while the growers in the vicinity of the mill prefer to deliver their cane to the factory.

46. No gur is at present manufactured in our area and so we cannot give the information required under this question.

47. Yes, we have paid higher prices than is fixed by the Government due to the competition of the neighbouring factories and during the cane shortage period at the latter part of the season.

48. We agree with the answers complied by the Indian Sugar Mills Association in his circular No. 67 of 1937.

49. We prefer the system of Bonus payments and it will be of great advantage to the factory as well as the growers. The former will get better cane and the latter more money for the same quantity of cane.

50. The duration of crushing season is given below:—

1932-33—	4 months 5 days.
1933-34—	5 months 10 days.
1934-35—	4 months 2 days.
1935-36—	5 months 7 days.
1936-37—	5 months 11 days.

The period is not sufficient for economic crushing.

51. Availability of early and late varieties of cane will, no doubt, extend the period of crushing season to some extent provided they are obtainable in sufficient quantity for our daily requirements.

52. The Agricultural Department of Bihar Government is introducing early and late varieties as well as the improved varieties of cane and has also deputed persons to give instructions and directions for cultivating these varieties but the staff is inadequate. The Agricultural Department of Bihar Government is supplying seeds also.

53. Labour statistics is noted below:—

	During season.	Off season.
Skilled—		
Chief Engineer	1	1
Assistants to Chief Engineer	3	1
Chief Chemist	1	1
Assistant to Chief Chemist	4	...
Pan Man	5	...
Unskilled—		
Fitters	29	16
Fitters' helpers	20	20
Khalasis	100	45
Centrifugal men	90	...
Tripple men	6	...
Press men	39	...
Setting tank	39	...
Liming house	18	...
Other class	351	32

54. No skilled labour is imported from abroad. Only the Chief Engineer is a European.

55. None.

56. Quarters are provided for the employees of the mill.

57. Bagasse produced is not sufficient to meet the requirements of fuel and about 40 per cent. of our fuel consumption is supplemented by fire-wood and coal. The amount spent for these is noted below:—

	Rs.		Rs.
1932-33	11,929	1935-36	13,251
1933-34	22,073	1936-37	21,596
1934-35	18,043		

We have no surplus bagasse and hence we do not bale.

58. No, any by-products is produced in our factory.

59. The outturn and prices of molasses is given below:—

	Outturn.			Outturn.	
	Maunds.	Rs.		Maunds.	Rs.
1932-33 . . . . .	...	...	1935-36	81,300	9,500
1933-34	57,000	1,484	1936-37	83,647	5,200
1934-35	53,500	3,205			

60. Molasses are used by the tobacco manufacturers mostly in Bengal and Punjab. Our principal market for molasses is Bengal. We have been delivering the molasses at the factory and the buyers had to make arrangements for its transportation to different places by rail. Since the last two years a company has been established under the name of Indian Molasses Company, which exports molasses to foreign countries. This company provides us with rail tank wagons which is being filled at our cost. We cannot give any idea about the adequacy of the railway facility in this matter. The railway freight to Calcutta is As. 5-2 per maund.

61. We sell our molasses to the buyers who make their own arrangements for the transportation to different markets. The molasses that remain

unsold and the molasses that buyers fail to remove are thrown away at the approach of the new season so that the tank may be empty for the storage of new molasses. The molasses can be best utilised in making power alcohol and it is proposed that Government should take the matter into consideration and allow the factories to convert their molasses into power alcohol or in any another way suitable to them.

62. We have no surplus bagasse.

63. None.

64. The figures are given below:—

	In the beginning of the season.	At the close of the season.
	Maunds.	Maunds.
1932-33
1933-34	14,900
1934-35	66,000
1935-36	140,500
1936-37 . . .	75,000	137,900

65. Sugar are filled in bags and are stored in Pucca godown which holds about 50,000 bags. We have not made any extension in our godown neither we contemplate any extension.

66. 15 to 20 per cent. of our sugar deteriorates in storage due to moisture. The climate as well as the soil of the place is very damp. Deterioration begins when the sugar remains unsold for a longer period.

67. We always try to sell our damaged sugar in the market with some loss. Sometimes when we do not find buyers for these sugar we have no other alternative than to recondition it. In the process of reconditioning our loss is about 10 per cent.

68. Considering the depression in sugar market and the enhanced excise duty on sugar we do not think that any improvement, if any improvement could be made, will be advantageous or beneficial.

69. About 1 per cent. of sugar is damaged and destroyed in transit due to the careless handling of the railway transhipment and moisture.

70. Yes, we have always been experiencing considerable difficulties in obtaining adequate wagons for sugar transport which has often put us to heavy losses due to our sugar not being despatched so as to reach our markets when there was heavy demand for the same.

71. We have nothing to suggest about the type of sugar wagons but we can only propose that railway should have sufficient number of wagons and they should supply us according to our demand without any delay. Spare wagons should always be kept at factory stations for emergency.

72. We did not sell any sugar at ports except 2,700 maunds in the season 1936-37 only.

73. The freight rate for Calcutta (Kantapokhar) is As. 12-3, for Bombay Rs. 1-0-2 and for Cawnpore As. 10-2 all per maund.

83. The principal marketing centre where we deal is Calcutta (Kantapokhar), Bombay and Cawnpore.

84. We have agents at different places who effect the sale of our sugar to the dealers. The agents receive commission from us. We have no particular arrangement with the dealers.

The sugar contract form compiled by the Indian Sugar Mills Association is quite suitable and we have nothing further to suggest.

88. We have no knowledge of the storage arrangement of sugar by dealers, neither of the extent of the sugar deterioration.

89 & 91. The best Indian quality is as good as Java or foreign sugar in keeping and other qualities. The inferior quality sugar used to deteriorate

more rapidly. We have been making constant improvement in the inferior quality sugar and the rapidity of deterioration has much decreased. But the fall of the sugar market and enhancement of the recent excise duty has hazarded the industry considerably.

The Indian sugars are sweeter than any other foreign sugar but the colour of the other than best quality sugar is not as white as foreign sugar and the keeping quality of such sugar is also not as good as foreign sugar.

93. This depends on the condition of the sugar market. When the dealers speculate that the sugar market has a tendency of going upward they hasten to take delivery of the sugar, which they have purchased at a lower rate, from the factory and keep their own stocks. But if the market is either dull or quite they leave their stock with the manufacturers. Sometimes manufacturers also prefer to keep their own stock of sugar, in expectation of a better market, to avoid loss.

The carrying of stock is generally financed by the banks private sources are not available or are inadequate.

96. (a) None.

(b) No.

105. It is needless to say that the duty levied on sugar in 1934 was a premature one and had a very bad effect on the industry which, since then, was being run at a very nominal profit due mainly to sugar price being a bit favourable. We had no other alternative than to bear the duty patiently since no one listened to our protests and grievances. The further enhancement in 1937, inspite of the fact that industry is a very young one and that the sugar price has considerably gone down, has made the condition still worse and discouraging and has left no margin of any profit to the manufacturers who are running the mill simply because they have advanced capital in it. This has inevitably, affected the cane price which has disheartened the cane-growers who have reduced the cultivation of cane to a great extent and the ultimate result it is that we shall not be able to get sufficient cane to run the mill successfully and profitably. This we are afraid, may not reduce the period of crushing season also.

Shree Lakshmi Narayan Sugar Works, Ltd., Bhagalpur.

REPLIES TO GENERAL QUESTIONNAIRE.

Production of Sugar.

1. This factory has come into operation since 1934 from the month of February with a capacity of 50 tons Daily Crushing Plant.

2. The output of this factory from 1934 to 1937 is as :—

	1933-34.	1934-35.	1935-36.	1936-37.
	Mds.	Mds.	Mds. Srs.	Mds. Srs.
Crystal	2,980	4,195	2,070 0	13,280 0
Crushed	...	...	3,387 20	4,707 20
Total	2,980	4,195	5,457 20	17,987 20 (up to 5th June, 1937.)

3. This factory is advantageously situated in respect of :—

(a) Cane supply.

(b) Not advantageously situated owing to station being 5 miles off from the factory, but there is District Board Road running by the side of the Factory to Station.

(c) Labours are very cheap and adequate.

4. The Factory is working by the Vacuum Pan process with single Sulphitation process—Clarification but not advantageous.

5. This factory for the last three years though capacity was 50 tons could scarcely crush 25 to 35 tons; there being defects in Boiling house. This year after thorough adjustment it has crushed 50 tons cane daily (Season 1936-37).

6. It is contemplated to extend this factory to 350 to 400 tons daily crushing capacity in future.

Raw Materials.

10. We do not undertake cultivation of sugarcane ourselves, nor we purchase land outright or obtain on lease, as there is no practice of leasing land here.

11. (a) & (b) Nil.

(c) Nil. (No. 210, 107 and 105 varieties.)

(d) Nil.

(e) Nil. (Sucrose contents:—No. 210C—15, No. 107—13·5 and No. 105—12·5.)

(f) Nil.

12. Nil.

13. No experiments in connection with early and late varieties of cane have been made, because Agricultural Department is not prevailing in this locality to instruct about it or to undertake this work.

14. (a) Before 5 years there was very little quantity of sugarcane as there were no factories in this locality to take more cane than that was only sufficient for the country hand mills. But since the time of advent of factories, the area is increasing far and wide and there becomes cane more than sufficient.

(b) The quality of sugarcane in this locality is No. 105C, 107C and 210C.

15. There is no trouble of any kind of disease we have experienced up till now.

16. Our Factory is getting sufficient quantity of good and suitable varieties of cane from local area. The principal varieties of cane in this locality are No. 105, 107 and 210C and the Sucrose contents:—150C—12·5, 107C—13·5, average 210C—15.

17. There is no competition in purchasing cane nor in paying the price of cane which has been fixed by the local Government.

18. (a) Yes. It requires variation.

(b) It requires variation for early and late varieties of cane—

(i) Climatic condition is favourable.

(ii) It requires marketable fixed rate of all sugar.

(iii) & (iv) Nil.

19. Yes. But we had no excess sugarcane in our jurisdiction and requires no restriction, but we want more cultivation than that of the year under report.

20. The average yield of sugarcane per acre in this locality is 400 maunds and the cost of cultivation per acre is Rs. 20.

21. The difficulties in cultivating cane to cane-growers are:—Want of irrigation work, fitness of soil. They have had to depend entirely upon heavenly rain for cultivating cane as there being no channel or canal of any kind for taking cane into the factory they have to bear trouble in footpath road.

22. (a) It is most difficult to obtain land on lease in this locality.

(b) No. Zones system can work well.

23. We require "zone" system and if it will be in force we shall try our best to render aid to the cane-growers.

25. (a) We get 100 per cent. cane at the gate by carts.

(b) & (c) Nil.

No variation.

26. We get all canes transported by carts.

The average weight per cart is 10 to 12 maunds.

Rubber tyred carts are very necessary but it require Feeder roads in good condition. No other type of carts are employed but bullock one.

27. The mileage of roads is not adequate. The conditions of feeder roads and main roads are worst. There are several ditches, breaches and uncongenial bamboo bridges.

28. The sugarcane in this factory is delivered from 7 to 8 miles. it takes 24 to 36 hours time to deliver in the factory. No protection is necessary as no cane is deteriorated during the time of cutting and delivery to factory.

29. The fixed price is only the cost of transport of cane by carts per maund per mile.

Cane-growers employ their own carts in carrying cane to the factory; and who have no carts they carry their cane on hired carts for which they have to pay three pies per mile.

30. No tolls or other dues levied on carts.

31. For the continuous and uniform supply of cane, the cane-growers give assurance in writing and we distribute Poorjis according to area of cane to the cane-growers weekly.

The normal period of detention in weighing and delivering cane into the cane yard is 10 minutes per cart.

For prompt delivery of cane and speedy release of carts we employ sufficient staffs and parking of carts.

32-37. The system of rail or trams is not in vogue.

38. The cane in this factory is directly purchased from the cane-growers and not through Contractors or Agents.

39. The cane-growers give assurance in writing for supply their cane into the factory. We do not pay advances or provide with seed or manure.

40. We get cane direct from the cane-growers hence no commission is necessary.

41. We are supplied cane partly from cane-growers and partly from Sugarcane Co-operative Societies, Ltd.

42. We have established cartweighbridges for weighing cane. The payment is made weekly.

43. We have purchased cane in the following manners during years under report:—

In 1933-34—As. 4 per maund, 1934-35—As. 5 per maund, 1935-36—As. 5 and 5-6 per maund, 1936-37—As. 4-9, 4-3, 4, 3-9 and 3 per maund.

Yes. It tends to vary at different periods of the season. The price is fixed by the local Government according to their enquiry report.

47. We always pay price of sugarcane according to the notification issued by the local Government, Ministry of Education, Patna, fixing prices fortnightly. We do not pay any excess of the minimum rate.

48. Yes, it is satisfactory in one respect but considering the price of sugar at present moment it is not satisfactory. Hence it requires fixation of marketable sugar rate of all factories.

50. Duration of periods of sugarcane crushing in:—

	Days.		Days.
1933-34	83	1935-36	122
1934-35	122	1936-37	179

Variations rely on cane supply and in first year owing to heavy earthquake.

51. The possibilities of extending sugarcane crushing entirely depend upon early and late varieties of cane.

52. No.

53. We employ skilled and unskilled labour both in crushing and silent seasons.

54. We employ all skilled labour of the province and not from any part of India.

55. We do not replace skilled labour imported from abroad.

56. Labourers in this factory are provided with well furnished quarters, well, light, fuel, etc., etc., for their welfare.

Power.

57. No. We have not been able to meet the whole requirements of fuel from bagasse but we have also been using steam for the purpose. The amount spent on fuel for the last 4 years are:—

	Rs.		Rs.
1933-34	3,283	1935-36	5,387
1934-35	4,829	1936-37	4,179

We do not bale as we have no surplus bagasse.

58. The by-products of this factory are:—

Molasses, Bagasses and Press cake.

Years.	Quantity.	Prices.		
		Mds.	Srs.	Rs. A. P.
59. 1933-34	2,206 0			833 10 9
1934-35	2,983 0			2,276 8 0
1935-36	2,727 20			856 8 0
1936-37	7,050 0			1,225 0 0

60. Molasses of this factory are sold to local merchants.

We do not transport it.

There is no Railway.

61. It can be used if circumstances permit for distillation work.

62 & 63. Nil.

Years.	Mds.	Srs.
64. 1933-34	2,980	0
1934-35	4,195	0
1935-36	5,457	20
1936-37	17,987	20

65. We stack our sugar in row of 8 bags or more on Bamboo trellie fitted on Cemented brick walls 3 feet high spreading over with straws. The capacity of our godown is 5,000 bags.

We are contemplating to increase the capacity of godown if the factory will be extended.

66. No deterioration of sugar in godown of any kind.

67. If any quantity by chance suffers damage, we keep in stock and refine in the next season.

68 & 69. Nil.

70. We seldom experience difficulty in obtaining wagons for transportation of sugar which causes delay in delivering sugar to the buyers. It is suggested that such arrangement with Railway Company should be made needful wagons may always be supplied at any time these wagons are required by the Factory owners.

71. No.

72. Nil. We sell our sugar in the Calcutta market, at the rate available at the time of contract or firm offer.

80. Forms* are being sent duly filled in as desired.

Marketing.

83. We deal with the merchants of Nirmali, Bahptiahi, Nepal Tarai, Supaul, Bhagalpur, Saharsa and Calcutta.

84. We sell sugar partly ourselves and partly through the Selling Agents, who sell it in the open market with retailers.

92. Throughout the year.

93. Yes.

94. Yes, very heartily.

95. We are in favour of standardisation of sugar.

As may be settled and arranged by the Tariff Board.

105. The effect of Excise Duty on sugar has discouraged the Factory owner to increase the capacity of Factory. And Excise Duty at enhanced rate has caused to stoppage early of many factories as they are getting heavy loss.

North Bengal Sugar Mills Co.; Ltd., Rajshahi.

(Indian Sugar Mills Association, Circular No. 62 of 1937.)

REPLIES TO THE QUESTIONNAIRE OF INDIAN TARIFF BOARD.

1. *Introductory.*—We commenced crushing of cane from December, 26, 1933. Our present daily crushing capacity is 1,000 tons of cane.

2. Our output for the seasons of our working has been as under:—

Season.	Output. Maunds.	Remarks.
1933-34 . . .	97,500	Inclusive of Gur-sugar 4,627 maunds.
1934-35 . . .	135,508	
1935-36 . . .	311,193	Inclusive of Gur-sugar 32,330 maunds.
1936-37 . . .	220,693	

3. We do not consider that we are situated at an advantage in respect of the various points enquired.

(a) *Cane supply and other raw materials.*—We had to develop our cane supply area at considerable expense and difficulty almost from the very start and as soon as it was developed to a stage to meet our requirements competitors have encroached upon. Thus we do not feel that we are well secured in respect of our cane requirement. Any abnormal circumstance coming in or vagaries of nature may endanger our supply of cane.

The lime is all imported from other provinces and it lasts for a very short time in good condition due to the humid climate of the place.

(b) There is nothing to complain about the railway facilities excepting the fact that the freight for sugarcane is comparatively higher on the Eastern Bengal Railway. For the transport of manufactures, also, better facilities are afforded by other railways than the Eastern Bengal Railway.

With regard to road and other communications, we are located in a most backward situation.

(c) Labour supply is not at all adequate but there is actually lack of labour and the bulk is imported from outside.

4. The process of our manufacture is Double Sulphitation.

5. Originally our plant was designed for a capacity of 500 tons daily crushing. It has been, since, extended to the present capacity of 1,000 tons.

The plant was first designed for separate liming and sulphitation and for single curing treatment. It has since, however, been changed to simultaneous liming and sulphitation and double curing process.

The figures of amounts spent on additions and alterations, are given below:—

	Rs.	A. P.
Original cost	14,88,131	8 11
Additions and Alterations (up to 31st August, 1936)	7,23,385	12 11
Total cost	22,11,517	5 10

6. We have a number of improvements in view, but the situation of the Sugar Industry has become so depressing, that its very existence is at stake and the crisis is overshadowing everything.

7. So far as we can see there are two main considerations which determine the economic size of a plant.

(i) *Extraction of the juice by the mills or the milling efficiency.*—

Larger the mills, i.e., the larger the size of the rollers better the extraction. Mill of below 24" x 48" rollers will not yield good extraction to our opinion. In fact 30" x 60" and over would be more desirable.

(ii) *The manufacturing charges per maund of Sugar.*—Smaller the unit, higher must be the charges. The incidence of overhead charges being comparatively less on larger plants. In all modern industries, mass production is the key to lower cost.

In view of the above the smallest economic unit should not be less than a plant of 500 tons daily crushing and preferably a 1,000 tons.

8. Sugar factory equipment is available in India to a very small extent. Machinery is practically all imported from outside and so are the good many of spares and accessories. The prices charged for spares by importers are exorbitant. It is high time that more up-to-date engineering workshops are established in India to deal in such lines. The Government should devise means to encourage such activities.

9. There has been practically no technical assistance available from the Imperial Institute of Sugar Technology of India or the Department of Industries of the local Government. So far as the former is concerned, its functions are limited to the collection and dissemination of informations regarding the working of the factories, which also become old and stale by the time the same reach the factories. More recently introduction of sugar standards has been a step in the right direction. Beyond these, however, no other direct help is available to the factories. What would benefit the Industry is the technical guidance on difficult questions on the lines of the *Java Proof Station*. There, it is the voluntary arrangement of the member factories. Here, a similar organisation can be created by the Government and the nucleus is already present in the Institute of Sugar Technology. But it needs to be considerably strengthened before it can be made of any real use to the factories.

It must have first class experts of every branch among its personnel to be able to offer advice on intricate technical questions. With regard to the assistance given by the Department of Industries of the local Government, its activities are mainly directed towards the fostering up of small Industries in this Province and perhaps it has no policy beyond that.

Raw Material.

10. We have started cane cultivation for the last two years. Recently our Agricultural activities, however, have been transferred under a separate concern called Gopalpur Agricultural Farm, Limited, which works as a sister

concern under the same management. We have obtained land on occupancy leases and have sublet the same to the said sister concern for cultivation.

The greatest difficulty in the acquisition of land in this province lies in consolidating the holdings. They are too small and scattered to make them fit for improved modern cultivation.

It requires long and persistent efforts to induce the holder to part with his land although it may lie fallow from year to year without yielding him anything.

11. The following are the figures of area held by our sister concern for cultivation :—

(a) Total area held—2,000 acres approximately.

(b) Area under cane in 1936-37—500 acres approximately.

Area under cane in 1937-38—1,200 acres approximately.

NOTE.—All the area acquired is jungle and unreclaimed as also scattered. Consolidation and reclamation takes a good deal of time and money.

(c) The principal variety grown is 213. But experiments are being made with several other varieties.

(d) The system of cultivation followed has been both furrow planting and trench planting. One ratoon is generally taken here, and after every two crops the land is left fallow. Rotations have not been tried yet. Chemical manures are used.

(e) The only variety harvested so far on field scale has been Co. 213 and the yield has ranged between 300 to 450 maunds per acre. The sucrose content on average has been nearly 11 to 12 per cent. It is difficult to give any reliable figures of cane cultivation cost done by our sister concern as it has all been in an experimental stage upto now.

12. Practically the whole cultivation done by our sister concern is more or less of a nature of experiment.

No seeds of improved varieties have, however, yet been distributed to cultivators as the experiments are still not complete.

13. Certain experiments were undertaken under directions of the Department of Agriculture at Gopalpur farm regarding manuring, etc., but due to abnormal floods last year, the fields were washed away and no result could be seen. The Agricultural Department have approached to repeat the experiments again but the same could not be arranged this year for want of suitable area. Beyond this, there has been no other efforts in this direction. Some seeds of an early ripening variety have been obtained from the department this year, which is under experiment. The activities of the Department of Agriculture are rather slow and limited and it will not be for many years that anything substantial can be expected in the actual field. Sugar-cane is treated as a minor crop in Bengal and as such it receives only a secondary attention at the hands of the Agricultural Department.

14. Of our 4 years of existence, the first two years were years of inadequacy in the matter of cane supply. In the 3rd year, i.e., 1935-36 the supply was sufficient for our needs. In the 4th year, i.e., the last season of 1936-37 there has been again shortage of cane. There has been practically no improvement in the quality of cane grown by the cultivators.

15. There has been never any trouble due to frost in Bengal during the period of our experience. The damage, however, from the insect pests is considerable. It is specially the borers who have found their way almost in every field. It is difficult, however, to give an estimate of the percentage of loss on this account.

16. If factories from outside district do not encroach upon the cane in this district, sufficient supply should be available for the needs of our factory. The reduction in cane rate as a consequence of fall in sugar prices is also likely to affect the cane cultivation and the effect of the two combined may result in the inadequacy of supply.

The only variety planted by cultivators here is Co. 213. The yield for the new plantation is 300 to 450 maunds, and for ratoons 150 to 300 maunds per acre. The sucrose content ranges between 9 to 12 per cent. according to the period of maturity.

17. It has been replied under question No. 16.

18. Partly the question is replied under question No. 14. There have been variations in cultivation accountable practically to all the causes enumerated in the questionnaire.

19. The production of sugarcane in 1936-37 has not been in excess in this area, but to the contrary there has been a shortage.

20. The cost of cultivation to the average cultivator by country method is as under:—

	Per bigha. Rs. A.
6 Ploughings and plankings per bigha at As. 8 per operation	3 0
15 Maunds seeds at As. 4 per maund	3 12
Planting charges	2 0
Weeding and earthings	4 0
Harvesting, stripping and bundling 150 maunds (average field) at Rs. 3 per hundred maunds	4 8
Cartage at 9 pies per maund	6 12
Rent	1 0
Total cost	25 0

Ratoon.	Cost per bigha. Rs. A.
Earthing and weeding	4 0
Harvesting 100 maunds at Rs. 3 per hundred maunds	3 0
Transport	4 11
Rent	1 0
Total	12 11

(1 Acre=3 Bighas.)

NOTE.—The above are not the actual out pocket expenses incurred by the cultivator as the labour is practically contributed by him. The figures are based on the basis of hired labour and ploughs and carts, etc.

21. The principal difficulty which the cultivators, in this district have to face in cane growing lies in its transport to the factory. There is practically an absence of good roads in the area with the result that the cultivators have to struggle hard for the transport. It takes a good deal of their time, deteriorates the cane in quality and enhances the cost of transport, lowers the net value of cane realised by the cultivators and lowers the recovery of sugar to the factory and enhances its ultimate cost of production. A suitable chain of feeder roads is the solution, which will help the cultivators considerably. The cane season in Bengal is comparatively short. Another solution, which will help the cultivator, is therefore, the introduction of early and late ripening varieties.

22. (a) Unless the Government is prepared to help the Industry substantially and by practical means, the Sugar Industry in India is bound to doom. The only one way by which the sugar industry can stand on its own is by having cheap and rich sugarcane which is impossible in any other way save and except by scientific cultivation. Scientific cultivation in its turn is impossible unless the holdings are sufficiently large and compact. It is again

next to impossible for the factories to obtain extensive and compact areas for cane cultivation except through the help of the Land Acquisition Act. It may be undesirable to dispossess the ryot of their land where it is the source of bread and butter to them. But in areas specially like ours where the pressure on the land is not enough and where there are vast tracts lying as jungles, unreclaimed and undeveloped, we at least do not see how it will affect the ryots' interest if the lands are leased to the factories. The only thing necessary for the Government should be to see that the distribution of land is arranged in such a way that the ryots may have sufficient for their own needs while the surplus may be usefully available to the factories. They should be, of course, reasonably compensated for their lands.

(b) In addition to the acquisition of land for own plantation by factories, fixation of zones will certainly regulate the working of factories more smoothly. This is only possible, however, where the minimum price of cane is also fixed. Ordinarily we do not see the need either of price fixation or of zone fixation in Bengal and we should prefer the relations to be regulated by the law of demand and supply. We have no objection, however, if a law is enacted with a view that should unhealthy competition and conditions may develop the provisions of the same may be applied to that area at the request of the aggrieved parties. The administration of the act should be entrusted to a body consisting of the various interests concerned.

23. Even without the introduction of the zone system, we have advanced sufficiently large sums in various years as will be clear from the following figures without charging any interest to the cultivators and we should be quite prepared to play our part honourably in future if further suitable conditions are created.

Year.	Amount of <i>Dadan</i> Distributed.	
	Rs.	A. P.
1933-34	97,454	10 6
1934-35	2,14,835	10 3
1935-36	1,00,951	8 6
Total	4,13,241	13 3

With regard to the development of feeder roads we have approached the various departments of the Local Government, but unfortunately without any response. If any principle of sharing the cost on feeder roads is recommended by the Tariff Board, we shall be willing to give our support to the same, if the same is based on grounds of equity and fairness.

24. For an healthy development of the Indian Sugar Industry, the control of the output appears to be a necessary step, but this is likely to remain impossible until and unless the Indian States are brought into its fold. Any scheme adopted, therefore, should be adopted on and an all-India basis. Then alone it can be successful and can be worth attempting. If this is possible then probably all the steps will be needed, *i.e.*, fixation of quotas, licensing of new factories and extensions.

25. There is no tram cane for our factory as we have no tram line.

(a) & (b) The percentages of gate cane and rail cane are given below for various seasons :—

	Gate cane.	Rail cane.
	Per cent.	Per cent.
1933-34	16.5	83.5
1934-35	19.7	80.3
1935-36	27.79	72.21
1936-37	47.11	52.89

26. All our cane is transported by buffalo carts. The plying of lorries is out of question. There are no suitable roads excepting a 3 mile piece. The kuchcha roads are kuchcha in every sense. If the lorries dare to pass on them the bridges are declared unsafe. There is no question, therefore, of the plying of lorries. The average weight of cane carried by a buffalo cart is about 15 maunds.

We have introduced about a fifty rubber tyred carts in our local area. Such carts take about double the load of an ordinary cart. On metalled roads the rubber tyred carts can take still greater loads but this is out of question here, there being no metalled roads.

27. The mileage of roads in our vicinity as already stated is utterly inadequate. It is almost a problem for the cultivators to transport their cane to the factory. With a little rain the roads are simply swamps. They receive practically very little attention at the hands of the District Board. Scarcity of funds is said to be the chief difficulty and even if the funds are available, unless they are earmarked for the development of roads within the sugar factory areas, there are more important needs according to the District Board Officers which need satisfying first and the sugarcane areas perhaps can never expect any substantial relief in this connection within the near future.

A proposal was made by us to the Provincial Government for allowing the sugar excise subsidy granted by the Indian Government for the benefit of the cane areas, to be utilised in the development of feeder roads. But unfortunately no use of it seems to have been made uptil now to the best of our knowledge. It was pointed out to us that the grant was made under certain conditions and it is rather unfortunate that the conditions have been applied uniformly irrespective of the needs and circumstances of the provinces.

28. The cane transported by roads is from an area within 7 to 8 miles radius of the factory. The time between harvesting and delivery at factory is 24 to 48 hours. There are no means to save the cane from deteriorations while in transit on the roads.

29. The transport charge on sugarcane in our area is from 6 pies per maund to 1 anna per maund depending upon the distance. Per mile per maund average would be 2 to 3 pies.

The cultivators generally use their own carts but they hire also when they have not got their own. The average cost of hire is about Re. 1 per day per bullock cart, and in the existing state of road only one to two trips are possible daily depending upon the distances.

30. Except within the Municipal areas of Rajshahi and Natore there are no tolls levied within our cane supplying area.

31. Practically all our cane supply is contracted in advance.

We place our orders daily 2 days in advance on the *pro rata* basis of contracts and the supply is received against the orders. The carts are released within three hours of their appearing at the gates. Our weigh-bridges are kept open from early morning till late in the night and no carts are left to be weighed and released on the following day unless they appear at the gate late after midnight which is very rare. Our payment is made promptly against delivery. So far as we see the arrangements are most satisfactory and there is hardly any need for further improvement.

32. The bulk of our rail cane supply is from stations within 40 miles of our factory. Some cane is, however, received up to 70 miles distance. The time taken in the delivery of rail cane from the time of harvesting is from 48 hours to 72 hours. The arrangement for the transport of cane provided by the railway is quite satisfactory excepting that the wagons are not specially made for cane and the loading and unloading are difficult and costly.

33. The freight is charged on sugarcane on the Eastern Bengal Railway on a flat rate basis at As. 5 per mile for wagons below 200 sq. ft. area and As. 5-6 per mile for wagons with area over 200 sq. ft. There have been many changes in the freight from the very beginning of our factory. At first the sugarcane was charged at C/O Schedule, i.e., 3 pie per maund

per mile, the marked tonnage of a wagon taken as the chargeable load. Later the chargeable load was fixed as 1 sq. ft. equal to 1 maund, the C/C Schedule remaining. Very recently the flat rate as stated above has been introduced. Both the first and present systems have been found unsatisfactory. The chargeable load in the first case was fixed arbitrarily irrespective of the wagon space. The present one is also unreasonable for the fact that all wagons are charged as of minimum 200 sq. ft. area while the wagons actually range from 179 sq. ft. area and upwards, the bulk being of smaller capacities. An equitable and just basis was the second system as stated above, i.e., the charge at C/C Schedule based on 1 sq. ft. area as equal to 1 maund. It must be noted here that while in theory the rate is fixed at the flat rate basis at As. 5 and 5-6 per mile at present, the incidence of the charge is comparatively very heavy as will be clear from the following figures:—

Mileage.	Eastern Bengal	East Indian	Difference.	Remarks.
	Railway Rates.	Railway Rates.		
	Rs. A.	Rs.	Rs. A.	
10	14 8	10	4 8	Eastern Bengal Railway rates have been calculated on 4-wheeled wagon the marked floor area of 200 sq. ft. at As. 5-6 per wagon per mile up to 70 miles and at As. 5 above 70 miles to a minimum of Rs. 10 per 4-wheeled wagon. The rates include a siding charge of Rs. 4-8 per wagon of 23 tons capacity (As. 4-1-38 per maund).
15	14 8	10	4 8	
20	14 8	10	4 8	
25	14 8	10	4 8	
30	14 13	10	4 13	
35	16 9	10	6 9	
40	18 4	12	6 4	
45	20 0	13	7 0	
50	21 12	14	7 12	
55	23 7	15	8 7	
60	25 2	16	9 2	
65	26 14	17	9 14	
70	28 9	18	10 8	
75	30 0	19	11 0	
80	31 12	20	11 12	
85	33 2	21	12 2	
90	34 11	23	11 11	
95	36 4	24	12 4	
100	37 13	25	12 13	

It must be noted that the minimum charge has been fixed at Rs. 10 exclusive of the siding charge.

Formerly the same was Rs. 7. The siding charge is levied at 1-38 pies per maund of the marked tonnage capacity. This has meant near about Rs. 4-8 per wagon of 23 tons marked capacity or about 14 miles charge. Thus the minimum charge together with the siding charge has amounted to a minimum distance charge of nearly 46 miles and if the cane is brought from across the Ganges from the south side a further charge of 18 miles has to be paid as pontage for the Hardinge Bridge. This is irrespective of the actual distances from where the cane is brought. This compare very unfavourably with the East Indian Railway. Protests were made by us in all these respects. Very recently we have been offered the siding charge at the flat rate of Rs. 2 per wagon. The same is charged for one mile distance on the East Indian Railway which amounts to As. 5 and is added to the mileage. The difference in freight is defended by the Eastern Bengal Railway on the Ground that their working costs are higher.

With regard to the pontage charge it has to be borne in mind that its incidence is far higher on a commodity like sugarcane which has to be transported over short distance only in comparison to other commodities which are comparatively of much higher value and have to find their way over long distances.

34. Reduction in rates of limestone and manures are both likely to help sugar industry.

35. We have no tramway system at present. We have, therefore, no information to offer in this connection.

36. In the absence of adequate roads and on account of higher railway freight a tramway system will be certainly helpful to the industry.

We are in fact ourselves contemplating laying out a few miles of tramway line to facilitate transport of sugarcane from areas which are approachable with difficulty now. The chief difficulty in laying out the tramway which we anticipate, lies in the acquisition of the land. Such projects are not possible by private negotiations and unless the Government deal in the matter sympathetically and in a helpful manner, it may take a number of years the projects to materialise. The sugar industry unfortunately has no time to wait as it must make itself able to stand on its own legs, otherwise, there is the danger already looming of its being washed away.

37. It is very difficult to give an accurate estimate of loss by deterioration but if a guess is made the loss may be anywhere between .5 to 1 per cent. in the recovery of sugar owing to the delay which is caused in delivery due to unsatisfactory arrangements compared to the modern and up-to-date methods of transport followed in Java and other advance countries.

38. We have no contractors in the sense contractors are employed in the United Provinces and Bihar but we have brokers through whom advances are made to cultivators and contracts entered for the supply of cane. The contracts are, however, direct between ourselves and cultivators. The order is placed with the cultivators and payment is made direct to them. Thus the cent. per cent. of our cane supply is received directly and nothing through contractors and agents.

39. We make cash advances to cultivators while we enter into contracts with them for the supply of their cane. We do not supply any seeds as they have sufficient of Co. 213 seed available. Other improved varieties have not yet been introduced here. We also made an experiment by giving advances to the cultivators in the form of chemical manure. The cultivators were reluctant at first but some of them agreed at our persuasion. We were advised, however, by the Department of Agriculture of the local Government not to distribute chemical manure as its usefulness was very much doubtful in the absence of proper soil survey. We therefore, discontinued the experiment.

40. We have paid our brokers the commission from at 1 pie per maund to 6 pies per maund over and above the prices paid to cultivators varying from year to year and according to the circumstances.

41. All our supply is direct from the growers. Proposal was made by the Magistrate of our district to purchase cane through Co-operative Societies. The cultivators, however, were unwilling to deal through them as they were afraid of all sorts of official pressure. Besides we learnt that the societies claimed some money from the cultivators and the move made by the societies was to realise their past dues from the cultivators through the factory rather than to help them in the marketing of their cane. Thus the cultivators not liking the idea of dealing through societies we had to drop the same.

42. It is already replied under question No. 31.

43. The details of price paid by us in various seasons and at various periods are given below:—

	Gate Delivery,			Delivery at Rail-head.		
	November to February.	March.	April and Onwards.	November to February.	March.	April and Onward.
	As. P.	As. P.	As. P.	As.	As. P.	As. P.
1933-34	4 0	5 0	5 0	4	5 0	5 0
1934-35	4 6	5 0	5 6	4	4 6	5 0
1935-36	4 6	5 0	5 6	4	4 6	5 0
1936-37	4 6	4 6	4 9*	4	4 0	4 3*

* 3 pies more for May delivery.

44. There has been no direct relation between the price of sugar and the price of sugarcane but indirectly the price of sugar has been a guiding factor for the price of sugarcane.

45. The price of sugarcane has a much closer affinity with the price of gur. The cultivators here have two options to deal with their cane, either to sell it to the factories or to manufacture gur. In Bihar gur manufacture is given up to a large extent by the growers but here practically every cultivator manufactures gur to a certain extent. He keeps a very close eye on the rate of gur and as long as he realises a fair price for the sugarcane by its sale to the factories he prefers to sell it as such but the moment he finds any margin in gur manufacturing he takes to the manufacture of gur. Bullock driven crushers are taken on hire in every village in combination of certain parties and are used by the cultivators alternatively according to the need.

There is not much of Khandsari industry in this locality nor has it any influence on cane price here.

46. The price of gur has varied from year to year. As gur is exported to East Bengal and Assam from these districts, the price of gur prevailing in Bihar has a definite influence on the price of gur here as the markets which import gur from this place are also in touch and import gur from Bihar. The price paid by the exporters therefore, regulates the price of gur in the district. There is no import of gur from Bihar in this district.

47. The Sugarcane Act has not been applied yet in Bengal. Therefore the question does not arise.

48. A move was made by the Government to consider the feasibility of the application of the Act in Bengal. But the same was not thought desirable and was dropped. The conditions here materially differ from those in the United Provinces and Bihar. The industry has just made a start. The relations between the factory and growers are well maintained under the law of supply and demand the cultivators get similar price as in the United Provinces and Bihar and unless the zone system is introduced there is no need of any price fixation.

49. The system would be worth trying provided cane of better merit and of early and late ripening types are introduced. It all depends upon the sucrose it can deliver to the factory. The factories, however, should welcome such a system of bonus on merit.

50. The figures of the duration of the crushing seasons are given below :—

Year.	Season commenced date.	Season closed date.	Working days inclusive of stoppages.	Remarks.
1933-34	26th December 1933.	30th April 1934.	125	Working in April was done with Purnea district Cane, local cane being exhausted by end of March.
1934-35	15th November 1934.	8th April 1935	145	
1935-36	15th November 1935.	24th May 1936.	192	The season was prolonged to meet contract obligations in cane, which could not be consumed within normal period owing to machinery troubles.
1936-37	5th December 1936.	28th April 1937.	145	

The seasons have been comparatively much shorter here except in 1935-36 which has been an abnormal case, more due to the machinery not working smooth and we having had contracted obligations to meet. Generally the seasons have, however, been shorter. The reasons being—

- (i) Insufficiency of cane supply.
- (ii) Lack of improved varieties.
- (iii) Climatic conditions affecting the purity of juice.

The first two are already explained. With regard to the 3rd point, concerning the purity, it may be pointed out here that the winter is of very short duration here, influencing both at the start and the end, the maturity of the cane. The cane is not sufficiently ripe here till the end of December, while the purity begins to fall steadily after the middle of March. This has the effect of making the season shorter as it is not economical to crush cane in the earlier and later periods to the same extent as in other provinces. The following figures of juice analysis should reveal the position in this respect:—

Period.	1934-35.	1935-36.	1936-37.
15th to 30th November . . .	...	75.57	...
1st to 15th December . . .	75.86	75.57	79.22
		77.78	
16th to 31st December . . .	77.96	76.60	81.06
		77.01	
1st to 15th January . . .	81.43	76.70	82.92
16th to 31st January . . .	80.96	78.39	84.04
		79.43	
1st to 15th February . . .	81.93	79.72	83.25
16th to 28th February . . .	81.96	79.72	84.46
1st to 15th March . . .	81.47	78.58	83.03
15th to 31st March . . .	72.19	77.74	79.18
1st to 15th April . . .	70.19	73.36	...
16th to 30th April . . .	...	75.21	76.63
1st to 15th May . . .	...	75.43	...
16th to 31st May . . .	...	74.71	...
Average . . .	79.08	77.48	81.67

The following figures will show the relation between the purity and recovery. Higher the purity of the raw juice, higher is the recovery in that year.

	1933-34.	1934-35.	1935-36.	1936-37.
Purity of Raw Juice . . .	80.49	79.08	77.48	81.67
Recovery per hundred Cane . . .	8.79	8.39	8.23	8.94

. The shorter season, of course, means higher overhead charges and consequent higher cost of production.

51. This is more for the experts of the Agricultural Department to opine rather than for us. We are experimenting with a number of varieties but cannot say definitely as yet about their merits.

52. The activities of the Imperial Council of Agricultural Research have no doubt been helpful to the industry but only the fringe of the problem has been touched as yet. More intensive efforts are needed to make the sugar industry a success in India. The proposal of constituting a sugarcane committee like the cotton committee is the step in the right direction and the industry must have due representation on it to make it useful. There must

be provincial and district organisations created under the committee to develop particular areas and to solve particular problems.

With regard to the activities of the Agricultural Department the question has already been explained under question No. 13. As regards the Co-operative Department there is no activity of any nature so far as the sugarcane is concerned and it is very much doubtful whether the intervention of Co-operative Department, where the same is not needed, will be of any help to the industry or the growers.

Labour.

53. (a) The number of skilled and unskilled labour employed during the crushing season is as under:—

Skilled Labour—		
Employed in the Engineering Section	300	
Employed in Manufacturing Section	300	
	<hr/>	600
Unskilled Labour—		
Employed in miscellaneous duties	300	
	<hr/>	
Total		900
		<hr/>

(b) The number of skilled and unskilled labour during the slack season amounts approximately to 150 and 100 respectively.

54. The bulk of the labour we employ has got to be imported from other Indian provinces, there being inadequacy of local labour specially skilled labour. Only a few panmen we have imported from Java almost every year excepting one season.

55. The only non-Indian labour we employ are the senior panmen. We tried to replace them by Indian panmen but still there is an insufficiency of really good Indian panmen. Besides, we had in all the seasons, except once, Dutch Chief Chemists and they prefer to work with Javanese panmen. Only one season we had all Indian panmen but unfortunately they were not a very good success.

56. We have pucca built houses for our entire factory labour and they are well accommodated. Water pipes and tube wells have been provided in the labour lines. We also maintain a dispensary for the free treatment of our labour and people of neighbouring villages. Provision shops within the mill's area, have also been provided for the convenience of the labour.

Power.

57. Unfortunately we had to use coal every year, so far, of which the figures are given below:—

Periods.	Maunds.	Amount.	
		Rs.	A. P.
1933-34	76,588 0	22,861	3 9
1934-35	97,361 0	33,424	11 1
1935-36	84,648 0	30,035	0 0
1936-37	95,344 20	34,280	11 3
	<hr/>		
Total	353,941 20	1,20,601	10 1
	<hr/>		

The heavy coal consumption is responsible to a certain extent due to the unsatisfactory type of Bagasse Furnaces provided by an English firm of Boiler Makers. We are replacing the same by more improved Java Type Furnaces, which to the best of our information, have proved successful in other Indian Factories.

By-products.

58. Our only by-product is molasses.

59. The figures of the outturn of molasses are shown hereunder :—

Season.	Quantity.	Approximate average price. As. P.	Remarks.
1933-34 . . .	50,000	6 9	The production is only estimated as there was no proper weighing arrangement at the time and this includes Gur Molasses.
1934-35 . . .	75,000	6 5	
1935-36 . . .	198,000	5 6	Includes Gur Molasses.
1936-37 . . .	92,832	4 0	

60. Principal market for our molasses is Khulna where it is transported in tank wagons. Molasses is used in Bengal to a certain extent with tobacco, after the same is concentrated. In Khulna there are small factories which do the concentration through boiling it. We do the boiling to a certain extent ourselves also and sell it as boiled molasses. The boiled molasses is exported to various stations on Eastern Bengal Railway packed in tins. The container is, however, as much costly as the price of material itself. The tank wagons provided by the railway are suitable only for transport of unboiled molasses. The number of wagons supplied for this traffic on our line is quite insufficient for the needs of the trade. The freight charged by the Eastern Bengal Railway for Khulna is As. 4-6 per maund which is also the freight for sugar although the difference in the price of two commodities is near about 20 fold. This definitely discourages molasses transport. The freight for molasses on Eastern Bengal Railway is comparatively much higher than other railways.

61. Fortunately we have realised some price for our molasses but the same has come down now to about As. 4 per maund which is the freight difference between Bihar factories and ourselves for our consuming markets and this much is the only value which we can hope to realise. We do not see any other successful use of molasses yet although a number of suggestions are forthcoming.

62. We are not aware of any successful and economic use of bagasse made so far. Its export is difficult on account of its bulk and the heavy freight one has to undergo.

63. We have none to suggest.

Storage and Transportation of Sugar.

64. The figures of stock at opening and closing of seasons are given below :—

Season.	Opening Balance. Maunds.	Closing Balance. Maunds.
1933-34 . . . . .	...	7,172
1934-35 . . . . .	...	63,952
1935-36 . . . . .	...	138,768
1936-37	52,353	127,514

65. Our present storage capacity is for 30,000 bags. We are adding another godown which will take in further 50,000 bags.

66. In the rainy season sugar gets some damp effect deteriorating the quality to a certain extent. Godowns have all been made all pucca but the atmospheric effect is still there.

The better grades of sugar are liable to comparatively less deterioration than inferior ones.

67. Damaged sugar has generally to be remelted. It is difficult to sell it, otherwise.

68. It is difficult to express any definite opinion in the absence of any reliable data in this respect.

69. Sugar gets damaged in transit only during rainy season. If the railway take the proper care to set apart watertight wagons for sugar transport and take proper care during transshipment the risk will be considerably minimised. Some of our sugar finds its way to river bank stations in Bengal. This sugar has to undergo transshipment therefore, at Saraghat steamer station. There is no satisfactory arrangement for the transshipment at the ghat. Sometimes damage takes place during transshipment at the ghat. This can be avoided if proper facilities are provided by the railway and steamer companies concerned.

70. Many times we do not get proper type of empties for the transportation of sugar and deliveries have of course to suffer on that account. Such instances have often been brought to the notice of the railway authorities.

71. The railway should undertake to mark the wagons as "watertight" after thoroughly testing them and only such wagons should be supplied for sugar transport. Of course, the number should be sufficient for the needs of the sugar traffic.

72. We do not have any record of rates maintained at port and up-country centres but statement of rates maintained for our factory delivery is attached (Annexure A). A list of the freight from our place to important Bengal and Assam markets is also attached herewith (Annexure B).

Capital Account and Overhead Charges.

73. Balance Sheets for years 1933-34 and onwards are attached herewith

74. The particulars of depreciation written off are as follows:—

	Rs.	A. P.
1933-34	75,023	9 0
1934-35	1,17,800	4 9
1935-36	1,38,270	7 6

The rates for the major Accounts of Machinery Plant and Buildings are as allowed by the Income-tax Department but for minor Accounts such as Tools, Tackles, Instrument, Furniture, Weighbridges and Scales, etc., these are between 5 to 15 per cent. But the total difference for the last three years combined, in the amount of depreciation, as calculated at statutory rates and as actually allowed amounts to Rs. 25,956-0-6.

75. We have not been able to create any reserve upto now.

76. The figures for Dividends paid are noted hereunder:—

Year.	Ordinary shares.	Preference shares.
1933-34 . . . . .	...	No shares existed.
1934-35	Rs. 50,000 @ 5 %	Do.
1935-36 . . . . .	...	Rs. 19,180-5-3 @ 6 %
Total to 31st August, 1936	Rs. 50,000 plus	Rs. 19,180-5-3
		= Rs. 69,180-5-3

77. Our entire capital is provided by our Managing Agents.

78. The figures of the commission paid to the Managing Agents are noted hereunder:—

	Rs.	A.	P.
1933-34	18,673	10	0
1934-35	28,968	14	9
1935-36	42,449	1	6

The commission is based at 1 per cent. on sale of manufactures and 10 per cent. on profit.

With regard to Head Office expenses no separate accounts have been kept.

79. Ten per cent. we consider as a fair return.

Efficiency of Production.

80. The forms* are attached duly filled in as required.

81. We have been struggling from our very start, *i.e.*, from 1933 to bring down the working cost to the minimum possible and with this view we have doubled the capacity of our plant and also have added machineries at considerable cost to improve the efficiency and have brought down the staff strength to the minimum.

Yet the cost of sugar production is comparatively higher at our place the reason being:—

- (i) The recovery of sugar in Bengal is less by one per cent. if not more on an average on cane, which is nearly 11 per cent. on sugar. This is due to the comparatively low sucrose content in the Bengal cane as has been actually found under factory working conditions. The absence of sufficient gate cane, as also the difficulties in transport for lack of suitable roads are also responsible to a certain extent for the low recovery. It has also been observed that the ratio of invert sugar is comparatively higher in Bengal than any other provinces.

Year.	Minimum.	Maximum.	Average for the season.
1935-36	0.81	1.8	...
1936-37	0.78	1.31	1.08

- (ii) The cost of sugarcane is comparatively higher here, chiefly due to the insufficiency of gate cane. The bulk of the supply has to be imported from long distances by rail, enhancing the cost of the cane by nearly 25 per cent. over and above the price paid to the cultivators. The secondly charges comprise of the expenses incurred on the running of purchasing centres at rail heads, loading of cane into railway wagons, commission to the brokers, interest free advance to cultivators to secure supplies, risk on advances, railway freight and the like. All these charges are comparatively heavier here on account of the cane cultivation being scattered and not so developed as in the United Provinces and Bihar.

* Not printed.

(iii) The higher cost of labour at our place compared to the United Provinces and Bihar. The following figures will illustrate the difference:—

	Our average wages per head.	Rates as prevailing in certain United Provinces and Bihar factories.		
		No. 1.	No. 2.	No. 3.
		Rs. A. P.	Rs. A. P.	Rs. A. P.
Engineering labour .	20 0 0	11 12 0	14 3 0	11 10 0
Manufacturing „ .	16 0 0	11 4 0	12 6 0	9 6 0
Unskilled „ .	11 0 0	7 0 0	8 0 0	7 0 0
Average of above .	15 10 6	9 15 3	11 8 3	9 5 3
		Average 10 4 3		

The bulk of our labour we have to import from Gorakhpur and Chapra districts. There is practically an absence of labouring class here. The population consists mainly of the cultivators and the "Bhadra Lok" both of whom have an aversion to factory life. The people recruited from other districts, have to be paid nearly 50 per cent. higher wages than the rate at which they work in their own districts. Besides the higher wages, the cost of recruitment, their travelling expenses and other facilities necessary to them while away from their homes, also add to the labour charges. Even after incurring all the expenses, it is almost a problem to get the proper quality of men year after year. The absence of local labour also leads to neglect in the proper discharge of duty on the part of labour as we have no other alternative but to carry on somehow with the imported labour as replacement in time of need is almost an impossibility. No sugar factory can afford to retain all its men throughout the year, and there is always an uncertainty about getting the very experienced labour, once they leave for their homes at the close of the season. In the United Provinces and Bihar, the conditions are quite different. Factories are located in the areas from which labour is obtained. People can afford to engage themselves at lower wages in the factories situated nearby to their homes, as side by side, with their work in the factory, they can look after their homes and other interests as well, which are chiefly agricultural. The same, is, however, not possible, in case of imported labour. Naturally the best type of people are not available for work in distant provinces, even more so in this part of Bengal, where the climate is not very congenial to the people of the United Provinces and Bihar, with the result that the efficiency of the work also suffers to a certain extent, ultimately affecting the work cost.

(iv) The duration of crushing season is shorter in Bengal compared to other Provinces which is due to the following facts:—

- (1) Insufficiency of cane supply.
- (2) Lack of improved varieties of sugarcane.
- (3) Climatic conditions influencing the purity of Juice.

82. So far as we see the possibility towards the reduction of manufacturing charges lies in the following:—

- (1) Rich varieties of cane at cheaper cost.
- (2) Longer working season.
- (3) Improvement in transport facilities.

Marketing.

83. The Principal markets for the sale of our sugar are the stations situated on the Calcutta-Siliguri, Poradah-Goalundo, Ranaghat-Bongaon, Santahar-Kaunia and Sara-Serajganj sections of the Eastern Bengal Railway. Our sugar is also being marketed to a small extent in East Bengal and Assam, though we have to face a serious competition with Bihar factories there, who can always under-sell us on account of their low cost of production compared to us. The markets of North Bengal beyond Parbatipur and Assam, are practically denied to us, principally due to unfavourable steamer and railway freights, as also the under-selling by Bihar factories, though geographically we are the nearest largest Sugar Factory situated to these markets.

84. We sell our sugar mostly to dealers whom we pay discount at about 1 per cent. on sale price and the dealers in their turn sell it to the retailers. We have our connections with the dealers in the mufassil towns.

85. In our opinion some changes would be desirable in the present Sugar Contract Form.

Under the existing contract the system of tender and payment is based strictly on delivery on due date and payment has to be made against delivery of the goods whereas in case of Gunny business the common and prevalent practice is that if a buyer fails to take delivery of the goods the seller tenders Delivery Order against which the buyer pays the value of the goods while the goods are allowed to remain stocked in the sellers' own godowns. It will thus be evident that in doing so the buyers, specially in these days of depression, are greatly facilitated.

In this case it is not incumbent on the buyers to take the actual delivery of the goods immediately on due date provided the buyer can satisfy the seller by paying the value of the goods against Delivery Order to the seller.

Under such circumstances the Delivery Order can easily change any number of hands. This facilitates the financing of the business in times of dull business activity, when the actual consumers are few, the buyer of the goods can manage to finance the purchase either by selling the Delivery Order to somebody or by hypothecating the same with some Banker but if the actual delivery of the goods has to be taken by the buyer immediately within due time against cash payment then similar facility is not possible. Very often it is seen that weak buyers in slack business activity are forced to sell their goods at dam cheap prices in order to be able to meet their obligations to the manufacturer but in case the above referred system as prevailing in the Gunny business is introduced in sugar as well this may create certain facilities of trade and may help the maintenance of sugar prices at economic levels. Due consideration, however, shall have to be given to the loss by deterioration which may occur to the sugar in storage during rainy season unlike gunny. It may be possible, however, to devise suitable arrangement by which both difficulties can be met satisfactorily. In our opinion this suggestion, if introduced, is likely to help both the trade and industry.

86. The question is already replied under question No. 72.

87. So far as we are aware the wholesale and retail prices generally follow each other.

88. The dealers have small godowns at their places which cannot be said, however, of improved types. They are good enough to hold stock for short periods and then deterioration sets in. Dealers generally do not keep large stocks.

89. Better grade of sugar of course lasts better. There has been marked improvement undoubtedly in the quality of Indian sugar.

90. Better grade white sugar is preferred by Bengali sweet manufacturers but there is no particular fancy for Java. Indian sugar is fast replacing Java now. High class refined sugar is consumed by European residents and restaurants, etc., generally.

91. The quality of Indian sugar is almost coming to the level of Java sugar. It is not, however, yet exactly at par with Java excepting a few cases. The difference is more in the size of grain and its uniformity.

92. The position is changing from season to season. The mills are carrying now larger stocks than before. The dealers do not hold much stock with them. Since the depression they prefer to trade from hand to mouth rather than hold large stocks.

So far as the financing is concerned, various arrangements are in force depending upon the resources and circumstances of parties. The mills do allow certain period of credits to their dealers.

93. A marketing survey of sugar is an indispensable need. Sugar is one of the big trades of the country. It is not yet properly organised and a survey of the conditions prevailing in the different provinces and standardisation of method will help the trade and industry considerably.

94. We are definitely in favour of central sales organisation. This is possible, however, only if controlled by special legislation, its success depends upon cent per cent. co-operation of the factories including those of the Indian States.

95. Standardisation of quality of course will facilitate the trade. There should be, however, 3 or 4 grades based on colour and grain on which the qualities should be standardised.

96. (a) So far as we are aware there has been no business transacted uptil now on the basis of sugar standards prescribed by the Director of Imperial Institute of Sugar Technology of India, Cawnpore. Unless a uniform contract is introduced individual parties are reluctant to depart from their existing practice.

(b) We have used the standards for grading purposes. They have been helpful.

97. We have no particular suggestion to offer.

98. A futures market will undoubtedly develop sugar trade but there is the danger also of the speculative element getting in. It is generally seen that the Indian speculator having small holding power is usually bearish. While the future's market may create some more holders, there is the danger that sentimental bears, may depress the market further which is already under crisis. In our opinion therefore, preliminary requisite of the establishment of any futures market is, the opening of the possibilities of the export of Indian sugar outside. Until the export is possible it will be dangerous to establish any futures market as in the absence of export in the present state of industry, bearish sentiments will have the upper hand.

Calcutta will be the most suitable centre for a futures market if one is established.

99. We leave this to be answered by the economists.

100. It is very difficult to give an estimate of sugar replacing gur. Gur taste will prefer gur only but it is believed that at the present rates of sugar its consumption may be comparatively higher.

101. There is possibility of the development of these lines such as syrup, sweets, etc., but technical advice and trained labour is practically not available and there are initial difficulties lying in the development of these lines.

102 & 103. We are not in touch with the import of sugar and these are for the importers to reply.

104. (a) So far as we are aware there has been no export of Indian sugar outside. It is unfortunate that the Indian Government have agreed to

place restriction on the import of Indian sugar in the United Kingdom. This is of course, a step-motherly treatment which no other Government feeling for its people will ever do.

(b) Possibilities of export should be explored by the Government particularly by adopting the following measures:—

(1) Preferential treatment to Indian sugar in United Kingdom as Colonial sugar.

(2) Refund of the excise duty and a suitable subsidy for exported Indian sugar.

105. The effect of the sugar, excise duty has been most harmful on the industry. It has crippled the industry at its very birth. Factories like ourselves had hardly anytime to establish on sound footing and we have been dealt with a death knell at the very start.

We had to create conditions for the success of the industry from the very beginning in a province like Bengal where there was no such industry before. In doing so we had to undergo a lot of hardships and expense with the result that when we were a little established we found ourselves placed under a heavy load. The result is quite obvious. A comparison of our contributions as excise duty and the dividends we have paid to our shareholders should give the idea:—

Our official Year.	Amounts of duty.		Amount of Dividend paid to share-holders so far.	
	Rs.	A. P.	Rs.	A. P.
1933-34 . . .	12,333	9 7	...	
1934-35 . . .	1,06,824	13 9	50,000	0 0
1935-36 . . .	2,16,273	6 3	19,180	5 3
1936-37 (till May)	2,63,993	1 0	Accounts not made up. There is, however, little or no hope of declaring dividend.	
Total . . .	5,99,424	14 7	69,180	5 3

It appears as if the industry has been created simply for the collection of excise duty and the investors made the serious blunder in believing the protection policy of the Government. The advantages which the sugar industry has conferred upon the people of the locality being outside the province of the questionnaire need hardly be mentioned here. The recent enhancement has made matters worse.

106. Already replied under question No. 60.

107. We are not fully informed in the matter.

Claim for Protection.

108. The rapid growth of the industry is the clearest proof of the advantages of protection. The duty has effectively restricted import in which there is no doubt.

109. No change should be made in the rate of duty in the remaining protection period. The period of protection should be extended to such time as the industry can stand on its own legs and should not be limited till 1946 only.

110. We recommend the following steps which are likely to be helpful for the improvement of the sugar industry:—

(1) Abolition of the excise duty in entirety, and if that is not possible, reduction in the rate by at least Re. 1 per maund.

- (2) Restriction on further expansion of the industry till the present factories are able to establish themselves on a firm footing. Periodic enquiry to be made by the Government and if the factories start profiteering beyond a reasonable limit at the cost of the consumer, restriction to be relaxed under such circumstances so that unhealthy profiteering may not develop.
 - (3) Opening of export markets by suitable trade agreements with foreign consuming countries specially United Kingdom.
 - (4) Establishing sugar prices by creating common sales organisation under charter of special Legislation so that it may be effective like Java.
 - (5) Creating facilities for financing of stocks of weak factories so that due to the bad action of some weak parties by underselling their products, the future of the industry as a whole may not be jeopardised.
 - (6) Regulation of cane cultivation in the various parts of the country in accordance with the needs of the industry.
 - (7) Creating a Sugarcane Committee for developing sugarcane cultivation in its various branches with sufficient funds and powers to take effective steps.
 - (8) Creating means for the development of feeder roads in Sugar Factory areas.
 - (9) Development of marketing facilities by market surveys, equitable railway rates, etc.
 - (10) Suitable legislation for creating conditions for the development of alcohol industry.
 - (11) Developing the present Technological Institute of Cawnpore into a well-equipped organisation so that it may be able to render similar services to the industry as is available from JAVA PROOF Station to the Java Sugar Industry.
111. Not informed in the matter.

ANNEXURE A.

Comparative Statement showing Sugar prices from January, 1934, to March, 1937.

Months.	1934.				1935.				1936.				1937.	
	1	1½	2	3	1	1½	2	3	1 •	1½	2	3	Stand- dard.	Brown.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.
January	9 4	9 0	8 10	8 0	8 10	8 7	8 5	8 2	8 10	8 9	8 8	8 5	7 5	6 4
February	8 14	8 10	8 6	7 14	8 14	8 12	8 8	8 4	8 8	8 6	8 5	8 3	6 13	6 4
March	9 2	8 15	8 10	8 6	8 12	8 10	8 8	8 6	8 8	8 4	8 3	8 2	7 2	6 9
April	9 6	9 4	9 0	8 12	8 13	8 10	8 9	8 7	8 7	8 5	8 3	8 0	6 13	..
May	9 10	9 6	9 2	8 14	9 7	9 4	9 2	9 0	8 8	8 2	8 0	7 14	6 11	..
June	9 10	9 6	9 2	8 14	9 6	9 4	9 4	9 1	8 4	8 1	7 14	7 14	6 7	..
July	9 10	9 6	9 2	8 13	9 6	9 1	9 2	9 0	8 2	7 15	7 13	7 8	..	..
August	9 10	9 6	9 2	8 14	9 6	9 2	8 15	8 9	7 12	7 11	7 4	7 3	..	..
September	9 10	9 6	9 2	8 14	9 3	9 1	8 10	8 9	7 14	7 13	7 1	6 11	..	..
October	9 10	9 6	9 2	8 14	10 6	9 14	9 10	9 11	7 13	7 10	6 10	6 8	..	..
November	9 1	8 14	8 10	8 7	9 8	9 14	9 10	9 4	7 8	7 3	6 9	6 7	..	..
December	8 12	9 8	8 5	8 3	9 4	9 4	9 2	8 13	7 8	7 2	6 8	6 5	..	..

ANNEXURE B.

(Question 72.)

List of the Freight of the Important Markets.

	Freight by Rail.	Freight by steamer.† (Over 300 Mds.)
	As. P.	As. P.
1. Khulna	4 6	...
2. Goalundo	3 1	...
3. Kustia	2 2	...
4. Ishurdi (Pabna)	1 0	...
5. Natore	1 2	...
6. Santahar	2 2	...
7. Hili	3 3	...
*8. Siliguri	6 7	...
9. Bogra	3 1	...
10. Rajshahi	1 6	...
11. Nimasarai	3 5	...
*12. Cooch Behar	7 11	...
13. Dhubri	4 11	...
14. Gauhati	7 1	...
15. Nawagong	8 7	...
*16. Tezpur . . . . .	...	12 0
*17. Dibrugarh	15 1	13 6
*18. Tinsukia	14 6	...
*19. Sylhet	11 2	10 3
*20. Mymensingh	4 8	...
21. Mirkadim . . . . .	...	5 6
22. Bhairab	6 7	7 6
23. Chandpur	8 10	7 6
24. Charmuguria . . . . .	....	7 6
25. Barisal and Jhalakati . . . . .	...	7 6
*26. Chittagong	9 10	9 3

The Deshabandhu Sugar Mills, Ltd., Dacca.

(1) ANSWERS TO THE GENERAL QUESTIONNAIRE.

1. From the first week of February, 1934.

200-250 tons capacity.

		No. 1 sugar.	No. 1½ sugar.	No. 2 sugar.
		mds.	mds.	mds.
2.	1935-36	21,992½	2,777½	17,617½
	1936-37	22,345	4,015	19,505

3. (a) An abundant supply of canes can be had within a radius of 10 miles of the factory. No other facility for limestone, etc. The factory is

* Due to unfavourable freight and lower selling rates of Bihar factories our sugar finds little room in these markets.

† Steamer rates also include railway freight and transshipment charges up to Saraghat.

very near to the consuming markets, e.g., Kamalaghat, Chandpur and Bhairabbazar. These are the three big ports of much considerable importance in East Bengal and are navigable by river all throughout the year.

(b) In this respect, the factory is the worst sufferer. There is practically no communication by any cartable roads or railway system. Canes from the fields are first brought to the different purchasing centres of the factory, sometimes by carts and also by the coolies on their heads. They are then transhipped into the country boats which convey them to the factoryghat from where they are unloaded and delivered at the Cane Carrier.

This difficulty of communication and absence of feeder roads in the cane zones stands on the way of prolonging the season beyond the 31st of March although sufficient canes remain at the fields at the great distress of the cultivators. This transport difficulty will be brought home by the fact that the total price paid for canes by the factory this year was As. 4-6 a maund, out of which about As. 2 was spent for transport charges although the maximum distance of the fields from the factory was about 10 miles.

Throughout East Bengal, these transport difficulties are most serious and are the main factors for which starting of sugar mills of higher capacity is an impossibility until the local Government make suitable arrangements for proper conveyance. There are two mills in this District and both of them have been suffering very heavily only for bad communications for carrying canes. The mill authorities cannot afford to pay more than As. 4 to 4-6 a maund as the price of canes out of which the cultivators are getting about As. 2-6 a maund only. As a result, the acreage under cane is being restricted gradually. The said transport difficulties in the area of the two sugar mills in this District can be reduced very considerably by making 3-4 cartable roads in that area, at a cost of about Rs. 30,000 at the maximum. We have sent repeated representations to the Provincial Director of Agriculture, the Director of Industries and other proper authorities concerned but with no effect. The local Government spend lots of money for jute restriction propaganda and advise the cultivators to grow canes as a substitute for jute but they are quite indifferent to in creating proper facilities for them to transport their canes to the factories.

The necessary funds for making these cartable roads in the cane zones can be obtained from the following sources:—

- (i) The Provincial Road Fund.
- (ii) The subsidy received from the Government of India out of the proceeds of the Sugar Excise Duty.
- (iii) The proceeds of the Motor Vehicles Act.
- (iv) The grant from the Rural Reconstruction Fund.

This industry in this part of Bengal will be placed on a permanent footing if the Tariff Board kindly draw the pointed attention of the Bengal Government to these most vital problems of transport of canes.

(c) Due to the paucity of sugar factories in Bengal, the supply of trained labour is not adequate. They are to be imported from the United Provinces and Bihar sides at a considerable travelling expenses and on comparatively higher wages. Consequently, due to this item, the overhead charges of the factory increase slightly.

But a good number of apprentices are being recruited every season for proper training. There is no want for ordinary labour hands at high rates.

4. Double sulphitation process.

(i) The percentage of recovery of sugar is higher in carbonitiation process than in the sulphitation due to thorough clarification obtained by the former.

(ii) Gummy and other colloidal matters are easily removed by the carbonitiation process.

(iii) Sugar produced by the carbonitiation process is much superior in quality to that produced by the other process.

(iv) The cost of production of sugar is higher in carbonitiation than that in the sulphitation process, but that is amply counterbalanced by higher price secured by carbonitiation sugar.

(v) Our experience is that during the season just ended, the price difference between the two qualities of sugar was between As. 8 to 10 a maund.

5. Since the erection of our plant in 1934, the following extensions and additions have been made:—

- (i) One Filter Press costing about Rs. 4,000 in all.
- (ii) A number of Juice Settling Tanks costing approximately Rs. 4,000 to Rs. 5,000 in all.
- (iii) A new Sulphur Furnace costing about Rs. 500.
- (iv) A new 3,600 sq. ft. Multitubular Boiler costing about Rs. 20,000 (Rupees twenty thousand) in all.

6. An addition of a fourth mill and a few Centrifugals.

7. (a) The adequate supply of raw materials is the cardinal factor in determining the size of an economic sugar plant. Moreover, the capacity for the Capital outlay and specially the advantages for disposing of the finished products at fair selling prices are also the factors to be considered.

(b) In our opinion and in normal conditions depending on local conditions, 250-300 tons will be an economic unit in Bengal. The increased overhead charges will be compensated by the advantage obtained by the Bengal factories in question of freight on sugar.

8. India made a modest start in this direction with the fabrication of tanks, etc., at the moment of writing. Almost all sugar machineries can be and are being made in India save and except the following:—

- (i) Boilers.
- (ii) Larger sizes of machine cut gearing.
- (iii) Special steels.
- (iv) Larger sizes of Engines.

Messrs. Stewart & Lloyds, Calcutta, the pipe and tube manufacturers, are laying down a tube and pipe factory this year in collaboration with Tatas and there is every reason to believe that manufacturers of the materials, enumerated above, will also follow suit.

9. (i) To be very frank and so far this mill is concerned no real technological assistance was obtained from the Institute save and except the supplying of consolidated monthly statements of Central Sugar Factories containing the manufacturing data of different mills. We do not know if any valuable Research work—either on the chemical or on the Engineering sides—has been done by the Institute. At least we have not been supplied with the details of these works. In our opinion, the Institute works mainly as a Statistical Office other than that of a Research Institute.

We beg to put the following suggestions for this Institute:—

- (a) It should function chiefly as a body to render technological assistance to the Central Factories just on the lines of Research Station Association at Java.
- (b) For the said purpose, it should maintain a Consulting Staff composed of good and experienced experts in the different aspects of this Industry.
- (c) The Central Factories are to be divided into several groups and each member of the Consulting Staff is to be entrusted with a group and his duty will be to render all possible assistance in respect of technological matters of the factories of his group. He should pay occasional visits to the factories of his group and supervise the entire manufacturing works. The mill

- authorities, under statutory obligations, will be asked to place all the records and data at the disposal of the Group Advisers.
- (d) Under the penalty of legal steps, all factories should be asked to send their manufacturing data, fortnightly, to the Institute. Under the present Sugar Production Rules, the factories do not usually submit their Returns.
 - (e) The Offices of the Advisers of the Consulting Staff of the Institute may be located at suitable places of each cane-growing Provinces so that the group factories can make easy communications with these offices.
 - (f) The results of the Research work at the Institute should be published fortnightly in the Journal and a copy of this should be sent free to each of the Central factories.
 - (g) The technological staff or the Research workers of the Institute should be drawn, as far as possible, from the Central Factories so that the persons in touch with the real problems of the manufacturing works are appointed.
- (ii) The local Industries Department, since the inception of this mills, has not maintained any contact with it. We have never been asked by them to send any data or figure regarding any aspect of our mill or of this industry. They seem to be quite indifferent in collecting the details regarding the development of such an important industry in this Province.

Our suggestions for improvement are as follows:—

- (a) The Department must maintain close connection with every mill of this Province.
- (b) They should ask the factories to submit to them the details of the manufacturing process in the form of monthly Returns so that the Department may be in direct touch with the factories.
- (c) A few technological experts, well acquainted with the local difficulties regarding the manufacturing of white sugar from the Bengal canes, should be appointed by this Department. Whenever any factory will feel any difficulty regarding any technological matter, it should make immediate reference to the Industries Department so that the proper assistance might be given by these experts.

The function of the experts, maintained by the Imperial Institute should be to give assistance to factories regarding intricate problems of manufacture and to spread amongst them the results of the higher Research Works carried out at the Institute—while the duty of the experts maintained by the local Industries Department should be to render assistance regarding the difficulty arising out of the process of making white sugar from the Bengal canes.

- (d) For the said purpose, all equipments for chemical works are to be arranged at the Laboratories of this Department so that proper works on the juices of Bengal canes can be carried out.
- (e) The Department should also collect the statistics regarding consumption of sugar in every District of the Province and place their informations at the disposal of the factories.

Raw Materials.

10. No.

The difficulties for purchasing lands for cane cultivation in this part of Bengal are as follows:—

- (i) High cost for land.

The price for an acre of land, suitable for cultivation, is about Rs. 1,200.

- (ii) It is not possible to obtain 200-300 acres of land *at a stretch*. Moreover, the cultivators are extremely reluctant to part with their lands for good because these lands happen to be the only means for their livelihood.

In respect of taking lease of lands, this is more feasible here and the cultivators will be quite content if they get a fair amount as their leasing charges per acre of land per annum. There might be some practical difficulties in arranging these leases on the part of the factory authorities but these difficulties might be overcome if the Collector of the District gives his full co-operation with the mill authorities.

11. (a) About 5,000 acres but all the canes of this area cannot be consumed by the factories due to the transport difficulties and half of the canes, grown in this area, is converted into gur.

(b) About 10,000-12,000 acres per annum.

(c) Co. 213, Co. 214 and yellow tanna.

(d) The system of cultivation followed is crude due to the conservative ideas and colossal ignorance regarding the use of manures, etc. The ratooning is extensively practised in this area with the result that the quality of canes becomes inferior.

(e) For Co. canes—

750 maunds per acre on an average.

13-14 per cent. sucrose on cane.

For Tanna varieties—

600 maunds per acre on an average.

10-12 per cent. sucrose on cane.

12. No.

13. So far this mill is concerned we have received no practical assistance from the Department of Agriculture of the Province. They have not thought it desirable, since the inception of this mill, to know our views regarding the position of cultivation of canes surrounding our factory. They have never asked us for supplying them with the necessary informations regarding the increase of the acreage of cane under improved varieties surrounding the factory. In fact, no appreciable increase in cane acreage of the Co. canes has been effected near our factory. About 80 per cent. of the canes crushed by us is of Tanna varieties, which are much inferior in quality to those of the Co. canes. We have not heard that any serious attempt has been made by this Department to educate the cultivators, surrounding our factory, with regard to the use of manures, etc.

In our opinion, the Department can render much valuable assistance to the cane cultivators with the co-operation of the mill authorities in the following ways:—

- (i) The Cane Superintendent of the Department should pay occasional visits to the factories during the season time, so that he can personally see the different varieties of canes consumed by the factories.
- (ii) The distribution of seedling of the Co. canes amongst the cultivators can be made very effectively through the different purchasing centres opened by the mills in the entire cane zone.
- (iii) A good number of pamphlets, giving full instructions regarding the use of manures, etc., can be freely distributed amongst the cultivators through the purchasing centres of the mills.
- (iv) To stimulate the cultivation of Co. canes surrounding the factories, the Department should advise the factory owners to pay a bit more for the price of the Co. canes than that of the other inferior varieties. We are of opinion that the mill-owners should be too pleased to accept this proposal.

- (v) Full instructions regarding the merits and demerits of ratooning should be freely distributed amongst the cultivators.
- (vi) The Department should ask the factories to submit to them regularly the results of the analyses of the juice, syrup, etc., of the different qualities of canes consumed by them so that the Department might be fully acquainted with the details of each varieties of canes.
- (vii) The Cane Superintendent should arrange occasional meetings amongst the cane-growers in the vicinity of the factories where he should explain to them the up-to-date methods of cane cultivation. He will get fullest co-operation in this respect from the different factories.
- (viii) If necessary, one or two additional officers, having wide experience in cane cultivation, should be appointed by the Department to look after the cane cultivation surrounding the factories.

We are constrained to remark here the very little assistance has been rendered at least to us by the Department of Agriculture in the respects as stated above.

14. (a) The cane acreage has undoubtedly increased but the earlier stoppage of the factories, in this season, for the additional excise, will have some repercussions in the cultivation of canes for the next season.

(b) In this part of Bengal there has been very little progress in the quality of canes.

15. The cane crop is not damaged by frost in this part of Bengal. The diseases tell upon the qualities and the quantities occasionally but we are unable to supply the Board with the details. This can be had from the Agriculture Department.

16. Provided, good arrangements for transport of canes are made, the factory is assured of its full cane supply. But 80 per cent. of the canes crushed is Tanna and the balance is Co. canes.

Tanna—yield 600 maunds per acre and sucrose content is 10-12 per cent.

Co. canes yield 750-800 maunds per acre, sucrose content is 13-14 per cent.

17. There is only one factory, some 8 to 10 miles off from ours and it is true that keen competition sometimes takes place regarding the price of canes.

18. (a) & (b) The area under cane varies according to the price which the cultivators obtain either from gur or by selling the canes to the factories.

(i) The growth of canes and consequently the yield is seriously affected by draught or by excessive rainfall.

The system of irrigation is not practised at all in this part of Bengal even at times of acute draught. The Agriculture Department may issue suitable instructions to the cultivators regarding irrigation—the cost for which is negligibly small due to the presence of a number of “bills” and “khals” in the cane zones.

(ii) It is quite natural that the higher the prices of sugar obtained by the factories, the more they can afford to pay for the price of canes.

In 1935-36 season, the average price for canes paid by this factory was As. 6 a maund and sugar was sold at about Rs. 9 a maund but during this season the average price paid to the cultivators was about As. 4-6 (four annas and six pies) a maund, because the selling price of sugar was near about Rs. 7 a maund.

(iii) It is a fact that the cultivators are tempted to increase their cane acreage if they get good prices for their gur.

(iv) The only alternative crop in this part of Bengal is jute. It is also a cash crop and if its price goes to about Rs. 8 a maund, we are afraid the cultivation of canes in this part will be seriously limited. The Government propaganda for jute restriction will be of no avail if the price of jute

goes high and if the factories fail to pay higher prices consistent with the increase in the price of jute.

19. No.

This contingency, in our opinion, has not yet arisen in this part.

20. The detailed answer has been given under (f) in question No. 11.

21. The most serious difficulties in this respect is want of cartable roads from the fields to the factories. The details of this problem and our suggestion have been amply discussed in answering (b) under question No. 3.

22. (a) We do not support the idea for compulsory acquisition of land for cane cultivation as this step will compel the cultivators to part with their ancestor's land—their only means of livelihood—for all time to come. But we believe that the leases of land can be secured by factories through the intervention of the Collector of the District and if the factories agree to pay suitable leasing charges, the Collector should have full authority in securing the leases for the factories.

(b) In case, the compulsory leasing is not approved of by the Board, we strongly support the "zoning" system for the following reasons:—

- (i) It will save the factories from unhealthy and uneconomic competition regarding the prices of canes, specially at the fag end of the season when the percentage recovery decreases.
- (ii) This system will help the cultivators of the different zones to understand to what extent they will increase or decrease the cane acreage. This will therefore eliminate the chances of overproduction of sugar canes at the great distress of the cultivators.
- (iii) The factories will be absolutely assured of their cane supplies and their expenses for organising different cane purchasing centres will be limited to the particular zone.
- (iv) The previous Tariff Board fully admitted the advantages that would result to the factories if the system of zoning coupled with leasing be adopted but they opposed any legislation to that effect. We are of definite opinion that these systems cannot be worked out if there be no statutory sanction behind them.
- (v) The previous Tariff Board opposed the idea on the ground that competition between the factories is the only definite safeguard which the cultivator possesses for the maintenance of cane rates but this objection does not now hold good in view of the fixation of cane prices.
- (vi) The zoning system can well be worked out if the factory is not permitted by law to bring its supply beyond its zone provided sufficient care and attention be given by the proper authorities in fixing the zone for each factory. In this respect, the capacity of the plant should be the main consideration in limiting the area.
- (vii) The zoning system will certainly excite a competitive idea amongst the different factories for improving the cane cultivation in their respective jurisdiction in respect of quality, quantity and yield per acre. This will certainly bring great relief to the cultivators.

23. As stated in the previous paragraph, the factories will certainly try their level best to improve the cultivation in their respective zones by way of advancing money to the cultivators, the supplying of fertilizers, etc.

Time has not yet come to think of this "zoning" system to apply in this part of Bengal as the number of factories here is most inadequate.

24. (a) We are of definite opinion that the restriction of production of sugar on quota system is the only means by which this industry can be saved from further decline.

The previous Tariff Board based their recommendations for Protection on the following assumption:—

- (i) Cost of production of sugar is Rs. 7-8-5 taking the price of canes and molasses at As. 8 and Rs. 1-8 respectively. The charges of depreciation and interest were excluded out of the above costing. The talk of any excise was out of imagination (page 65).
- (ii) The basic fair selling price for the period of protection was taken to be Rs. 8-13-1 a maund (page 78).
- (iii) The above cost of sugar at Rs. 7-8-5 a maund was estimated to come down to Rs. 6-0-9 a maund after the period of protection taking into consideration prices for cane and molasses at As. 6 and Re. 1 respectively (page 72).

But now, the present selling price of sugar is about Rs. 6 a maund and the molasses are to be wasted for nothing. Moreover, the manufacturer has to pay Rs. 1-8 a maund as the excise duty. Therefore, out of this meagre balance of Rs. 4-8 a maund, he has to pay the price for the canes, other manufacturing expenses, interest and depreciation, etc. According to the calculation of the previous Tariff Board, the manufacturer is now losing Rs. 3-0-5 a maund (Rs. 7-8-5 minus Rs. 4-8) provided the cultivator has been paid at As. 8 a maund for their canes. But this is an impossibility and the only conclusion remains that the manufacturer has to manage his affairs somehow by reducing the price of canes to a very great extent at the cost of millions of agriculturists. This contingency has completely frustrated the fundamental idea which actuated the previous Tariff Board to give relief to the cultivators by the policy of Protection.

In our opinion, the present depression has been brought about for the following two reasons:—

- (i) Overproduction of sugar.
- (ii) Want of good marketing organisation (we shall deal with this problem under question 94).

Figures of production and consumption now available, show that by the end of the current season (1936-37), India is expected to produce about a lakh of tons beyond her requirements. This question of overproduction may be easily tackled by the Government either through exporting arrangements of the Indian Sugar under the Preferential Certified Colonial Act or by limiting the production of each factory. The idea of export has been decided against India by the last International Sugar Conference held in London.

The Government should therefore fall upon the scheme of restriction which, if adopted, will at once raise the level of the prices of Indian sugar. This restriction can be controlled on the lines of the Tea Control Board.

In giving effect to any scheme of restriction, it should remember that the present overproduction is due to the overdevelopment of this industry in the United Provinces and Bihar while other suitable Provinces, like Bengal, Bombay and Madras have now to pay the penalty for those two sister Provinces. We are therefore of definite opinion that under the scheme of restriction, the factories in those three Provinces should be given the maximum quota and the scope of expansion there should receive the most sympathetic consideration of the Control Board.

(b) (i) & (ii) If the quota system is adopted the system of licensing, new factories is the logical conclusion.

The promoters of a new factory should, first of all, apply to the Control Board for a proper license and this application should be judged on its merits with special reference to the question of all-India production, which is expected to be effected by the establishment of new factories.

Any scheme of extension of the existing factories should be proceeded with by obtaining the previous approval of the Control Board.

25. (a) 80 per cent. conveyed to the factory by country boats as noted below.

(b) 20 per cent. rail cane.

(c) Nil.

We have stated previously that the arrangements for cane transport are worst in this part of Bengal and there are practically no cartable roads through which the canes can be conveyed to the factories at comparatively cheap transport charges.

In this area, the canes from the fields are brought to the main District Board roads either on carts or on human heads and then transhipped to the factories by country boats. The distance between the terminating point of the District Board road and this factory is about a mile only but our repeated representations to the proper quarters to continue this District Board road up to the factory have gone in vain, although we are quite willing to bear a substantial portion of the expenses incurred.

26. The average weight of canes carried by a cart in this area is 10 maunds only and we believe that the introduction of pneumatic carts will certainly increase the carrying capacity of the cart. The attention of the Collector of the District should be focussed upon this important problem.

27. It is absolutely insufficient.

There is only one District Board road in the entire cane area of this factory and to our disappointment as well as to the cultivators, there are no feeder roads from the fields up to this main District Board road. If our season is to be prolonged and if the transport charges for canes are to be reduced, the first step to be taken is to construct a number of such feeder roads. The Collector of the District, if he is so persuaded, can acquire lands immediately under the Land Acquisition Act for this purpose. The necessary funds for this purpose can be met from the sources as stated in (b) from question 3 or from the funds of Jute Restriction Scheme of the local Government. In the year 1935-36, a sum of Rs. 15,500 was sanctioned by the local Government out of the Jute Restriction Fund for the improvement of the cultivation of cane and we understand that this whole amount has been spent for the distribution of cane cuttings.

In our opinion, this whole amount was to be utilised for making these feeder roads so that the cultivators could deliver the canes to the factories at cheap transport rates.

28. The canes are brought to the factories from an average distance of 10 miles and the average time spent between cutting and arrival at the factory is about 36 hours.

Nothing.

29. As stated in the previous answer, our canes are conveyed to the District Board road by carts and from there they are transhipped to the factories. Therefore the range of cartable road is from the fields up to the end of this District Board road. The transport cost by cart per maund per mile along this District Board road is about three-fourth pice. We have to pay additional charges for boating.

The cane growers do not employ their own carts nor those are hired by them. The carts are invariably hired by the contractor.

30. In some places, the local zamindars occasionally insist for imposing these charges.

31. The answer to this question has been stated in the previous ones.

32. The maximum distance is 56 miles.

The average time taken is about 40 hours.

The Railway arrangements are most unsatisfactory as noted below in the answer to the next question.

33. There is no fixed basis on which freights are assessed.

So far we are concerned, we are connected with Assam Bengal Railway and Eastern Bengal and Assam Bengal Railways combined. The following table will furnish an idea about the freights which we are now paying for our rail canes. For a detailed study of this problem here, the comparative rates of East Indian Railway and Bengal and North-Western Railway are also tabulated.

System.	Nature of wagon.	Capacity.	Distance.	Rate per Wagon.
	Wheeler	Mds.	Miles.	Rs. A. P.
Assam Bengal Railway.	4	160	55	12 8 0 in 1935. 10 0 0 in 1936. 8 14 6 in 1937.
Eastern Bengal Railway.	4	160	117	27 0 0
Eastern Bengal Railway and Assam Bengal Railway Combined.	4	160	54½	17 8 0
East Indian Railway.	4	400	Between 30—50	11 0 0
Bengal and North Western Railway.	4	270	55—60	9 0 0

The above table will show that the freights paid by us are too exorbitant in comparison with those of the East Indian Railway and Bengal & North-Western Railway. It is more so in the case of Eastern Bengal Railway which administration seems to be too much indifferent for the interest of the cane growers. In fact, there are huge cane zones in different parts of the Eastern Bengal Railway in their Dacca District but we cannot bring canes from those places in view of this huge rate of freights.

The local Department of Agriculture should very strongly urge the Assam Bengal Railway and Eastern Bengal Railway authorities to reduce their freights to the level of the East Indian Railway and Bengal & North-Western Railway. Cane acreage of those places on the Eastern Bengal Railway is gradually decreasing owing to the stiff attitude of the Eastern Bengal and Assam Bengal Railways authorities.

We would prefer a flat rate for our rail canes.

34. No.

As all of our other raw materials are brought through Steamer Companies.

35 & 36. We are not interested.

37. It is extremely difficult to give an accurate estimate of the degree of deterioration but we are of opinion that the fall of purity is more marked in the road canes than those of the rail canes.

38. Our entire supply of canes is managed through Contractors.

39. The answer does not arise in view of our answer to the previous question.

But our experience shows that it is not safe in this area to give any advance of money, etc., to the cultivators for in most of such cases, it becomes difficult to realise the money and litigations crop up. If the Presidents of Union Boards in the different cane zones take active interests in the supply of canes to the factories and give sufficient support to the factory authorities, we are quite willing to advance money to the cultivators both to our mutual interests.

40. As stated above, our canes are purchased through Contractors whom we pay usually commission at one pice a maund.

41. There is no such Association in this part of Bengal.

42. Our payment is made after the canes have been delivered at the respective weigh-bridges. This payment is made by our own Officers stationed at those weigh-bridges to the Contractors at the contracted rates and it is his duty to see that the contractors, on their part, make the payment to the cultivators for their canes *minus* their commission and cartage.

43. The rates which were paid to the Contractors were as follows:—

For 1935-36 season As. 6 a maund.

For 1936-37 season As. 4-6 a maund.

Out of this about As. 2-6 a maund were spent for transport charges *plus* one pice a maund for commission to the Contractors.

The cane prices in this locality vary to a very great extent at different periods of the season according to the prices of "gur" obtained by the cultivators.

44. Yes.

During this season, we have to decrease the price of canes gradually according to the gradual fall in the prices of sugar. The cultivators of this locality have been very hardly hit for low prices of canes but for acute depression in sugar market, we were forced to reduce the prices of canes.

In this part of Bengal, the price of canes is generally fixed according to the "gur" market.

45. Generally speaking, the cultivators are tempted to increase their acreage if they obtain fair price for "gur" in the previous season. Due to this increase in acreage, the factories secure good supplies of canes from the cultivators. They prefer to sell their canes for cash money than to convert it into gur.

46. Yes, the gur prices do vary to a very great extent following the well-known principle of demand and supply.

47. The Sugarcane Act XV of 1934 has not yet been applied in Bengal.

In view of the paucity of number of sugar mills in this Province, we do not think it desirable that time has come for the application of this Act here.

48. Although we are not interested in this question but we suggest that the minimum prices of canes should not be fixed on the sliding scale of the prices of sugar obtained, as is now the system, but should be adjusted on the quality of canes supplied by the cultivators, *i.e.*, on the percentage recovery.

49. Yes, this is a very good suggestion as this will induce the cultivators to grow good quality, early and late varieties of canes.

	1935-36.	1936-37.
50.	105½ days.	103 days.

Our season can be easily prolonged up to 130 days in the normal course. The above short durations have been due to unexpected machinery troubles and we consider the season of 100-110 days as quite economic.

51. We take our start of crushing from the very early part of October by utilising early varieties of Co. canes which are grown in this part of Bengal even in 6 ft. depth of water. We are to stop our crushing by the end of March partly due to transport difficulties of canes for want of feeder roads and partly due to the abnormal fall in the purity of canes.

We are therefore, of opinion that the introduction of late varieties of canes is absolutely essential in our area if the season is to be prolonged provided good transport facilities are to be created.

52. So far we are concerned, we have not received any practical assistance from the Imperial Council of Agricultural Research. It is most regrettable that not a single representative from the Sugar Mill-owners of Bengal has been taken in the said Council.

With regard to the Agriculture Department, we have already stated our views above and we are constrained to remark that so far the two sugar mills of East Bengal are concerned, they have maintained an indifferent attitude towards the various problems regarding the cultivation of improved varieties of canes and its transport to the factories.

About the Co-operative Department, we are not aware of any of their activities in connection with the cultivation of canes in our area. This Department can render immense good to the cultivators by advising them to form Cane-growers Association, etc. They can also advance money to them through, the factories for the purchase of cane cuttings of improved varieties, manures and other materials necessary to raise the standard of cultivation. The factories can easily undertake to realise these advances from the cultivators out of the prices of canes to be paid to them.

Labour.

53. During the crushing season, skilled labour, brought from the United Provinces and Bihar sides, are employed in the Manufacturing Department while the skilled labour in the Engineering Department are all local trained men. All unskilled labour are local people.

During the off-season, only a few fitters and a gang of Khalashis of Engineering Department, all local people, are retained.

54. As stated above almost all skilled labour of the Manufacturing Department are brought from the United Provinces and Bihar sides. No labour is brought by us from outside India.

55. For the last two seasons, we are trying to replace the skilled labour of the Manufacturing Department by local young men.

56. Our labour are given good quarters with free light, oil and fuel.

Good recreation in the form of "Jatra" performance, etc., is arranged on the occasion of the Hindu and Muhammedan festivals.

Power.

57. No.

It is supplemented by the use of gazari fuel with a little quantity of coal. The figures for the season 1935-36 and 1936-37 are given below:—

1935-36.	1936-37.
Rs.	Rs.
13,530	8,302

No.

By-products

58. (a) Baggasse.

(b) Molasses.

	1935-36.	1936-37.
59. Quantity Mds.	21,309	28,111
Price Rs.	7,324-15-6	9,663-4-6

The price of molasses in Bengal varies according to the chief rates at which this product can be imported from the factories of Northern India.

60. We sell our molasses on a contract basis for three years at a price of As. 5-6 a maund f.o.b. mill delivery—the containers being supplied by the dealer. The molasses are transhipped from the factory to the Port by country boats, the freight charges being about Anna 1 a maund.

61. Of the various means so far suggested for the utilisation of molasses, we are of opinion that its utilisation for production of Power Alcohol to be used as a motor fuel will be the most profitable one. But, we entertain great doubts whether this Alcohol Industry will be a paying one for the Bengal Factories in view of the fact that molasses can be sold here at As. 5 to 6 a maund. We solicit the valuable opinion of the Board in this direction. The idea of manufacturing Acetic Acid on commercial scale is a problem which should receive the Government's attention.

62. No.

We understand that the baggasse can be used as a raw material for manufacturing brown paper and card board but we don't know the relative costs of this manufacture and we have not received any information so far from Imperial Council of Agricultural Research. We further understand that by the grants of the said Council, Research Works on this subject are being carried out at the Forest Research Institute, Dehra Dun but we are not aware of this results, if any.

63. No.

Storage and Transport of Sugar.

64. Since the beginning of our mills, all our sugars are disposed of with the closing down of the factory and so we do not carry over any stock for the next season.

65. The capacity of our godown is to accommodate over 3,000 maunds of sugar at a time. With the present arrangements with our Sole Agents, we have not increased our storage capacity as yet but hope to do so in near future.

66. It is our experience that during storage, the colour of our sugar deteriorates and we attribute this cause to the following reasons:—

(a) Our Godown is not yet damp-proof as it ought to be. The early setting of the monsoon from the middle of March is regarded to play some part in the act of deterioration.

(b) The defects in clarification are also the causes for deterioration.

67. The damaged sugar is reconditioned in the next season.

68. We do not follow exactly.

69. No appreciable damage is believed to occur during the transit of sugar from our factory to the different ports.

70. No.

71. The types of wagons supplied to us are all closed but it would have been better if their capacities would be a bit more increased (present capacity of each wagon is now 10 tons).

72. As all of our sugar is consumed at the ports near-by, we do not send our sugars to the up-country markets.

The average prices of our sugar obtained from the last two seasons are given below:—

		1935-36.	1936-37.
Quantity	Mds.	42,710	47,015
Value	Rs.	3,85,358	3,23,962-1-3
Gross sale proceeds per maund	Rs.	9	7 (about)

Capital Account and Overhead Charges.

73. The particulars for the year 1935-36 ending 30th June, 1936, are given below:—

	Rs. A. P.
(ii) Lands	8,251 10 3
(iii) Buildings (after making an allowance of Rs. 4,490 as depreciation) .	72,559 0 0
(iv) Machineries (after making allowance of a sum of Rs. 20,774-12-4 as depreciation)	3,11,609 0 0
(v) Other assets (after making an allowance of Rs. 1,446-3-6 as depreciation)	18,845 5 0
Total	4,11,264 15 3

74. The depreciation for the said period has been deducted by Rs. 26,411-14-4. The rate of depreciation is calculated according to the Income-tax Act.

75 & 76. Nothing as yet.

77. Sometimes the working capital is being advanced by our Sole Agents free of any interest and sometimes it is being borrowed from the Bank against an interest of 8-9 per cent. per annum.

78. The Head Office expenses is about Rs. 9,500 per annum and the Managing Agents' Commission is 7½ per cent. upon the net profit of the Company. The Commission to the Sole Agents is given at 1½ per cent. on the face value of the prices of sugar.

79. After making allowances for reserve, all charges for depreciation, etc., and the present Bank rates, we consider that a dividend of 6 per cent. is a fair return on Capital.

Efficiency of Production.

80. The forms* are attached herewith.

81. (i) By extending the Filter press Station and by putting more tanks, the production has been increased with the consequent lowering of the overhead charges.

(ii) By the installation of a new Boiler during this season, the fuel consumption has been much reduced as will be evident from the figures given in our answers to question 57.

82. Save and except the reduction in cane prices, there is much room in our factory for reducing the establishment charges which are bound to be a bit high during the early period of every mill.

The percentage recovery can be improved by obtaining fresh and healthier canes from improved varieties through good transport arrangements. There is also scope for increasing the efficiency on the manufacturing sides.

Marketing.

83. The principal ports are Bhairab, Mirkadim and Chandpur.

84. (a) Our Sole Agents take delivery of our sugar as dealers paying up our prices on ten days' sight at the market rates.

(b) The dealers dispose of sugar in small lots to the retailers sometimes against cash payment and sometimes on credit at a margin of about As. 4 a maund of the rate at which the dealers take delivery of sugar from the mills.

85. We are not interested.

* Not printed.

86. The wholesale and retail approximate price of sugar for the last two seasons are, given below:—

	1935-36. 1936-37.	
	Per maund.	
	Rs.	Rs.
Wholesale	9	7
Retail	10	8

87. The prices fluctuate following the laws of demand and supply.

88. The dealers generally stock their sugar in their so-called go-downs having C. I. roof and this storage arrangements are certainly unsatisfactory for which the quality of sugar deteriorates to a very great extent if stocked for a long time.

89 & 91. The average quality of Indian Sugar deteriorates more rapidly than that of the Java variety but the best quality of Indian sugar can stand equal to Java in all respects.

90. Most of the Europeans, Anglo-Indians and aristocratic Indians prefer Java sugar to Indian for good crystals and bright colour.

We do not know whether the Military Department uses Indian or Java sugars.

92. (a) It primarily depends on the market conditions and on the financial capacity. In our opinion stocks are not held by the manufacturers for more than 3-4 months but in most of the cases they dispose of their sugar to their respective selling agents.

(b) The determining factor in this case is the market. Financial capacity and storing arrangements also count. Sometimes the dealers carry over their stock for about six months.

In most of the cases, the stocks are financed through hypothecation arrangements with Banks at 6-8 per cent. interest per annum according to the local conditions.

93. We strongly support that an immediate marketing survey should be made for the benefit of this Industry.

94. An All-India Selling Organisation is absolutely essential for good marketing arrangements of sugar and it is one of the means by which this Industry can be stabilized.

We are aware of the move which the Indian Sugar Mills Association has taken in this direction but we strongly urge that the interests of the Industry would be better served by a Statutory Body than that by a private organisation.

95. The standardisation of sugar is an essential corollary for the functioning of an All-India Marketing Organisation.

Polarisation of finished sugar might form the best basis for standardisation.

96. (a) & (b) We have not followed this system as yet.

97 & 98. We cannot give any useful suggestion.

99. We would put down the figure of consumption in India at 1,175,000 tons.

In view of very low *per capita* consumption in India and extremely low prices of sugar now prevailing, we are of definite opinion that there are great possibilities of increasing consumption in India.

100. In sweet-meat trade, gur has been largely replaced by factory made sugar specially in Bengal but it is not possible to give an accurate estimate regarding this matter.

101. The starting of these subsidiary industries depend on the following factors:—

(a) Market for finished goods.

(b) Cost of production.

(c) The financial abilities of the factories concerned.

103. Yes, as will be evident from the following figures:—

Year.	C.i.f. price in Calcutta ex-duty.	
	Rs.	A. P.
1933	3	10 9
1934	2	15 8

Although the last Tariff Board estimated that Java sugar could never be landed in Calcutta at less than Rs. 4 a maund ex-duty.

104. Yes, as will be evident from the following table:—

Export of Sugar (in tons).

	By sea.	By land.
1930-31	493	40,126
1931-32	226	28,885
1932-33	437	27,729
1933-34	425	33,110
1934-35	363	34,034
1935-36	389	25,836
1936-37	521	23,381 (for 10 months up to January, 1937.)

We are of definite opinion that Indian export of sugar is quite possible if preferential treatment is given to it under the Certified Colonial Rates. Although the International Sugar Conference in London has deprived India of her exporting rights, save and except to Burma, we look forward to the Board for giving their best attention to this aspect.

106. As stated previously, molasses of our factory are sold without any treatment at As. 5-6 to 6 a maund f.o.b. mill delivery as these molasses—after heating—is extensively used here as a curing material in tobacco industry.

107. The following chart will speak for itself:—

Export of molasses from India.

	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
Aden and Depen- dencies.	13	13	11	13	..	..	..
United Kingdom	..	..	7	179	153	..	13,622
Ceylon	390	658	707	890	890	925	923
Union of South Africa.	13	12	9	14	..	..	9,500
Zanzibar & Pemba	14	15	17	17	..	..	..
Other British Pos- sessions.	13	21	13	19	..	..	..
Other Countries	..	..	..	..	110	101	140
Total	443	718	764	1,141	1,153	1,415	24,195

We are of opinion that there will be no need for the export of molasses if the Government of India take suitable steps for allowing it to be utilised for producing Power Alcohol to be used as a motor fuel.

105. (i) & (ii).

The cumulative effects of normal and additional Excise Duty have been that the Industry has been severely hit due to these impositions of taxes on production. Specially, the enhancement of the Excise from Re. 1-5 to Rs. 2 per cwt. from February last in the teeth of all opposition is the last straw on the camel's back. The cultivators have been very seriously hit for this additional excise as will be evident from the serious agrarian troubles which were manifest in the United Provinces and Bihar since this enhancement. The local Governments of those places were forced to reduce the minimum prices of canes to a very great extent so much so that the cultivators got a very poor return for their crop.

It is a known fact of this Industry that the percentage recovery is generally low during the early and late part of the season for immaturity and dryage of cane respectively. It is therefore, quite natural that the mill-owners will be extremely reluctant to continue crushing in those periods of the season by paying excise at the rate of Re. 1-8 a maund when the selling price of sugar is about Rs. 6 a maund. The effect will be that the crushing season will be shortened both at the distress of the Industry as well as of the cultivators. During the season just ended, the position would have been very grave in the United Provinces and Bihar, had not the mill-owners been generous enough to respond to the appeals of the Government as well as of the Congress to continue the crushing even by incurring loss.

It is stated that the fundamental principle behind this grant of protection is to give relief to the cultivators but this hope has been frustrated by the imposition of this Excise Duty. Moreover, the profits of the Industry have dwindled to nothing and if this duty is not removed, many factories will be compelled to stop their operations for good. We, therefore, strongly urge the Board to recommend to the Government of India for the immediate removal of the excise.

We are perfectly aware that the motive of the Government in imposing this duty is to counter-balance the loss of revenue due to the fall of import duty on sugar. But at the same time, we also believe that this fall in revenue has been amply balanced by income derived from the different sources, e.g., increased traffic movement on cane and sugar, income-tax from the Industry, import duty on sugar machineries, etc., which are the results for the expansion of this Industry. Moreover, the fall of import duty is the natural consequence of the policy of protection of that particular commodity. The duty has very adversely affected Bengal where the Industry has grown very lately and so the factories did not get any time to build reserves to fight with the forces of present depression.

108. We are of opinion that the protective duty on sugar and sugarcandy has been fully enjoyed by the Industry otherwise this tremendous progress within the course of last five years would have been an impossibility. The expansion of the sugar Industry has fully vindicated the principle that under adequate protection development of an industry on large scale is quite feasible.

109. We are of definite opinion that the present protective duty at the rate of Rs. 7-4 per cwt. is to be continued for the remaining protective period, i.e., from the 1st April, 1938, to 31st of March, 1946, for the following reasons:—

- (1) As the price of Indian Sugar is not now determined by the price of imported sugar, there is no harm if this rate of duty is maintained.
- (2) This protective arrangement will not induce any other foreign exporting country to turn its attention to the Indian markets.

- (3) As India has been deprived of her exporting right, save and except to Burma, it is essential that her market must be preserved for her own sugar under this Tariff protection.
- (4) It has been stated in answer to question No. 103 that Java has been able to land her sugar in Calcutta at Rs. 2-15 a maund *ex-duty* while the present rate of protective duty was recommended by the previous Tariff Board on the assumption that Java could not deliver her sugar in Calcutta at less than Rs. 4 a maund *ex-duty*. Therefore, if the present rate of duty is further lowered, Indian market might be invaded by the Java sugar with fatal consequences to this Industry here.

110. We have stated previously that the present depression has been brought about by the following factors:—

- (1) Imposition of heavy excise.
- (2) Overproduction.
- (3) Want of good marketing Organisation.

Our suggestions are now that besides the protective duty, the following measures are absolutely essential:—

- (a) Abolition of the excise.
- (b) Restriction of production on the quota system.

We are of opinion that India has now produced more sugar than her requirements as will be evident from the following figures where the estimate for consumption has been taken to be the most maximum:—

	Tons.
Estimated carry over from the season 1935-36	50,000
Estimated production of factory sugar during the season 1936-37	1,100,000
Gur refined in 1936-37	15,000
Khandsari sugar from cane and palmyra in 1936-37	85,000
	1,250,000
Plus Import of foreign sugar including Java, W. S. R. and soft sugar	20,000
	1,270,000
Grand Total	1,270,000
Less consumption during the year	1,175,000
	95,000
Estimated carry over for season 1937-38	95,000

It is for this reason of overproduction that the present price of Indian sugar has touched the level of the cost of production by cut-throat internal competition. The quotation for Java sugar is Rs. 10 to Rs. 10-2 a maund, while Indian sugar is selling at less than Rs. 6 a maund. We therefore contend that had the proportion between demand and supply been properly maintained, its price would have gone even up to Rs. 9 a maund, thus making an allowance of Re. 1 for superior quality of Java sugar. The Industry cannot be stabilised until the production is immediately restricted.

We know that some of the big mills of India may not favour this idea of quota system but we consider that for the majority of the middle-sized mills, this system is absolutely essential, if possible from the next crop season.

We therefore strongly advocate the immediate creation of a Central Control Board more or less on the lines of the Board created under the Union of South Africa Sugar Act, 1936.

A good selling organisation is absolutely essential for this Industry. We know that a move for forming a Sugar Syndicate has been taken in this direction under the auspices of the Indian Sugar Mills Association, Calcutta. But we entertain great doubts as to its ultimate success, for, such an organisation cannot deliver goods under private management.

We, therefore, desire that a Statutory Body should be appointed to control this selling organisation.

- (4) The question of granting subsidy, which was rejected by the previous Tariff Board, should receive the most careful attention of the present Tariff Board. This subsidy should be granted to those mills which promise to undertake the cultivation of canes for factory consumption. This subsidy might be directly given by the respective Provincial Governments or may be arranged through Provincial Co-operative Credit Societies.
- (5) The necessary licenses to be immediately granted for producing Power Alcohol from molasses to be used as a motor fuel.

The Provincial Agriculture Departments should take more active interest in the operation of the sugar mills in their respective jurisdictions to raise the standard of cultivation of cane which is the only means by which the Industry can be placed on permanent footing. Up-to-date scientific methods and manuring must be applied to get good quality and quantity of canes.

- (6) The Imperial Research Institute should supply the factories with practical suggestions as to increase the efficiency of the manufacturing works.

111. No.

It is absolutely nothing.

No, as Indian molasses is now being sold at nominal prices.

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- (2) *Letter No. 42/SGT., dated the 16th June, 1937, from the Deshabandhu Sugar Mills, Ltd., Dacca.*

Regarding QUESTION 24 (a).

In enclosing herewith a copy of the letter circulated by us to sugar mills all over India, we beg to inform you that this circulation was undertaken by us as a sequel to the Resolution passed by the Committee of the Indian Sugar Mills Association regarding the quota system. We would not circulate this letter of ours had the Committee of the Association been satisfied merely with the passage of the Resolution. But they have circulated it amongst the sugar mills in India and we think that this step might prejudice their judgment in sending you their opinion regarding the quota system.

We are of definite opinion that unless the production of the Indian sugar is restricted immediately, the majority of the Indian mills will suffer very heavily. The Committee of the Association now consists of the persons who are the owners or the representatives of big mills which are bound to arrive the forces of any depression at the cost of the middle-sized mills.

We are further of opinion that the Committee of the said Association should have consulted the mills all over India before coming to any decision regarding the quota system. We, therefore, strongly urge upon you not to take this decision of the Committee representing the considered opinion of Indian sugar mills.

Enclosure.

THE DESHABANDHU SUGAR MILLS, LTD., DACCA.

To

All Sugar Factories.

Regarding TARIFF BOARDS' QUESTIONNAIRE No. 24 (a).

Dear Sirs,

We presume that you have already received a copy of the questionnaire from the said Board and your answers are now under preparation. A careful perusal through the questionnaire must have revealed the fact to you that there are certain questions which have been put from the general aspects of this Industry and the answers to which should, therefore, receive our closest attention.

One such question is 24 (a) which relates to the restriction of production on the quota system. This question is a very important one as its solution will affect the present and future growth of this Industry.

A recent Circular from the Indian Sugar Mills Association—No. 67 of 1937—has supplied you with the provisional answers to be given regarding some of the general questions. With regard to the quota system, we note that the Committee of the said Association "considers that at present there is no need for fixing a quota but realises that the need may arise in the near future". This Resolution is rather unconvincing inasmuch as it admits the usefulness of the quota system but defers its introduction to an uncertainty of near future. Moreover, we contend that the supply of provisional answers to most of the important general questions by the said Association is an attempt on its part to prejudice the decisions of the Indian Factories to those questions. This attempt is an indirect way of asking the factories to agree with the Committee of the Association regarding some fundamental points.

You are further aware that it is an admitted fact that overproduction is one of the main causes of the present depression. This problem can be solved either through good exporting arrangements or by restriction of internal production. The last International Sugar Conference in London has definitely decided against India in matter of export to countries other than Burma. This has been done with the full approval of the Government of India and we consider that there is least chance of that decision being revoked in favour of India. Therefore, the only other alternative to check overproduction is the restriction.

We further contend that the decision of the Association not to support the quota system will help a few big mills to survive at the cost of the majority of middle-sized factories. These big factories—by virtue of their less overhead charges, will always survive the forces of depression. But, in our humble opinion, the restriction of production is the only means by which the present depressed market will be raised up and this will save the majority of Indian Factories. We are of opinion that the Committee of the Association, as it is now constituted, has arrived at the above decision regarding the quota system not in the interest of the general run of sugar factories but to safeguard the interests of a few big mills. The Association would have done well if the decision regarding the quota system would have been left to a general meeting of the members of the Association. The Committee should not have come to any decision until the verdict of the general meeting was known to them.

Under the circumstances, we request you to think very seriously regarding your commitments to be made about the quota system. We further request you to remember that unless the production is controlled by a Statutory Body, the present slump in depression cannot be removed and the market cannot go up.

(3) *Letter No. 176/Imp., dated the 20th August, 1937, from the Deshabandhu Sugar Mills, Ltd., Dacca.*

Please find enclosed herewith a copy of the Rejoinder given for publication in the press, to the Memorandum submitted by the Bengal National Chamber of Commerce, Calcutta, before your Board. A copy of this Rejoinder has also been sent to the Secretary of the said Chamber.

It is to be noted here that as far as we gather, the authorities of the existing factories in Bengal were not consulted by the said Chamber before their Memorandum was drawn up.

Enclosure.

To

The Editor,

MEMORANDUM OF BENGAL NATIONAL CHAMBER TO SUGAR TARIFF ENQUIRY.

A Rejoinder.

Sir,

The people, interested in Sugar Industry in Bengal, will read with considerable surprise the views expressed by the Bengal National Chamber of Commerce through a Memorandum submitted to the said Board, published in your Dāk edition of 20th instant. Before going into the details, one is apt to put the question whether the sugar mills of the province were consulted before this Memorandum was drawn up. Because, the owners of the factories are the competent persons who can express authoritative opinion regarding the problems now facing this industry.

The committee of the Chamber are of opinion that time is not opportune for introducing the quota and licensing systems because these measures will adversely affect the Industry in Bengal. The position of this Industry should not be now judged by isolating any particular Province but the interests of the Indian Industry, as a whole, should be kept in view. Any opposition to the above measure betrays the colossal ignorance of the present statistical figures of production and consumption of sugar in India. It is now an admitted fact that by the crop season 1936-37, India has produced more sugar than her requirements and this question of overproduction is a serious problem of this Industry.

The prices of sugar have gone down to an unprecedented level so much so that the whole Industry is now on the margin of collapse. Two reasons have been ascribed to this depression. One is overproduction and the other is the tendency of the mill-owners to dispose their sugar—an article of food consumable all throughout the year—within a course of six months. The all-India Sugar Syndicate, very recently formed, is expected to check the effects of the latter but it cannot do anything against the ever growing menace of overproduction. It can be solved either through internal restriction or by export quotas. The second alternative has been denied to India by the last International Sugar Conference in London.

That the supply over demand will be evident from the fact that in spite of the best efforts of the India Sugar Syndicate the price of Indian Sugar is now barely Rs. 7 a maund while the quotation for Java sugar is over Rs. 10 a maund. Had the balance between production and consumption been maintained, the price of Indian Sugar should have shot to over Rs. 9 a maund. It is more than a fact that there has been overproduction and the present remedy is internal restriction and the system of licensing is the natural corollary.

It is appreciated that the adoption of the said measures will retard the further growth of this Industry in undeveloped Provinces like Bengal,

Bombay, etc., but the wider interests of the Industry demand that internal restriction should follow immediately. It is more prudent to protect the existing factories than to think of the new ones.

The memorandum is also silent on the question of abolition of Excise duty, the utilization of by-products and other serious problems. It has given no concrete suggestions as to the measures to improve the present quality of cane nor it has attempted to devise ways and means to help the factories to acquire lands for their own cultivation. Opinion has not been expressed regarding the basis on which the payment for the price of canes is to be made to the cultivators. It can be regarded with fairness that the Memorandum has failed very miserably to place the problems of this Industry in Bengal before the Tariff Board. It is also mysterious that the authorities of the Chamber failed to take into their confidence the authorities of the existing factories before preparing their Memorandum.

Shikarpur Sugar Mills, Jalpaiguri.

Letter No. (Nil), dated the 30th July, 1937.

I have the honour to send herewith the answers in six copies of the General Questionnaire issued by you.

ANSWERS.

1. In 1935. Capacity 150 tons.
2. In 1935—6,154 maunds 10 seers.
1936—9,429 maunds 23 seers.
1937—9,638 maunds 5 seers.
3. (a) Yes.
(b) & (c) No.
4. Single Sulphitation process.
5. 2 Centrifugals, 1 Calendria Pan, 2 Rollers.
9. (i) Yes.
(ii) Yes. Nil.
10. Yes. Yes. Nil.
11. (a) 684 acres.
(b) 560 acres.
(c) Co. 243, Co. 213.
(d) Tractor cultivation. Plots are left abandoned after every three years, i.e., second ratoon cane. Green manure and organic manure are mostly applied.
- (e) 300 maunds per acre. Sucrose content 18 per cent. in juice.
12. (a) 6 acres.
(b) Nil.
13. Nil.
14. (a) & (b) Nil.
15. About 5 per cent. of total cane supplying in each year.
16. (a) Yes. Co. 243, Co. 213, White tana.
1936—127,766 maunds 10 seers sucrose content about 18 per cent. in juice.
1937—152,328 maunds 24 seers sucrose content about 18 per cent. in juice.
17. Nil.
18. (a) No.
(b) Nil.

(i) Climatic conditions are generally suitable for cane growing. In general there is always an excess of rainfall.

(iv) *Nil.*

19. No.

20. Cost of—	Rs. per acre.
Tilling	10
Harrowing	2
Trenching	6
Lining	1
Loosening earth in the Trenches before Planting	3
Planting	3
Covering earth	5
Weeding	6
Light hoeing	6
Earthing	6
	45

21. *Nil.*

22. (a) & (b) *Nil.*

25. Gate cane cent. per cent.

26. Mostly carts. Sometimes lorries are also used. About 20 maunds. Carters are generally very poor, they cannot afford to pay for rubber tyred carts. We have not employed any improved type of carts.

27. No. All are cutcha roads not suitable for heavily loaded carts.

28. 2 to 3 miles. Generally 6 hours. *Nil.*

29. About nine pies. Mostly own carts, sometimes they hire also. About nine pies.

30. No.

31. We entirely depend on carters, who generally work upto our requirements. Carts are not detained. Sometimes few men are engaged to unload the carts.

38. (a) & (b) About 24½ per cent. of the total cane we purchase from the cane growers.

39. We pay the full price, after delivery at the gate. We provide seed only.

41. No.

42. Weighment is done on the weigh-bridge. No. Payment is generally made on week-end. Not more than one week.

43. In 1935—Five annas per maund at the gate.

1936—Five annas per maund at the gate.

1937—Four annas per maund at the gate.

50. 1935—7th February, 1934 to 1st week of May, 1935.

1936—15th December, 1935 to 5th May, 1936.

1937—December, 1936 to 4th May, 1937.

53. Skilled labour is engaged during crushing season. No labour is required in the factory in the silent season.

54. About 50 per cent. of the skilled labour is imported from Bihar and the United Provinces.

56. We provide suitable thatched quarters and free fuel, light and medical aid.

57. The whole of fuel requirements cannot be met with bagasse alone. About 10 per cent. coal on cane is necessary to supplement the bagasse fuel.
58. Molasses.
59. Season 1935-36 about 6,500 maunds. Season 1936-37, 7,000 maunds, price about 3 annas per maund.
60. Locally sold.
61. Experimenting as fertiliser on a small plot of land.
62. No surplus.
63. No.
66. Very little deterioration.
67. Damaged sugar remelted in the next season.
70. Occasionally.
83. Jalpaiguri and Darjeeling districts.
84. Through agents.
85. Not suitable. There should be a marketing board formed by the Sugar Mills. That will fetch a fair price for the sugar.
87. Fluctuate widely. Market is controlled by the selling agents; the sugar producers are disorganised and each is individually and unduly keen in disposing of its own sugar as quickly as possible the result being that they are at the mercy of the selling agents and brokers as they dictate their terms to the producers.
- 93 & 94. Yes.
95. Yes. Suggestions from the Director, Imperial Institute of Sugar Technology should be followed.
97. Grading of individual products should be left in the hands of a marketing board.
105. The excise duty has affected the industry very badly; particularly the enhanced duty of 1937. The sugar market or the consumer has not at all felt the enhanced excise duty. The only sufferer is the producer. Existing fluctuating market has not shown any improvement in proportion to the enhanced duty.
106. Locally sold.

The Ramnugger Cane and Sugar Co., Ltd.

Letter, dated Calcutta, the 21st June, 1937.

With reference to your letter No. 173 of the 12th ultimo addressed to the Bengal Chamber of Commerce, we beg to enclose herewith a reply to some of the questions in the General Questionnaire prepared by your Board in connection with their enquiry into the question of the extent of protection required by the Indian Sugar Industry during the period from 31st March, 1938, to 31st March, 1946 with 6 spare copies. This reply has been written by our General Manager and the answers which he has given have our approval.

Enclosure.

REPLY TO SUGAR TARIFF BOARD QUESTIONNAIRE.

1. In the year 1932 the factory began making Khandsari sugar.
2. The factory was established for gur manufacture and such gur as remained unsold was made into Khandsari sugar. The outturn of sugar for the different years is as follows:—
 - 1932-33—755 maunds.
 - 1933-34—918 maunds.

1934-35—527 maunds.

1935-36—116 maunds.

1936-37—Nil.

3. (a) Yes. Yes.

(b) Fair.

(c) Yes.

5. A 500 ton double sulphitation sugar factory is now being constructed.

9. (ii) Yes.

10. We expect to grow a large proportion of our own sugarcane. Our land has been in our Khas possession since the indigo days.

11. (a) & (b) The total area of sugarcane land held by the factory is 3,400 acres of which our aim is to have two-thirds under sugarcane and one-third fallow.

(c) Co. 213, Co. 243, Co. 270 and Co. 214 main crops.

(d) Trenches: 4 ft. to 3½ ft. apart × 1 ft. to 1½ ft. deep × 1 ft. wide. Fallows: 6 months to 18 months according to quality of soil. Green manure: Sunn Hemp. and Fertilizers: 1½ maund per acre Nicifos at planting time and 3 maunds per acre Sulp. Ammonia beginning of the rains.

(e) 600 maunds to 750 maunds per acre.

13. Experiments are being carried out in:—

Co. 381 early.

Co. 331 late.

By heavy manuring we find we can retard most varieties of canes.

The Bengal Agricultural Department has been of great assistance to us.

15. So far borer has been our only serious trouble and that again not every year.

19. The production of sugarcane in this area (Murshidabad and Nadia) is not in excess of requirements.

20. Average cost of cultivation per acre by an average cultivator:—

	Rs.		Rs.
Ploughing	6	Digging and Weeding	24
Planting	12	Manure	9
Seed	9		60
			—

Average outturn per acre 300 to 400 maunds.

21. Cane growers have no particular difficulties in the cultivation of cane but the transport of cane to the factory is sometimes difficult and often the long wait at the factory before the cane is weighed is a serious drawback.

22. (a) Same opinion as the former Tariff Board.

(b) I would not interfere with the present system and I do not think a "zone" system would be popular with growers.

24. (a) & (b) I would not interfere with the present system.

27. The mileage of roads in this vicinity is quite inadequate and what there is of it all kutchra and very bad.

29. Cost of transport of cane by cart has so far not exceeded 3 pies per mile. Growers who have carts employ their own carts, otherwise they hire carts.

39. We give cash advances as well as manure and seed to those who want it.

46. The price of gur fluctuated as follows:—

Per maund.		Per maund.	
Rs. A.		Rs. A.	
1929-30	6 9	1933-34	3 15
1930-31	5 8	1934-35	3 12
1931-32	4 2	1935-36	3 3
1932-33	4 0	1936-37	2 14

In sympathy with the sugar market.

49. "Superior" cane would be difficult to define. A higher price should be paid for both early varieties, which are usually light yielders, and late varieties which need longer cultivation and are liable to damage by animals, etc.

51. It is possible to extend the season by the cultivation of early and late varieties of cane, by irrigation and by manuring.

52. I am satisfied with the help given by the Department of Agriculture, Bengal.

The Jagotjit Sugar Mills Co., Ltd., Kapurthala State.

1. Started December, 1933. Its present full capacity is over 700 tons per day.

	No. 1.	No. 1B.	No. 2.	No. 3.
	Mds.	Mds.	Mds.	Mds.
2. 1933-34	8,797½	10,170	16,890	1,675
1934-35	24,342½	257½	6,405	...
1935-36	46,380	29,360	29,765	3,660
1936-37	105,812½	70,687½	3,107½	...

3. (a), (b) & (c) Yes.

4. Double carbonitation. This process produces the best quality or direct consumption white sugar over other processes. Availability of cheap limestone is an essential factor for this process. If combined with bone chalk or activated carbon process, this will produce a quality of sugar as white as from foreign refineries. It is however costly. Sulphitation process is slightly cheaper but the quality of sugar is always slightly inferior to carbonitation. Combined with activated carbon process this can produce equally good sugar. It is costly. If activated carbon and good quality Kiesulghur could be manufactured in India at a cheaper rate it would be the ideal process.

5. Factory was completed in December 1933. Two filter presses and two carbonitation tanks were added and a new sugar godown has been built besides general and thorough overhauling was done in 1936.

Approximate cost of all is Rs. 14,349-10-11.

6. Contemplated replacements and additions will cost us about Rs. 50,000.

7. (a) & (b) Question not understood.

8. All repairs, renewals and small parts of machinery are now available in India. The boilers, big engines, vacuum pans, etc. have to be purchased from outside India.

9. (i) No technical assistance has ever been received by us so far from the Imperial Institute of Sugar Technology nor we do know what kind of assistance the Institute can render.

(ii) No technical assistance has been given by the Industries Department to us.

Raw Materials.

10. No.

11. Nil.

12. Nothing.

13. Nothing. Agricultural Department Kapurthala State is doing some work in this direction. They are experimenting on various varieties of cane for its local adaptability. They have been of great help to the factory in many ways.

14. There is some increase in quantity but little or no betterment of quality.

15. If the proper variety is chosen for the proper place, the extent of loss in quantity and quality may not exceed 50 per cent. in any case. An unsuitable variety may be effected even upto 100 per cent. in quality and about 70 to 80 per cent. in quantity. In the year 1934-35 sugarcane fly affected the crop to more than 90 per cent. and hardly gave us a recovery of 2 per cent. under normal circumstances the percentage of loss due to above reasons is about 10 per cent. in quantity and about 20 per cent. in quality.

16. Yes, supply is sufficient.

Varieties.	Tons per acre.	Sucrose content.
Co. 285	15 to 18	10.5
Co. 223	18 to 22	11.0
Co. 213	18 to 22	10.0
Co. 205	14 to 16	10.3

17. In 1935-36 the Botari Sugar Factory was in competition on outstation supply consequently we had to pay one pice per maund more than our fixed rates. But now due to close of that factory there was no competition in this year.

18. (a) Yes.

(b) Increase of acreage under cane is due to better returns than other crops. The demand has also increased due to the existence and help rendered by the mills. The effect is:—

(i) Yield per acre will be affected detrimentally.

(ii) The prices of cane is directly affected by the price of sugar.

(iii) The price of cane varies according to the price of sugar, gur and jaggery.

(iv) In the last few years prices of all other crops have always been lower than the price of cane.

19. No, in our locality it is not in excess. On the contrary we can crush more if good quality cane is available.

20. The cost of cultivating one acre of sugarcane yielding about 400 maunds is under:—

	Rs. A.
Seed	17 8
Manure	7 8
Watering	20 0
Cartage	25 0
Tillage and Hoing	10 0
Total	80 0

Outturn about 460 maunds at As. 4 a maund—Rs. 100.

21. There are no difficulties of cane growers in the cultivation except uncertainty of rain and cane diseases.

Of course some difficulty is being experienced by cultivator for absence of feeder roads. We suggest that more feeder roads be introduced in the vicinity.

22. (a) Impracticable.

(b) It is practicable. This can be done by allotting districts or villages aggregating certain acreage to the factories to draw their supplies from.

23. In our case it is not necessary.

24. (a) Yes, in proportion to the capacity as revealed in 1936-37.

(b) (i) No.

(ii) Extensions may only be allowed after proper consideration.

	Gate Supply.	Rail Supply.	Tram Supply.
	Mds. Srs.	Mds. Srs.	
25. 1933-34 . . .	304,511 20	256,762 20	...
1934-35 . . .	328,994 29	274,169 29	...
1935-36 . . .	546,971 32	840,457 22	...
1936-37 . . .	1,150,341 38	996,432 33	...

26. Transported by carts only. About 30 maunds. It is not practicable to improve the type of carts as the people are poor and cannot pay the expenses of new rubber tyre carts.

27. Mileage of main roads is fairly adequate, but the condition of feeder roads is not very satisfactory.

28. About 20 miles. The bulk however comes from within the radius of 10 miles. Average time taken is about 36 hours. The cane is protected for about 48 hours. It begins to deteriorate very rapidly after 72 hours.

29. Average cost of transport at 2 pies per maund per mile. More than 80 per cent. of growers use their own carts. Average cost of hiring per cart is about Rs. 2.

30. No.

31. No special arrangements have been made but cultivators do supply us about 300 to 400 carts daily from December to the end of February.

Normal period of detention of a cart is about 6 hours. We are introducing the Parchi system for the requisite number of carts hence there will be very little detention.

32. From a distance of 5 to 60 miles. About 72 hours. It takes about 36 to 48 hours for cutting and loading the cane in wagons. It must reach the factory within 12 hours after loading. It can then be crushed within the said period of 72 hours. The railway arrangements need improvement. Sometimes wagons are delayed at starting station and junction *en route*. In that case the factory has to incur huge loss due to rapid deterioration of cane after 72 hours of its being cut.

33. The railway freight is based on flat rate per 4 wheeled trucks for a certain distance. We prefer flat rate and not the maundage rate.

34. Yes, in our case the North Western Railway has a step-motherly treatment for the supply of limestone. They are charging us As. 3-10 pies per maund from Dandot whereas they are charging other factories situated at a much greater distance from the same station of Dandot at As. 1-10 per maund.

35. No tramway.

36. It does not arise.

37. By rail it is often 50 per cent. or more.

38. (a) & (b) About 50 per cent. by agents and 50 per cent. from growers.

39. In certain cases advances were given to growers for cane seed.

40. Gate canes are purchased direct from growers. Outstation canes are purchased through agents who are paid 6 pies per maund as commission.

41. No.

42. The carts are weighed by weighbridge day and night. Payments are made daily from 7 a.m. to 5 p.m.

43. Rates—

1933-34—As. 4-6, As. 5-6, As. 4, As. 4-9.

1934-35—As. 5-6, As. 5, As. 4-6 and As. 4, As. 3, As. 4, As. 4.

1935-36—As. 5-6, As. 5.

1936-37—As. 4-6, As. 4, As. 3-6, As. 4-6, As. 3-9.

44. To certain extent it is so.

45. Due to the fluctuations in the gur/jaggery market there is no definite effect but the supply and price of cane is influenced. The less the price of gur less the price of cane.

46. Yes, there have been considerable variations. Over and under production are its causes.

47. Although the rules fixing the rates do not apply in the State, yet we have paid 6 pies per maund more than the rates fixed in the United Provinces and Bihar. This was due to the higher price of gur/jaggery.

48. Present system of fixing price of cane is unsuitable. Cane prices once fixed should be maintained throughout season. Cane price in its turn should be fixed according to cost of cultivation.

49. It is ideal but impracticable.

50. 1933-34—70 days.

1934-35—79 days.

1935-36—114 days.

1936-37—142 days.

For the last two seasons it was economical.

51. Yes, in our case the season can be extended by the introduction of early and late varieties and proper irrigation upto about 6 months.

52. We have received no assistance whatsoever from Imperial Council of Agricultural Research. The Agriculture Department Kapurthala State is always helpful.

Labour.

	Skilled.	Unskilled.
53. Crushing season	200	600
Slack season	50	100

54. About 10 per cent.

55. Cent per cent.

56. We have got sufficient quarters of our own for 75 per cent. of the skilled labour. Others live in the city. We supply them light, fuel, water and furniture, etc. free. Other labour is local.

Power.

57. Practically yes. We do not bale bagasse as there is no surplus.

	Rs. A. P.
1933-34	18,327 7 0
1934-35	21,623 1 6
1935-36	8,023 10 9
1936-37	10,666 14 6

By-products.

58. Molasses, bagasse and quicklime.

	Mds.	Rs. A. P.
59. 1933-34	27,420	2,865 1 3
1934-35	25,500	9,308 6 6
1935-36	27,600	28,948 1 6
1936-37	60,324	17,457 5 9

Causes of variation are due to the quantity of crushing every season.

60. Market for molasses is Punjab and adjoining hill districts. We generally give a contract for the whole lot and the contractor sells it at his own market rates. It is transported by bullock carts and rail in tank wagons or tins. Railway facilities are not very satisfactory. The present freight rates require modification and concession.

Phagwara to Amritsar—As. 1-3 per mensem.

Phagwara to Rawalpindi—As. 3-3 per mensem.

Phagwara to Palampur—As. 4-10 per mensem.

Phagwara to Montgomery—As. 2-6 per mensem.

Phagwara to Pathankot—As. 1-10 per mensem.

61. (1) Does not arise.

(2) Suggestion. To convert into power alcohol.

62. There is no outlet for our bagasse which is consumed. Card boards and brown paper can be made from bagasse.

63. The factory waste water and press mud can very advantageously be used as manure.

Storage and transportation of sugar.

	At beginning.		At end.	
	Mds.	Srs.	Mds.	Srs.
64. 1933-34 . . . . .	...		4,822	0
1934-35	210	0	19,972	20
1935-36 . . . . .	...		9,222	0
1936-37	157	20	70,210	0

65. We have got 3 sugar godowns of our own. They can accommodate about 3,500 bags. The third godown was added in 1936.

66. No deterioration of sugar occurs in our godown if properly kept. In low grade sugar due to rainy season there might be 1 per cent. less.

67. Damaged sugar is reconditioned.

68. It does not arise in our case.

69. Practically no damage in transit.

70. Generally no difficulty in obtaining wagons.

71. We generally take good wagons, however, railway should provide water tight wagons.

72. (i) Nil.

(ii) 1933-34—from Rs. 10 to Rs. 7-10.

1934-35—from Rs. 9-12 to Rs. 8-12.

1935-36—from Rs. 10-5 to Rs. 8-4.

1936-37—from Rs. 8-8 to Rs. 6-12.

Freight rates about 42 pies per maund per mile in Punjab.

38. (a) & (b) About 50 per cent. by agents and 50 per cent. from growers.

39. In certain cases advances were given to growers for cane seed.

40. Gate canes are purchased direct from growers. Outstation canes are purchased through agents who are paid 6 pies per maund as commission.

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46. Yes, there have been considerable variations. Over and under production are its causes.

47. Although the rules fixing the rates do not apply in the State, yet we have paid 6 pies per maund more than the rates fixed in the United Provinces and Bihar. This was due to the higher price of gur/jaggery.

48. Present system of fixing price of cane is unsuitable. Cane prices once fixed should be maintained throughout season. Cane price in its turn should be fixed according to cost of cultivation.

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1935-36—from Rs. 10-5 to Rs. 8-4.

1936-37—from Rs. 8-8 to Rs. 6-12.

Freight rates about 42 pies per maund per mile in Punjab.

Capital Account and Overhead Charges.

73. Copies of the balance sheets are enclosed hereto.
74. Depreciation is shown in the balance sheets.
The rates are the same as allowed by the Income-tax Department.
75. Reserve fund has been shown in the balance sheet.
76. Ours is only of ordinary shares concern. Last two balance sheets shows the amount of dividends distributed:—
1935-36—Rs. 60,500.
1936-37—Rs. 1,11,176-10.
77. Working capital is borrowed against sugar stock and by fixed deposits, bank rate is 4 per cent. besides godown keeper's and bank darwan's salaries, and interest on fixed deposits varies from 4 per cent. to 6 per cent.
78. Annual expenses of Head Office Rs. 6,000.
Managing Agent's commission at 5 per cent. on net profit.
79. 10 per cent.
80. *Vide* Statement attached (Forms* I, II, III).
81. Due to more crushing and better efficiency we have been able to reduce our cost of production and overhead charges.
82. No further reduction of works costs is possible.
For climatic condition here we have reached the maximum point of recovery.
83. The principal marketing centres are Amritsar and Jullundur.
84. We sell our sugar to dealers through our sole agent who is paid commission at the rate $\frac{1}{4}$ th per cent. on the sale price.
The dealers sell to the retailers at their own arrangements.
85. The present form of contract so far looks suitable.
86. No information available.
87. Does not fluctuate widely.
88. Generally the storage arrangement of dealers is very bad. We cannot estimate the deterioration.
89. Of Indian sugar there are so many varieties and grades, the higher grades are as good as any foreign stuff and do not deteriorate, but the lower grades do. There has been considerable improvement in the keeping quality of Indian sugar.
90. Generally no.
Cube sugar and very high class Java or refinery sugar is preferred in limited quantities by Europeans generally, and sparingly by high class Indian aristocrats.
91. Some of the higher grades are as good. The other grades are inferior in colour, grain and keeping quality.
92. (a) & (b) 80 to 90 per cent. of the stock lies with the manufacturers and the remainder with dealers. Bankers and money lenders finance them against sugar security.
93. Yes.
94. Yes.
95. Yes. The Indian sugar standards as classified by the Imperial Council of Agricultural Research will do.
96. (a) & (b) Unless there is uniformity of standard in all the mills nothing can be said.
97. Unless there is uniformity of standard in all the mills nothing can be said.

98. No.

99. 10 lakhs tons is the normal consumption for India. The consumption of sugar can only increase if there is general economic betterment of masses. It is a sort of luxury for the poor.

100. It is difficult to say the extent of replacement but it is certain that sugar is replacing gur in all trades especially the sweetmeat.

101. Fruit preservation and canning can be done in places that abound in fruit and there should be a market outside India where such preserved fruit can be exported.

102. No knowledge.

103. We do not know.

104. Sugar is exported to Afghanistan—Kabul. There should be no excise duty on this export.

105. The efficiency of the working of the factories has been increased.

(i) (a) The price of cane has gone down.

(b) Some factories will show very little profit. Quite a number are working at a loss, on the whole it is ruinous to sugar industry.

It should be stopped otherwise the industry will be ruined.

106. We have given it on contract for the whole season.

107. There is practically no chance of molasses export.

Claim for protection.

108. By protection India has become self-sufficient.

As regards consumption of sugar over and above she has developed a great industry beginning from 32 to 150.

109. Protection should remain at it is. India does not need to import any sugar. A certain class of people do use a very superior quality of sugar.*

It is to cater for such special taste that India is importing sugar still at a comparatively higher price. If the duty be reduced such imported sugar will be sold at a cheaper rate and there is every possibility of the number of consumer for such sugar increasing.

Reasons are as under:—

- (i) Number of factories to be limited preferably according to the province.
- (ii) The extension and production of sugar be limited so that the production should be equal to consumption.
- (iii) Agricultural Research should continue.
- (iv) Market for utilization of by-products should be helped through.

This duty has not brought any change, Indian molasses is already in excess.

The Gujranwala Sugar Mills, Co. Ltd., Gujranwala.

Letter No. 203/37, dated the 27th July, 1937.

We are sending to-day per registered postal parcel six copies of the answers to Board's questionnaires. Other data sheets appertaining to this will be despatched in a day or two. We regret the delay caused in compliance to your instructions.

1. The factory began operations in the year 1933-34. According to the manufacturers specifications the mills are designed to crush 300 tons of cane in a day of 22 hours.

* Such men can easily pay for high class sugar.

(Bags of 2½ maunds.)

Seasons.	1st Crystal.	1st Crushed.	I.-A.	Crushed No. 2.
2. 1933-34 . . .	...	...	...	...
1934-35 . . .	...	...	...	...
1935-36 . . .	15,218	1,406	5,135	3,599
1936-37 . . .	38,003	328	...	597

3. (a) The factory as experienced has now confirmed the view, is not advantageously situated in respect to cane supply. When this concern was started, the idea of the promoters was that being a ready "cash crop", there would be sufficient inducement for the cultivators to take to cane growing, but as the later events have proved, inadequate supply of canal water for irrigation and partly the competition due to wheat, paddy, oil seed, etc., which find ready export market, and are grown with such less labour and risks, have proved deterrent in both extensive and intensive cultivation of cane.

In a sulphitation plant, the cost of limestone, lime, or other raw materials which are used for the manufacture make up a small and insignificant part of total cost of manufacture. It forms a minor part of our requirements.

Our factory commands a unique position in respect to market being situated in the heart of it. The Punjab is one of the biggest customers of Indian sugar, having better purchasing power than many provinces. Comparing the production figures we at once come to the conclusion that it produces only a fraction of its total huge consumption, and the balance has to be made good by importing sugar from the United Provinces mills which have exploited this advantage to the fullest extent, with their high recoveries and superior crops. This enables them to under-sell us in the home market. As there are no mills situated further north, and the nearest one more than one hundred miles away, there is an ideal market at the disposal of the firm. Besides Gujranwala itself is a very important market for sugar, and thousands of bags are imported annually from the United Provinces mills.

(b) Due to its location on the Grand Trunk Road, and the main line of the North Western Railway, there are adequate facilities for bringing in of raw material and transport of sugar, both by road and rail. However difficulty does exist for bringing cane from the surrounding villages, as there are no *pucca* roads, and often-times the cart tracks become impassible in bad and inclement weather causing undue loss in time, and prohibitive cartage which the factory is obliged to pay (reserving a certain minimum for the cultivators) with a view to encourage them.

(c) Non-technical labour demanding little skill or experience is abundantly available in the locality, except that the wage rates are about 40 per cent. higher than in the United Provinces. Skilled labour especially that required for the manufacturing department, has to be imported from the United Provinces although during the last two years, we are able to replace them by local recruitment to a very great extent, except that which requires specialised knowledge, and seasoned manufacturing skill. For some time to come the imported element will be an indispensable necessity.

4. We are working on the "Double Sulphitation System". Without entering into a detailed controversy of a very technical nature to prove the advantages of one system over the other, it has been observed that there is a marked rise in the purity of juices treated by the carbonitiation system. This rise in the purity is real, being reflected in the increased yield of sugar. It has been further observed that sugar made by the carbonitiation process is of more uniform quality than by the exclusively sulphitation process. At the same time it is true that the carbonitiation plant requires more investment initially and increased cost of manufacturing, but the

increased yield justifies the increased cost of the two processes, the carbonation system requires a higher degree of technical skill. The distance of the carbonation factory from quarries and coal fields is also determining factor.

Sulphitation is usually the cheaper process, and has hence been adopted on a very wide scale in India. Besides it is easier in operation, with low manufacturing cost, and comparatively low investment for plant and machinery. Sugar manufactured by the carbonation system is, however, of a better keeping quality.

5. No change has been made in the original lay out of the machinery over that designed by the manufacturers. Some extensions in the plant have since been made in the form of spary cooler and tanks, etc., the total amount spent over the extensions being about Rs. 5,000.

6. In order to improve our sugar rather than extend the crushing capacity of the mills, further addition of a boiler, evaporator and its necessary accessories is contemplated. This proposed equipment will cost us about 1 lakh of rupees and can be undertaken only if the conditions for the further working of the factory are satisfactory, and the company can look forward to invest this amount with possibility of some return.

7. On a broader consideration, the availability in abundance quality, and cheapness of the raw material, the duration of season, favourable climatic conditions, and a ready market for the disposal of the product, decide the economic unit of a plant.

(h) We consider 500 tons as the smallest unit of production which can be operated economically, with a high degree of efficiency on the technical side, as overhead and other charges tend to diminish in direct proportion to the increase per unit of production, and the extraction also increases proportionately, if the parts are well designed, and made to proportion.

8. Except for some cast iron tanks, small pumps, pipes and other items which do not require high degree of manufacturing skill, all the machinery and equipment of specialised manufacture has to be imported from abroad. There is unlimited scope for any industrialist in this direction, and a start has already been made by a European concern in Bihar, although it is at present engaged in catering only to primary necessities. Foreign skilled craftsman may have to be employed in the beginning and the requisite machinery imported for this end.

9. The technical assistance given by the Imperial Institute of Sugar Technology is practically so meagre as to be non-existent. As constituted at present, it is doing more the work of a figure-collecting body, gathering statistics and datas, but to be truly useful to the industry the scope of its activities must be widened, and should include staff competent enough and readily available, to remedy specific complaints and deficiencies of the working when referred to them. Bulletins on special subjects of interest, like those issued by the Louisiana University Agricultural School (Sugar Section) may be issued with great advantage to the technical services of the industry. Publication of a monthly journal, embodying all the aspects of the industry, including a research papers, experiments, and suggestions would be a step in the right direction with particular reference to the Indian conditions, and problems. Fortnightly forecasts of stocks and production will serve a very useful purpose if issued through this body.

Industries.—This department is entrusted with the duties of factory inspection and in this connection there is an occasional visit by their Inspectors. Otherwise besides being aware of their existence we have no further point of contact with them.

10. Our factory owns no farms and does not undertake cultivation of sugarcane either on lease or otherwise.

11. Does not arise.

12. No.

13. The factory did not undertake directly any experiment in early or late varieties of cane, or manure, this being difficult for having no

fields of its own. But to encourage the cultivators ammonium sulphate was distributed to them through contractors with a view to secure better growth. The results however justified the expectations and finance permitting, if this is undertaken on a large scale, it will prove remunerative both to the factory and the cultivators. Considering the progress made in this direction one is forced to the conclusion that they appear to have done very little. Their knowledge in this case is not correlated to the needs of a heavy industry like ours, and their measures if any are merely experimental and confined to their farms, or on a very limited scale outside it.

All the cane types are intermediate in the locality, and neither early nor late varieties of cane were being sown here. However, this year Co. 313 as an early ripening variety and Co. 331 as a late variety have been introduced. We have to wait for the coming season to express any definite views about this cane.

14. (a) Owing to the circumstances referred to in answer No. 3, the local area under cultivation of cane has decreased during the year under consideration. But there appears to have been an extension on the out-stations from where we draw our supplies by rail. We arrive at this conclusion by taking into account the figures for the gate and rail cane this year, and actual survey of the area.

(b) The indigenous varieties have been replaced by the Coimbatore varieties, and exist in the proportions given below as intimated to us by the Agricultural Department:—

	Per cent.
Co. 223	44
Co. 285	42
Co. 290	14

15. Our local cane is occasionally liable to damage from frost and by insects such as *Pyrilla* and Borers. Damage due to frost is generally heavy reducing the Sucrose in cane to a very great extent. Borer affects generally growth and restricts and retards the development of cane plants. *Pyrilla* is as bad as frost. Failure of rains is the main cause of the deficient yield, to which must be added the unsuitable climatic conditions tending to extremes of cold and heat, and excessive salts in the soil. Percentage of loss by the various causes cannot be ascertained separately, but all these causes operate simultaneously.

16. Our factory is not assured of a sufficient local supply which has to be supplemented by wagon cane from the adjoining districts. The principal varieties of cane crushed in our factory are Co. 223, Co. 285, Co. 290, and the traces of other varieties. The field yield is not ascertained separately but taking an average the total sucrose content does not exceed 10.25, which is much less than in the United Provinces. As there are no factories in the area, the question of competition, either in cane supply or its prices does not arise at all.

18. (a) There has been a marked tendency towards progressive increase in the area under cultivation, except during the year under consideration, although the rate of growth was not commensurate with the factory requirements. But this may not be the case in the future as after the imposition of the excise duty our position has become much too precarious to maintain a standard rate for sugarcane. Unless the cultivator can be assured of a certain minimum return, which will compensate for his labour, and he actually paid better over other crops, there is every likelihood of the cultivation being further reduced, this inspite of our best efforts to pay the maximum price possible under the circumstances. But the rapid fall in the prices of sugar, and the imposition of excessive duty, which is felt all the more severely in our case, due to low sugar yield, and the short crushing season, and high manufacturing costs, make our problems very acute. As a matter of fact we are left with no profit at all to

run the factory with any hope of retrieving our losses, much less to launch into any scheme for increasing the area under cultivation, by distribution of seeds, advance payments, or other propaganda:—

Area under sugarcane in Gujranwala district.

1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
Kanals.	Kanals.	Kanals.	Kanals.	Kanals.	Kanals.
21,806	25,430	27,519	28,010	27,058	...

18. (b) (i) Deficiency of rainfall effect the cultivation adversely, and discourages extensive cultivation methods, as wells are the only means of irrigation in the neighbourhood. It is not out of place to mention here that our efforts to persuade the irrigation department, to supply canal water one month earlier and continue it one month later than their present practice, has not borne any fruits. This should have enabled the cultivators to sow earlier.

Due to location of our factory in the northern parts of the Punjab, often-times frost during winters a serious factor to be reckoned with, as it damages the standing crop, and renders it unfit for crushing purposes. The yield of sugar out of such cane is considerably reduced.

(ii) Due to presence of other cash crops, we have to pay a higher cane price than is the case in the United Provinces whereas due to internal competition of the factories and with the handicaps already referred to, the market rate of sugar has to be considerably reduced. This affects us both ways, reflecting mostly on the raw material on the one hand, and the low prices of sugar on the other. United Provinces mills with their natural advantages of cheap raw material, good cane and high recoveries, are free from the difficulties experienced by us.

(iii) The price of gur has never been attractive during the past few years as to induce the cane growers to take up to cultivation of cane exclusively for this purpose.

(iv) The normal prices of the two alternative crops wheat and paddy having gone high, during the preceding and the present year the cane crop has suffered proportionately, as the low price obtained for sugar is prohibitive in increasing the rate beyond a certain limit which is already too high on comparison.

The factory would welcome any increase to the local area under sugarcane. Even with increased cultivation, as compared to the previous years, the factory had to import by rail 55 per cent. of the total cane crushed during this season. There is ample scope for further cultivation.

20. We have no information available.

21. As has been pointed out before two main handicaps have been imposed on our cane growers.

(a) Want of supply of canal water in time for the maximum advantage to be obtained by it, during the last two week of March when sowing is undertaken.

(b) In delivering the cane from the fields to the factory, the main difficulty, experienced by the cultivators is want of suitable roads from their fields.

Considering the importance of this crop, from the cultivators point of view, the District Board should, pay special attention to the feeder roads in the area and a part of their revenue should be earmarked for the maintenance, repairs, and extension of these roads in the cane area. During the season the canal authorities should allow the carts to pass over the banks of their distributaries, so as to avoid circuitous and difficult journey for the carts going to the factory. The effects of such a step would be very beneficial and encouraging.

22. (a) We have nothing useful to say in this matter.

(b) This question does not arise in our case.

23. The question of cane, which has assumed great importance in other areas does not arise here at all.

The Punjab cultivator is very reluctant to repay voluntarily cash advanced to him, and therefore it would be an hazardous undertaking for any limited concern to lend any cash unless a summary process was provided for its recovery.

The possibility of distributing free manure is out of question, but the factory can make it possible for cultivators to obtain supplies of manure from certain firms in this line at its own credit, and realise the amount from the price of cane during the seasons.

The factory is prepared to co-operate to a limited extent in the supply of free seed or its distribution as a nominal price.

Within the means possible for us, it is beyond our competency to finance maintenance of feeder roads, inspite of our wishes to do so. It is properly a function of the District Board.

24. (a) We are certainly in favour of fixing quotas for the sugar manufactured by the factories. This will prevent overproduction, which has been detrimental to the manufacturers and has brought prices as low as to be unremunerative in many cases. In fixing quotas a number of facts have to be borne in mind so that there is equity in treatment for ever existing factory, keeping in view its resources of raw material, recovery, the duration of its season and the accessibility to the consuming markets. The guiding principle should be prevention of overproduction, with its necessary sequence of cut-throat competition. Unless the price level be restored to something of its previous level, the prospects appear to be gloomy for the industry as a whole, and in the event of a natural calamity like failures of rains of other extraneous causes, like breakdown of machinery many manufacturers will find it difficult even to keep their heads above water.

(b) All the new factories should be licensed, and the *Laissez-faire* permitted so far should be brought within strict control. As a matter of fact with the home production, already in excess of the demands, there is no reason why in the interest of one of the biggest national industry, there should be any further addition of factories. The argument to equalise regional disparity also does not arise as consumers in all parts of India are obtaining their sugar at much less price than anticipated by the previous Tariff Board and all the cane bearing are as have been fully exploited and resources systematically tapped.

(ii) All further extensions in the factories must be licensed. In any case extension which aims at increased crushing in cane should not be allowed unless it follows as a natural sequence in removing the practical difficulties of operation, by removing obvious defects, and thus increasing the efficiency of production. This should not prevent the mills, badly equipped, or not properly balanced in its component parts to make extensions to make their plants more effective as a unit. Our idea is co-extensive with efficiency, but not with increased production in any case, unless it follow as a result of removing some of the glaring inconsistencies in the design, and specification of the plant. All, extensions with a view to better the quality of sugar must be encouraged, and guided if possible. This licensing should be entrusted to an All-India body created specially for this purposes.

Season.	Gate Cane. Rail Cane.	
	Per cent.	Per cent.
25. 1933-34 . . . . .	...	...
1934-35 . . . . .	...	...
1935-36	50	50
1936-37	45	55

The little variations in the figures for the last two seasons are not attributable to any definite reason, except that the increased crushing of the mills made it necessary to import more cane from the outstations as the local supply was inadequate for our requirements.

26. Our gate cane is mostly transported by carts, and to some extent by donkeys and camels. The average weight of cane per cart is approximately 40 maunds. The substitution of country carts by the rubber tyred one is certainly desirable, but will depend on the condition of the roads and the purchasing power of the cultivators. Co-operative Societies can render great help in this direction.

27. Except the trunk road which passes close to the factory the feeder roads are in a deplorable condition, besides being inadequate in mileage. This places us in difficulty to tap the supply from the interior without serious loss of time or prohibitive cartage which has to be paid as the only other alternative.

28. The longest distance from which cart cane comes to our factory is 20 miles. The average time taken in cutting cane and its crushing in the mills is 24 hours. There is no arrangement whatsoever for protection of cane from deterioration during transport by road.

29. The average cost of transport of cane by cart per maund per mile is 1.5 pies. Most of the cane growers use their own carts but whenever it becomes necessary to hire a cart, the average cost of hiring is the same as above. The company pays additional cartage to the hired carts on behalf of the cane growers, if they have to pay more than one anna per maund, from the fields to the factory.

30. "PASS FEE" is levied by the Gujranwala Municipality on carts which pass through its jurisdiction, at two annas per trip per owner. As for instance if four carts belonging to the same owner pass the octroi post at one thne, only two annas are charged. Whereas, if they pass at different times or belong to different owners, each one is charged for separately.

31. In order to avoid breakdown in the normal arrangements, and ensure regular feeding of the mills, the company employs under its patronage some carts from the neighbouring districts to ply for hire on their own account. In its turn the company provides them with shelter and other amenities.

Generally there is no detention, but during a few weeks of December or January, when the season is at its height, the maximum period of detention does not exceed 2/3 hours sometimes.

32. One hundred and thirty miles is the maximum limit on the rail from where we draw our supplies. The average time of transit last season was 4/5 days.

On the whole the arrangements provided by the railway are not unsatisfactory, except that there is room for considerable improvement in the type of carriages, which should be like cages as employed on the Bengal and North-Western Railway for cane traffic. Secondly the time of transit if expedited by attaching cane wagons to fast running trains will mean a decided advantage to the factory and to the railway ultimately.

As permissible under the present rules the unloading time allowed by the railway is only nine hours, which is hardly sufficient. Its result often times in stacking the cane on the ground and allowing it to deteriorate.

33. The railway freights are calculated on the basis of distance of supply from the factory. There has been a slight reduction in the railway freights during the recent years. Flat rate seems to be more desirable for certain seasons. At present our railway freight rates are fixed higher than those in the United Provinces.

34. To popularise manure and make it cheaply available to the cultivators, reduction in freights is certainly desirable,

35. The tramway system can prove very advantageous if extended in the areas not served by the railways or on the farms if the company is lucky enough to possess one and this too, if there is sufficient quantity of cane available to justify the expenses. But special difficulties may arise when traversing railway lines or trunk roads. Whether there are difficulties or special advantages arising out of the tramway system will depend on the particular conditions of the factories concerned in respect to its cane area, crushing capacity, the cane and facility in acquisition of land, and the intervening road or rail communications.

37. In our case due to delays in transit of the rail borne cane deterioration caused is reflected in about 2 per cent. loss in the yield of sugar.

38. All the gate cane 45 per cent. is purchased direct from the cane growers, whereas the rail cane 55 per cent. obtained through the agency of the contractors.

39. There is no arrangement with the cane growers except assurance that his cane would be accepted. On a limited scale the company has supplied seed either free or at a nominal price, or in exchange for the equivalent weight of cane. As has been pointed out before manure is supplied to the cultivators through company's agents. During the season some carts are supplied to the cultivators who do not own any cart, or are not in a position to invest money at all.

40. We pay only a nominal commission on a part of our gate cane by way of propaganda and encouragement. This has generally been paid to the representatives of the cultivators themselves. In the case of rail cane the factory contracted to get supplies f.o.r. factory.

41. No.

42. We use cart and wagon weigh-bridges for weighment of cane. In the case of cart cane, payment is made at the time of delivery, whereas in the case of wagon cane, payment is generally made weekly on receipt and verification of the contractors' bill.

Cane purchase gate.

43.	1933-34	.	.	.	.	.	.	.	.	6	7-12
	1934-35	.	.	.	.	.	.	.	.	5	6-4
	1935-36	.	.	.	.	.	.	.	.	6	8-4
	1936-37	.	.	.	.	.	.	.	.	5	2-87

44. Unlike the system in the United Provinces, where the Government, for the past four years has determined the rate of sugarcane to be paid in accordance with the prevailing average price level of sugar our factory does not or more appropriately cannot base the purchase price of cane to the rate of sugar. The only principle followed by us is that we pay the maximum rate possible under the circumstances.

45. The price of gur has a marked influence on the supply of cane or its rate specially in the case of the petty holdings. But during the last two years the rate of gur has hardly influenced the supply or the rate of sugarcane.

46. Sugar during the year under consideration having become abnormally cheap, the demand for gur has been considerably reduced. This has undoubtedly caused variation in the price of gur, which is now selling much cheaper than some years before.

47. This act has not been enforced in the Punjab, but for it its own reasons the price that we have been paying to the cultivators has always been as a rule in excess of the prevailing prices in most of the mills in the United Provinces.

48. This question does not arise here.

49. We agree in principle on paying "BONUS" under all the heads mentioned in the questionnaire but the question whether it will be practicable in our area and whether cultivators will regard it seriously, is very doubtful. Besides super-imposed over these the question of financial competency to pay it at all, under all the attendant difficulties with which we are handicapped and which have been referred to before. There being no sufficient supply of cane the prospects for the early ripening cane are not altogether unattractive. Our season ends practically by the end of February, and if it can be prolonged till the end of March by introduction of proper varieties of cane, it would be decidedly advantageous.

50. 1933-34—Experimental crushing.
 1934-35—15th November to 1st February.
 1935-36—17th November to 15th March.
 1936-37—16th November to 28th March.

Our working period is too short for economical working, it does not extend beyond the end of February: or the first week of March, beginning from the third week of November. The reasons for variation being want of sufficient, continuous supply of cane.

51. The crushing season can to a certain extent be certainly extended by introduction of early and late varieties of cane, provided there are adequate facilities for irrigation. There is undoubtedly great scope for the further extension of cultivation of local cane, as the present supply is hardly sufficient for our purpose.

52. We hardly feel the existence of Co-operative or Agriculture Departments although we are engaged in an industry which for all practical purposes is primarily agricultural. The presence of the mill in this locality has been of immense good to the cultivators in more than one way, but if we may be permitted to remark, they have hardly studied our problems, much less found any solution for it. The cane crop has meant ready money for the cultivation to enable him to pay the land revenue and other dues. The Imperial Council of Agricultural Research enlightens us from time to time by sending statistics for comparative purposes. We wish that their activities should be further extended in the study and solution of problems allied to this industry.

	Skilled below.	Unskilled below.
53. During season	195	288
Off season	10	25

54. There is no recruitment of our skilled labour from abroad. Approximately one-third of our skilled labour, on the manufacturing side only is brought over from the United Provinces.

55. This question does not arise here at all.

56. The factory has built its own quarters, and has rented some in the vicinity of the factory for the housing of labour, while people from the neighbouring villages live in their own houses, returning there after the duty hours.

The factory maintains a free dispensary, and supplies free fuel, light, and water to most of its employees.

57. We have not been able so far to meet the whole of our requirements of fuel from the available bagasse inspite of the fact that during the last season we have been crushing to the extent of 25 to 50 per cent. more than the rated capacity. We had to supplement the factory bagasse by steam coal, which is much too costlier here, to the extent of 35,000 maunds during the season.

Amount spent on fuel.

	Rs. A.
1933-34 . . . . .	...
1934-35 . . . . .	...
1935-36	21,134 10
1936-37	20,130 12

58. Molasses is the only by-product of the factory.

Year.	Molasses production.	Average price.
	Mds.	As.
59. 1933-34	2,928	...
1934-35	10,211	...
1935-36	30,190	...
1936-37	39,130	5

Due to overproduction of molasses, its price has been falling rapidly from year to year.

60. Our main market for molasses is Jammu and Kashmir State, Rawalpindi, and to some extent locally. For the outstations we generally transport by the special tank wagon provided by the railway, or empty drums of kerosine oil tins provided by the purchaser while local supply is transported in casks.

The number of tank wagons is not sufficient to meet the requirements of the factories, and often-times we have to wait for more than 3 weeks after indenting for it.

The railway freights to our markets are:—

Rawalpindi—One anna ten pies per maund of molasses.

Jammu—One anna three pies per maund of molasses.

61. The major portion of our molasses remains unsold, and has got to be stored by making special storage tanks at great cost. The best economical use of the molasses will be found in starting central distilleries, in which the contributing mills would be partners on a profit sharing basis. This can only be possible if it is made compulsory by law, that all the motor fuel consumed in India should contain a certain fixed percentage of power alcohol so manufactured, on a fixed standard specification. Such mixture has been experimented upon a very wide scale, and the reports are very favourable for the adoption in the internal combustion engine.

Besides providing a very useful and commercial outlet for the molasses, which is tending to be the biggest problem, it will give rise to new industry with great possibilities. Liquid fuel has acquired great importance in these days of competition when every country is looking forward "economic self-sufficiency", in as many items of its needs as can be obtained within its own frontiers. This will provide the industry with an additional source of income, and help it to attain the limits of efficiency, which can be only possible if the things that are going to waste, are made into things that can pay after the rationalization programme as it is now understood in the advanced industrial countries.

Under pressure from the established oil interest so far the attitude of the Government has not been very sympathetic towards this proposal, which come up for consideration almost with the rise of industry with the increase in the motor transport during these years as indicated by its import figures one can safely predict very bright future for the industry, which must be first developed under Government patronage.

62. This question does not arise in our case.

63. No.

Stock of sugar.

	Mds.	Srs.	Chh.
64. End of 1933-34 . . . . .	...	
Beginning of 1934-35 . . . . .	...	
End of 1934-35	8,130	0	0
Beginning of 1935-36 . . . . .	...	
End of 1935-36	18,461	30	0
Beginning of 1936-37	6,437	27	0
End of 1936-37	45,976	7	4

65. Our sugar is stored in the godowns of the company. Their total storage capacity is about 15 thousands bags. An additional godown had to be constructed this year as due to the sluggishness of the market the sales were not rapid enough to make room for new production.

66. Under ordinary circumstances the deterioration of sugar in storage is insignificant, and has never presented itself as a problem except in case of low grade sugars which has a tendency to cake, and be slightly tarnished after being subjected to very sharp drop in the temperature as during and after rains. The crushed sugar is most susceptible to this and besides caking, some deterioration in colour is also noticed. The keeping quality of sugars is based on the following:—

- (1) Be manufactured under sanitary conditions.
- (2) Boiled from a well clarified juice.
- (3) Have a moisture content in relation to polarisation to conform with certain factors of safety.
- (4) The condition of warehousing.

To sum up, unless for extraneous reasons like damage by leaking roofs, and damp godowns, only the inferior grades of sugar have been noticed to undergo slight but perceptible changes in the colour.

67. The damaged sugar is sold outright, unless it is rendered so bad as reconditioning is the only alternative. But our experience has not been so unhappy in this respect.

68. This question has been answered to a great extent as part of Question No. 66, as both these questions are almost allied.

69. We have no complaint to make on this score, but sugar in transit is likely to be damaged by the leaking railway wagons or its floor being too dirty by something or other which leaves its effect on the sugar bags.

70. There has been no difficulty in obtaining railway wagons for despatching sugar, or its delivery time.

71. The present arrangements of the railway are quite satisfactory.

72. We have never supplied sugar to any of the ports. The major portion of our products has been selling towards Rawalpindi side. The railway freight of the centres which consume our sugar is mentioned below:—

	Per maund.
	Rs. A. P.
Gujjar Khan	0 4 2
Gujrat	1 9 0
Jhelum	0 2 11
Lalamusa	0 2 2
Rawalpindi	0 5 3
Peshawar Cantonment	0 9 1

73.

	1933-34.	1934-35.	1935-36.	1936-37.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Land	4,973 15 6	5,007 15 6	9,518 3 6	5,018 3 6
Building	1,34,887 15 3	1,65,750 3 1	1,77,544 14 9	1,95,809 6 2
Plant and Machinery	6,04,593 14 2	6,14,976 12 5	6,19,812 10 5	6,30,819 14 2
Tube well and pump- ing, etc.	8,493 15 0	8,536 0 7	8,558 7 6	8,660 12 0
Other Assets	33,866 2 11	60,654 12 9	73,285 12 7	70,792 9 4

75. We were never in a position financially to set apart any amount for reserve fund.

76. The company so far has not been able to declare any dividend.

77. The working capital is provided by loans and deposits generally at the rate of interests varying from 6 to 7½ per cent.

78. (a) Managing Agent's commission Rs. 500 per month. It is also provided that they are entitled to 5 per cent. on the net amount of profits available for distributions as dividend.

(b) Head Office's establishment is Rs. 2,100 annually.

79. We consider at least 10 per cent. on the original block to be a fair return to provide for at least 6 per cent. as dividend to the shareholders, to build a revenue fund, and to provide for any future contingency like breakdown of machinery, etc.

80. The forms* are attached herewith.

81. We have been able to reduce the manufacturing expenses from Rs. 4-12-9½ first season to Rs. 3-9-6½ this year due to efficiency of production. Except installation of a few tanks, and a spray system no other extension has been made.

82. There is room for improvement in the recovery rate, provided sufficient gate cane of good quality is available. There is little likelihood of reduction of cost in any other direction as all the possible economies have been effected, and anything below it will impair efficiency.

Marketing.

83. Besides Gujranwala proper, our principal sugar marketing centres are Gujrat, Rawalpindi, Lalamusa, and other stations on this line.

84. Our sugar is marketed through our sole selling agents or their sub-agents. A part of the sale is effected directly by the company as well.

85. The sugar contract form being very comprehensive in the details, leaving nothing to be desired.

86. We are unable to give information on the point.

87. The difference between wholesale and retail prices does not fluctuate very widely, rather the consumer invariably derives the benefit of any fall in sugar rates. He is generally assured of his proportionate benefit.

88. The most of the dealers have their godowns for day to day transactions and that contracted on a forward basis remains with the mills till the stipulated time of delivery.

* Not printed.

89. The keeping quality of Indian sugar has decidedly improved during the past few years, but now far that stands in comparison to Java we are not prepared to state, except in the case of best quality Indian sugar which of equally good keeping quality.

90. In the Punjab, as elsewhere the determining factor, to decide in favour of Indian sugar in preference to the imported one, is a question of its price, except with that class of people who for reasons of their national sentiment, or preference for very high grade sugar, consume foreign sugars only. It is consumed mostly in hotels and restaurants by Europeans and Europeanised Indians. But even here high grade Indian sugars are replacing Java sugar.

91. Some mills are producing sugar which compares very well with Java. The Java sugar is whiter and of more a regular and uniform grain. Java manufacturers have the additional good point of being able to maintain their standard. Indian sugar on the other hand, tends to vary in quality even from the factory in respect to its colour and grain.

92. Generally the factories are anxious to dispose off their entire production during the season, and are not at all inclined to carry forward their stock. But in fact they are unable to sell more than 50 per cent. on the average by the end of the season, and the balance, out of sheer necessity, has to be carried forward.

As regards the dealers, they invariably enter into forward sales contracts with the manufacturers, and to meet their immediate requirements get from the market as well, by repurchase from any one of the party holding the goods. During the recent years there has been some such a wide fluctuation, and unprecedented fall in the sugar prices that there is no incentive on the part of the dealers to stock sugar for future transactions, or to enter into long term contracts. They are generally confining themselves to "Spot Purchase" in absence of any speculative tendency in the market, and as has been observed, they have been systematically avoiding "Futures" as far as possible. It is difficult to give any idea of the stock carried by the dealers.

The carrying on the stock is generally financed by hypothecating the finished sugar with the banks on the "Cash Credit" system, with a margin of 25 per cent. on the market rate as the maximum borrowing limit.

93. Marketing survey of sugar industry would be advantageous, as that would be about the exact nature and scope for consumption of sugar in any particular area. On the basis of this survey further steps can be taken in controlling future trading on the basis of fixed standards, and encourage and develop sense of co-operate responsibility for improving marketing methods. This will greatly facilitate the work of the central sugar marketing board, which is very likely to take shape, judging from the trend of events in the sugar recently.

94. An all-India sugar selling organisation in which all the central factories join, will remove a long felt need, as it would be instrumental in checking the fall of prices, besides introducing uniformity in the business method. Only such an organisation, with the sanction and support of the majority of mills behind it, can avoid reckless competition among the manufacturers for some very selected markets, and to a certain extent counter-effect the evil effects of very heavy excise duty, which has proved ruinous to many of the weak manufacturers, and prevented many mills from having any benefit of the protective tariff.

By a co-ordinated system, more economical methods of marketing are possible, and will avoid going in for distant markets, which often prove unremunerative. This is only possible if an All-India Sugar Marketing Board is brought into being with sufficient resources to make itself the dominant selling organisation, able to guide production and control the internal prices. This will help to fix standards as well, when the market is fully surveyed, with a view to fuller exploitation.

95. Standardization of Indian sugar is a pressing necessity, as that would help the trading community to base its transaction, on standards that are not variable, this avoiding an element of risk, and likelihood of disputes arising in redeeming the obligations.

Standardization would certainly involve a change in the manufacturing programme of many of the mills, and to some extent changes in their equipment as well. But considering the other advantages the objective is worth-while striving for standardization would be a pre-requisite to the formation of the All-India Sugar Marketing Board, to enable it to reconcile the claims of various mills in fixation of prices, and in settling disputes between the manufacturers and the traders. The basis of standardization adopted by the Imperial Institute of Sugar Technology is recommended.

96. No business at our end was transacted on the basis of these standards.

(b) No.

97. Firstly the "Standards" as available from the Imperial Institute must be made cheaper. At present the price charged for them is prohibitive. This will in the first instance popularise its use. Questions of the sugar market, should include the ranking of the particular sugar, in respect of the prescribed standards, and the mills should be required to affix the standard mark on the sugar bags produced by them. Efforts should be made to simplify the significance of these standards, so that it is readily understood by the business community in general.

98. No.

99. There are millions of Indians for whom sugar is yet a very rare delicacy, in contrast with overproduction which faces us on the one hand. The potential demand is there, but unfortunately due to force of economic circumstances, it is non-effective being unsupported by purchasing power. This is a question with wide implications, but nevertheless, not wholly out of place when discussing the ways and means of popularising the use of sugar. The normal consumption in India may be estimated at million and one hundred thousand tons.

100. We are not furnished with exact information on this point, but gur is to the best of our knowledge being replaced by sugar, which is selling much cheaper now. It is difficult to estimate the extent of substitution.

101-104. We are not in a position to state anything definitely.

105. The imposition of the excise duty in 1934, curbed the reckless growth of mills, in many cases poorly equipped and financed. So far its effect was beneficial, but many of the mills had hardly had the time to settle down, and enjoy the benefits of the protective duty, to meet the altered circumstances. The mills had to exert their level best to make up that loss by aiming more at efficiency, and reduction of cost. To a great extent it was achieved, but yet the industry as a whole except in some individual cases, was not prepared to shoulder the burden which was piled on it by enhancement of the duty in 1937. The cumulative effect of the excise duty in 1934, may have been good but in areas like the Punjab, where the average cost of production price of cane is higher and the recovery comparatively low, the effect was disastrous. Much less, than piling up any reserve the mills had hardly made any headway to tide over a rainy day, or an unexpected contingency like the breakdown of machinery, or suspension of normal operations. Further increase in the excise duty, proved the last straw to break the camel's back, and no wonder that some of the smaller units have already shut down, and others are facing hard times. The prospects for the future has been rendered uncertain and discouraging, and its importance cannot be belittled in a predominantly agricultural province like the Punjab, where the growth of large scale industries, must ultimately reflect in the well-being of a large class of people in more than one ways. This has scared away the investing public, and it follows as a logical conclusion that, with the depleted recourses,

even the banks are reluctant to come forward with any financial assistance, except under very stringent terms, against stock in trade. The indirect result of the increase in the excise duty has been to put many mills in what may be termed the "Financial straight Jacket". It will be admitted on all hands that sugar mills cannot run, if there is not sufficient capital handy to allow a margin for advance to be taken on finished goods and control the raw material in process. They have to wait for certain period, before the goods can be handed over to the mortgagee like the bank, and in this way it adds to our plight. Thus the situation is bad both ways.

105-107. We are not in a position to state anything definitely.

108. The protection to the industry has been mainly responsible for bringing into existence on such a big scale, that it now ranks as the second largest industry of the country. The high tariff wall had at least prevented the Java manufacturers to compete with the Indian mills in the inland markets. The import duty imposed on foreign sugar at present is justified. As the figures at the ports indicate Java can land sugar in India, Excise duty even at Rs. 3-4 per maund and any lowering of duty will make the case for Indian mills too difficult.

109. Any lowering of the protective duty even at the present juncture would be to invite positive disaster, as with their superiority in many points, Java manufacturers will glut the Indian markets in many places and make competition too difficult for the Indian mills, which have not yet attained their standard of efficiency of its very low initial cost of sugar.

110. We have no useful suggestion to offer on this point.

111. We are not in a position to state anything on this point.

The Bhalwal Sugar Mills Co., Ltd., Shahpur.

Letter No. Nil, dated Nil.

With reference to your letter No. 520, dated the 23rd July, 1937, we beg to submit herewith statistical information required in the questions given in your above.

We also attach herewith copy of our Balance Sheet for the year 1936-37. Copies of previous Balance Sheets have already been submitted.

1. Our factory began manufacturing sugar in the year 1933-34 and its full designed capacity is one hundred tons only.

2. Our output has been the following (given in maunds):—

	1st grade.	2nd grade.	3rd grade.
1933-34	1,270	1,665	365
1934-35	1,732	917	62
1935-36	1,960	2,012	65
1936-37	3,522	1,550	1,655

5. We have made no extensions or replacements.

6. We are contemplating no further extension at all.

10. We do not undertake cultivation of sugarcane. We never purchased or leased any land in this connection.

11. Since we have no land of our own for sugarcane cultivation purposes we cannot give the information asked under this question.

20. The information, i.e., the cost of cultivation is not known to us.

25. This proportion varies every year. We give below the proportion:—

From 1933-34 to 1935-36—All gate cane.

1936-37—60 per cent. gate cane and 40 per cent. rail cane.

We have no tramway system here with us.

29. It is 3 pies per maund per mile average. Some cane-growers have their own carts and others hire carts for the purpose of supplying cane to the factory. They hire at 2 pies per maund per mile average if the distance is longer than five miles and 3 pies per maund if the distance is 5 miles.

32. In the year 1936-37 we have been transporting cane from Gurdaspore District which is more than 240 miles from our factory. Sometimes this takes six days even. Railway arrangements for transportation of cane this side are not satisfactory as the railway charges a very high rate of transport.

38. During the year 1933-34, 1934-35 and 1935-36 we have been purchasing cane direct from cane-growers. During 1936-37 we purchased 40 per cent. from contractors and 60 per cent. of the total supply from the cane-growers direct.

40. The contractor supplies cane sometimes on commission basis and sometimes on contract basis. We paid the contractor 3 pies commission per maund. As regards arrangements, we weigh the cane in the factory and pay him on this weightment for the quantity he supplies.

41. No part of our cane supply is obtained from any cane growing association or any such body. There is no such association in Punjab.

43. The following have been the prices during the last four years our factory has worked:—

1933-34 average annas 4 per maund.
1934-35 average annas 5 per maund.
1935-36 average annas 5 and 3 pies per maund.
1936-37 average annas 5 and 9 pies per maund.

Yes the prices tend to vary at different periods of the season and much depends on the price of gur here in these parts.

50. Our seasons have been of the following durations:—

	Days.
1933-34	60
1934-35	30
1935-36	35
1936-37	48

How can such a short period be sufficient for economical working.

53. We employ skilled and unskilled labour in the crushing season and employ no labour at all in the slack season.

57. We spent the following amounts on coal and wood during the last four seasons:—

	Rs.	A.	P.
1933-34	4,611	4	3
1934-35	2,941	14	9
1935-36	2,669	3	3
1936-37	5,435	6	3

59. We have been selling molasses at an average of six annas per maund, but we cannot sell more than 500 maunds during any season.

64. We had no stock left from sale any year to carry over to the next crushing season.

65. We have one godown for the storage of sugar and its capacity is to hold 2,000 bags. We have not increased the capacity nor do we intend doing so.

72. As is clear from the answer in Question 64 we have no big stock of sugar any year and whatever we manufacture has been sold locally here.

73. We supplied copies of the Balance Sheets, *vide* our letter, dated the 5th July, 1937.

74. We have never written off any amount for depreciation ever since we started business in 1933-34 as we have been in business loss every year.

75. No amounts have been set aside for reserve funds at all during any year.

76. We have never distributed any dividend ever since 1933-34 the first year of our doing business as we have always been working at loss.

77. We borrow the working capital from the shareholders as the Banks here do not advance money in sugar business.

78. We keep no separate Head Office other than one at the factory and we have paid no commission to the Managing Director ever since 1933-34.

81. We have not extended the plant, nor have we installed any more efficient machinery. Our working cost remain the same.

The Saraswati Sugar Mills, Ambala.

REPLIES TO GENERAL QUESTIONNAIRE.

Production of Sugar—Introductory.

1. 1933—400 tons.	Maunds.
2. 1933-34	23,662½
1934-35	58,082½
1935-36	113,667
1936-37	216,659*

During the last year (1936-37) we produced only one quality.

3. (a), (b) & (c) Nothing unsatisfactory.

4. Double Carbonitiation and double Sulphitation. The advantages of Carbonitiation lie in better quality of sugar that it yields though the comparative cost of production is higher.

5. One or two pumps have been duplicated and four Centrifugals added.

6. The addition of a new Boiler and three new Centrifugals.

7. (a) The cane supply in respect of its quality and quantity and its situation in respect of the sugar market.

(b) 400 tons is about the smallest.

8. Very meagre. Centrifugals and a few other minor accessories are obtainable in India.

9. (i) & (ii) No.

Both and especially the Imperial Institute of Sugar Technology could be very much prompter in their service. They supply the figures only after everyone else has supplied them.

Raw Materials.

10. Yes on a very small experimental scale.

We have a lease. The difficulties were many. We could considerably be helped if the Government came to our aid in the matter of acquiring land outright.

11. (a) About 400 highas.

* This includes 10,120 maunds of sugar recovered from last year's remelted sugar.

- (b) From 250 to 300 bighas.
 (c) 213; 331; Co. K. 16 and many other varieties though on a small scale.
 (d) Purity indigenous.
 (e) Most of this cane was distributed for seed or was used in our farm and therefore, accurate weight per acre is not available.
 (f) Same as above.

12. (a) & (b) Same as above (11).

13. Experiments conducted in early and late varieties have not been very successful. The commonly recommended late variety (Co. 331) did not yield very much encouraging results on or after the 15th April.

Co. 312 proved slightly better (Co. 312, 88 purity; Co. 331, 86 purity on the 15th of April).

The early varieties like even Co. 350 have not shown any pointed success either. It was found that even Co. 213 matured earlier than Co. 350 in some cases. Our experience shows that the results vary from field to field and the selection of late and early variety called for a good deal of research.

The help from the Agriculture Department has been *nil*. They deputed an Agricultural Assistant but we have never known as to what his functions are.

14. (a) The quantity of cane has increased from year to year specially on our gate due to the pains, we took, in gradually nursing our gate supplies. The cane crushed figure for the last four years of our working is as follows:—

	Mds. Srs.		Mds. Srs.
1933-34	308,146 17	1935-36	1,397,025 30
1934-35	885,394 4	1936-37	2,244,684 10

(b) The quality of cane has been slightly better in the year 1936-37 due to the favourable Monsoon.

15. Nearly the entire supply of cane is exposed to the danger of frost as was proved in the year 1934-35 when about 90 per cent. of the crop was affected in this area.

16. Yes.

Nearly all exclusively Co. 213.

The average sucrose content in cane for the seasons has been as follows:—

1933-34	11.38	1935-36	11.01
1934-35	9.74	1936-37	12.13

The yield of cane has been about 200 maunds per acre.

17. Since the very start, i.e., 1933, we have been having very keen competition, as near as four miles on both the sides of the gate. The competition has continued ceaselessly, except for a period of two months during the past season, when there was excess of cane everywhere and there was no competition at our gate. At the outstations, however, competition continued unabated even all throughout the last season. The price of cane is directly affected and in periods of shortage, the prices go up considerably higher than the Government minimum price; due to the competition we are forced to take the leaves, trash roots, etc., along with cane and pay the prevalent cane price for it.

18. (a) The area around our gate is extended considerably because we have always been paying prices higher than the Government minimum price. It is to be pointed out here that being situated in the Punjab, the United Provinces Sugarcane Rules did not apply on our gate but we have always maintained a policy of paying prices higher than the United Provinces Government minimum price. This has proved fruitful and cultivation on our gate has been improving steadily from year to year.

(b) (i) Rainfall has been playing a very important part inasmuch as in the year 1934-35, the effects of the frost were very much more serious than they would have been in a year of normal rainfall.

(ii) The constantly downward trend of the sugar price has given a very rude shock to the cane cultivation. The area under cultivation has been considerably curtailed because of the fact that during the last season, United Provinces sugarcane prices came down and down as the season progressed. We have at a tremendous cost combated this tendency at gate and paid high prices despite the low price of sugar, in order to maintain the area under cultivation.

(iii) High prices for Gur and Jaggery would in our opinion divert cane from the factories to the indigenous Charkhies but would not to any appreciable extent affect the area under cultivation.

(iv) The exceptionally low prices of wheat, during the past few years, have been surely responsible for maintaining a high acreage under cane. Any rise in wheat prices—the first indications of which are already in the air—is sure to divert cultivation from cane to wheat. It would not be surprising at all if the prices of wheat recovered further, we may once again experience a cane shortage.

19. We are very strongly of the opinion that the laws of supply and demand would automatically adjust the production of sugarcane. Artificial impediments in the way of a free operation of these laws (by way of the sugarcane rules and specially the fixation of minimum price of cane) are bound to effect the cultivator and the miller very adversely.

20. Unavailable for the present.

21. Means of irrigation. The cultivator has neither the capital nor the means to install tube wells or make other arrangements for cultivation of cane and is therefore dependent entirely on the Monsoon.

22. (a) We would urge most emphatically the desirability of Government aid in the matter of acquisition of land. We have experienced insurmountable difficulties in acquiring land for extending cultivation because of the exorbitant demands of the land owners who are conscious of our need for land. We entirely agree with the minute of dissent of Mr. J. B. Padshah in the Sugar Committee Report, 1920. It is desirable that Government aid should be given for acquisition of at least 200 acres per factory.

(b) Answer to the (a) is the only solution in our opinion, and no other alternative could be suggested.

23. The present conditions do not permit of this. The universal experience in these areas is that any advance of cash made to the cultivator by the factory, loses the cane to the factory. The tendency of the cultivator is to draw advance on his cane from one factory and try to dispose of his cane to another, giving rise to multifarious complications. The cultivator even takes to gur making and thus disposes of his cane at a very unremunerative price, than deliver the cane to the factory because he does not wish to repay the money he has borrowed. We strongly believe that cash advances to the cultivators would prove very harmful to cane supplies even if a Zone system were introduced which cannot prevent the cultivator from making gur out of his cane and thereby evade the repayment of the loan. Supply of seed and manure could be made without impairing the supplies to any considerable extent.

24. (a), (b), (i) & (ii) Yes.

25. (a) 1933-34	42-74	1935-36	50-63
1934-35	31-87	1936-37	68-77
(b) 1933-34	57-26	1935-36	49-37
1934-35	66-13	1936-37	31-23
(c) Nil.			

The total quantity of gate cane has increased because of the gradual developments of the area around our gate as stated previously.

26. Our gate-cane has almost exclusively been transported by ordinary carts. The average cane carried per cart works out to the neighbourhood of 20 maunds. We have tried experiments with pneumatic wheeled carts and have come to the conclusion that the capital cost of this cart is high and there is very little likelihood of this cart getting popular among the cultivators. We are now conducting experiments with ball bearing wheels and the first indications are quite encouraging. For the present we confine our experiments to ball bearings on pneumatic tyres, but we shortly propose to try out the introduction of ball bearings on the indigenous wooden wheeled carts also. Sufficient progress has not yet been made on the ball bearings and it would be dangerous to draw any generalisations from the meagre data at our disposal so far.

27. The mileage of roads around this factory is not inadequate. The condition of the Provincial roads is satisfactory but the local roads are in a state of hopeless disrepair and cause considerable inconvenience to the cane traffic.

28. 18 miles. 24 hours.

There is no appreciable deterioration during these 24 hours.

29. The average cost of transport of cane by cart is about 1½ pies per maund per mile. The cane growers, for the most part, employ their own carts and we are carrying on an intense propaganda for the growers to possess themselves with their own carts. Hired carts are uneconomically expensive. The average cost of hired carts works out to about 2½ pies per maund per mile in this area.

30. A number of Municipalities have been charging toll tax on cane that only passed through their limits. In many instances it was pointed out to them that the law does not contemplate assessment of tax on commodities that are not consumed inside the Municipal limits. This has no effect and consequently cane cultivation has gone down considerably near the Municipal areas. Factories do not purchase cane in these areas except as a last resort in times of shortages.

When on various occasions we brought this to the notice of the Municipalities concerned and the Provincial Government, absolutely nothing was done in the matter.

We were thereupon forced to file a suit against the Saharanpur Municipality on the following grounds:—

- (i) The law does not contemplate collection of toll tax on articles passing through and not consumed inside the Municipal limits: and
- (ii) No tax can be collected on Excisable commodities like Opium, etc., and the material of their manufacture.

Cane has been held to be covered by (ii) and should be immune from toll-tax.

Further to this it is urged that if this matter is taken up in the right earnest we may be able to obtain freedom from toll-tax for sugar and as well as cane in almost all municipal areas in British India.

It is apprehended that the municipalities may promptly seek amendment of the Act.

It is therefore, considered imperative that the hands of the Sugar Factories should be strengthened by Legislative measure assuring immunity to sugar and cane from this tax.

31. We have introduced a very elaborate control for maintaining our gate supplies at a uniform level. We have divided the area around the factory into different Telques (Circles) in the charge of a Halquadar and a few assistants.

These Halquadars have to distribute indents among the cultivators— one indent for each cart—48 hours before the cane is required to be weighed at the factory. So that cane is harvested only after such an indent has

reached the cultivator. For distinction we have allotted different colours to the indents of different Halquas.

Thus we can control the number of carts that come to our gate and cases of undue detention are extremely rare.

The basic idea underlying this control is that only that much quantity of cane is harvested in the fields as is taken up by the factory.

The usual period of detention of the cart is from two to eight hours.

Same as above.

32. From up to 70 miles.

The time taken in transit for haulage by rail is extremely erratic. It varies between one day and four days from the same station.

An important arm of our rail cane supply is the Saharanpur-Lhaksar Section of the East Indian Railway. This cane has to pass through the Khan Alampura yard which is notorious for detentions of a very irregular nature. It is our endeavour to haul as much cane by road even at a considerably higher cost and do away with rail cane only on account of the unsatisfactory nature of the arrangements on the North Western Railway.

The time takes between the harvesting and crushing of our rail-borne cane varies between 2 and 6 days.

33. Railway freights are calculated on flat per truck basis. There have been reductions in the freights on the North Western Railway in 1935. Maundage rate for freight on cane existed on the North Western Railway prior to the 1935-36 season, proved itself to be utterly unworkable due to the following reasons:—

- (i) Small and out of the way railway stations engaged in cane traffic and not equipped with weighbridge the cane trucks would have to be hauled to distant stations for assessment of freight on maundage basis.
- (ii) Even when there are weighing arrangements at despatching or receiving stations, actual weighments entail considerable detention to trucks with consequent deterioration of cane. In many cases weighed trucks have been re-weighed, a number of times, by the checking authorities causing further delay.
- (iii) The recording of weights on which freight may be chargeable at out of the way stations leaves an elastic discretion with the local railway authorities. The exercise of such a discretion has, in our experience proved itself to be none too happy.

We would wholeheartedly urge a continuance of the present flat rate per truck load.

34. Freight rates on manures call for a substantial reduction. Manures are a novelty to the illiterate cultivator and he would need any amount of encouragement to take to these.

35. None.

Does not arise.

Does not arise.

36. No.

The difficulty is the delay attendant upon tramway transport which is after all a miniature copy of the railway transport system only on a very much cheaper scale.

37. There is practically no deterioration in the cane received by road but the arrangements of haulage of cane by rail are very unsatisfactory and we have calculated that we lose 0.5 per cent. sugar on cane due to deterioration of cane in transit by rail.

38. (a) Nil.

(b) Even where we pay some commission to the contractors, we receive cane directly and pay a commission to the contractors for carrying out our instructions only.

39. There is no written agreement incorporating the arrangements between us and the cultivators for the supply of cane.

We do provide seed and manure but no advances in cash because the universal experience this side is that having collected the advance, the cultivator has a tendency to divert his cane elsewhere. Apart from this, if once an advance is made on a certain crop, the factory authorities have themselves to look after that field and protect it from other purchasers and from attachments on the cultivator.

40. At gate, our local agents are paid 1½ pies per maund just for the distribution of indents (refer answer to question 31) and at outstation, we pay 6 pies per maund up to and including the month of March and 7½ pies for the months of April and May.

This commission includes handling charges, station expenses and dryage and is payable on weights as recorded by the factory weighbridge.

41. No.

Our experience is that in actual practice these societies begin to indulge in profiteering and lose the co-operative character altogether.

42. We have 5 weighbridges working for all 24 hours for gate cane and a wagon weighbridge fitted on our siding for the rail cane.

Payment is made at the time, the receipt is presented to us. The normal interval between the delivery of cane and the demand for payment is two to three days. In certain cases, cultivators do not demand payment for as long as two or three weeks and collect as many as 50 receipts before they present these for payment.

43. Our average price of cane for the season has been as follows:—

	Per maund.
	As. p.
1933-34—	
Gate and Rail	6 3-8
1934-35—	
Gate	6 0-17
Rail	6 10-5
1935-36—	
Gate	6 1-47
Rail	6 11
1936-37—	
Gate	4 11-42
Rail	5 4-36

We have always maintained a sloping scale in the cane price at gate so as to go up on the price declared initially at the beginning of the season; but during the year 1936-37, the Government price started with four annas nine pies and cane grown to three annas nine pies and even lower and therefore, we could not stick on to our scheme.

44. Yes.

Our factory is situated at only four miles from the borders of the United Provinces and therefore, we are directly affected by the minimum price of cane fixed by the Government of the United Provinces from time to time; and this is calculated on the prevailing prices of sugar.

Does not arise.

45. To a very large extent.

46. There has been a steady and consistent downward movement in the price of sugar and it has brought down the gur prices also. We believe there is overproduction of both gur and sugar.

47. We have always paid prices in excess of the price fixed under the United Provinces Sugarcane Act as the figures supplied above would show. In general we have paid from six pies to one anna higher than the Government price at our gate.

This has been done in order to encourage cane cultivation around the factory and to divert cane (which would otherwise have come by rail) to our gate by bullock carts necessitated by the grossly unsatisfactory arrangements of haulage by rail.

48. No. Far from it. The whole thing is unnatural. It impairs a free operation on the laws of supply and demand. Even if the minimum price has to be fixed it should be controlled in such a manner that it should be lower in the beginning of the season and higher towards the end of the season.

This would encourage holding on of cane for the fag end of the season. The cultivator who keeps his crop standing till late in the season does so at extra cost (extra watering required, etc.) and so should be compensated for it.

If the minimum prices decline, as the season progresses, as it happened in the year 1936-37, it would also become increasingly difficult to persuade the cultivator to withhold his cane, so that there would be an uncontrollable rush in the beginning of the 1936-37 was reminiscent of the fag end of the season 1935-36 and was therefore, withholding his cane expecting to fetch eight to nine annas for it in the month of April (in April, 1936, the prices of cane touched twelve annas a maund).

The drastic reduction in the end harmed the industry even more than did the additional Excise Duty.

49. The superior early and late varieties of cane have not proved very successful in our experience. On the 15th of April, the famous late ripening variety Co. 331 did not prove to be a great success. Even Co. 312 proved slightly better (Co. 312, 88 purity and Co. 331, 86) and the early variety like Co. 350 (the much-acclaimed early variety) has not given very satisfactory results. In some cases even Co. 213 has ripened earlier than Co. 315. Our results vary from field to field and therefore, the definite superiority of the so-called late and early varieties has not seem established in our opinion and therefore, no bonus is recommended.

The introduction of the bonus system for special varieties would have more difficulties in practical working also. The identification of the different varieties of cane would have to be left to the weighment clerks and disputes arising out of the identity of the cane becomes far more numerous.

50. Following is the duration of our seasons from year to year :—

1933-34—19th January, 1934 to 26th March, 1934.

1934-35—27th November, 1934 to 12th March, 1935.

1935-36—25th November, 1935 to 23rd March, 1936.

1936-37—27th November, 1936 to 5th May, 1937.

The tendency for the season to prolong has been due to our encouraging gate cane.

We consider seven months to be sufficiently long for economic working.

51. Not very encouraging. The medium varieties stand well.

52. No. We always receive information from the Imperial Institute of Sugar Technology after it has been known to every body.

Labour.

	Crushing season. Off season.	
53. 1933-34—		
Skilled	233	23
Unskilled	556	15
1934-35—		
Skilled	188	34
Unskilled	320	44
1935-36—		
Skilled	152	27
Unskilled	443	57
1936-37—		
Skilled	145	26
Unskilled	411	61

54. With the exception of four Chinese Panmen imported from Java, a Dutch Chief Chemist and a Scotch Chief Engineer, all staff is local.

55. There is not much labour to replace (Reference reply to question 34).

56. Free residential quarters are furnished to all section of labours and there is a factory club for those who care to join it.

Power.

57. No.

We have used extra fire-wood and coal as follows:—

	Mds.	Srs.
Firewood—		
1933-34	15,610	0
1934-35	68,812	0
1935-36	90,287	26
1936-37	55,285	0
Coal—		
1933-34	29,658	0
1934-35	33,394	0
1935-36	170	0
1936-37	868	0

We never had any surplus bagasse to bale.

By-products.

58. (i) Molasses: and

(ii) Lime.

59. The following has been the outturn of molasses:—

	Maunds.		Maunds.
1933-34	6,025*	1935-36	60,374
1934-35	40,057	1936-37	83,278†

* A part of the product was allowed to flow down the drain and, therefore, the actual quantity produced is not ascertainable.

† This includes 969 maunds of molasses recovered from last year's re-melted sugar.

The quantities have varied due to varied crushing and the different contents of cane in the different years.

60. We send nearly all our molasses in the Punjab market and a good portion of this is sent to the distilleries direct.

Supply of tank wagons is very scarce.

Freight on molasses for the following markets is as follows:—

	Per Md.		Per Md.
	As. P.		As. P.
Jullundur . . .	1 11	Karnal . . .	1 3
Simla . . .	3 10	Sarna . . .	3 0
Amritsar . . .	2 5	Rawalpindi . . .	4 4

61. We sell all our molasses and have a very important suggestion to make in regard to the utilisation of molasses. As has been urged by the Indian Sugar Mills Association, on various occasions, power alcohol which could easily be extracted from the molasses should compulsorily under the law be made to form a constituent of commercial petrol. During the past, very strong vested interests have prevented the utilisation of molasses in this direction. The suggestion is not new. Power alcohol in petrol has been tried in various countries in Europe and elsewhere and has proved to be an unqualified success. It is, therefore, absolutely essential that India, producing so much of molasses, should also take to this without any further delay.

Molasses could also be employed for fuel and cattle-fodder, provided sufficient research data is available on the subject. Special drastic reduction in the freight rate would give an immense incentive to fodder manufacture.

Molasses could also be used for road building and for this also wide research and copious data is necessary.

62. We have not had surplus bagasse but it appears that bagasse could profitably be employed for the manufacture of paper and strawboard. Experiments on manufacture of strawboard from bagasse made in the strawboard factory at Saharanpur have, we understand, met with abundant success and it appears that bagasse could profitably be sold to paper and strawboard manufacturers.

At the present time, the freight on bagasse on both the North Western and East Indian Railways is prohibitive and very little of bagasse is actually carried by rail.

63. We sell our line to building contractors.

Storage and Transportation of Sugar.

	Bags.
1933-34—	
Beginning of season . . . . .	...
End	1,741
1934-35—	
Beginning of season . . . . .	...
End	10,536
1935-36—	
Beginning of season . . . . .	...
End	21,570
1936-37—	
Beginning of season	3,629
End	46,573

65. We have three godowns with a capacity of 15,000; 12,000 and 10,000 bags respectively. The one with a capacity of 10,000 bags was added last year. We do not contemplate to increase our storage any further.

66. Deterioration of sugar in storage has not been observed to any appreciable extent in our experience. This may partly be due to the superior quality of sugar that we produce by the Carbonitiation process.

67. The quantities are extremely negligible. This sugar is remelted and passed through the process again.

68. There is very little scope for improvement over our present conditions.

69. About 1 per cent. of the consignments get damaged due to rough handling in transit.

70. We have experienced considerable difficulties in obtaining wagons for the transportation of sugar specially in the year 1936-37 when on two different occasions, the railway without any previous notice, stopped booking of sugar for 15 and 10 days respectively.

71. No.

72. We have never sold any sugar except on f.o.r. factory stations basis. The following are the freight rates to the markets we supply:—

Per Md.			Per Md.		
Rs. A. P.			Rs. A. P.		
Ambala . . .	0	2 3	Rawalpindi . . .	0	14 7
Simla . . .	0	11 6	Peshawar . . .	1	2 4
Jullundur . . .	0	5 6	Thal . . .	1	4 7
Amritsar . . .	0	7 3	Bannu . . .	1	5 9
Lahore . . .	0	6 4	Kohat . . .	1	2 5
Gujranwala . . .	0	9 10	Raiwind . . .	0	8 2
Gujrat . . .	0	10 10	Multan . . .	0	14 6

Capital Account and Overhead Charges.

73. Being enclosed herewith.

74. None.

Does not arise.

75. None.

76. Interest paid to shareholders at 8 per cent.

77. Cash credit account against sugar stock, etc., at 4 per cent.

78. Rs. 24,000 annually plus annas 5 per cent. on sugar sales.

79. 9 per cent.

Efficiency of Protection.

82. Very little.

Marketing.

83. Ambala, Simla, Jullundur, Amritsar, Lahore, Rawalpindi, Peshawar, etc., etc.

84. (a) The dealers buy from us through our selling agents and pay for the sugar against R/R.

(b) The dealers then sell it to retailers not unoften on credit.

85. It is quite suitable.

86. We are unable to give retail figures but the wholesale prices in 1935-36 ranged between Rs. 8 and Rs. 9-4. In 1934-35 they ranged between Rs. 8-8 and Rs. 9-8. In the current year we have sold sugar between Rs. 7-1 and Rs. 7-12. Our present rate is Rs. 7-2.

87. The retail prices remain unduly higher than wholesale prices. This is due to the dislocated condition of the market. Ever since the temporary boom in the market caused by rumour of Italo-Abyssinian war in October, 1935, and its restriction the market has gone down and down unhaltingly.

88. There are godowns at all important sugar consuming centres. The deterioration, if any is very negligible.

89. No.

The keeping quality of Indian Sugar has maintained itself on a uniformly high level.

90. There are certain Caterers and other European consumers, who are irrepensible adherents of Java sugar. They will pay up to Rs. 2 per maund higher for the same quality of Java sugar.

91. Yes.

In some cases, the Indian sugar is even better than the Java sugar; in other cases the low quality is due to defective classification.

92. Due to the dislocation of the market and the steeply downward movement of prices since October, 1933, a state of panicky nervousness characterises all purchasers of sugar. The dealers shudder to stock any sugar. For the most part stocks are kept by the mills themselves.

Re: Finance—the usual method is on a cash credit account to draw on the stocks with a margin of say 25 per cent. with the Bankers. The godowns containing stocks of sugar are supervised by a representative of the Bank.

93. Extremely useful.

94. An absolute and unpostponable necessity for the very existence of the industry.

95. Yes.

The Imperial Institute of Sugar Technology is about on the correct lines.

96. (a) Very little. We made an attempt but the standards are almost unknown in the sugar market. Due to the very high price of the box of standards, it is outside the reach of ordinary sugar dealer.

(b) Yes we graded our production as A/26 and B/25, etc.

97. They should be made more popular and cheaper.

98. "Future" and "Terminal" markets would do a lot of good to Indian Sugar trade.

99. The normal consumption of factory-made sugar is 13 lakh tons annually. Consumption could be increased by propaganda on the lines of for instance—the tea cess committee, etc.

100. To a very large extent. For sweetmeat trade gur has seldom been used even in the past.

101. During its short life the sugar industry has not had breathing time and so there side lines have not yet been explored into.

102. Unavailable up here.

103. We have nothing to say.

104. No, not to our knowledge. Export of Indian sugar could be made possible if the Indian sugar were given the status of a Colonial Product.

105. (i) It stunted the industry.

(ii) Has had the effect of industrial infanticide.

106. We sell our entire production to dealers.

107. Not to our knowledge. Have nothing to say.

Claim for Protection.

108. A large slice out of what has been given in the form of protection has been taken away by the Excise Duty. In any case the industry would meet a catastrophic end in the fifth year of its existence if the protection were withdrawn even in part.

109 & 110. To a considerable extent, as stated above, the Excise Duty has effectively stood in the way of the industry standing on its own legs.

To a very much larger extent the responsibility for the slow progress of the industry towards that goal is due to utter lack of progress in the agricultural side of sugar production.

India has taken a long stride towards achieving manufacturing efficiency in these few years of protection. This progress can be compared to the progress of any other sugar-producing country in the world in its infant stage. We have at least touched the shoulders of the best sugar-producing country in the world with our manufacturing efficiency.

But what is most appalling is, that the agricultural part of sugar production does not come up to the knees of even the most inefficient sugar-producing country outside India.

We do not grudge the Sugar Excise Duty as such. If this duty were utilised towards putting the industry on a permanently sound basis by improving the agriculture of cane, we would in the very near future, have declared ourselves capable of standing on our own legs out to compete with Java in an open market.

But the most regrettable part of the whole business is that the industry itself is not allowed to benefit by the Excise Duty; and the deeply painful impression left on the miller is that the sugar industry is being made a milch-cow for other revenue purposes.

It is needless to account here that the actual conditions prevailing to-day are incomparably pessimistic to what was contemplated by the previous Tariff Board.

Developing the agricultural side of the industry is in need of urgent and immediate attention from the Government.

It is a common saying in the Sugar World that the cane agriculture has received a very step-motherly treatment at the hands of the Government. We have never tried ourselves of asserting that this agriculture has been completely motherless so far as the Government are concerned.

111. We have nothing to say.

The Pioneer Sind Sugar Mills Co., Ltd., Nawabshah.

1. The factory started working in 1934 with very little quantity of 30,000 maunds of cane as an experiment. It has full capacity of 300 tons.

2. We have not been able to supply full quantity of cane since 1935-36, supplied 350,000 and in 1936-37, 565,000 maunds.

Sugar produced, 1936-37—

	Mds.	Srs.
A.	31,474	14
B.	12,640	0
C.	942	20
Lump	15	4
Total	45,073	10

3. (a) No, as cane is not grown in our district we have to depend upon our own cultivation, to meet up with full quantity a problem itself.

(b) No facility of roads, rails and other communications.

(c) No trained labour is available. Hence labour is sent from the United Provinces.

4. Sulphitation.

5. No change practically except few tanks added.

7. We can not say unless and until we have full quota of cane supply.

8. We are always falling at loss to meet up with the equipments.
 9. We are so far away in Sind that we cannot take the full advantage of it.
 As sugar factory is one, they cannot help us much.

Raw Materials.

10. We grow only our own cane. 3,000 acres have been purchased, 1,500 acres taken on lease. No special difficulties, excepting land is sufficient we cannot get any lead further in vicinity. Hence we cannot grow sufficient quantity of cane.

11. (a) 4,500 acres.

(b) Approximately 2,000 acres are under cane cultivation.

(c) Co. 213, Co. 313, Co. 312, Co. 270 and Co. 331.

(d) Ridge, furrow system either with the help of Tractor or bullock power ridger.

Rotation—sometimes cotton and wheat, our for green manuring and Cane—Ammonium Sulphate.

Approximately 4 cwt.

(e) Last year whole crop average stood 325 out of that 3rd was Ratoon and 3rd was new. Co. 213 was only Ratoon and 313 was canes yield was from 300 to 500 maunds per acre. Co. 312 gave still higher yield. Co. 331 only was grown for seed purposes. Separately no sucrose was taken though Co. 313 considering early was first cut jointly crushed with Ratoon.

12. (a) & (b) 32 acres are set aside for growing seed and testing new varieties for our own Farm.

13. Varietal spacing experiment. Government of Sind is not growing cane hence they give only general advice.

14. We have started recently quantities already referred to.

15. Small canes many a time get affected by frost, when there is severe frost even tall canes also suffer. The tops and many a time eyes all get destroyed.

We get many a time a very bad attack of sucking bug in the months of March and April. On this point we are corresponding with Imperial Entomologist to Government, New Delhi.

16. No sufficient suitable supply. Varieties already replies.

17. Does not exist with us.

18. Many a time the hottest months are very dry and the crop suffers from scorching heat—leaves get semi-dried. In case of humidity, the crop does not grow vigorously.

Rainfall is very low, hence humidity is also very low. Every third year we get good rain of about 10". Crops mainly depend upon irrigation.

(ii) Prices are a bit higher than Cawnpore rates.

Prices of cotton crop are in parity with sugarcane hence Zamindars prefer cotton cultivation. With all our trials to tempt Zamindars to put sugarcane, we have failed.

19. No, already we are producing very little quantity of sugar.

20. Please refer question 11.

21. Please refer 12.

22. Compulsory acquisition or leasing of land for cultivation of cane is the only solution for the existence of factory as we are suffering for want of cane.

23-25. We are not affected.

26. We have our own Track line and Locomotives.

27. Most useless roads on the face of Earth.

28. Mostly 24 hours but sometimes go to 48 hours maximum.

29. One pice per maund on our own track line transport within two miles and more than 2 miles two pice per maund for our calculation purposes.

30. No.

31-34. Does not concern us.

35-36. Track line system was only solution for our own cane as we could not manage with bullock carts, in the first year though the quantity was only a lakh.

37. No.

38. Nothing from them.

39. There is one party and we have given Rs. 40 advance per acre, he has put 15 acres, rate annas six Factory delivery.

42. Wagons are weighed and tare deducted.

51. The months of crushing are December, January, February, and March with us. We can continue upto April if we had sufficient quantity of cane.

52. No assistance as we are very far off.

53. We are sending for mostly our labour from the United Provinces which is another worry for us as there is no skilled labour here.

54-56. Practically all labour for manufacturing and Engineering Departments excepting few fitters are local. Quarters are built and are provided, medical attendance is given them free.

57. No, as our cane supply is not continuous on account of harvesting. Labour difficulties and our fuel consumption is terrible. The coal consumption for 1936-37 was 854½.

58. No by-products.

59. Could not dispose excepting few thousand maunds worth Rs. 1,037 last year. This year only few hundred worth is sold.

60. No facility for sending Molasses. Sometimes sending in barrels, but barrels wear away within two or three turns, it has become a problem.

61. We are proposing to use the same as manure on our own lands. This year we are trying as experiments to know its effects.

63. Not thought over excepting alcohol.

62. No bagasse surplus.

Storage and transportation of sugar.

64. 1936-37, 18,029 bags of 2½ maunds in the beginning of season.

Balance of sugar on the 15th June, 1937, is 3,775 bags.

65. Sugar is stored by the side of the factory and that godown can hold 20,000 bags. Not yet thinking of increasing the capacity.

66. Not marked yet, mostly is consumed within 6 months.

67. Not yet experienced.

68. Cannot say.

69. No damage except sometime shortage on account of pilfering by cartmen, railway coolies.

70. No difficulty yet.

71. Not considered the matter.

72. Last year prices ran between Rs. 8-8 to Rs. 9-8, realisation was little less than Rs. 9.

This year average price may stand to Rs. 7-12 per maund delivery freight and cartage paid by company which comes to As. 5 average.

Capital Account and Overhead charges.

73. (i) Nil.

(ii) Rs. 5,00,856-7-0.

(iii) Rs. 1,03,959-8-9.

(iv) Rs. 6,70,153-2-1.

(v) Rs. 8,40,173-7-4.

(Loss Rs. 2,09,092-2-11 till 30th June, 1936.)

(At cost, no depreciation allowed yet.)

74. No depreciation is yet deducted.

No amount written off.

No income-tax paid.

Marketing.

83. Only Sind.

84. Dealers as well as retailers.

85. No suggestions.

86. Refer to 78.

87. Not much difference.

88 & 89. We have no experience yet.

90. European and highly fashionable classes of people.

91. Our sugar yet has not come to standard in whiteness and brightness nor we have reached to big crystal with same brightness.

92. Cannot reply.

93-99. We cannot say yet as we are yet beginning to feel.

100. Both have hit us the most. In 1934 after the announcement the share capital stopped coming and we could not sell the shares, with the result that we had to borrow to start the *Mill*. The addition of excise of 1937 and coming down of prices on account of internal competition has made the Managing Directors to think whether to run the Factory or close as the crop of cane was already sown and most of the Agricultural expenses had been done, there was no go but to run the factory for the coming year. For the next year question will soon arise.

106. No proper arrangement.

The general suggestions are that the protection should continue for further period of 7 years and the Government should take steps in Sind also to experiment on and find out the best canes from quantitative and qualitative points of view, find out best doses of manure, etc. The Tariff Board should recommend for the preparation of alcohol, spirits, tinctures from the molasses as we learn that in foreign countries the Sugar has been considered as by-product while liquors and alcohol is the main product, until the unless same considerations are give the Sugar Industries they themselves kill each other on account of this internal competition. The Factories which need land the Government should help them in acquiring land.

Aska Sugar Works and Distillery, Ganjam.

(1) Answers to General Questionnaire submitted to the Secretary,
Tariff Board, Ootacamund.

Production of Sugar.

1. In the year 1947.

Full capacity is 140 tons of cane crushed in 24 hours.

2. The out-put of our factory :—

—	In Maunds.	Molasses in Mds.
1930-31	4,010 B, 68 C, 177 C2	6,022
1931-32	5,029 B 103 C, 728 C2, 58 B2	2,844
1932-33	6,099 B, 318 C, 476 C2	5,307
1933-34	446 \diamond A, 404 \diamond B, 11,176 B, 1,933 C, 668 C2.	11,097
1934-35	240 \diamond B, 13,358 B, 1,895 C	11,242
1935-36	5,021 B, 48 C	4,999
1936-37	6,751 B, 100 B 2, 207 C	6,630

3. (a) In respect of cane supply,

(i) The factory is advantageously situated. With regard to lime stone (shell lime) we are getting it from Ichapur and Gopalpur distance of 40 miles respectively from Aska through road transport.

(ii) Sulphur is purchased from Calcutta.

(iii) Berhampur is the only marketing centre for us situated 25 miles off Aska. It is a small commercial centre where large quantities of sugar from Southern Districts as well as from the United Provinces is jumped in few in excess of demand.

(b) Berhampur the nearest Railway Station is 25 miles away from the factory. There is however road communication.

(c) Skilled labour supply is inadequate.

4. We have been working with diffusion process of manufacture and sulphitation is employed.

Advantages of sulphitation.—Mechanism more simple and easy to handle.

Disadvantages.—Excess sulphitation brings trouble in the pan.

5. Nil.

6. We propose to attach confectionery plant for manufacture of peppermints, sweets, lozenges, etc., if and when funds permit.

No replacements are at present under contemplation.

7. (1) Adequate cane supply.

(2) Nearness to market and cheap transporting facilities.

(3) Cheap fuel.

(4) Utilization of by-products.

(5) Availability of capital at low rate of interest.

(b) A factory with a minimum working capacity of 500 tons a day (Milling process).

8. To a small extent so far as I am aware.

9. (1) No.

(2) Aska is the richest sugarcane-growing area in the Ganjam District. There used to be an Agricultural Demonstrator at Aska who supervised and instructed the propagation of cane to ryots, and the cultivation of cane

remarkably flourished in his time. In 1935 on the eve of the formation of Orissa Province and the elimination of Northern Ganjam from Madras, the Madras Government have raised the department and the Orissa Government have since appointed a Sugarcane Demonstrator but an experimental farm also is necessary.

Raw Materials.

10. No.

11 & 12. Nil.

13. In 1922 to 1925 we planted our own cane on an extensive scale having imported early and late varieties of cane seedling from the Demonstration farm at Anakapalli but could not meet it with success owing to exorbitant rents-in-kind, lack of watering facilities and labour charges, etc., which turned out to be highly uneconomical and wasteful owing to the unsuitability of the locality for large scale farming.

14. No perceptible change so far as I am aware.

15. Cane is frequently damaged by rains, and insect pest, about 10 per cent. of loss may be occasioned through these causes.

16. Our factory is not assured of a sufficient supply of suitable cane. The ryots grow cane mostly for gur and jaggery. Java red cane and the indigenous variety of cane are crushed in the factory. Java cane yields about from 25 to 30 tons of cane per acre: Local variety from 20 to 25 tons per acre.

17. There are no competing factories nearby.

18. (a) Yes to some extent.

(b) The varieties are due to the market for jaggery the price of seedling and manure.

(1) Climatic conditions do not affect the variations.

(2) More cane is raised if factory offers tempting rates.

(3) Cane-growers look to the price obtained for the jaggery placed on the market.

(4) Cane crop is found to be remunerative owing to the very low rate of the paddy. There is no other alternative cash crop.

19. The sugarcane in our area is not in excess of requirements. No restrictions are necessary, because the cane is grown mostly for the manufacture of country gur or jaggery.

Cost of cultivation per acre.

	Rs. A.	
20. Seedlings	28 0	
Manure	36 8	(Rs. 28-8 and Rs. 8 being prices for 5 bags sulphate ammonia and 11 maunds of oil-cake for the year.)
Labour	37 0	
Land rent	30 0	
Watering	15 0	
Fencing and bamboos	5 0	
Total	151 8	

The average outturn is 20 tons per acre.

21. (1) Want of good watering facilities.

(2) Earlier varieties of cane not available to enable the factory to start the season early.

(3) The tenants are indebted and small capitalists lend money at about 25 per cent. interest.

Suggestion :—

- (1) Public Works Department authorities may wherever possible be requested to supply water from Reservoir during the hot months.
 - (2) A demonstration farm may be started at Aska and different varieties be imported from outside for supply to tenants at cost price.
 - (3) Co-operative Credit Societies may be opened to give special facilities of getting loan for cane cultivation repayable at the time of delivery of cane to the factory.
22. I still hold the same view.
23. No.
24. (i) (a) Yes, in provinces where there is overproduction, quota may be fixed for the factories therein.
- (b) Yes, the existence of the sugar factories at present is sufficient for supply of sugar to India without depending upon foreign supply, any further increase in the number may be discountenanced.
- (ii) Existing factories may be licensed for extension so that the industry may correspondingly expand and unhealthy competition and rivalry from new factories may be avoided.
25. We have entirely the supply of gate cane.
26. Gate cane is transported entirely by carts. Average weight of cane per cart is 14 cwts=19 maunds. The present type of carts is suited to the field track and is not possible of improvement.
27. Yes fair.
28. From within a radius of 10 miles cane is brought by road or field track. Average time taken is 24 hours and generally no deterioration takes place unless the cane is detained by the ryots for a larger time owing to the dearth of carts.
29. Average cost of transport of cane by carts per maund per mile may come to 3 pies. Some cane-growers employ their own carts, others hire them. I am not aware of the average costs of hiring. It depends upon the distance from which cane is carried and generally approximates to Re. 1 per cart load.
30. No.
31. We have a system of issuing permits for the supply of gate cane which are handed over to the cane-growers before they harvest them for delivery. These permits or chits are regulated according to the capacity of the factory to crush and distributed evenly among the constituents. Average time taken between cutting of cane and delivery at factory is 24 hours by carts. There are no railways.
32. We are not concerned.
33. Special concession rates reduced by 50 per cent. may be levied on the lime stones and manure by the Railway authorities.
34. No tramways are in use in our parts.
35. I cannot say.
36. No.
37. No.
38. Cane is purchased directly from cane growers.
39. We enter into general contract with the cane-growers with regard to rate before the supply of cane, and fix the price of cane per 1,000 lbs. delivery at the factory which takes place after several sittings.
- After the rate of supply of cane is fixed, advances in cash are paid but not before, for cultivation. We provide manure to cane-growers at concession rates whenever they approach us.

42. We have a platform scale for weighment of cane. Both the cane and the cart are weighed together, and nett weight of cane is arrived at after deducting the tare weight of the cart.

Payment for the cane is made after the cane-growers finishes his stock and after the settlement is made with him which commences after the close of the season. The normal interval between last delivery of cane and payment is about a month. In the mean time however he receives advances about 25 per cent. from time to time to meet his expenses.

43. The following are the prices. At which we have purchased prevailing cane for the last 7 years. The prevailing rate is per 1,000 lbs. and calculated to maund for facilities of information required by the Board.

Per maund.		Per maund.	
As. P.		As. P.	
1930-31	8 0	1934-35	5 4
1931-32	7 11	1935-36	6 6
1932-33	7 9	1936-37	5 0
1933-34	6 3		

44. The cane-growers insist on the fixation of the price of cane on the basis of jaggery sold in the market, and the price of sugar has no bearing generally on the rate of cane.

45. The price of jaggery and the willingness of the cane-growers to part with their cane instead of milling them for jaggery, are the main factors regulating the price of cane.

(ii) The cane-growers also calculate the cost of growing cane and when price of jaggery falls low, they insist on the payment of the cost incurred by them for the cane cultivation which is exorbitant.

46. I am not aware of any considerable variations in the price of jaggery in our area. It has no relation to the fall in the price of sugar, but the usual market conditions of demand and supply seem to apply to it.

47. Prices are not fixed under the Sugarcane Act.

48. No.

49. Not feasible.

50. Duration of the crushing season:—

Days.		Days.	
1930-31	29	1934-35	71
1931-32	32	1935-36	31
1932-33	35	1936-37	43
1933-34	66		

51. We are able to work the season at present only after January 15th and obliged to close the season by the end of March at the latest. If early and late varieties are introduced we hope to work the season for a full period of 4 months provided other conditions are favourable.

52. No. The answers are the same as given to question 21.

Labour.

53. Skilled:—(1) Mechanics, (2) Blacksmiths, (3) Coopers, (4) Panmen, (5) Bricklayers and Masons, and (6) Carpenters.

Unskilled labour:—(1) Coolies.

Each of these classes of workmen is employed both in the crushing and the silent seasons. Only the number of them is to some extent reduced to effect economy.

54 & 55. Nil.

56. The labourers are generally from the Aska town and the surroundings where they have their own homes. Housing accommodation is largely available and a few are provided with houses in the outer precincts of the factory.

57. Owing to the peculiarity of our diffusion process the bagasse take the form of small slices of wet cane chips which do not allow of rapid drying. It becomes highly unremunerative to get them dried and utilize the same for the boilers. Consequently they are thrown to waste and huge quantity of fuel in the shape of fire wood and coal is purchased for consumption in the boilers. Following amounts are spent on fuel for the last 7 years:—

	Quantity of fuel.		Price.	
	Tons	Cwts.	Rs.	A. P.
1930-31—				
Firewood	1,304	0	10,430	10 5
Coal	100	0	1,800	0 0
1931-32—				
Firewood	1,509	0	9,054	0 0
1932-33—				
Firewood	1,252	5	7,515	0 0
Coal	120	6	2,268	0 0
1933-34—				
Firewood	4,001	0	20,005	0 0
Coal	204	0	3,060	0 0
1934-35—				
Firewood	4,278	8	21,394	14 8
Coal	123	1	1,845	4 9
1935-36—				
Firewood	1,506	4	7,532	0 0
1936-37—				
Firewood	1,639	3	8,197	0 0
Coal	112	0	2,240	0 0

By-products.

58. Molasses.

59. Outturn and price of molasses for the last 7 years:—

	Outturn.	Price.
	Maunds.	Rs.
1930-31	6,022	18,060
1931-32	2,844	8,532
1932-33	5,307	1,594
1933-34	11,097	33,291
1934-35	11,242	33,726
1935-36	4,999	14,997
1936-37	6,630	19,890

60. There is market for our molasses except that it is utilized by the Distillery. We do not sell our molasses to outsiders as our manufacture is limited.

61. Same as answer to question 60. We have no suggestions to offer.

62 & 63. No.

Storage and Transportation of Sugar.

64. Stock of sugar—

	Beginning of crushing season.	End of crushing season.
		Mds.
1930-31	...	3,467
1931-32	...	1,376
1932-32	...	3,416
1933-34	...	862
1934-35	...	2,288
1935-36	...	2,310
1936-37	...	1,284

65. We have sugar godowns within the premises of the factory in well secured upper storied building with wooden flooring and ventilators to keep off sugar from moisture. The storage capacity is about 20 thousand bags (each bag 2 maunds). We have not increased nor do we wish to increase its capacity. So it is at present more than sufficient.

66. About 2 to 3 per cent. of sugar deteriorates or suffers damage in storage. If stored during rainy season, and heavily piled the sugar is likely to be affected by moisture and dampness and loss in weight. The deterioration largely depends upon the quality and storage of sugar.

67. We have had rarely any occasion to deal with damaged sugar since our sugar is disposed of shortly after the crushing season at the prevailing market rate without waiting in speculation. Whenever however, they are damaged in transit or by storage we are obliged to sell them at reduced price. It is sold outside.

68. The keeping quality can be improved by employing drying chambers before the sugar is bagged.

69. Not recorded.

70 & 71 No.

72. Nil.

Capital Account and Overhead Charges.

73. Copies of balance sheets:—

(1) Leases and concessions—Rs. 31,297-3-4.

(2) Lands—Nil.

(3) Buildings—Not estimated.

(4) Plant and machinery—Rs. 70,000.

(5) Other assets—Rs. 31,427-4-8.

74. The particulars of amount written off for depreciation:—

	Rs.		
1930-31	1,155	1934-35	...
1931-32	2,155	1935-36	...
1932-33	1,421	1936-37	...
1933-34	93		

75 & 76. Nil.

77. Our working capital is mainly provided by loans from creditors at interest ranging from 12 to 15 per cent. per annum. Very often it is difficult to procure even this loan at a high rate of interest without considerable inconvenience and loss in our sugar trade.

78. Annual amount of head office expenses: Rs. 500 such as stationery and other contingencies.

Managing allowance: The proprietors are themselves managing the concern, and their allowance drawn from their personal account.

79. 10 per cent. nett is considered to be a fair dividend on capital invested.

81 & 82. Nil.

Marketing.

83. Berhampur (Ganjam).

84. We deal directly with the wholesale dealers and dispose of sugar on short-term credits or for cash according as the market suits us.

85. No suggestions to make. The present sugar contract form is found suitable.

86. Wholesale and retail prices of sugar at Berhampur (Ganjam).

	Wholesale.	Retail.
	Rs. A.	Rs.
1930-31	9 0	...
1931-32	10 0	...
1932-33	9 0	...
1933-34	9 0	...
1934-35	8 12	...
1935-36	8 8	...
1936-37	7 0	...

87. The difference between wholesale and retail prices of sugar does not widely fluctuate in our parts.

88. As far as I am aware they are stored in Godowns safe.

89. Yes. The keeping quality of Indian sugar has not appreciably improved.

90. Java Sugar is preferred by sweetmeat dealers as its keeping quality is strong and the sweets do retain their dryness and adhesive qualities for a long time, and more readily assimilate with gur or jaggery in the process of preparation of sweets or candy sugar.

91. No, the Indian sugar lacks in the sufficient strength and dryness of its crystals and liable to deteriorate much quicker than Java sugar.

(ii) It is also inferior in purity colour and strength of its crystals.

92. I am not in possession of statistics for the same.

93. I do not consider that any useful purpose will be served by a marketing survey of the industry.

94 & 95. No.

96. I have not adopted the standards.

97. Nil.

98. No.

99. I have no idea. There do not seem to be possibilities of any further increase in consumption during these days of acute several depression.

100. I cannot definitely say but to a large extent sugar is replacing gur in the preparation of sweetmeats.

101-104. I cannot say.

105. The sugar excise duty of 1934 has taken away the little margin of profit earned by the manufacturers.

(ii) And the additional duty of 1937 has throttled the expansion of sugar industry and made the manufacturers to work at a heavy loss of about Rs. 2-8 per maund. Most of the factories will have to be wound up and the duty will also bring ruin on their owners. In short it has crippled all

the resources of the manufacturers leaving them entirely to the mercy of the Government for reconsideration of the removal of the duty at least partially if not in whole.

106. *Nil.*

107. *No.*

108. The protective duties have enabled India to manufacture sugar in such quantities as are more than required by her and have been effective in checking huge import and consumption of foreign sugar.

109. The present import duties may be continued for giving protection to Indian sugar.

110. (1) The duty of 1934 may be levied on all sugar with a sucrose content of 95 per cent. or more,

(2) and as regards sugar containing 90 to 95 per cent. sucrose the duty of 1934 may be reduced by 50 per cent. This gradation of taxation according to the quality of sugar as determined by its sucrose contents will have the effect of taxing all kinds of sugar in the order of their quality.

(3) The additional sugar duty of 1937 may be abolished,

(4) and the fall in the estimated additional income can be made up by improving duty on gur or jaggery manufactured in the cane mills (hand and power driven) and containing sucrose over 70 per cent. By this method there will be an even distribution of taxation and maintenance of proportionate fluctuations in the prices of gur and sugar.

(5) Cheap credit may be provided to cultivators to grow cane.

(6) A portion of the sugar excise duty may be set apart for advancing loans to agriculturists on short-term payments for cultivation of cane.

(7) Provincial Government may be requested to afford special irrigation facilities to the cane-growers.

(8) Cane Societies and agricultural farms may be started at important centres and by the side of factories to aid to the industry.

(9) State aid may be given to the existing sugar industrialists wherever necessary who hold out better prospects for the expansion of the sugar industry.

(10) Subsidization of diffusion process of manufacture of sugar by way of remission of existing duties.

111. (ii) It has a salutary effect in slightly keeping up the level of the price of molasses. *No.*

(2) *Letter No. 5/188/37, dated the 4th August, 1937, from Aska Sugar Works and Distillery, Aska, Ganjam.*

A SUGGESTION FOR A SLIDING SCALE FOR THE LEVY OF EXCISE DUTY ON SUGAR.

In continuation of my letter No. 5/146/37, dated the 22nd June, 1937, and addressed to Ootacamund, I have the honour to submit herewith a suggestion that I believe would go a long way in mitigating the rigour of the excise duty on sugar, without materially affecting the revenue to Government from this source.

The existing flat rate of excise duty has come upon many of the mills as a crushing burden. It is particularly hard upon the smaller mills, which labour under a cost of production that is necessarily higher than in the case of the larger centrals. Even among the larger centrals there are many which often do not command adequate supply, or reasonable prices, of cane, either due to local circumstances, such as keen market for "Gur", or adverse climatic and draught conditions.

May I submit that the circumstances cited above are wholly beyond the control of the mills concerned, although sufficiently grave to compel closing down of the mills, if the present excise duty continues and a fair price has to be paid for the cans.

I, therefore, believe this to be a proper case for a sliding scale of excise duty, inasmuch as a flat rate, irrespective, of the economic situation of the mills, would seriously cripple many of the mills and once for all undo the splendid progress made by the industry on the advent of State protection.

I would suggest that the levy of excise duty be based on the net profits of the mills as assessed by the income-tax department. Such a procedure obviates the complications that must otherwise be expected in ascertaining the precise economic position of individual mills.

At the time of imposing additional duty, the state has taken what appears to me an inequitable position in wishing "the weaker links of the industry to disappear". If it is recognized that most of the hardships of the smaller units, which constitute the "weaker links", are not so much due to individual inefficiency as the prevailing agricultural conditions, scattered nature of the plantations, backward methods of cultivation, lack of adequate irrigation facilities and the combined consequence, higher price of cane, and also local circumstances such as unsuitable climate or unusual fluctuation in "Gur" prices, elimination of the "weaker links" would indeed be death-dealing on the vast majority of cane ryots, an agrarian situation that neither the State nor the sugar industry concerned could view with complacency.

I believe that, on the contrary, Government had in view the protection of the very "weaker links" and an equitable distribution of the excise burden, when they taxed the "Khandsari" industry on a comparatively favourable basis. One would be thus entirely justified in looking up to the State for the same principle being extended in assessing such of the modern centrals as are unfavourably situated with regard to climatic conditions, supply of cane and prices of materials.

Trusting you will kindly embody this in your proposals to Government.

The Jeypore Sugar Co., Ltd., Rayaghada.

Under instructions from Mr. D. Mahanty, Dewan to the Maharajah of Jeypore, we submit our answers to the questionnaire which are as following. In this connection we beg to inform you that the construction of this mill was completed during the middle of May 1937 and we crushed only a few hundred tons of cane for trial purposes. We could therefore answer only a few questions.

1. The construction of the factory was completed during the middle of May, 1937, and its estimated capacity is 200 tons of cane per day of 22 hours, with provision for extension to 300 tons a day.

3. (a) Regarding cane supply, about 25 per cent. of cane is at present available within a radius of 10 miles and the rest is to come by rail from Parvatipur and Bissamcuttack centres, the distances being about 30 miles. With regard to other raw materials such as lime, etc., we have to get them from Katni and other places.

(b) There is railway facility for transport of cane from either side of Rayaghada, but there are no adequate road facilities in Rayaghada or Bissamcuttack taluks for transport of cane from the fields to the railway station.

(c) Useful labour, for the factory purposes is not now wholly available in Rayaghada and they have to be brought from Parvatipur and Sambalpur side. The skilled labourers with experience in mechanical and manufacturing branches of a sugar factory have to be brought from Bihar or the United Provinces.

4. The process of manufacture of sugar in this factory is double sulphitation.

7. (a) 1. Availability within easy reach of plenty and good varieties of cane and plenty of water supply.

2. Favourable location of good markets where sugar produced in a season can be easily sold before the next season begins.

3. Plenty of skilled labour.

(b) Big factories like some in Northern India do not suit Indian conditions. A factory with a capacity of about 300 to 400 tons is in our opinion quite suitable for India.

9. (1) So far this factory is concerned, we have not approached for any technical or other assistance but we understand from other factories in the adjoining district of Vizagapatam, that the Imperial Institute of Sugar Technology has not been of any assistance to them. The Imperial Institute of Sugar Technology, we understand, collects various data from different sugar factories relating to the varieties of cane used, their sucrose content, recovery and such other valuable material from which they come to useful conclusions, which can be made available for the factories for their guidance. They can also make available to the factories the results of their research which in their opinion are useful to this industry.

(2) The department of industries should take up the question of concession rates for transport of cane, sugar and other materials connected with this industry. The railways we understand grant concessional rates for certain parts. When any concession is granted for any industry by the Railway Authorities such concessions should be uniform and made available to all the factories irrespective of their location. The Department of Industries in co-operation with the Agriculture Department can render help in advising the cane growers the type of cane suitable for different localities and can arrange supply of small quantities of seed of select varieties to the cane growers. They can also help in getting cheap transport facilities for seed material.

10. This factory wants to have a farm of about 100 acres where select varieties of cane seed can be grown, with a view to distribute the same among the cane growers in this tract. We require the help of the Government to acquire for the Company an extent of about 200 acres near the factory. It would be difficult for the factory to get this extent in one block without the help of the Government.

16. As stated before the present extent under cane cultivation in this area is at present small and we have to depend for our supply of cane upon Parvatipur area mainly for this year. The extension of cane plantation this year in this part is encouraging particularly owing to the help rendered by the Maharajah Sahab of Jeypore Samasthanam and his Dewan in advancing money to the ryots for purchase of seed material and manure.

20. Cost of production of cane per acre is given in the Appendix No. 1.

21. The chief difficulties in the way of cane cultivator are found in (a) the General poverty of the ryot, (b) absence of financing institutions such as Co-operative Societies in this area, (c) absence of any Government Agricultural Farm in this tract and (d) absence of road and transport facilities.

In this connection, we may submit that the soils of this area are said to be eminently suitable for the cultivation of cane and if only cheap credit is available to the ryots of this Taluk, the economic condition of the agriculturist would be much improved. It may not be out of place to state here that Singapur and Rayaghada valleys were once noted for their jaggery when cane was not known in many parts of India. Establishment of a small agricultural farm by the Government would also be of very great help to the cane growers and other ryots of this district.

22. (a) The conclusion of the Tariff Board in this respect does not apply to all places and in all provinces. Acquisition or making available large tracts of land to the factory may be difficult in districts where the holdings are very small and the land is costly, where the population is entirely dependent for its livelihood on its holdings and if deprived of the lands, has to be at the mercy of the factory owner or other big agriculturists. In such places it is not even necessary for factories to own lands for their

own cane cultivation as the ryots themselves would in their own interests grow cane and supply to the factory. But in places like Rayaghada where plenty of land is available and where acquisition of land by factories is not detrimental to the interests of the ryot and where cane cultivation by factory would not only benefit the factory but would also demonstrate to the ryot the profitable nature of the cane crop, the advantages of improved methods of agriculture, etc., it is in the interest of the industry as well as agriculturists that factory should own some land. In conclusion, where cane cultivation by ryots is not adequate to meet the requirements of the factory and where land is available in plenty, ownership of large extent of land by the factory for cane production in such tracts will become a necessity in the interests of the industry. In our opinion, it is safe and necessary for a factory to own sufficient land to produce about 50 per cent. of its requirements wherever practicable.

24. (a) Fixing up of quotas for manufacture of sugar in factories will be necessary for places where there are too many factories and where the sugar produced is in very much excess of the needs of the markets commanded by such factories. This is clearly demonstrated by the present day market conditions in Northern India particularly in the United Provinces and Bihar.

(b) Licensing of new factories will be necessary in provinces where there are already too many factories. In a province like Madras or Orissa there is till scope for an extension of the factories. The main reasons for our argument are:—(1) Big factories which have already made their mark in the industry can further extend and thus ruin the smaller ones. (2) Free extension of factories would kill the natural growth of the industry in more favourable places where cane cultivation is both cheap and its yield per acre high owing to the peculiar climatic and other favourable conditions of that locality.

26. From our experience elsewhere we find that the present country cart will have to be replaced so far it is practicable, by rubber tyred carts. A rubber tyred cart will of course require bigger investment and is beyond the reach of an ordinary ryot; but if the question of cost can be overcome it is decidedly better since on it, can be carried three times as much load as on any ordinary bullock cart by the same pair of bulls. But this mode of traffic is possible only on metal roads.

27. We have only one main road the condition of which is any thing but satisfactory. We have no feeder roads at all.

33. The following are the concessional rates granted by Bengal Nagpur Railway:—

From	To	Distance in Miles.	Rate per maund.	Condition.
			As. p.	
Seethanagram	Rayaghada	38	1 0	} Owners' Risk. Minimum load 350 maunds per wagon.
Parvatipur	do	30	0 10	
Gumada	do	21	0 7	
Theruvai	do	13	0 4	
Bissamcuttack	do	24	0 8	
Muniguda	do	35	0 11	

These, when compared to the concessional rates granted by the East Indian Railway, Bengal & North-Western Railway are high. Unless adequate concession is shown for the transport of the cane from distant places, ryots of distant places would be deprived of the benefit of supplying their cane to the factory. Certain railways have granted concessional rates for transport of sugar while others refuse concession for reasons of their own. This arrangement is causing loss to some factories while others are being benefited. There is also special concession for sugar transported to sea-port towns. This is also detrimental to the interests of some Companies. There must be some uniform treatment by which the concession granted can be enjoyed by all.

34. Manure for cane fields and lime for sugar manufacture have to come from distant places. The Government may therefore press the Railway Authorities to give cheap transport facilities for artificial manure and oil cakes.

54. We have to get almost all the skilled labour from Bihar or the United Provinces.

109. The period of protection so far enjoyed is very sort. Except that many new factories have come to existence during this short period, the real progress made in the direction of increasing the yield of cane per acre, introduction of new and improved varieties of cane with higher sucrose content, decreasing the cost of manufacture of sugar, improving the quality of sugar manufactured, organising of marketing and other facilities, has been very little. Removal of protection either now or in the near future would result in the complete ruination of the Industry. Protection can only be considered unnecessary when the cost price of sugar in India is at about the same level as in other sugar manufacturing countries. We are therefore strongly of opinion that the continuance of protection at the present rate for the rest of the statutory period is necessary if the Industry is to live and establish itself.

110. In our opinion assistance in the following directions would help the industry:—

- (1) Reduction of the present excise duty by 50 per cent.
- (2) Prevention of unhealthy internal competition by legislation if necessary.
- (3) Prevention of undue fall in prices of sugar if necessary.
- (4) By rendering help to make use of molasses for production of by-products such as power alcohol and creating markets for same.
- (5) By starting fruit preservation industry, manufacture of syrups and confectionery and protection of the same.

This factory is expected to start its crushing at about the end of December, 1937.

APPENDIX No. 1.

The cost of cultivation in this area is furnished below:—

	Rs. A. P.	Rs. A. P.
1. Land Preparation—		
(a) Six ploughing at Rs. 1-8 each .	9 0 0	
(b) Removal weeds grass, etc. (10 women)	1 9 0	
(c) Furrowing	0 12 0	11 5 0
2. Seed—		
(a) Cost of 2 tons of cane at Rs. 10 each	20 0 0	
(b) Carriage and cutting into sets, etc.	2 0 0	
(c) Planting (16 women and 4 men) .	3 8 0	25 8 0

Carried over

	Rs. A. P.	Rs. A. P.
Brought forward	...	...
3. Hoeing and intercultivation—		
(a) I hoeing (30 women)	5 10 0	
(b) II hoeing (20 women)	3 12 0	
(c) Intercultivation	3 0 0	12 6 0
4. Manuring and Trenching—		
(a) 224 lbs. of Sulphate of Ammonia and 164 lbs. of Nicifos	38 8 0	
(b) Application charges	3 2 0	
(c) Trenching (48 male coolies)	13 8 0	55 2 0
5. Wrapping	...	17 8 0
6. Harvesting and Cartage—		
(a) Cutting charges, removal of leaves, bundling, etc., at As. 15-6 a ton for 25 tons	24 3 6	
(b) Cart hire for 25 tons at Rs. 1-8 per ton	37 8 0	61 11 6
		183 8 6

Thus the total cost of cultivation which includes the transport charges of cane to the factory is Rs. 183-8-6 per acre. This figure does not however include the supervision charges, the land assessment, charges on account of irrigation, etc. It does not also include any expenses incurred on account of fencing or watchmen's wages.

This is an account of expenses supplied to us by some cultivators here, who got an yield of 25 tons per acre the cane produced being Co. 213.

Kolhapur Sugar Mills, Kolhapur State.

Production of Sugar—Introductory.

1. The Kolhapur Sugar Mills, Ltd., started manufacturing of sugar in the year 1934 with a short season of 85 days only from 8th February, 1934, to 3rd May, 1934. The full capacity of the Factory is 400/450 tons.

2. The total output of our Factory for the seasons 1933-34, 1934-35, 1935-36 and 1936-37 is 1,533.95, 2,382.9, 4,886.0 and 5,125.5 tons respectively.

3. (a) The Factory has its own cane estate but it is not favourably situated as regards outside supply of cane.

Limestone and other materials have to be ordered from a great distance.

(b) The Madras and Southern Marhatta Railway has provided no rail facilities. Cane is transported to the Factory by carts and motor trucks.

(c) As regards labour supply, it can be had adequately.

4. The process of manufacture of our Factory is Double Sulphitation. We are of opinion that the Double Sulphitation is a cheaper process and sugars are as good as from Carbonitiation process.

5. No changes have been made in the lay out of the Factory.

6. Some extensions and replacements are in contemplation to make the plant of 600 tons capacity.

7. (a) Steady and adequate cane supply, local market for the production and transport facilities.

(b) In our opinion, the smallest unit of production should be of 600 tons capacity, which can be economically operated and with a season of at least 180 days.

8. To some extent, such auxiliaries such as piping, tanks and pumps, etc., are available in India.

9. We are to a certain extent benefited by the assistance of the Institute mentioned.

Raw Materials.

10. We undertake cultivation of sugar cane. Land for cultivation has been obtained on lease. Sufficient land could not be obtained, as many a cultivator is not willing to part with his land on lease. As a result of this, lands in large blocks cannot be obtained and hence our Estate is scattered over an extent of about 10 miles in a long strip along the river bank. Land rent is too very high.

11. (a) 2,200 acres.

(b) 1,000 to 1,100 acres.

(c) Varieties—P.O.J. 2878, E.K. 28, Co. 290 and H. M. 89.

(d) Usual furrow method of planting generally followed in the Deccan is practised. Two year rotation is followed. In the fallow rotation, sann is grown for green manuring. In addition to green manuring, 6 to 7 cwts. of sulphate of Ammonia, 1 cwt. of Nicifos II and half a ton of groundnut cake is used per acre. Ratoon crop covers about 20 per cent. of the area under crop every year. Adasali Planting as is practised in the Deccan canal areas, is not practicable here owing to heavy rains, during the monsoon.

(e) Average yield per acre and sucrose content—

	Tons.	Sucrose. Per cent.
P.O.J. 2878	35	12 to 13
E.K. 28	40	12 to 13
H.M. 89	35	12 to 13
Co. 290	40	11 to 12

These are the yields of plant cane only.

12. (a) About 10 acres.

(b) About 150 acres.

13. Varietal and manurial experiments are tried. Agriculture Department is of much assistance to us.

14. (a) Sufficient quantity of cane is not available.

(b) Quality of cane is improving.

15. There are no serious diseases or pests found in our Estate. Only stem borer makes its appearance to a certain extent in the late planted cane.

16. For the present, our Factory does not assure of a sufficient supply of suitable cane. Nearly 50 per cent. of the cane supply is assured of our own Estate. For the remaining supply, we have to depend on farmers' cane which varies according to Gur market.

17. There is no competition from other factories. But Gur is competitive factor so far our mill is concerned.

18. No.

19. So far our area is concerned, it is not in excess as the main output of the farmers' cane is used for Gur.

20. Not obtainable. Can be obtained from the Agricultural Inspector, Kolhapur State.

21. Inadequate finance is one of the main difficulties of the cane growers. No transport concessions from the Railways.

22. (a) Compulsory acquisition is impracticable.

(b) This doesn't concern us.

23. Zone system is not necessary for our area.

24. (a) Yes.

(b) Yes. From our point of view, the factories have been much crowded in the United Provinces and Bihar and they have been a source of unhealthy internal competition in our markets due to their cheap cane supply and hence we are in favour of restricting the production.

25. (a) Practically, all the cane is from Gate.

(b) & (c) No.

26. Gate cane is transported entirely by carts and lorries. Each cart carries nearly one ton of cane within a distance of 8 miles. Rubber tyred carts are not feasible.

27. Excepting main roads, feeder roads being not in good condition transport is not easy.

28. Cane is transported from an average distance of twenty miles and it takes nearly 24 hours to reach the factory after harvest—Estate cane excluded. Nothing can be done to protect cane from deterioration.

29. The average cost of transport of cane per mile per ton is As. 3. Cane growers have to hire carts mostly.

30. Cane carts have to pay tolls.

31. Pre-arrangement of contracts with the farmers. Normal detention of the carts is 2 to 3 hours. Generally carts are not delayed due to proper arrangement for weighing and unloading cane from carts.

32. No rail transport.

33. There being no railway transport in our case, we have nothing to say in the matter.

34. We would like to suggest that the Railway should give concessions for the transport of such materials such as coal, lime, wood, etc.

35. No tramways arrangement.

36. We have no experience. So far our Factory is concerned, due to scattered area of the cane estate and due to river which surrounds the Factory, tramways are not practicable.

37. Nearly 1 per cent. of sugar is lost due to deterioration during transport especially with the farmers' cane.

38. (a) The whole of farmers' cane supply is directly purchased from the farmers.

(b) No agents or contractors are appointed.

39. We have advanced sums and we supply cane setts to farmers.

40. We purchase cane direct from growers.

41. No.

42. We have an arrangement of weighbridges which are tested from time to time. The full amount is paid after the farmer has finished his cane and in the interval, necessary part payment is made according to the needs of the farmers.

43. Average price per ton of cane paid to the farmers for the seasons 1933-34, 1934-35, 1935-36 and 1936-37 is Rs. 14, Rs. 14, Rs. 13 and Rs. 12-8, respectively.

44. No. The price of cane so far our local market is concerned, depends upon the price of best Gur.

45. It is entirely influenced by Gur market.

46. Only during the last season, there were considerable fluctuations in the Gur market.

47. The act does not apply us.

48. No.

49. We are for paying bonus according to the quality of cane.

50. The durations are as follows:—

First season, 1933-34—85 Days.

Second season, 1934-35—159 Days.

Third season, 1935-36—155 Days.

Fourth season, 1936-37—139 Days.

The variations are due to the cane supply. Period of 190 days would be economical in our case.

51. The crushing season may be extended economically by the introduction of early and late varieties of cane.

52. No.

Labour.

53. (a) Both skilled and unskilled labour has to be employed during the crushing season.

(b) Only skilled labour is maintained during the off season.

54. All skilled labour has been trained locally.

55. We have replaced entire skilled labours by local hands.

56. Housing arrangements have been made for labour. Some measures for promoting welfare of the labour are in contemplation.

Power.

57. We have to use extra fuel in the form of coal and wood. The following are the fuel expenses for the last four crushing seasons:—

First season, 1933-34—Rs. 33,169-2-6.

Second season, 1934-35—Rs. 44,786-8-9.

Third season, 1935-36—Rs. 38,496-13-9.

Fourth season, 1936-37—Rs. 13,079-2-9.

We have no surplus bagasse.

By-products.

58. Waste molasses.

59. The outturn of molasses are as follows:—

First season, 1,078 tons—Rs. 480.

Second season, 780 tons—Rs. 2,400.

Third season, 2,393 tons—Rs. 6,200.

Fourth season, 1,947 tons—Rs. 4,200.

60. There is a very limited market for the waste molasses, and there are no transport facilities.

61. We sell the entire production of molasses by open auction.

62. No surplus bagasse.

63. Yes. We suggest the manufacture of both potable and power alcohol from waste molasses.

Storage and transportation of sugar.

64.	Season.	Start. Bags.	End. Bags.
	1	...	...
	2	...	...
	3	...	789 of 2 cwt. each.
	4	789	25,702

65. Adequate godown arrangement has been made. We have increased the capacity of our godowns by 50 per cent. We still contemplate to increase the capacity.

66. No.

67. We have had no such occasion so far.

68. We cannot form any opinion for the present.

69. As our sugar is mostly transported by motor trucks, there is a least possibility of damage in transit.

70. Our sugar is transported by motor trucks and hence we have no experience with the difficulties in the railway transport.

71. No.

72. Generally our sugar is sold in the local market and the prices are fixed factory delivery *ex-godown*.

Capital Account and Overhead charges.

73. Copies of the balance sheets are forwarded herewith.

74. The amount of depreciation written-off:—

1st year, 1933-34—Rs. 32,337-3-6.

2nd year, 1934-35—Rs. 65,464-13-6.

3rd year, 1935-36—Rs. 542-2-3.

Rates of depreciation are as under:—

Building—2½ per cent.

Factory Plant Machinery—5 per cent.

Estate Agri. Gen. Machinery—10 per cent.

Dams—5 per cent.

Roads—2½ per cent.

Motor cars and bicycles—16½ per cent.

Pokhers—10 per cent.

Furniture and fittings—5 per cent.

75. No amounts are specially set aside for Reserve Fund.

76. Dividend has been declared during 1935-36 only—

Ordinary share at 4 per cent. Rs. 27,516.

Deferred at 7½ per cent. Rs. 4,211-15-9.

77. The working capital provided by the requisite amount of loan granted by the Darbar as also on bags of sugar held on trust by the Bank of Kolhapur, Ltd. Rate of interest varies from 4½ to 5 per cent.

78. The annual amount of the Head Office expenses is as under:—

1933-34—Rs. 21,545-13-9.

1934-35—Rs. 25,207-10-7.

1935-36—Rs. 33,971-5-6.

The Managing Agents draw only Rs. 4,200 per year. The commission of the Managing Agents is determined as under. The Company is to pay 12½ per cent. of the nett profits every year to the Managing Agents. The commission is to be 10 per cent. if the said profit falls below Rs. 50,000. The minimum amount in any case should be Rs. 4,200 per year. The Managing Agents, however, have not taken the privilege of the article.

✓ 79. We would consider a dividend equal to 6 to 7½ per cent. a fair return on the outlay.

Efficiency of production.

81. (i) We have not extended our plant.

(ii) No.

- (iii) To a certain extent.
- (iv) The extra fuel expenses have been considerably reduced during the last season.
82. We have made progress as regards recovery and have practically reached the maximum during the last season.

Marketing.

83. Satara and Belgaum Districts, Kolhapur and Sangli and Miraj States.
84. We sell sugar direct to the dealers either by monthly contracts or by retail.
85. The contract form of the Indian Sugar Mills Association is not suitable for our purpose.
86. Average rates of our sugars—
 Season 1933-34—Rs. 10 per maund.
 Season 1934-35—Rs. 9-12 per maund.
 Season 1935-36—Rs. 9-7 per maund.
 Season 1936-37—Rs. 7-14 per maund so far.
87. There is a slight difference between wholesale contracts and retail sales.
88. Sugar is stored in pucca buildings. We have no such experience.
- 89 & 90. We cannot say.
91. Some of the Indian sugars are as good as Java sugars.
92. Both by manufacturers and dealers. Arrangement for finance for the stock carried by us, are made to the Bank of Kolhapur, Ltd., at a moderate rate of interest.
- 93 & 94. Yes.
95. Yes. On the basis of crystal, size and colour.
96. (a) No business has been done on the basis of sugar standards as prescribed by the Director, Imperial Institute of Sugar Technology.
 (b) No.
- 97 & 98. No.
99. There seem to be some possibilities of increasing consumption to a certain extent.
100. To some extent.
101. We do not see any possibility.
102. We have no definite information regarding this.
- 103 & 104. No.
105. Indian Sugar industry has been greatly affected by the Sugar Excise Duty of 1934, and the addition made in 1937 has caused an alarming shock to run the factories with profit, since many of the factories have not yet well established and have not yet attained sufficient efficiency as is required by the Industry. Since the levy of the Excise Duty, the prices of sugar are falling tremendously, and all the burden of the Excise Duty is borne by the manufacturers. The factories in the Deccan are especially hard hit, as the meagre margin of profit has vanished due to the Excise Duty.
106. We have sold molasses so far by open auction.
107. We have no information regarding the same.

Claim for Protection.

108. To some extent.
109. We are of the opinion that the protection to the same extent should be continued.

110. The Sugarcane Research stations in the various provinces and the Director of Sugar Industry should take much more active interest in the sugarcane cultivation and manufacture of sugar respectively. Arrangements should be made to give free advice in both the departments of this Industry.

The charges asked for consultation by the Director of Sugar Industry are prohibitive, and we regret to say that no technical help of any kind is received by us.

It seems, the chief work done by the Director of Sugar Industry is collection and publication of various statistics, which, in our opinion is of a secondary nature.

The primary work of giving technical advice, free of charge, is not all being done by the Director.

Since we pay a fairly large amount of Excise Duty to the Government it is but fair that we should receive every technical assistance free of charge in the manufacture of sugar from the Director of Sugar Industry.

The sugarcane research stations in the various presidencies, do not send their reports to us. They practically take no interest whatsoever in our sugarcane cultivation and do not offer us any advice in the cultivation of cane.

In fact, they keep themselves aloof from every activity and do not co-operate with the cane estate of the factories.

In our opinion, this is very serious handicap to the Sugar Cane Industry and ought to be removed as early as possible.

111. We are unable to answer this question.

The Saswad Mali Sugar Factory, Ltd., Sholapur.

Letter No. H. 015, dated the 4th August, 1937.

We beg to send you herewith our answers to general Questionnaire issued by the Tariff Board along with such other details as have been desired by you.

Enclosure.

ANSWERS TO QUESTIONNAIRE OF THE TARIFF BOARD.

Introductory.

1. The factory began Manufacture of sugar in November, 1934, and the capacity of the factory is 200 tons per day of 22 hours.

2. The output of sugar Crystal No. I and No. II is as under:—

1934-35 Season—2,441 tons.

1935-36 Season—2,989 tons.

1936-37 Season—3,497·19 tons 26,840 bags—No. I XI, and 11,235 bags—No. II XI; each bag of 2½ maunds.)

3. (a) Yes.

(b) No.

(c) Not bad.

4. Sulphitation process.

5. No.

6. Intend to extend the plant to 400 tons capacity and for that purpose to carry out necessary additions to existing plant.

7. (a) Manufacturing expenses and cost of cane: supply of Irrigation water and consequently the cane determines the economic size.

(b) 400 tons Plant.

8. It is only the Tanks and other minor things.

Raw Materials.

10. We have given cultivation on contract basis. Land is taken on lease for a period of 30 years. The difficulty experienced in purchasing or leasing the land is the unreasonable demands from the land owners.

11. (a) Total area held is 3,719 acres.

(b) 900 to 1,200 acres.

(c) E.K., P.O.J.

16. Yes. Principal varieties crushed are E.K. & P.O.J. Field yields 40 tons per acre. Sucrose Account—Extracted in Juice 89-71.

19. No.

27. The condition of main and feeder roads is rather unsatisfactory.

28. From a distance of 3 to 4 miles the cane is brought by road and the average time taken between cutting cane and delivery at Factory is about 4 hours.

29. The average cost of transport of cane by cart per mile per maund is about one anna.

30. No.

31. We have to hire the carts.

42. The cane is weighed at the factory on a standard weighing machine. Payment is made ten days after delivery, of cane.

44. The price to be paid for sugarcane is dependent upon the price of sugar ruling in the market from time to time.

Labour.

53. Labour employed during the Crushing and Off-season is mostly skilled labour.

Power.

57. In addition to the bagasse available from the factory auxiliary fuel is required.

By-products.

58. Nil.

59. Molaasses are not sold nor any use of it can be made under the present Acts, Rules and circumstances and therefore it is practically a dead loss.

60. No market.

61. We let it pass as a waste.

62. We have no surplus bagasse.

	Stock of bags at	
	Beginning.	End.
64. 1st Crushing season, 1934-35 . . .	...	611
2nd Crushing season, 1935-36 . . .	611	299
3rd Crushing season, 1936-37 . . .	299	7,227

65. We have our own godown at the factory site and at times we hire godowns at the nearer Railway Station.

73. Copies of balance sheets sent per separate post.

78. Amount of Head Office expenses is about Rs. 10,000 a year and the Managing agents commission is Rs. 30,000 a year (25 per cent. of the net profits or Rs. 30,000 as the minimum per year).

79. From 6 to 10 per cent.
108. The measure of protection has reduced imports and has proved advantageous so far as the question of employment is concerned and has turned the sugarcane into a cash crop.
109. The protection requires continuation.

Enclosure.

1. Price of cane per ton: $1\frac{1}{4}$ times the average price of sugar per maund.
2. Cost of cultivation: we cannot state as we have no cultivation of our own.
3. Percentage of recovery: 9.95 per cent.
4. Cane crushed: 35,220.92 tons.
5. Sugar bagged: 3,497.19 tons—

26,840 bags, No. I Crystal.
11,235 bags, No. II Crystal.
38,075 Total bags.
6. Sugar in the form of tailings and Gul: 8.82 tons.
7. Total sugar made and estimated: 3,506.01 tons.
8. Recovery of the season: 9.95 per cent.
9. Average production of final molasses per 100 cane 3.47.
10. Bagasse: 30.16.

The Phaltan Sugar Works, Ltd., Satara.

REPLIES TO THE QUESTIONNAIRE FROM THE TARIFF BOARD.

Production of Sugar Industry.

1. The factory began its operations in the year 1934. The Maker's Specification of the plant is 400 tons per day. But the capacity varies according to the fibre content and fibre texture of the sugarcane. Practically, 500 tons per day can be crushed. During 1936-37 the factory had a working season of 150 days.
2. The quantities of sugar from the commencement of the factory are as under:—

1933-34—Tons 400.19-1-10 $\frac{1}{2}$.
1934-35—Tons 1,915.13-0-6.
1935-36—Tons 5,050.5-2-12 $\frac{1}{2}$.
1936-37—Tons 6,855.4-2 $\frac{1}{2}$ -0.
3. (a) Not advantageously situated in respect of manures, lime, etc. But, we hope to get adequate supply of cane in future.
- (b) No. The Company had to lay down its own tramway to connect the nearest railway station, Nira, which is about 13 miles away from the factory; and another length of 18 miles had to be put for transport of manure, etc.
- (c) Labour supply is adequate.
4. The process of manufacture is Double Sulphitation. In this process, the Plant is less expensive and the process is cheaper to work. Whereas the Carbonitiation process is more positive in its action and yields higher recovery and better sugar. The Carbonitiation process is only possible to factories which are situated near about places where lime-stone can be had in large quantities and coal and coke available near about.
- 5 & 6. None.

7. (a) The size of the factory will depend upon the Capital available and the availability of enough raw materials at a reasonable price in the neighbourhood of the factory and the access to markets. The larger the factory, the less are the charges on skilled directing staff, depreciation and certain other factory operations.

8. Simple parts such as cast iron tanks and pipes and also other plants that are easy to manufacture are obtainable in India.

Raw Materials.

10. We undertake cultivation of sugarcane. Got the land on lease. The land-lords were obstinate and hence it was difficult to get lands.

11. (a) 8,400 acres including both cane-fit and unfit lands.

(b) Approximately 1,500 acres on an average. On our own land at the end of June 1937, we have 2,040 acres of sugarcane.

(c) E.K. 28, P.O.J. 2878 and Co. 290.

(d) Owing to the insufficiency of the lands right from the starting of the factory, lands were brought under cane cultivation as soon as they were made available to the Company on lease. Therefore, lands fit for cane cultivation were utilised immediately and thus could not be left fallow and therefore no rotation could be followed. The manuring was done at a comparatively higher rate as there was no time for the land to take advantage of the natural agencies. We now expect to reduce the manurial doses.

11. (e) 30 tons actual yield per acre during the past years as the lands were undeveloped. The following varieties of cane were grown in mixtures:—

E.K. 28, P.O.J. 2878 and Co. 290.

The Sucrose contents of the varieties as analysed in our laboratory are as under:—

E.K. 28	13.91
P.O.J. 2878	13.22
Co. 290	12.40
Mixture as per Season 1936-37	13.27

12. (a) & (b) Nil.

13. No experiment has been tried so far.

14. (a) The quantity has been increasing.

(b) The varieties of better quality cane are forthcoming.

15. So far as our factory is concerned it is beyond the zone of frost. But due to borer attack, 5 to 10 per cent. damage is done to the crop.

16. We have found difficulty so far in getting sufficient supply of cane due to scarcity of land. We expect to get an adequate supply in future. We crush the following varieties of cane:—

E.K. 28, P.O.J. 2878 and Co. 290.

Separate record for each variety as to yield has not been kept. The sucrose per cent. of the different varieties are as under:—

E.K. 28	13.91
P.O.J. 2878	13.22
Co. 290	12.40

17. Our factory grows its own cane and hence the question of competition by other companies regarding the prices of cane does not arise.

18. (a) No.

(b) Question does not arise.

19. There is no overproduction in this tract. The production was inadequate to meet the requirements of our factory.

22. (a) The last Tariff Board were against compulsory acquisition on the ground that it would antagonise the expropriated ryot and his fellow ryots and that it would interfere with the freedom of cultivation enjoyed by the Indian ryots. In our opinion, this condition still prevails and the acquisition of the land for the factory should be by private negotiations. In cases where obstinacy to lease lands is visible, state help should be solicited and rendered.

22. (b) We are in favour of allotting special areas to different factories. The "zone" system is in fact in operation on the Nira Right Bank Canal Area.

24. (a) No.

(b) (i) Yes. (ii) No.

25. (a) 5 to 10 per cent.

(b) No.

(c) The remaining supply.

26. Gate cane is entirely supplied by carts only. No lorries are used. Average weight of cane carried per cart is 10 cwt.

27. Main and feeder roads should be improved as they have been damaged. Some of the roads are fair weather cart tracks.

28. Cane is brought by roads in carts within 8 hours from 10 miles radius. Average time taken between cutting cane and delivery at factory is not more than 24 hours. No measures against deterioration is adopted.

30. Tolls are levied on carts using the main trunk roads.

31. We generally arrange continuous and uniform supply from our own fields and supplement it by the cane growers' cane for which a definite programme is prepared every week in advance. For speedy release of carts we have maintained more weighbridges at different places.

32. No cane is brought by rail.

35. More than 30 miles of tramway lines serve our factory. The average cost per maund of cane is 4 pies. The cost is borne by the factory as the cane is our own.

36. We consider a tramway system is generally advantageous. There are physical difficulties met with in this part of the country such as bridging the nallas, cutting hillocks, etc.

37. There is no delay in delivery of cane and hence there is no deterioration of cane in the case of this factory.

38. (a) About 10 per cent. of our cane is taken direct from cane growers.

(b) No.

39. In some case we give advances in kind and cash to cultivators to ensure supply of cane.

41. No.

42. We have weighbridges at different places. We make weekly payments.

43. We have bought cane at the following prices:—

1933-34—Rs. 11-12 per ton (major portion was local Pundya variety cane).

1934-35—Rs. 13-11-6 per ton (major portion was E.K. 28 and P.O.J. 2878 varieties);

1935-36—Rs. 12-6-9 per ton (major portion was E.K. 28 and P.O.J. 2878 varieties).

1936-37—Rs. 11-2-4 per ton (major portion was E.K. 28 and P.O.J. 2878 varieties).

44. We grow most of the sugarcane ourselves. The price of such sugarcane as we purchase is now related by agreement to the price of sugar.

45. This question does arise in the case of this factory.

47. The prices of sugarcane are not fixed under the Act of 1934.
50. We had our seasons from the start of our factory as under:—
- 1933-34—36 days.
 - 1934-35—84 days.
 - 1935-36—175 days.
 - 1936-37—151 days.

The reasons of variations in these seasons are we had no sufficient supply of cane owing to insufficiency of lands.

A full working season of 7 months would make the working of the factory economical.

51. In this part of the country, the working season is one of 210 days. By the introduction of suitable varieties of cane and by planting at different times, such an extended season has been made possible.

52. From the Agricultural Research Station, Padegaon, new varieties like Co. 360; Co. 417 and Co. 419 have been released to the factories since last 2 years; but nothing in the way of reduction in manure, water requirements, etc., are made known in the public and the yearly reports are not out. Therefore, the results obtained at the neighbouring Research Station at Padegaon should be available from year to year.

Labour.

53. We employ both skilled and unskilled labour during the season and only skilled labour during the silent season.

54. No labour from abroad is brought. Only pan-men come from other parts of India.

55. No labour from abroad was imported. Only Indian labour is employed.

56. Free quarters have been given; social institutions have been started and medical help is rendered.

Power.

57. We cannot meet our whole requirements of fuel with bagasse only. We have to supplement the same when the fibre per cent. of the cane is less, with firewood, coal and furnace oil. The amounts of extra fuel for different seasons is given below:—

1933-34—Rs.	14,293-13-3.
1934-35—Rs.	30,732-9-0.
1935-36—Rs.	58,990-3-6.
1936-37—Rs.	19,669-12-9.

From the above figures of extra fuel consumption, it is obvious that we have no surplus bagasse.

By-products.

58. Nil.

59. The figures of the previous years are not available. We give below the quantity of molasses produced:—

1935-36—	1,727 tons.
1936-37—	2,335 tons.

The molasses of this factory is not sold. It is at present only a waste product.

60. The nearest possible market for our production of molasses is the Government Distillery at Nasik.

61. We are trying to use the molasses as a manure for fields as an experimental measure. But at present it is only a waste product. The Government should permit the factory to produce by-products such as alcohol, spirits, etc., or else the Government should instal a distillery on Nira Vahey

side so that they can purchase molasses from our factory as well as from other near about factories such as Kalum, Akluj, etc.

62. No surplus bagasse.

63. Alcohol for human consumption and for denatured spirit could be manufactured from molasses.

Storage and Transportation of Sugar.

64. We give below the stocks of sugar for different seasons:—

Season.	Beginning of season.	End of season.
	Tons.	Tons.
1933-34 . . . . .	...	...
1934-35 . . . . .	...	851-19-0-6
1935-36	0-0-0-16	1,856-19-3-19
1936-37	234-11-3-8	3,243-19-3-1½

65. We store our sugar in godowns the capacity of which is about 30,000 bags of sugar.

66. There is no damage or deterioration in storage.

67. Some sugar in the bottom layers may get damp due to moisture such sugar is remelted and thus the quantity is maintained.

69. Some sugar is likely to be damaged in transport from factory to railway station and the cause invariably is rain.

70. Occasionally we experience difficulty in obtaining wagons for sugar.

72. No special rates are given to our sugar. We pay the class rates to transport our sugar to different markets. We give below the average prices at which we have sold our sugar:—

Season.	Average price per maund.
	Rs. A.
1933-34	10 8
1934-35	9 8
1935-36	9 3
1936-37 (end of May)	7 0

NOTE.—The above prices are subject to Excise Duty. During the first three years we have sold the sugar ourselves. But during this season we are selling the sugar through our agents.

Capital Account and Overhead Charges.

73. (i) Nil.

(ii) Rs. 5,000.

(iii) Rs. 4,72,810-12-4.

(iv) Rs. 10,40,607-13-0.

(v) Rs. 5,19,000-0-0.

74. During the year ending September, 1936, Rs. 36,400 has been charged towards depreciation.

75. We have not set aside any amount towards Reserve Fund.

76. No dividend given.

77. Ours is a private limited concern and the company is financed by the partners, particularly by the Managing Director. We get the capital at 4 to 6 per cent. interest.

78. There is no Managing Agent. The Head Office charges annually come to Rs. 38,400.

79. In these days, we consider 6 per cent. dividend as a fair return for the capital.

Efficiency of Production.

81. We hope to effect economy when we shall grow cane sufficient to feed our factory.

Marketing.

83. We deal in the markets from Poona to Belgaum.

84. For the last three years we sold our sugar directly. Only this year, we are selling our sugar through agents.

87. No. The retail prices are based on wholesale prices.

88. The sugar is sorted by dealers in godowns. The sugar gets damp by moisture.

89. There is steady improvement in quality.

95. We are in favour of standardisation of sugar and the standardisation should be made on the basis of colour crystals.

96. No business is done on these standards.

99. The sugar consumption in India is 1,100,000, i.e., it is roughly 7 lbs. per head. Looking to the consumption of sugar per head in other countries, there seems to be hope of increasing the consumption of sugar in India.

100. We cannot say as we have no exact data, to what extent factory sugar is replacing Gul. But sugar is replacing Gul in some sweetmeats.

101. We have no data.

102. We do not think that there was export of Indian sugar. But there is possibility of exporting Indian sugar to United Kingdom if they give to India a preferential rate. Otherwise taking into consideration the Indian price, freight and the duty, it would not be possible for India to compete with other sugars which may be landed in the United Kingdom.

105. The introduction of the Sugar Excise Duty of 1934 has actually made the cost of production go higher; the rate for sugar did not rise in proportion to the Excise Duty levied. The introduction of the higher Sugar Excise Duty of 1937, has made the position worse.

Marsland Price & Co., Ltd., Kalamb Sugar Works, Poona.

TARIFF BOARD GENERAL QUESTIONNAIRE—REPLIES.

1. In 1934—150 tons.
Present capacity—450 tons.
2. 1933-34—22,717 maunds.
1934-35—100,862 maunds.
1935-36—122,582 maunds.
1936-37—205,051 maunds.
3. (a) We grow our own cane. For raw material such as limestone, etc., we have to import from distant places. There are good important markets near our factory but they have been flooded with by the United Provinces and Bihar sugars.
- (b) There are no proper communications. Our factory is 20 miles away from the Railway station and there is no proper road between.
- (c) We have adequate labour supply.

4. Double Sulphitation. For the 50 per cent. of the crop we grow sann (hemp) for green manuring.

A small area is utilised for fodder for the cattle. In the Deccan intensive cultivation of sugarcane is done with heavy doses of artificial and concentrated manures such as Sulphate of Ammonia and oil cake. Similarly intensive irrigation is done, the crop getting water at every 10 days normally and in hot weather at 8 days interval. Two or three deep ploughings are done for preliminary cultivation and cane is planted in furrows. The space between the two furrows is generally 3½ feet. There are two planting seasons. One is called out of season planting which is done from June to August and the Second is Seasonal planting which is done from October to January or February.

5. The factory was first started in 1934 with a crushing capacity of 150 tons of cane per day. In 1935 one mill was added to the existing three mills and one crusher. In 1936 the capacity was brought up to 450 tons by adding one new tandem crushing mill with pumps, etc. Two new boilers, new triples, etc.

6. Increasing the capacity from 450 tons to 600 tons, by adding some pumps, centrifugals, etc.

7. In the Deccan the size of the factory depends mainly on the supply of irrigation canal water, and availability of lands on lease, because on this side the factories have to grow their own cane and only certain sites have been chosen by the Government for sugar factories. The economic unit will depend upon the consuming capacity of the adjacent markets. The circumstances prevailing in the Deccan are such that our cane costs more than the United Provinces and Bihar cane. Naturally, our cost of sugars goes higher than that of the United Provinces and Bihar, and therefore we are handicapped in producing sugar for distant markets; again as we have to grow our cane and as most of the sugar factory areas are far away from Railway station; transport facilities and expenses are also a determining factor in the capacity of sugar economic unit. Hence we think 250 tons ought to be the minimum economic unit in the Deccan.

9. (a) The Imperial Institute of Sugar Technology being situated at Cawnpore is not found to be of much advantage to us, particularly as the Deccan Sugarcane and Deccan Sugar Factory problem has been different from that of Northern India. On the other hand we have found the Institution to be more concerned with inviting all the detailed information from the factories, thus adding unnecessary burden of work to the factories.

(b) No technical assistance or sympathetic treatment is received from our local Government. The Industries Department do not seem to be taking any interest in the sugar industry.

10. Yes. We grow our own sugarcane and for that we have to take lands within the allotted factory area on lease. In the beginning we could secure lands in fair dimensions by private negotiations, but now we are finding difficulty in getting lands.

11. (1) 5,000 acres.

(2) 1,400 acres.

(3) Mainly E.K. 28; P.O.J. 2378; Co. 290, etc., etc.

(4) The cane is grown under canal irrigation.

There are two planting seasons: *viz.*, June (18 months crop) and January (12 to 14 months crop).

Land is generally allowed to remain fallow after cane crop and as per condition of the Irrigation Department we are allowed to take only two cane crops in five years.

Farm yard manure is scarcely available. Green manuring, is done in about ¼ of the total cane area of 1,400 acres. Oil cakes such as ground nut and castor and Ammonium Sulphate are used as top-dressing manures.

(5)

Crop.	P.O.J. 2878.				E.K. 28.	
	Brix.	Pol.	Puri.	Tonn. Acre.	Brix.	Pol.
Adsali	21.93	19.02	87.74	54.7	23.74	20.87
Plant	19.59	17.43	89.00	40.14	21.14	19.43
Ratoon	20.27	18.30	90.28	34.5	..	..

Crop.	E.K. 28.		Co. 290.			
	Puri.	Tonn. Acre.	Brix.	Pol.	Puri.	Tonn. per Acre.
Adsali	87.94	52.2	20.27	18.20	89.78	56.00
Plant	92.04	38.44	19.04	16.67	87.54	37.08
Ratoon . . . . .	..	34.00	20.89	18.92	90.57	34.7

12. (a) About 10 acres of cane area are usually under experiments with regard to cane cultivation.

(b) As we grow cane for factory requirement only, we do not have any area for seed purposes for selling or free distribution to cultivators.

13. No definite experiments were undertaken in case of early and late varieties. It has been observed, however, that P.O.J. 2873 being an early ripener gives better results both from tonnage and purity point of view in June planting (18 months crop). In January plantation (12 months crop) E.K. 28 gives better tonnage as compared to P.O.J. 2878 although the latter is not found to deteriorate so early as is the case with E.K. 28 and Co. 290.

While trying to find out the optimum manurial dose in the case of plant crop at Kalamb, it was observed that it was not possible to get better results by application of Ammonium Sulphate alone. A combination of organic manures like oil cake with Ammonium Sulphate is found to be helpful. The does of two tons of groundnut cake and two bags of Ammonium Sulphate is found to be better suited for plant crop in virgin soil.

14. The question does not arise as we grow our own cane.

15. So far no appreciable damage has been found to occur due to frost at Kalamb.

Amongst insect pests the sugarcane borer has been found to damage the crops planted between February and June. The extension of damage varies from 15 to 25 per cent.

16. Whatever quantity of cane we grow we crush. We get very little cane from outside. The principal varieties of cane crushed are E.K. 28, P.O.J. 2878 and Co. 290. The yield and sucrose contents of these varieties have been already given in reply to question No. 11 (5).

17-20. The question does not arise as we grow our own cane.

21. The Administration of the Irrigation Department is a source of anxiety to the cultivators and the factory. If the Administration could take a liberal and reasonable view of the situation and not assume obliging and patronising air in their dealings with the cultivators and the factory it would be a great relief.

22. (a) Owing to the special circumstances prevailing, we consider compulsory leasing of lands a necessity in certain cases. We do not think that it is an impracticable proposition. We have been allotted a particular area for sugarcane cultivation for our factory. If landholders within that area were to refuse to lease their lands, our progress would be held up. So if the Government want us to restrict our activities to a particular area they must come forward to help us to secure the lands on lease by compulsion or otherwise. Our experience has been that existence of the factory has benefited many surrounding landowners and improved their lots which has made them reluctant to lease out their lands to the factory. In other words they get all the advantages from the existence of the factory but do not want it to develop. Under these circumstances some sort of compulsory leasing is the only way out of it.

(b) Does not arise in our case.

23. Does not arise in our case.

24. (a) Yes, provided sufficient margin is left to smaller factories to develop themselves to a point where they can run the concern quite economically enabling them to face competition from other big factories.

(b) (i) Yes.

(ii) If our proviso mentioned in our answer to (a) were to be accepted, we are in favour. Provided also that the licensing is controlled by the Government of India and is applicable to Indian States also.

25-33. As we grow our own cane within the factory area these questions do not arise in our case.

34. We want Railway to give us special rates for coal, oil-cake and other raw materials.

35. Total length of the tram line in our factory area is about 20 miles. We use it for transporting cane from fields to the factory.

36. Yes. It is cheaper to transport cane by tram line. There are no special defects in laying out the tramway line system.

37-43. These questions do not arise in our case as we grow our own estate cane.

44. We grow our own cane and cane production bears no relation with the price of sugar, so when the prices of sugar go down we do not get any relief in the cost of sugarcane as is the case with the United Provinces and Bihar factories.

45. The present basis of the minimum prices of cane is not satisfactory as it has merely resulted in bringing the price of sugarcane down. The Government fix the minimum price taking into consideration the prevailing price of sugar. The speculating manufacturer, however, makes forward sales at prices uneconomic in relation to the prices of sugarcane. The market becomes nervous and declines bringing with it a decline in the prices of sugarcane. The process repeats itself. In such a case the forward seller reaps a profit at the cost of cane-growers and the sugar manufacturers and the latter are thereby deprived of an opportunity to sell their produce according to the absorbing capacity of the market at a fair rate. Fixing up prices which was meant to protect the sugarcane growers have therefore ultimately worked to help the speculating sugar manufacturers and the advantage of protection to the industry is lost. It would therefore be desirable that the price of sugarcane should be fixed at a minimum level of 5 annas per maund, and it should not be allowed to go below that price if the price of sugar goes lower as a result of internal competition. This fixing up of the minimum price will tend to stabilise the sugar market as well because in that case the factories would automatically stop production of sugar and

overproduction would be eliminated which in turn would tend to stabilise the prices.

49. This question does not arise.

	Days.
50. 1933-34	80
1934-35	172
1935-36	183
1936-37	182

In the climatic conditions prevailing here it has not been found advisable to continue crushing beyond the 15th of May.

51. It may be possible to extend the period up to the 1st week of June if we can obtain the variety of canes which would keep well in the hot weather of the Deccan. After that it would not be possible to keep the factory owing to heavy rains which make harvesting and transport of cane impossible. The same is proved with regard to early starting.

52. Please refer to answer to Question No. 9.

54. The Panmen are being imported from Northern India but we are training our local men for the work and we shall gradually be in a position to work without importing from outside.

55. We have not imported any skilled labour from outside India.

56. We have built and are building quarters for our staff and labour and are gradually providing various amenities.

57. We require to supplement bagasse-fuel by wood and coal. The figures for the amount spent on fuel are as follows:—

Season.	Rs.	A.	P.
1933-34 . . . . .		...
1934-35	32,781	15	0
1935-36	54,744	8	6
1936-37	29,099	12	3

58. None.

59. Not estimated.

60. No advantageous market. No proper and economical arrangement for transport we being 20 miles away from Railway Station. Hence have not sold any molasses.

61. Some portion we use as manure, we are still experimenting to use, it as manure. Sometimes we burn some portion. We also require to throw out a large quantity.

62. We have no surplus bagasse.

65. We have stored in factory compound 6,000 bags of sugar. 6,000 bags of sugar at the Diksal Station and outside the factory compound 4,000 bags.

66. We have not observed any deterioration in our sugar in storage. There is a small damage due to rains but that is nominal.

67. If there is no customer for damaged sugar we remelt it.

69. Generally sugar is damaged in transit by rain but the damage so far is nominal.

70-72. No.

73. Balance Sheets for 3 years—1934, 1935 and 1936 are sent herewith.

74. The amounts of depreciation do not tally with the rates allowed by the Income-tax Department. Our figures depend largely on the profits made. The profits made by this factory have been too meagre even to cover the Head Office expenses: no provision for depreciation has therefore been made so far.

75. Please refer to the Balance Sheets.
76. Please refer to the Balance Sheets. Only the preferential dividend was paid out of the past reserves during these three years.
77. Working Capital is largely financed by the Managing Agents and some capital is obtained from the Banks at 1 per cent. higher than the Bank rate which works out to about 4 to 5 per cent.
78. Expenses other than the interest in loans from the Managing Agents and the Bankers which are included in the Head Office expenses are nominal. The Agent's commission is determined on a percentage basis on profits. The commission of the Agents is 10 per cent. per annum on the annual net profits earned by the Company. It is also subject to a minimum sum of Rs. 10,000 per annum whether the Company makes profit or not.
79. We consider 10 per cent. as a fair return on capital after paying depreciation and interest on working capital.
83. A part of Sholapur District; a part of Bijapur District and a part of Poona District.
84. We sometimes sell our production by contracts and sometimes through commission agents.
85. We do not use it.
94. Yes.
95. Not necessary.
- 96 (a) & (b) No.

The Maharashtra Sugar Mills, Ltd., Ahmednagar.

REPLIES TO THE TARIFF BOARD QUESTIONNAIRE.

Production of Sugar—Introductory.

1. Our factory started sugar manufacture in March, 1934. Originally it was only 150 tons plant, but a bigger unit of 550 capable of increasing to 750 tons of daily capacity was installed in 1935-36 season and which worked in that season and now with some further improvements, we hope to crush about 700 to 750 tons during next season.

2. 1933-34 season—18,750 maunds sugar.

1934-35 season—20,000 maunds sugar.

1935-36 season :—

	Mds.	Srs.
No. 1	90,657	20
No. 2	50,390	0
No. 3	860	0
Crushed	2,346	0
Lumps	3,371	20
Total	147,625	0 sugar.

1936-37 season :—

No. 1	120,106	10
No. 1A	52,184	0
No. 2	49,610	0
Crushed	3,355	0
Total	225,255	10

3. (a) We grow practically all our own cane. Limestone and other materials have to be imported from Katni and other places. Our present main market is in Nizam's Dominions, though a good part of our production goes to Khandesh and Berar as well.

(b) The factory is situated about three miles from the Belapur Railway Station. The road communication is also convenient.

(c) Surrounding area is developed with Gul industry and some of the people also own lands and work in their fields and therefore some outside labour is brought.

4. Double Sulphitation. In the sulphitation process, the plant is less expensive and the process is cheaper to work. On the other hand, the carbonation process is more positive in its action, yields a higher recovery, and the sugar produced is of better keeping quality. The principal items which raise the cost of carbonation are limestone which has to be used to a quantity about 4 per cent. of the weight of the cane and coke. The determining factor will therefore be the distance of the factory from the quarries and the coal-fields.

5. Refer reply to question No. 1.

7. (a) The overhead charges of a factory decrease relatively per unit increase of crushing capacity. The larger the factory, the less are the proportionate charges on skilled directing staff, depreciation and certain factory operations. The size will ultimately be determined by the Capital available, the availability of the raw materials at a reasonable price in the neighbourhood and the facility of access to markets.

(b) The economical unit which was considered as 400 tons of crushing capacity per day before the internal competition, it should be now about 600 tons per day due to the low prices and keen competition on major canals and about 300 tons on minor canals.

8. Such as Cast Iron, Mild Steel Plates, Tanks, etc.

9. (i) The help given by the Imperial Institute of Sugar Technology is not adequate and does not satisfy the needs of the Deccan factories and much more help is needed. Therefore the Institute should be further equipped with adequate staff and other equipments.

(ii) The Industries Department of the local Government is a poor show and we doubt whether they are even in the know of the number of sugar factories established on the Deccan canals. This department has a very inadequate staff and funds at their disposal to do anything useful for this industry. We suggest that they should be given adequate funds and also one or two specially qualified men knowing manufacturing and mechanical side of sugar industry.

10. We cultivate our cane. All the lands are secured on lease. A great difficulty is experienced in securing these leases, as irrigation water is still given for old individual cane block holders till 1940 in the factory areas and it is not known as to how long they will be continued. It is doubtful as to whether these lands would be available early although on payment of reasonable rentals and therefore the Government help is necessary to get leases of such difficult patches of lands.

11. (a) Total area held approximately 5,000 acres.

(b) We are acquiring more lands on lease and increasing our area under cultivation.

For the crushing season 1934-35—250 acres.

For the crushing season 1935-36—1,200 acres.

For the crushing season 1936-37—1,500 acres.

For the coming season 1937-38, we expect to have 1,800 acres under cultivation. The above figures for each season contain the carried over cane from the previous season, adsali crop, plant and ratoon. Besides these, we purchased some standing crops along with the leased lands to the extent of about 225 acres for the season 1936-37.

(c) P.O.J. 2878, E.K. 28, Co. 290. These are the principal varieties.

(d) Owing to the shortage of lands, we are taking two crops continuously and after that according to the Irrigation Rules, we have to keep the lands fallow for three years without sugarcane. We give Farm Yard Manure to sticky deep soils as well as light soil, only as we cannot apply to all the area because of the insufficiency of material. We have tried as experiment about 100 acres with Sann green manure. Besides these, we use Ammonia Sulphate and oil cake as our regular manure, due to the peculiar condition of our soils.

(e) Average yield in normal years is about 40 tons per acre. Records of yield of different varieties could not be ascertained yet.

These are subject to fluctuations due to variations in the rates of oil cake and ammonia sulphate. The cost thus works out at about Rs. 7 per maund. The above cost is subject to the risks which the factory has to bear on account of its farming due to frost, disease, etc., and fluctuations in the prices of oil cake and ammonia sulphate, etc., which generally add to the above cost.

12. (a) We have got about 10/15 acres for experiments with different varieties and different manurial treatments with varying doses.

(b) We have none.

13. We have tried the so-called early ripening varieties of Sorghuna varieties, but we have found that they require about 10 months. The out-turn also does not seem to be promising. We are still persisting in these experiments to get a more complete data regarding the purities, out-turn, etc. We are also trying on large scale manurial experiments with the promising varieties giving different doses of manure. We shall be able to test the result next season on factory scale.

The Agricultural Department of Bombay Government is not of much direct help and further, is not fully equipped for experiment on methods of varieties of cultivation for the requirements of the modern factories. Padegaon Research Farm is undoubtedly doing some useful work and also experimenting on the various problems of cane cultivation arising in Deccan conditions. They have been experimenting on certain cane varieties, which they have received from Coimbatore Research Station, as to the utilities of these varieties, to the Deccan factories according to the conditions prevailing in the Deccan by now, they have issued one or two varieties, namely Co. 360, Co. 419 and etc. For the purposes of experiments at the farms of the factories trials are being undertaken and the results of the same will be ascertained in the next one or two seasons. It is, however, premature, to expect any concluding results, as the research in cane work takes a long time, especially those for the modern factories, and in the present conditions of keen competition we strongly suggest that the Padegaon Research Station will have to be continued for at least for a period of ten years further with larger funds and better resources to carry on their work on a large basis and which would give some definite results which can be followed by the sugar factories in the Deccan, to bring forth economy for their cane cultivation.

14. Unlike the sugar factories in the United Provinces and Bihar or elsewhere in India, the Deccan Sugar factories have to grow up their own cane. Due to non-availability of sufficient lands and several restrictions placed by the Irrigation Department, sugarcane growing is a large problem. Sufficiently required land could only be secured at a slow pace and therefore sufficient cultivation could not be developed for the requirement of the factory. We have therefore to supplement our season by outside cane leasing of the required quality, as well as at economic prices, as it depends largely upon the prices of jaggery. We have thus been experiencing handicaps in this respect for our cane supply from the very start and we have not yet sufficient cane and the result is that we have to work at a higher cost of production, which is uneconomic. We have been approaching our local Irrigation Department to give us all possible help but nothing substan-

tial has yet been done. Our efforts are still going on and we hope to be able to achieve our object but this will take some more time.

15. Our crops suffered from frost in 1934, as before that we had no plantation of our own and we suffered loss to the extent of about Rs. 25,000.

16. Please refer to our answer to question No. 11.

18. (a) The farm being our own, we have fixed our programme of cultivation without any variations. There are only some variations owing to natural causes.

(b) The variations are due to famine, frost or certain diseases.

20. The cultivator's cost is generally higher than ours, as their method of farming is crude and varieties also are not modern and no expert staff is there at their disposal and also their cultivation is confined to small patches.

21. In the Deccan, the factories themselves have their own farming and there are several difficulties for their growing cane. The main ones are enumerated below:—

(a) The most apathetic treatment of the Irrigation Department of the local Government.

(b) Very high irrigation charges.

(c) Several restrictions, such as soil classification, rotation, etc., placed in the way of cultivation, by the Irrigation Department.

(d) The Government do not give any help for leasing, although promises were given.

(e) To bring a huge burden on the factories unnecessary proposals for levy of very high cost of drainage works are put forth, although such drainage works are not required, at least, to be constructed by the Government, as the factories, who come across any difficulties in this respect and who are really interested in preserving land for growing their own cane for a period of several years, are bound to and are taking proper steps as per their requirements at a cost which is not uneconomical. The local Government should not therefore insist on putting this additional burden on factories; otherwise, it will be a great handicap in the way of economic production by the factory.

The progress of the new Deccan factories was greatly hampered due to the unhelping and apathetic attitude of the Bombay Government. Besides, many of the Irrigation Department functions were usurped by the Irrigation Research Department, under the so-called able guidance of Mr. Inglis, S. E. of D. R. C. During his régime, he enforced rigid rules such as soil classification, etc., and brought the factory owners into troubles and many difficulties on account of the queer conceptions emerged fantastic proposals and schemes regarding the prevention of damage to lands, or reclaiming of water-logged lands already damaged, which were so impracticable as would entail the cost of saving or reclaiming such lands to an extent of four or five times the value of the land itself.

(f) Acquisition for Trolley line, Roads, etc., which is most urgent, and necessary but the Government help is not coming forth in time so far and the factory has to pay very great charges for such land and certain patches are still unavailable and whole transportation to the factory suffers greatly.

On this side, the factory has to provide their own transportation arrangement mostly by the trolley line but owing to the difficulties mentioned in the above paragraph, trolley line for the whole estate could not be laid and hence arrangement for carting has to be resorted to at a very high cost.

In this respect, the Belapur Company is very lucky as the Government originally acquired all the lands required by them and leased them at low rentals and further they are free from such restrictions as soil classification, drainage, etc. Besides, freedom of internal irrigation and many such other

facilities enjoyed by them are found most beneficial by which they can bring down their cost much below those of the new factories. If the Irrigation Department of the local Government gives some similar concessions and facilities to the new factories, their cost can be brought down to a very great extent and in a few years, it would be as low and economic as that of the Belapur Company.

22. (a) Acquisition of land is not necessary for cane cultivation.

(b) In the Deccan conditions, although the factories have voluntarily secured on leases thousands of acres of land in the factory areas which are reserved by the Government, cane estate of the factory is still only in patches as certain intervening pieces of land could not be leased under any circumstances. It is therefore with a view of consolidation of the entire factory area under cane that the Government help is necessary for affording some suitable method for compulsory leasing.

24. (a) Yes. Only in such provinces where there would be overproduction.

(b) (i) Yes.

(ii) Yes. We are strongly in favour of the above, as otherwise, there will be always overproduction resulting in slump in the market and in the absence of any avenue for export of our sugar outside India, the industry will come to grief, in particular, in the Deccan.

25. As stated elsewhere, since we grow practically all our own cane, there is no distinction as in the United Provinces of *gate* and *rail* cane. However, at present we are bringing part of our cane by our own trolley line, the remaining being brought by carts. In a couple of years' time, we hope to get all our cane by mechanical transportation.

34. There being no lime available at any nearer place, we have to pay a heavy freight rate on lime which is being received from Katni (Central Provinces).

Same is also the case with steam coal both from Bengal and the Central Provinces and a reduction, by way of concession in Railway freight even by interference by Government in such commodities, is highly desirable.

44 & 45. In our area at least, the rate of cane when purchased locally, does not bear any relation to the price of sugar. It is influenced by the price of gul and the cane from the local cultivators is available for the factory at economical price only when the gul rates are abnormally low.

46. Yes. Due to internal competition.

50. We started the factory in the season of 1933-34 and we have so far worked only four seasons. In the first two seasons owing to our depending on the outside cane supply which was not available adequately owing to the rise in gul prices, our factory capacity was only 150 tons crushing per day and we had very short seasons. In the two recent seasons, although we had not full seasons, we were able to work the factory in the third season for 100 days actually and in the last season for 125 days. On our side we consider a season of 100 to 175 days' duration, to be normal, as it would be economic and given normal recovery.

52. Please refer to our answer to question No. 9.

53. Our total strength including cane carrier coolies is about 500 men or about 170 per shift. Out of these about 75 men in all can be called skilled labour including panmen, fitters, engine drivers, etc. During the off-season for overhauling work about 100 men are employed, but of which 25 are skilled men.

54. Some skilled and unskilled workmen are required to be imported from the United Provinces and Bihar by paying them higher wages. As our men would get trained, we hope to replace this imported labour by local labour in a reasonable time.

56. We have provided some semi-permanent quarters well-ventilated and with good sanitation arrangements. We have got our own doctor and a dispensary and medical assistance is given free of charge to every workman. We have also arrangement for lying in-patients.

We have arranged for imparting primary education by having a school for that purpose.

57. No. During the season 1936-37 we burnt 3.3 per cent. extra firewood and .8 per cent. coal extra on the weight of cane. With proper working we hope to reduce this still further; but due to the lower fibre in the cane in this area our requirement of fuel cannot be wholly satisfied by the bagasse produced.

Fuel.

	Rs.
1933-34	8,200
1934-35	10,500
1935-36	34,000
1936-37	32,000

59. Molasses sold :—

	Mds. Srs.	Price per maund. .
		As.
1933-34	5,366 38	10
1934-35	8,933 8	9
1935-36	27,151 4	9
1936-37	50,000 0	9

Only during 1936-37 production was 60,000 maunds, out of which, we sold 50,000 maunds and 10,000 maunds are being utilised otherwise.

60. Only Government Central Distillery, Nasik Road.

Transportation from our factory to Railway siding is by carts and motor lorries and from station to Distillery by tank wagons. The Railway freight per maund from Belapur to Nasik Road is As. 4-6.

61. At present, our supply of Molasses to Nasik Distillery is simply for clearance purposes with very small return not exceeding 1 to 1½ annas per maund. We therefore strongly suggest that the Government should allow factories to manufacture power alcohol, as is permitted to the Mysore Factory, which could be used for the internal transportation of the Deccan factories and if there be any surplus left, same can be disposed off for a better return.

64. At the beginning of the season :—

1933-34	<i>Nil.</i>
1934-35	<i>Nil.</i>
1935-36	<i>Nil.</i>
1936-37	<i>Nil.</i>

At the closing of the season :—

	(Each containing 2½ Bengal Md.)
	Bags.
1933-34	4,775
1934-35	2,976
1935-36	14,650
1936-37	32,711

65. We have got a godown of Corrugated Iron Sheets with cement concrete floor and it holds about 25,000 bags. We propose to have one more similar godown for the next season.

72. (a) All our sugar is sold in the interior markets and we do not send any sugar either to up-country or to any ports.

(b) The average rates are as under:—

	F.o.r. Belapur per Bengal Md.
	Rs. A. P.
1933-34	9 11 2
1934-35	9 10 1
1935-36	8 15 6
1936-37	7 4 0

73. Balance Sheets are sent herewith.

74-77. Please refer to Balance Sheets.

78. Please refer to Balance Sheets less 10 per cent. depreciation, as per Income-tax Rules.

79. We are of opinion that a dividend up to 9 per cent. as the circumstances would permit will have to be paid from time to time on the net paid-up capital, as preference shares of some of the Companies are cumulative 7 per cent. interest or above and tax-free. Besides, the common trouble as the United Provinces and Bihar such as machinery breakdown, etc., the Deccan factories, especially, are also liable to suffer at times on account of famine, frost and epidemics. They having got their own estates to maintain.

When we say net dividend, we mean, of course, to allow for a dividend, besides providing for a reserve fund, for labour welfare or such other purposes according to the stability of the concern, as also against internal competition and other unforeseen eventualities.

80. The forms* are attached herewith duly filled in.

81. (i) We have extended our plant and would be having, in the coming season, a capacity of about 700 to 750 tons crushing per day against 150 tons with which we originally started in 1933-34.

We are also at present adding certain machinery for bringing more efficiency and reducing overhead charges. This is expected to bring about a reduction in the cost of production to an extent of about Re. 1 per maund over the first year costs, namely, 1934-35 season and about 8 annas per maund over 1935-36 season.

82. We will have to watch the working of our factory which is under improvement at present and then alone we shall be able to say further in this respect.

83. As stated elsewhere in Nizam Dominions, Kandesh and Berar and in the district of Nasik and Ahmednagar.

	Maximum per Bengal Md.
	Rs. A.
86. For Indian sugar:—	
1934 (approx.)	10 4
1935 „	9 12
1936 „	8 6
1937 „	7 10
For imported sugar:—	
1934 (approx.)	10 0
1935 „	10 0
1936 „	10 0
1937 „	11 0

* Not printed.

92. At the close of the season about 35 to 40 per cent. stocks are carried over by us.

Factories who need finance on their stocks raise the same by Cash Credit with the Banks or other financiers.

93 & 94. We concur with the reply of the Indian Sugar Mills' Association.

98 & 99. We concur with the reply of the Indian Sugar Mills' Association.

Further we have to add that the factory made sugar is about one million tons and as the same would increase much more due to cheapness widespread propoganda is required to be carried out for the purpose of increasing consumption, as is being done in the coffee and tea trade at present.

101. Under the present crisis of overproduction and slump in the market starting of subsidiary industries, is imperative in so far as they are useful as new avenues for enhancing consumption and thus solving the problem of overproduction.

104. (a) We concur with the Sugar Mills Association's views, in their answer to latter part.

105. (a) Very adverse to the manufacturer.

(b) Detrimental to the interests of both manufacturer and grower.

106. Please refer to answer to question No. 60.

108. Protection has proved very fruitful, as it was wanted from a long time. It undoubtedly helped the rapid expansion of the industry. Further protection is most essential for the period recommended by the last Tariff Board Report, i.e., up to 31st March, 1946.

Due to the quick expansion there had been no time for giving proper thought to the various problems arising out of it, such as, internal competition, etc., and to set right matters for proper development. Besides there are several unforeseen factors which may tend to the rising of cost of Indian sugar, an inlet may be found possible for dumping of imported sugar into this country.

109. Measure of protection should remain the same as it is at present and no changes of any kind should be made from 1st March 1938, to 31st March, 1946, so that the industry would get proper time for effecting proper economy and efficiency.

The Belapur Co., Ltd., Ahmednagar.

(1) Note for the Tariff Board.

The Belapur Company cannot be regarded as in any way representative of the Indian Sugar Industry in general. The conditions under and circumstances in which the company operates differ very greatly from those of the Northern India factories, and even in some respects, from those of other factories in the Bombay Deccan. The Company's position is, in fact, unique. The main points of difference, all of which are favourable factors, are:—

- (1) The Company grows all its own cane.
- (2) The cane is the highest in quality supplied to any factory in India.
- (3) Except for one exception, the factory has the longest working season in India, extending up to seven months.
- (4) Is a consequence of (2). Because of the high quality of the cane, the costs of manufacture per maund of sugar are comparatively lower than those of other factories. For the same reason, the production of sugar is very much higher than is the case in factories of similar crushing capacity.

We now proceed to discuss those four factors:

(1) *The advantage to the Company of growing all its own cane.*—The Company receives not only the manufacturer's profit, but also the cultivator's. It would, of course, have to bear both losses if the price of sugar fell to such an extent that the maximum rate the factory could economically pay were below the cost of growing. Where the cane price is regulated by the price of sugar, such losses would be borne partly by the grower; but the fact remains that since sugar was declared a protected industry—and even before, though not to the same extent—the factory could rightly be debited with a price for cane which showed a profit on the cultivation side of the Company's business.

The average cost of growing cane and delivering it at the factory is As. 5 per maund. To compare this cost with the price paid by purchasing factories, it is necessary to take into consideration—

(2) *The quality of the cane.*—Three assumptions are made, (a) that the price paid by purchasing factories is As. 5 per maund; this, when haulage charges are taken into account, is a low figure, but it is the same as the Belapur Company's cost of growing and hauling, (b) that the average recovery of sugar in these purchasing factories is 9·35 per cent.; for 1935-36 the average, excluding the Bombay Presidency, was 9·27 per cent. and the forecast for 1936-37, (excluding Bombay) is 9·44 per cent. (Sugar Production Forecast by R. C. Srivastava, "Indian Trade Journal", 20th May, 1937); (c) that the recovery in the Belapur Company's factory averages 11·25 per cent. As a matter of fact, for the 1936-37 season, it was 11·43 per cent. We then get the formula for the price of Belapur cane—

$$\frac{5 \times 11.25}{9.35} = 6.016 \text{ annas per maund.}$$

On a crop of 30 lakhs of maunds, the difference in value is thus Rs. 1,90,500, in favour of Belapur. It is here to be noted that this difference is the resultant only of a comparison of the available sugar content of the canes. In point of fact, the difference in value to the manufacturer is very much greater, as will presently be demonstrated.

(3) *Long working season.*—This needs no comment, except perhaps to explain why it is possible. Obviously the shorter the off-season, the less will be the silent charges. The long working season is possible because of our being able to grow a cane—planted in June/July—which is comparatively ripe by the middle of October of the following year.

(4) *Economic effect of crushing cane of high sugar content.*—It is obvious that there will be a reduction in manufacturing costs per maund of sugar. With one exception, costs of manufacturing materials and labour are almost the same per hundred tons of cane, whether the recovery of sugar be high or low. The exception referred to is the cost of the packing which at present may be taken at three to five annas per maund of sugar. Thus, with the exception referred to, the total charges peculiar to manufacture will be nearly identical for 11·25 tons of sugar and for 9·35 tons. Another and much greater effect results from the increase in production. On the basis of a seasonal crush of 30 lakhs of maunds of cane (The Belapur Company's crop for 1936-37), whereas a factory with an average recovery of 9·35 per cent. would have made 280,500 maunds of sugar, a recovery of 11·25 would produce 337,500 maunds—a difference of 57,000 maunds. It has been shown that the extra total cost of manufacture of this extra quantity is but slight. It follows, therefore, that from the sale proceeds of this extra sugar, the only material deductions to be made are the extra value of the cane (Rs. 1,90,500 as previously shown), the excise duty and certain overhead charges such as brokerage, if any, insurance, etc.

General.—Having demonstrated the unique position of the Belapur Company, its progress may now be reviewed.

In 1930, when the Tariff Board sat, certain figures of yields of sugar per acre were included in the evidence submitted to the Board. The yields were:—

Year.	Tons Sugar per acre.	Year.	Tons Sugar per acre.
1924-25	1.86	1927-28	2.30
1925-26	1.87	1928-29	1.56*
1926-27	2.04	1929-30	2.67

The year 1928-29 should be left out of account, because in that year a severe frost occurred which caused very heavy losses both in tonnage of cane and sugar content.

On the analogy of Java's records, the Board formed the opinion that on the improvement shown in the Belapur yields, it should not be many years before a yield of 4 tons of sugar was attained. That the Board were fully justified in this view will be evident from the following table of subsequent results.

Year.	Tons Sugar per acre.	Year.	Tons Sugar per acre.
1930-31	3.51	1934-35	4.04
1931-32	3.94	1935-36	4.12
1932-33	3.68	1936-37	4.70
1933-34	4.75		

The improvement is mainly due to the selection of new varieties and imported varieties not hitherto grown in India, the total discarding of the indigenous variety, Pundia, at one time generally but erroneously considered to be one of the world's best canes, and to improved cultural methods. The extent of the Company's experimental work will be realised when it is stated that last year there were no fewer than 26 new varieties under trial. The experimental work will continue and there is no reason to think that the limit of improvement has been reached. Higher yields may be expected in the future.

Another factor contributing to the Company's success was the enlargement of the factory. Prior to the season 1934-35, its capacity was 375 tons of cane per day. From that year the capacity has been raised to 630 tons. From 1933 extra land had been leased to balance the increased crushing capacity.

It may not be out of place to mention the importance of the sugar industry to the Deccan canals. Successive conferences and committees—the latest of which was the Deccan Canals Financial Improvement Committee, 1932—have all reached the conclusion that the only crop affording scope for increased utilisation of canal water is sugarcane and, as the market for gur is very limited, the only way by which the sugarcane area could be substantially increased was by the establishment of the sugar industry. At the time the Committee's report was written, the Belapur Company's factory was the only one working, but there are now seven in the area served by the Deccan canals.

Another point which is perhaps worthy of note is that in 1933 when the Company required more land for the extension of its operations, and again in 1936-37, the neighbouring landowner cultivators voluntarily leased their lands to the Company. This suggests that the return they receive in rent is greater than the owners themselves could obtain by cultivation of of their lands.

* See Note.

(2) Replies to General Questionnaire.

Production of Sugar—Introductory.

1. 1924. Crushing capacity 630 tons (=17,150 maunds) or 75 tons sugar (=2,041 maunds) per day.

Year.	No. 1 Sugar. Mds.	No. 2 Sugar. Mds.	Total Sugar. Mds.
2. 1930-31	139,491	32,823	172,314
1931-32	135,017	57,557	192,574
1932-33	137,106	62,073	199,179
1933-34	171,666	61,814	233,480
1934-35	223,070	68,602	291,672
1935-36	233,770	74,737	308,507
1936-37	230,585	75,225	355,810

3. We grow all our own cane. The factory is advantageously situated, except perhaps as regards limestone supply. The nearest source of good limestone (or lime) is Katni, about 600 miles distant.

4. *Sulphitation.*—The advantage of the sulphitation process is that the plant is less expensive and the process cheaper in its operation. In other respects, the carbonitation process is better in every way. It is more positive in its action and produces a superior sugar of better keeping quality. As indicated above, the process is expensive, which is offset to some extent by a higher recovery than is obtainable by the sulphitation process. The chief item of the increased cost is limestone, and as the quantity used is about 4 per cent. of the weight of the cane, the distance of the factory from the quarries is an all-important factor as freight charges may prove prohibitive.

5. No change has been made in the layout but, with the exception of the mill, all stations were increased in 1934.

The amount spent on the factory was Rs. 2,00,000.

6. No further alteration to the present factory is contemplated, but the erection of a new 1,000-ton factory is under consideration.

7. (a) (1) Competent Technologists must be employed and the factory large enough to support them. The factory staff will consist of a Chief Chemist and Assistant Chemists, Engineer and Assistant or Shift Engineers, under the direction of a Manager or General Manager. If efficiency is to be obtained, obviously a competent staff must be engaged, and consequently, adequate remuneration must be offered to attract such men.

(2) *Comparative capital cost and depreciation.*—The capital cost of a factory decreases relatively per unit increase of crushing capacity, and consequently, depreciation and certain operation charges are comparatively less the larger the factory.

(b) Under present conditions, a five hundred ton plant, capable of producing 7,500 tons of sugar per season.

8. Certain simple parts such as cast iron tanks and pipes are readily obtainable, and other plant comparatively easy to manufacture could be made in India, but in general, sugar machinery is of specialised manufacture and has to be imported.

9. (1) We have not had to apply to the Institute for assistance, but it is planned on lines which, in our opinion, must result in raising the efficiency of Indian factories.

(2) The Industries Department of the Bombay Government has not been much in touch with the sugar industry as it is of comparatively recent growth in the Presidency.

Raw Materials.

10. Yes, we grow all our own cane. Our land, 10,334 acres, is all leased. Of this area, 7,377 acres were acquired by Government and leased to the Company for a term of 99 years from 1920. The balance was voluntarily leased to us by the owners, commencing in 1933. After the landowners convinced themselves that the terms offered were advantageous to them, there was little difficulty in obtaining land.

11. 10,334 acres.

(a) 2,750 acres.

(b) P.O.J. 2878, Co. 290, E.K. 28, Co. 419.

(c) No other crop is grown in rotation with sugarcane.

(d) The rotation is:

(1) Cane, fallow, fallow, cane.

(2) Cane, ratoon, fallow, fallow, cane.

Farmyard manure is not available. Oilcake, groundnut or castor, and sulphate of ammonia are applied at the rate of 5.5 lbs. of nitrogen per anticipated ton of cane per acre.

	Tons per acre.	Sucrose per cent.
(e) P.O.J. 2878	40.4	14 to 15
E.K. 28	34.4	14 to 15
Co. 290	40.7	12.5

NOTE.—These are averages for all crops; Adsali, Plant and Ratoon. The variety E.K. 28 is a poor ratooner, hence as far as possible, its use for a ratoon crop is being discontinued. As a plant crop it is about equal in tonnage to P.O.J. 2878. Figures for Co. 419 will not be available until 1937-38 season, as the area harvested for the mill for the current season is too small for comparison with the other varieties.

12. (a) There is no particular acreage allotted for experiment; this depends on the nature of the experiments conducted yearly, but fully 50 acres are usually under experiment.

(b) We do not actually grow for sale, although we have sold large quantities of seed cane of new and tried varieties to the Agricultural Department, other factories and cultivators.

13. The Adsali crop serves as an early ripening cane. Late maturing varieties such as H.M. 320 have been tried, but without success. E.K. 28 is a comparatively late ripening cane, and the indications are that Co. 419 falls in the same category.

Potash and phosphatic manures have been tried, but without definite results.

We have not asked the Agricultural Department for assistance in experimental work. There is now, however, a Departmental experimental station established by grant from the Imperial Council of Agricultural Research which will doubtless be of great help in future.

14. (a) (b) The quantities of cane crushed and recoveries of commercial sugar are given below, the latter as being indicative of the quality of the cane.

Year.	Cane Crushed. Mds.	Recovery per cent.
1930-31	1,591,351	10.83
1931-32	1,706,325	11.28
1932-33	1,701,876	11.12
1933-34	2,126,941	10.98
1934-35	2,627,118	11.10
1935-36	2,867,562	10.76
1936-37	3,113,739	11.43

15. The Deccan is not normally subject to frost, but there was one severe attack in January/February, 1929, and two mild attacks since. These attacks are local—mostly occurring in the valleys. The young crop is affected most, particularly the Adsali which is about seven months old. The loss from the attack in 1929 was estimated at 27 per cent. of the total crop, but that was very exceptional. With milder attacks the damage is between 5 per cent. and 10 per cent. of the young cane. In the mature crop the loss is not serious as the affected portions are harvested before deterioration can set in. Fungoid diseases are rare. The shoot and root borers (*Diatroea auricilia* and *Papua depressella*) do some damage, but this does not exceed 5 per cent. Attacks by grasshoppers are local and may be as high as 10 per cent. in the affected portions.

16. Yes, see answer to Question 11 (e).

17-19. Not applicable to us.

20. Cost in Deccan Canals area—

	Rs. A.
Preparatory tillage including three ploughings and opening furrows	18 0
Bed making, bunds, applying manure, preparing seed and planting	14 0
Farmyard manure, 35 cartloads	35 0
Cost of seed, 10,000 setts	80 0
Weedings.	8 0
Earthing up	12 0
Hoeing, etc.,	4 0
Manures—	
Sulphate of Ammonia, 2 cwt.	10 0
Cake, 500 lbs.	120 0
Irrigation, labour	18 0
Irrigation Cess (Block 19×3=Rs. 57, Overlap Rs. 15, Local Fund Cess at As. 1.5 as per Rupee=Rs. 6-12)	78 12
Land rent for block of 3 acres	40 0
Interest	20 0
Supervision, excluding owner's	10 0
Total	417 12

Average yield 40 tons. It is to be noted in comparing these costs with ours, that harvesting and haulage are not included.

21. Not applicable.

22. (a) In the Deccan, since the last Tariff Board report, lands have been obtained with little difficulty and without recourse to compulsory leasing.

(b) This is a matter for discussion with the Northern India concerns and will be dealt with by the Indian Sugar Mills Association.

23. This is a matter for discussion with the Northern India concerns and will be dealt with by the Indian Sugar Mills Association.

24. Will be dealt with by the Indian Sugar Mills Association.

25. All our cane is tram-borne from our own estate.

26-33. Not applicable to us.

34. Thirty-three miles—our own line. One anna per ton of cane.

35. A concessional rate for limestone would be very helpful to carbonitiation factories. For instance, the freight on limestone from Katui

to Belapur is more than five times the cost of the stone itself. Concentrated manures are already carried at reduced rates and a reduction for bulky manures would be of assistance in promoting their use.

36. This has reference to factories which have no estates.
 37. Not applicable to us. In our case it is inappreciable.
 38. We have occasionally purchased a little cane from growers and in such cases have dealt direct. The quantities, however, are negligible.
 39-41. Not applicable to us.
 42. The little cane we have purchased has been weighed on the factory weighbridge. Payment was made weekly.
 43. From As. 5-6 to As. 10 per maund. The rate is highest at the beginning of the gur making season, as fresh gur commands a high price. We have never purchased cane at the commencement of the season.
 44. In the Deccan the price of cane would not be affected by the price of sugar. The rate for gur is the determining factor.
 45. See 44.
 46. Yes, but we are not affected.
 47. Prices for cane are not fixed under the Act.
 48-49. Not applicable to us.

Year.	Duration of Crushing Season.	Actual days of Crushing.
50. 1930-31	205	169
1931-32	209	175
1932-33	206	175
1933-34	246	208
1934-35	204	170
1935-36	217	179
1936-37	223	186

The variations are due to (a) the acreage we were able to put under cultivation and (b) the yield per acre. Our season is sufficiently long.

51. Our season is already long, but a late-ripening cane would, in all probability, be later in beginning to deteriorate than the earlier varieties.
 52. Yes. No suggestions other than those made by the Sugar Committee.

Labour.

	Crushing Season.	Silent Season.
53. Skilled	45	45
Unskilled	311	60

These figures apply to the factory only and do not include miscellaneous workers.

54. Nil.
 55. We have never imported skilled labour from abroad.
 56. All permanent labour is housed in well-built free quarters. Seasonal workers are accommodated in good huts provided by the Company. Free medical attendance and medicines are made available to all. The Company has its own medical officer and hospital. The Company has its own school which is recognised as regards vernacular teaching by the Local Board and in regard to English standards by the Department of Education. The teaching—up to English Standard III—is free to the children of all employees whose wages are less than Rs. 20 per month. Scholarships are given in

the English standards according to the regulations of the Education Department.

Power.

57. Make-up fuel is required. We use crude oil. The quantities and expenditure for the last 7 years were:—

Year.	Wood.	Furnace Oil.	Cost.
	Mds.	Tons.	Rs.
1930-31	7,120	1,127-06	63,192
1931-32	400	813-80	37,735
1932-33	...	533-72	25,414
1933-34	...	921-31	40,391
1934-35	...	544-70	24,439
1935-36	...	769-87	33,841
1936-37	...	1,002-31	...

This make-up fuel amounts to about 10 per cent. of the total.

By-products.

58. The only by-product is molasses.

Year.	Output.	Price per maund landed Nasik Distillery.	
		Mds.	Rs. A.
59. 1930-31	60,252	2	2
1931-32	55,265	1	7
1932-33	63,450	0	12
1933-34	71,965	0	12
1934-35	87,335	0	9
1935-36	103,575	0	9
1936-37	101,194	0	9

The variation in quantity is due to the tonnage and quality of cane crushed and the difference in returns to the rate obtainable. The price obtained is freight paid to Nasik. The freight is As. 5 per maund.

60. The molasses is all sold to the Government Distillery at Nasik. It is transported in tank wagons supplied by the Railway and Railway facilities are adequate. There is no market other than the Nasik Distillery.

61-63. Does not arise.

Storage and Transportation of Sugar.

Year.	Stocks of Sugar	
	at beginning of season.	at end of season.
	Mds.	Mds.
64. 1930-31	17,229	101,779
1931-32	29,520	62,358
1932-33	...	54,972
1933-34	...	57,022
1934-35	...	55,572
1935-36	...	112,038
1936-37	...	109,173

65. Sugar is stored in godowns adjacent to the factory. The storage capacity is 125,000 maunds. Accommodation has been increased so as to overtake the increase in production. It is now adequate for the maximum output of the factory with normal off-take.

66. In our case, on account of the very light rainfall and low humidity, deterioration is very slight.

67. Damaged sugar is never allowed to leave the factory. It is invariably remade.

68. In our case, no improvement is possible, except by a change of clarification method to the carbonitiation system.

69. The only damage in transit is caused by rain water and this is a very negligible quantity.

70. Very rarely, and of recent years no difficulty has been experienced.

71. No suggestions to make.

72. The following are the prices realised for our sugar. All our markets are up-country:—

Year.	Ex-Factory per maund. Rs. A. P.	Year.	Ex-Factory per maund. Rs. A. P.
1930-31	10 1 8	1934-35	9 6 10
1931-32	11 4 11	1935-36	9 9 0
1932-33	10 13 5	1936-37	7 9 0
1933-34	10 0 7		

The following are the freight rates, per maund, railway risk, to the principal towns in the area served by our factory:—

	As. P.		As. P.
Ahmednagar	3 0	Jalna	7 4
Jalgaon	6 9	Manwath	9 3
Khamgaon	9 6	Parbhani	9 10
Akola	14 4	Nanded	11 2
Burhanpur	8 5	Nizambad	13 6
Malkapur	8 4	Lasalgaon	4 0

Capital Account and Overhead Charges.

73. Copies of Balance Sheets are sent separately.

74. The total amounts written off for depreciation for the last seven years are as under. (The details of each heading will be found in the Balance Sheet.) The Company provides for depreciation at practically the same rates as fixed by the Income-tax Authorities, but on the reduced value of the assets instead of the original value allowed by the Income-tax Department. We give below the figures of depreciation as provided and allowed to the Company:—

Year.	Depreciation as provided by the Company.	Depreciation as allowed by the Income- tax Department.
	Rs. A. P.	Rs.
1931	1,09,196 14 11	1,35,359
1932	99,388 0 9	1,36,033
1933	1,17,540 1 10	1,47,703
1934	1,24,915 11 10	1,58,832
1935	1,21,651 6 2	1,79,318
1936	1,37,446 3 6	Not assessed.

75. Amounts set aside for Reserve Fund during the last seven years:—

Year.	Amount.		Year.	Amount.	
	Rs.	A. P.		Rs.	A. P.
1930 . . .	...		1934 . . .	4,00,000	0 0
1931 . . .	1,45,210	8 11	1935 . . .	5,00,000	0 0
1932 . . .	4,00,000	0 0	1936 . . .	1,54,900	0 0
1933 . . .	3,25,000	0 0			

We may add that practically the whole of the above Reserve was utilised for a special capital bonus at Rs. 50 per share in the form of shares allotted to the shareholders, as the share capital of the Company was reduced by the same amount in the years 1924 and 1927.

76. The Company has only one class of Share Capital, i.e., "Ordinary Share Capital". Although this Company was established and registered in the year 1919, it could not pay any dividend until 1931. We give below the details asked for:—

Year.	Rate of Dividend. Rs. per share.	Total Dividend.
		Rs.
1931	3	1,12,794
1932	6	2,25,538
1933	9	3,38,382
1934	12	4,51,176
1935	12	4,51,176
1936	8	6,01,563

77. The working capital of the Company is provided from the capital floated at the inception and has had no occasion to borrow money since 1931.

78. Statement marked "A" sent separately.

79. This depends upon the money market and the conditions prevailing at different times as, for example, the Bank rate and interest obtainable on investment in Government loans. Generally, 10 per cent. may be considered a fair rate of dividend.

Efficiency of production.

80. Statements sent separately (D, E, F).*

81. Statement sent separately (B).

82. The only way of further reducing works costs is by increasing the size of the factory and its mechanical efficiency. The new factory under consideration would be of larger capacity and, particularly in regard to its milling plant, of greater efficiency.

Marketing.

83. The principal markets for our sugar are:—

Nizam's Dominions, Ahmednagar District, Nasik District, Poona District, Southern Countries, East and West Khandesh and Karnatak.

84. We sell our sugar to the dealers on the basis of ruling prices; delivery to be taken over an agreed period, payment being made as the sugar is taken. Retailers purchase from the dealers in small quantities only.

* Not printed.

85. Our present sugar contract form is suitable. It is not that recommended by the Indian Sugar Mills Association, which may be adopted in future.

86. The wholesale rates are as mentioned in Question 72, while the retail rates are about one to two annas per maund higher.

87. Fluctuations between wholesale and retail prices are not wide. The difference between the wholesale and retail prices is usually about one anna per maund for lots of one or two bags, and in small quantities, four to eight annas per maund.

88. Dealers, as a rule, do not store sugar, or if they do, then in very small quantities. There is practically no deterioration in storage in the Deccan area.

89. The best Indian sugars are equal in keeping quality to Java sugars, but the larger part of the sugar produced in India is inferior in this respect. There has been considerable improvement, particularly in the season just closed.

90. There is still a small demand for Java and other imported sugars, particularly by hotels, but high grade Indian sugars have to a great extent ousted the Java article.

91. The best Indian factories manufacture sugar equal to that of Java, but not as high in grade as the refined sugars, i.e., sugars which have passed through a refinery. The inferior Indian sugars are below Java standard in colour and uniformity.

92. Dealers do not stock any weight of sugar, but practise a hand-to-mouth policy, purchasing only sufficient to meet immediate requirements. The manufacturers carry most of the stocks at factories, in rented godowns or in port warehouses, in which latter large quantities are accommodated.

93. Yes, particularly with a view to avoidance of uneconomic transport from one producing centre to another.

94. Yes, but control of production would also have to be provided for.

95. Yes, on the basis of colour, size of grain and lustre.

96. (a) We have not sold sugar on the basis of the standards of the Indian Sugar Bureau.

(b) We have graded all our own sugar on these standards for our own record.

97-98. We suggest that this matter be investigated and reported upon by a Sub-Committee of the Indian Sugar Mills Association.

99. The estimate of normal consumption will be supplied by the Indian Sugar Mills Association. We consider that it would be possible to increase consumption by extensive propaganda.

100. It is doubtful whether sugar has replaced gur to any extent, although probably the use of white sweets which would require a white sugar is extended. On the other hand, there are sweets for which gur is exclusively used.

101. The possibility of starting subsidiary industries such as those mentioned seem very slight. Such manufactures would have to be mainly, if not altogether, consumed in India, and there seems at present little demand.

102-104. These details will be given by the Indian Sugar Mills Association.

105. The effect of the sugar excise duty of 1934 was to check the extension of the industry and the addition in 1937 will further increase this effect. The imposition of the duty should also increase the endeavour to improve efficiency of the industry. In all likelihood, the more inefficient factories will cease to operate.

106. In our case it is all sold to the Nasik Distillery.

107. This will be answered by the Indian Sugar Mills Association.

Claim for protection.

108. The duty on sugar has been effective in reducing the imports of Java sugar from one million tons to less than one hundred thousand tons per annum. It has been the means of providing to cultivators a market for a cash crop whereby they have benefited greatly. It has also given employment to about 100,000 operatives.

109. In our view, and speaking of the industry in general, the present measure of protection should be maintained, even although it is at present inoperative, with the object of excluding Java from the Indian market.

110. As regards the Deccan factories, the question of concessions in railway freight extended to Northern factories may be examined. There are no concessions to the Deccan factories and they do not sell any sugar in Bombay City.

111. The effect of import duty on molasses has been *nil*, and it cannot have effected any industry in India since molasses is now obtainable for practically nothing.

STATEMENT A.

(Question 78.)

We give below the annual amounts of Head Office expenses and the Managing Agent's commission since 1931. The Managing Agent's commission is calculated at 10 per cent. on the net profits of the Company, prior to depreciation on the fixed assets.

Year.	Head office Expenses.		Managing Agent's Commission.	
	Rs.	A. P.	Rs.	A. P.
1931	60,421	4 8	68,962	6 10
1932	42,297	3 2	1,22,358	14 6
1933	56,522	5 10	1,16,222	12 3
1934	58,550	14 3	1,30,657	14 0
1935	50,319	3 5	1,32,813	3 0
1936	57,869	14 3	1,31,683	1 6

STATEMENT B.

(Question 81.)

We give below the details of manufacturing and office on cost for the seasons 1930-31 and 1935-36:—

Year.	Manufacturing Cost.		Office on Cost.	
	Rs.	A. P.	Rs.	A. P.
1930-31	1	9 5	2	8 10
1935-36	0	13 9	1	13 8

The Belvandi Sugar Farm, Ltd., Ahmednagar.

REPLIES TO THE TARIFF BOARD QUESTIONNAIRE.

Production of Sugar—Introductory.

1. January, 1936.
The capacity—250 tons.
2. Season 1935-36—41,520 maunds.
Season 1936-37—38,474 maunds.
5. No changes.
6. Addition of one more Mill and a Boiler and certain other items to improve general working.

Raw Materials.

9. Yes.

Yes, some have been purchased and some leased.

No major difficulties were experienced.

10. (a) 1,700 acres of land.

(b) 1935-36—450 acres.

1936-37—375 acres.

(c) P.O.J. 2878, E.K. 28, Co. 290.

(d) Reference M.S.M. replies.

(e) Outturn.—

P.O.J. 2878—45 tons.

E.K. 28—45 tons.

Co. 290—40 tons.

Sucrose:—

P.O.J. 2878—12.5 per cent.

E.K. 28—12.6 per cent.

Co. 290—11.0 per cent.

(f) Average cost of cultivation of cane—

	Per Acre.
	Rs. A.
1. Preparatory tillage including making small drains and removing deep-rooted weeds	22 0
2. Cost of farmyard manure	10 0
3. Planting seeds and spreading farmyard manure	11 0
4. Seed sets and seed for filling gaps and labour for same	25 0
5. Three weedings and interculture, including repairs	8 0
6. * Cost of oil cake	97 8
7. * Cost of ammonium sulphate	22 0
8. Pulverizing cake and carting to plots and labour for application of same for three top dressings	6 0
9. Partial and complete earthing up in two stages	8 0
10. Irrigation and Local Fund Cess and drainage	37 0
11. Land rent	21 0
12. Labour for irrigation	12 0
13. Wadi Staff supervision	8 0
14. Overhead charges to general office and Bombay office	8 0
15. Cutting, stripping, bundling, and transporting charges	40 0
16. Depreciation on agricultural implements, machinery and staff-quarters, etc.	10 0
Total	345 8

Yield per acre—36 tons.

Average per ton—Rs. 9-10-6.

* These are subject to fluctuations due to variations in the rates of oil cake and ammonium sulphate. The cost thus works out at about As. 7 per maund. The above cost is subject to the risks which the factory has to bear on account of its farming due to frost, disease, etc., and fluctuations in the prices of oil cake and ammonium sulphate, etc., which generally add to the above cost.

13. (a) & (b) No material change took place during these two years of our working.

15. No, due to insufficient supply of water owing to frequent failures of monsoons.

18. (a) Yes.

(b) (1) Scanty rainfall and such other reasons be attributed to.

(2) & (3) Nil.

19. Our production of cane was quite insufficient in 1936-37 owing to famine.

20. Cost of cultivation per acre is Rs. 345.

34. There being no lime available at any nearer place, we have to pay a heavy freight rate on lime which is being received from Katni (Central Provinces).

Same also is the case with steam coal both from Bengal and the Central Provinces and a reduction by way of concession in railway freight, even by interference by Government in such commodities is highly desirable.

50. Duration of the crushing season—

1935-36—4½ months.

1936-37—3½ months.

Reasons for variation—

Variation is due to insufficient cane.

No, the period is not sufficiently long for economical working.

51. By planting early maturing varieties such as Sorghum, Hybrids and other Co. varieties, crushing can be started early in October, and by planting the late ripening non-arrowing varieties, such as Co. 402 and H.M. 320, etc., the crushing can be extended upto end of May.

56. Clerical superior and subordinate staff and mechanical and manufacturing senior staff are provided with permanent pukka built quarters and junior and menial staff, including seasonal manufacturing staff are provided with semi-permanent quarters. Free medical assistance, etc., is provided for and given promptly to the whole of the staff.

Power.

57. The amount spent on fuel is as under:—

1935-36—Rs. 16,000.

1936-37—Rs. 14,500.

59. Outturn and price of molasses is as under:—

1935-36—13,237 mds. Rs. 8,273* } at As. 10 per Bengal Maund, f.o.r.

1936-37—12,500 mds. Rs. 7,812* } Nasik Distillery.

The above variation is due to variation of cane quantities in crushing and production.

60. The railway company provides Tank Wagons and the freight rate charge is As. 6-8 per Bengal Maund (C. O. rate.)

61. Regarding our suggestions for utilisation of molasses, we have to suggest that this being a factory on a minor canal only and water supplies are unassured and are scanty, being a famous famine track, special concession be allowed to this factory in particular, for manufacturing Power Alcohol and Spirits.

* Out of the amounts realised expenditure at about As. 8 per maund to be deducted and then a margin of about two annas per maund is only left.

Storage and Transportation of Sugar,

- | | At the beginning of the Season, | At close of the Season. |
|-----------------------|---------------------------------|-------------------------|
| | | Mds. |
| 64. 1935-36 | ... | 19,925 |
| 1936-37 | ... | 15,548 |
65. Two C. I. Sheet Godowns, capacity of each to contain 16,000/17,000 maunds.
No. Storage capacity is not increased.
66. Our sugar has not deteriorated at all so far.
70. Nil. Mostly our sugar is transported by motor lorries from dealers.
73. Balance Sheet for 1935-36 season is enclosed herewith and Balance Sheet for 1936-37 season is not so far drawn.
81. (i) Nil.
(ii) Double curing system for manufacturing of one grade sugar.
(iii) & (iv) Nil.
83. Ahmednagar, small percentage to Dhond and villages in the vicinity.
86. (a) 1935-36—
Sugar No. I at the rate of Rs. 9-4 per Bengal Maund.
Sugar No. II at the rate of Rs. 8-12 per Bengal Maund.
- 1936-37—
Sugar No. I at the rate of Rs. 7-6 per Bengal Maund.
Sugar No. II at the rate of Rs. 7-2 per Bengal Maund.
91. The quality of Indian Sugar No. 1 Crystal was inferior to Java in earlier years but since 1935-36 season, the quality of Indian sugars has immensely improved. Some of the United Provinces factories manufacture sugars of grain, colour, and quality excelling even that of Java and generally the Indian I quality sugars have reached Java standard without doubt.
92. (a) By about 3 months.
(b) By about 4 months.
100. Now-a-days there being fall in prices, even the poor class prefers buying sugar to gur and more so on ceremonial occasions.
110. In the present state of Industry, it is considered highly desirable that the Government should delete the enhanced excise duty as early as possible, the reason being that as at present, the factory owner has to toil the year in and out but without any substantial gain to the shareholders who have and have been financing the concerns.

The Ravalgaon Sugar Farm, Ltd., Nasik.

(1) REPLIES TO TARIFF BOARD GENERAL QUESTIONNAIRE.

1. The factory started manufacture of sugar in November, 1933. It started with a capacity of 150 tons of sugarcane per day and has increased to 270 tons a day.

Season,	Crystal.		Crushed.	
	No. 1.	No. 2.	No. 1.	No. 2.
2. 1933-34	27,025	16,032-5	...	...
1934-35	52,772-5	11,837-5	897-5	19,095
1935-36	74,565	10,712-5	647-5	16,822-5
1936-37	100,166-5	15,551-25	101-75	3,187-25

3. The factory is not advantageously situated in any particular way.
4. The process of manufacture followed in our factory is "Single Sulphitation".
5. There is hardly any change in the lay out of the factory. The units added or their capacities increased to increase crushing capacity from 150 to 270 tons. The capital expenditure on Plant, Machinery and Erection has increased from Rs. 5,00,000 to Rs. 7,40,000.
6. We propose to increase the capacity of the factory to 350 tons. But this will depend on the supply of water on the irrigation canals.
7. (a) In the Deccan the size of the factory is mainly determined by the supply of water from canals as sugarcane can be grown only with canal water on a large scale.
- (b) The smallest unit which can be operated economically can be considered to be of 250 tons because though with bigger units it is possible to reduce the cost of production by a few rupees per ton the distributing cost also increases with larger production and the compensating advantage is reduced considerably. This of course presupposes that the smaller unit can supply its sugar in its natural market and take advantage of the protection in the form of Custom Duties or of its being away from the ports.
8. We can get most of the cast iron items in India. Similarly tanks, etc., are manufactured in India. Messrs. Stewart and Lloyds supplied steam pipes from their Indian workshop. It is mainly engines, pumps, boilers and such highly technical things which have to be imported.
9. (i) The Imperial Institute of Sugar Technology being situated at Cawnpore has not found to be of much advantage to us particularly as the Deccan Sugarcane and Deccan Sugar factory problems have been different from those of North India.
- (ii) We are not aware of the Industries Department of the Government of Bombay having taken any interest in sugar industry. As regards the Imperial Institute of Sugar Technology we are afraid that the Director, or the Institute itself is overburdened with a variety of activities. If the Institute could concentrate on Research work and if it kept itself in touch with the Deccan problems we feel it will serve the interest of the Industry more usefully.
10. We cultivate our sugarcane. The land in the majority of the cases is taken on lease for a period varying from 10 years to 20 years and in some cases where a cultivator insists on an outright sale it is purchased. The main difficulty in this transaction is when we come across an obstinate cultivator who refuses to part with his land in spite of a reasonable offer. We have come across cases where such a cultivator has refused permission to allow a water channel or tramline to pass along the boundary of his field.
11. (a) 5,475 acres.
- (b) Average area under cane each year is 1,100 acres.
- (c) Chiefly, P.O.J. 2878; E.K. 28, Co. 290, 349, R.M. 320. Lately we have introduced new varieties obtained from Coimbatore of which Co. 419 seems promising.
- (d) Under Irrigation Rules, we can take two crops of sugarcane in five years on the same land. For the rest of the period the land remains fallow: or for the 50 per cent. of the crop we grow sunn (hemp) for green manuring. A small area is utilized for fodder for the cattle. In the Deccan intensive cultivation of sugarcane is done with heavy doses of artificial and concentrated manures such as Sulphate of Ammonia and Oil Cakes. Similarly intensive irrigation is done, the crop getting water at every 10 days normally and in hot weather at eight days interval also. Two to three deep ploughings are done for preliminary cultivation and cane is planted in furrows. The space between two furrows is generally

3½ ft. There are two planting seasons. One is called out of season planting which is done from June to August and the second is Seasonal Planting which is done from October to January or February.

The out of season planting or what is called Adsali planting is a 18 month crop and gets two monsoons for its growth. Naturally it gives very high tonnage per acre to the extent of 50 tons or over. The seasonal crop generally stands for 14 months and gives about 35 tons to an acre.

(e) It is very difficult to give average yield per acre for different varieties as the varieties are grown according to the nature of the soil. However, it is observed that Co. 290 gives better tonnage than P.O.J. 2878 or E.K. 28 with less manure. But the sugar content in Co. 290 is less than the other two varieties by about one per cent.

(f) A statement giving cost of cultivation per acre in full details is appended herewith.*

12. (a) No definite area is set aside for experiment in cane cultivation. But the land is put under experimental plots accordingly as the yearly programme.

(b) There is no production of seed for sale or free distribution to cultivators. If any cultivator wants to grow new varieties seed is supplied at a reasonable price which is almost equal to the purchased price of the cane. There is, however, no binding on the factory to purchase these canes for the factory. The rate charged by the factory for such seed has been found to be much lower than the rate charged by the Government farm for their seed supply.

13. Varieties planted are tested periodically in the laboratory for their maturity and the selection is made accordingly. The assistance of the department of agriculture has been little in this respect as it seems their experimental stations mainly concerned with the manufacture of gur and the small cultivator. The ideas with regard to the heavy manuring and irrigation held by the Department of Agriculture of Bombay received a rude shock by the experiment conducted by some of the Deccan factories in getting a 105 tons crop. This was indeed a very big experiment and was carried on in spite of the opposition from the Agriculture and Irrigation Departments of the Government of Bombay. These experiments showed clearly that heavy manuring and irrigation gave a very heavy crop without appreciably reducing the sugar content in cane. It is believed that the cost per ton also is lower and more experiments are being done on these lines.

14. (a) The factory crushed 592,914 maunds of cane in 1933-34, 851,036 maunds of cane in 1934-35, 1,051,983 maunds of cane in 1935-36, and 1,216,407-36 maunds of cane in 1936-37.

(b) The quality of cane has not appreciably changed as the proportion of Co. 290 has practically remained the same. This year, however, it is reduced considerably and it is expected that the recovery of sugar will go up.

15. A very severe frost occurs once in several years. But light at tanks occur once in three or four years. It is estimated that the damage due to frost is about 3 per cent. while that from insects, pests, such as borer, smutts, etc., as well as attack from rats comes to about two to three per cent.

16. The factory is assured of sufficient supply of suitable cane.

(As regards part 2 and 3 please see answers to question 11.)

17. The supply of cane is not affected by the competition of other factories as the other factories as situated fairly apart.

18. (a) No.

(b) Does not arise.

19. No.

21. Supply of irrigation water and the irrigation rules have been the main difficulties of cane growers. If the irrigation department becomes rational the cultivators and the factory people will be very happy.

22. (a) We agree with the Tariff Board's view.

(b) Does not arise in the Deccan.

24. (a) The fixation of a quota for sugar manufactures by factories would act prejudicially in respect of smaller factories as probably they have not been able to extend for want of finance or for some other conditions so far. Moreover, if a quota is fixed below their full capacity their cost of production is likely to rise to an uneconomic level; but certainly it would be worth while fixing quotas or reducing the capacity of the very big factories. In the Deccan the factory grows its own cane and there is considerable variation in the tonnage obtained. Naturally if quota is fixed the factory may exceed at times the quota limit.

(b) Licensing would result in an undue interference from the State which has shown lack of sympathy for the Industry.

25. All cane is supplied on company's tramway line or by bullock carts.

27. The condition of the roads is very deplorable. Neither the Government nor the District Local Board care to help the factory in any way. As a matter of fact the District Local Board obtain a revenue of about Rs. 4,000 annually from the factory in the form of local cane on the irrigation water. The Government also obtained about Rs. 5,000 annually in the form of petrol tax from the factory. None of these has cared to give a pucca road for a length of 5 miles from the factory to reach a main road. Several representations have been made but to no effect. As a matter of fact during the monsoon it becomes very difficult to reach the nearest town as all roads become muddy and water logged.

28. The longest distance from which cane is brought is 6 miles and the time taken between cutting and delivery at the factory is about 18 hours. There is no deterioration within this period.

29. The average cost of transport of cane by cart per mile per maund is 1.3 pies. Cane growers generally hire carts.

30. No.

32. There is no railway for the transport of cane. The cane is transported on the tram lines which belong to the factory. Average time taken between cutting of cane and delivery at the factory is 18 hours.

35. The total length of tram line road in the factory area is about 16 miles. The average cost including loading per maund per mile is 0.75 pies.

36. The tramway system is generally advantageous. The main difficulty is that when we come across the obstinate cultivator who refuses to give permission for the laying of the tramway line along the boundary of his field.

42. Very little cane is purchased. The prices vary according to the prices of gur.

44. There is very little proportion in the price of sugarcane and price of sugar. The price of sugarcane largely depends on the price of gur.

47. Prices are not fixed for sugarcane in the Deccan.

48. The present basis of the minimum prices of cane is not satisfactory as it has acted in a vicious circle and resulted in bringing the price of sugarcane down. The Government fix the minimum price taking into consideration the prevailing price of sugar. The speculator manufacturer, however, makes forward sales at prices uneconomic in relation to the prices of sugarcane. The market becomes nervous and declines bringing with it a decline in the prices of sugarcane. The process again continues. In such a cane the forward seller gains and reaps a profit at the cost

of grower and the other steady manufacturer who wants to supply the sugar as the market wants. Fixing of prices which was meant to protect the sugarcane growers has ultimately worked to help the Speculator Sugar Manufacturer and the advantage of protection to the industry is lost. It would therefore, be desirable that the price of sugarcane should be fixed at a minimum level of 5 annas per maund and it should not be allowed to go below that price if the price of sugar goes lower as a result of internal competition. This fixing of the minimum prices will tend to stabilize the sugar market as well because in that case the factories will automatically stop production of sugar and overproduction will be eliminated which in turn will tend to stabilize the prices.

50. The factory worked for 131 days in 1933-34, 170 days in 1934-35, 171 days in 1935-36 and 172 days in 1936-37. It had to stop crushing early in the first year because there was not enough supply of cane. In the third year it had to continue till the third week of June because it started late owing to the late arrival of the extension machinery. In spite of late crushing the portion of the crop had to be carried over. Crushing after 18th of May resulted in lower recovery. In the fourth year the factory has worked fairly long period. The normal period in the Deccan is considered from 15th of October till 15th of May.

51. It may be possible to extend the period up to the first week of June if we can obtain the variety of canes which will keep well in the hot weather of the Deccan. After that it will not be possible to keep the factory going owing to heavy rains which make harvesting and transport of cane impossible. The same is true with regard to early starting.

52. Please refer to the answer to question 9.

Labour.

	Skilled.	Unskilled.
53. Season—		
1933-34	215	179
1934-35	212	202
1935-36	258	238
1936-37	272	208
Off Season—		
1933-34	115	36
1934-35	120	116
1935-36	175	145
1936-37	126	68

54. We have not imported any skilled or unskilled labour from abroad or from other parts of India.

55. We had imported one Erector for the erection of the factory from the manufacturers. He left soon after the erection.

56. Most of the labourers get free housing from the factory. Electric lights are supplied at a smaller charge of As. 10 per light per month and they get lighting throughout the night. There is water service arrangement by means of pipes and taps. All get free medical service. The dispensary is free to outsiders as well and about 75 to 100 outside patients mainly from the agricultural classes take advantage daily. This is the only dispensary in a radius of about 12 miles. All are treated free. There is a Co-operative Stores supplying the provisions for the workmen. The company is running two Vernacular day schools and one night school for the benefit of the employees. In all five teachers are engaged and the attendance of the students is also good.

A gymkhana is also organized with a cricket ground and a tennis court attached to the same. The Deputy Director of Public Health to the

Government of Bombay and the Civil Surgeon of Nasik have expressed satisfaction at the sanitary arrangements of the company. Provident Fund has been started and also an Insurance scheme is also started for the benefit of the employees.

Power.

57. The fuel requirements from the bagasse are not sufficient. We are required to supplement bagasse by coal, wood and molasses. The figures for the amount spent on fuel are as follows:—

Season.	Amount.	
	Rs.	A. P.
1933-34	29,261	3 9
1934-35	29,111	10 0
1935-36	27,623	15 3
1936-37	18,218	13 9

By-products.

58. The By-products in our factory are:—

- | | |
|----------------------|------------------|
| 1. Molasses. | 3. Boiler Ash. |
| 2. Filter press mud. | 4. Molasses Ash. |

The molasses can be burnt in the boilers by means of a special furnace. The molasses have been very useful and have reduced the consumption of other fuel such as coal and wood. The filter press cake, the boiler ash and the molasses ash are used on the estate as manure for sugarcane.

59. The following are the figures for the cane crushed and molasses produced with the percentage of molasses per 100 cane for the season 1933-34 to 1936-37:—

Season.	Cane crushed.	Molasses.	Per cent. on cane.
	Tons.	Tons.	
1933-34	17,078	720	4.21
1934-35	31,268	1,079	3.45
1935-36	38,651	1,258	3.25
1936-37	44,683	1,461	3.27

Probable reasons for high percentage in the 1st year:—

- (1) New and inexperienced labour.
- (2) Low capacities in the boiling house especially on the pan floor.
- (3) The low purity of mixed juice (78.46—average for the season).

60. Market for our molasses is the Nasik Distillery which is owned and run by the Government of Bombay. The Distillery offered a rate of As. 11 per maund delivered at the Distillery. But as it cost us about As. 10-6 to transport the molasses from the factory to the Distillery we refused to supply.

61. We are now burning the molasses in the boiler very satisfactorily.

62. We now burn the molasses in the boiler for last two years and the results obtained are very satisfactory. The estimated value obtained in the saving of fuel by burning molasses in the boilers comes to about As. 4 per maund. We think that the molasses will be better utilized if the Government sanction manufacture of alcohol to be compulsorily used with petrol in the motor transport. We have no surplus bagasse.

Storage and Transportation of Sugar.

Season.	Stock at the beginning.	Stock at the end.	
	Mds.	Mds.	Srs.
64. 1933-34 . . . . .	...	81,007	5
1934-35 . . . . .	...	9,657	5
1935-36 . . . . .	...	33,510	0
1936-37	5,054	59,902	5

65. We have godowns at the factory and at Malegaon which is the nearest distributing centre for our sugar. The capacity of the storage godowns has been increased and we do not contemplate increasing any further. The present capacity of the godowns is over 50,000 maunds of sugar.

66. We have not observed any deterioration of our sugar in storage. There is a small damage due to rains, but that is nominal.

67. With regard to the damaged sugar our practice has been to remelt and produce good sugar.

69. The sugar is damaged in transit mainly due to rains. So far there has been very nominal damage.

70. Most of the sugar goes by road in lorries. About 25 per cent. goes by rail and there is no shortage of wagons.

73. Balance sheet is sent herewith.

74. The amounts of depreciation do not tally with the rates allowed by the Income-tax Department. Our figures depend largely on the profits made. The profits made by this factory have been very meagre and there is no sufficient provision for depreciation so far.

75. & 76. Please refer to the Balance sheet.

77. Working capital is largely financed by the Managing Agents and some capital is obtained from the Banks at 1 per cent. higher than the Bank rate which works out to about 4 to 5 per cent.

78. Please refer to the Balance sheet. The Head Office expenses are nominal. The Agent's commission is determined at a percentage basis on profits. The commission of the Agents is 10 per cent. per annum on the annual net profits earned by the company. It is also subject to a minimum sum of Rs. 5,000 per annum whether the company makes profit or not.

79. We consider 10 per cent. as a fair return on capital after paying depreciation and interests on working capital.

80. The extension of the mill from an Eleven Roller Train to one of 17 rollers and the addition of a set of knives were made after the 1st season 1933-34.

The progress made since then in the working of the factory is best understood by referring to the table which very clearly traces the cause.

The efficiency of the Boiler house was considerably improved by the addition of Boilers, thus enabling the Boilers to perform very normal duties. Better control has been maintained on the combustion of the fuels.

Season.	Crushing days.	Tons crushed per day.	Sucrose Extra.	Fibre.	Total.
				Per cent.	Tons
1933-34	131	130-00	88-98	14-52	17,078
1934-35	170	185-00	89-60	16-2	31,268
1935-36	171	226-00	87-62	16-97	38,651
1936-37	172	259-81	90-23	13-96	44,688

Reduced extraction for seasons 1935-36 and 1936-37 were 91.35 and 91.40 and it would be over 92 per cent. for 1934-35 and 1933-34.

The chances of further reducing the working costs are limited almost, in all directions, except in higher recoveries as the efficiencies, over all and the Boiling House have reached the limit, taking the Size of the Plant into consideration.

82. It is expected that with better varieties the recovery will go up by about 1 per cent. or upto 11 per cent. in all as against 9.82 per cent. at present. With the improvement in recovery it is expected the cost of production will also go down to a little extent.

Marketing.

83. Our sugar is mainly consumed in the West Khandesh, East Khandesh and Nasik East and a small portion in the Nizam's territory.

84. (a) Generally our sugars are sold by one dealer who either buys the sugar outright at a price or distributes as Agents at a price mentioned by the factory. The delivery of sugar is done on cash basis. When the sugar is sold outright deposit at the rate of Re. 1 per bag is taken from the dealer.

(b) Main dealer sells the sugar at different prices in the different markets according to quantity of sugar sold. He also sells to the retailer on cash basis. He does not get any deposits from the retailers.

85. The present sugar contract form is suitable.

86. There has been very little difference in the wholesale and retail prices of sugar in the distributing centres of our factory. The merchants are nervous to make any big contract owing to the declining prices of Indian sugars. The difference between the wholesale and the retail price does not exceed As. 4 per maund.

88. No storage arrangements are made by dealers of our factory. The storage arrangements are made by factory itself.

90. In our local market Java sugar has been completely ousted due to the low price at which we sell our sugar which is appreciated for its quality as well.

92. Our season extends for 7 months of the year. It has been our policy to hold the stock so as to supply the local market for 12 months. The storage is done by the factory. The finance is obtained from the Managing Agents or from the Banks.

93. The marketing survey of the sugar industry will certainly be advantageous and should be done as early as possible.

94. We favour the Central All-India Selling Organisation. As a matter of fact we consider it very essential for the proper development of the industry.

95. We favour the standardization of Indian sugar and this can be done on the basis of Indian sugar standards as introduced by the Director of the Imperial Institute of Sugar Technology.

96. We have not done any business so far on the basis of sugar standards but we have maintained and improved the standard of our sugars.

106. There are no marketing arrangements for molasses.

108. The protection offered to the industry has been effective for developing the industry so rapidly. Within a period of 4 years the industry was able to stop practically all imports of foreign sugar; and supplied the demand from the home production. In fact it has now reached a stage when it can export sugar. It has been effective in another aspect. The protection was given with a view to divert sugarcane from gur making and at the same time to give employment in the country. This it has achieved, for the 150 factories are employing about a thousand workmen on an average per factory and have given scope to the educated and intelligent classes

to use their intelligence for the betterment of the industry and the country. Along with the sugar industry there have developed secondary industries such as manufacture of spare parts and machinery and the transport industry, etc., moreover, it has given an impetus to sugarcane, which has grown up by leaps and bounds; particularly when other crops were not paying. The protection, however, has failed in one respect, viz., it has not been able to give its advantage to the growers for whose benefit it was chiefly introduced. The last Tariff Board estimated the fair selling price of sugarcane to be As. 8 per maund while the prices actually fixed have come down to less than As. 5 and in Bihar and the United Provinces to low as As. 2-6.

(2) Letter No. RSP/782, dated the 6th August, 1937, from the Ravalgaon Sugar Farm, Ltd., Bombay.

At the time of the evidence tendered by our Mr. Lalchand Hirachand on the 5th instant, he promised to send a copy of the letter he addressed to Dr. N. B. Ghatge, B.Ag., Ph.D., F.S.S. (London), Professor of Agricultural Economics and Provincial Marketing Officer, Bombay Presidency, Agricultural College, Poona, for information of the Board.

Enclosure.

The Ravalgaon Sugar Farm, Ltd.,

R/3971.

Bombay, 27th June, 1937.

Dr. M. B. Ghatge, B.Ag., Ph.D., F.S.S. (London),

Professor of Agricultural Economics and Provincial Marketing Officer,
Bombay Presidency, Agricultural College, Poona.

Dear Sir,

We are in receipt of your letter No. 6/702, dated 21st June, 1937, for which we thank you. We have read the statement by the President of the All-India Sugar Merchants' Conference in the "Times of India". We were very much amused to read the same because the statement contains a number of inaccuracies as well as it was uncalled for. The President shows lack of knowledge of the Deccan Sugar Industry. We really fail to understand why he should have made that statement when Mr. Jagjivan Moolji is neither a sugarcane grower nor a sugar manufacturer nor a sugar dealer in the Deccan.

The Deccan Sugar Manufacturers' Association had sent a statement to the "Times of India" contradicting the views of Mr. Jagjivan Moolji; but the "Times of India" have refused to publish the statement for reasons which we are unable to understand. Indeed owing to the competition from the United Provinces and Bihar and the recent increases in the excise the sugar industry in the Deccan is very much hit. The main grounds of the trouble are these:—

- (a) The United Provinces and Bihar Manufacturer get his cane at a very cheap price.
- (b) There has been reduction in the railway freight on sugar which was primarily granted to drive foreign sugar out of India.
- (c) Under the present circumstances it is doubtful if the sugar factories in the United Provinces and Bihar are making a reasonable profit.
- (d) Lack of sympathy and co-operation from the Government of Bombay for the Deccan Sugar Industry.

We shall discuss these points in detail.

(a) Perhaps one would be tempted to think that the North India Sugar Manufacturer gets his cane at a cheap price because the cost of production there is very cheap. In our opinion this is not true. The agriculturist there is compelled to grow sugarcane largely because he could grow it without restriction and because other crops do not give him as much return as sugarcane. This is a question of comparative costs. Owing to the fall in prices of commodities such as wheat, cotton, etc., it was found absolutely uneconomical to grow them and the cultivation of these commodities went down considerably. On the other hand the sugar factories offered in the early stages a high price such as As. 6 and even As. 7 per maund of cane which was a very decent price. Moreover, the new varieties also were more profitable. The agriculturist, who does not take into consideration the provision for bad times, the interest charges and such other things, thought that the price offered by the sugar factories was very attractive and grew sugarcane in large abundance. If, however, we refer to the last Tariff Board report on sugar we find that the Tariff Board have recommended As. 8 per maund as the fair selling price of sugarcane. Even if we consider this to be rather on the optimistic side we have to agree that As. 6 would be a fair selling price if we take into consideration all the items which a business man would take into consideration, viz., (a) Provision for calamities such as frost, disease, etc., (b) Interest charges, (c) Transport charges and (d) A fair margin to the grower. As against that the Agriculturist sold the crop and the Governments of the United Provinces and Bihar allowed him to sell at a price which was far below than this price; and the only explanation therefor is that there was overproduction and the Government and the Agriculturist were primarily concerned to see that the crop was crushed no matter at what price. The price which the Agriculturist got was, therefore, an adversity price and not a fair selling price. If the manufacturer of sugar in the United Provinces and Bihar cares to grow his own sugarcane it will be observed—and this is the experience of some of the manufacturers there—that the cost of production is much higher than the price at which they purchased sugarcane from the agriculturist. We, therefore, cannot compare our cost of production with that of the selling price of sugarcane in the United Provinces and Bihar. We, in the Deccan, feel confident that we can very well compete with the North India Manufacturer, if he is made to pay a fair price to the sugarcane grower, and if he is not allowed to take an undue advantage of the adverse condition of the grower there. In fact, we feel that we shall be able to compete even if the minimum price in the United Provinces and Bihar is fixed at as low as As. 5 delivered at the factory. The recent decline in the acreage under sugarcane goes to confirm our view that the prices offered to the agriculturist are uneconomic.

(b) You might be aware that 3 or 4 years ago the railway freight on sugar from North India was Rs. 1-15-6 per maund. There has been reduction since then two or three times and the present railway freight is about Re. 1 from any sugar factory, in the north, to the ports. The object in granting this reduction, as was told, was to drive out whatever sugar came into the ports from outside. The Government having granted a very decent protection this reduction would have been unnecessary. Moreover, the imports of foreign sugar having stopped continuance of the same is absolutely unjustifiable particularly as the same is being used against the Deccan sugar industry. The sugar industry in the north, is therefore, doubly protected and under the circumstances, therefore, it is no wonder if the sugar industry in the Deccan finds it difficult to maintain its own.

(c) Because the sugar factories in the north are selling their sugar at such a low price one is tempted to believe that their cost of production must be very low. From our knowledge we can say that the sugar factories in the North also are not happy under the present circumstances.

It is only a few factories who have sold their sugar for futures and making profits. But this is a business in speculation. Anticipating a fall in the price of sugar they sold their sugar at a higher price, though probably uneconomic at the time at which they made the sale. This sale, however, had a reaction on the market and the price of sugar tended to go down with the consequent result of bringing the prices of sugarcane down under the price formula. In this business naturally the speculator factory owner got the advantage while the steady sugar manufacturer has been the loser. It seems the Indian Sugar Mills Association have realised this position and have been trying to maintain higher prices for sugar by forming a Selling Organization or otherwise. Unfortunately, however, they are not such successful so far owing to diversity of interests and particularly owing to the existence of the speculator factory owner.

(d) As regards the lack of sympathy and co-operation from the Government of Bombay we need not write much. The story of the Irrigation Agreement and the Tram-line Agreement is well known everywhere. The Government in spite of increased revenue from the factories have not cared to give the factories a decent road to the nearest market. Not only the rates of irrigation water are very high but the application of the irrigation rules also has been done in a very high-handed manner; and which adds to the already very high water rates. The drainage clause of the irrigation agreement is the limit of Government's high-handedness. The Government's opposition to the 100 ton crop scheme inaugurated by the Maharashtra Chamber of Commerce showed clearly how indifferent and opposed they were for the improvement and the development of the Deccan sugar industry. The appointment of the residential excise staff at the sugar factories in the Deccan is another illustration of the Government's feeling towards the Deccan sugar factories. All these things have contributed in their own way to aggravate difficulties of the Deccan factories.

In spite of these difficulties and opposition mentioned above the Deccan factories have tried their utmost to establish themselves on a sound footing. The factories are making experiments with regard to varieties and manuring and hope to reduce the cost of sugarcane considerably. There is a natural advantage of higher recovery due to the introduction of P.O.J. 2873; E.K. 28 and other improved varieties. Given a fair treatment, therefore, they expect to come out successful in the long run.

Yours faithfully,
for Ravalgaon Sugar Farm, Limited,
(Sd.) Lalchand Hirachand,
Director.

The Deccan Sugar Factories, Bombay.

(1) Letter dated the 22nd June, 1937.

I have the honour to address this to you and to place before you the views of the Deccan Sugar Factories.

Progress of Industry.—It may be stated at the outset that the sugar industry in India has made remarkable progress since 1932 when Protection was given to it. This can be seen from the following facts:—

- (1) The area under cane which was 3,076,000 acres in 1931-32 has increased to over 4,200,000 acres in 1936-37, and cane crop has also correspondingly increased.
- (2) The number of sugar factories which stood at 57 in 1932-33 has increased to about 150 in 1936-37.
- (3) The production of factory made white sugar (Vacuum System) which was 2,901,777 tons in 1932-33 has gone up to 1,031,000

tons in 1936-37 which together with the Khandsari output of 125,000 tons and 54,000 tons of sugar refined from gur during that year goes over 12 lakhs of tons. Added to the imports of sugar for the year it exceeds 12.5 lakhs of tons. The Country's normal consumption has been about 10.5 lakhs of tons, although it has recently improved to a certain extent. Simultaneously the imports of foreign sugar have gone down. The consolidation and stabilisation of the Industry will naturally need a steadiness of attitude on the part of Government of India.

Governments policy has created doubts in the mind of Industrialists.—After the Sugar Industry Protection Act, was passed and protection given to the industry in 1932 Excise duty was imposed upon it on the plea of revenue exigencies, Government maintaining that they were not bound to keep the additional advantage which accrued to the industry as a result of the general surcharges on customs. The Excise duty has been further increased this year. Apart from the fact that the imposition of Excise duties in the early stages of industrial development of a country cannot be considered to be sound, it has to be noted that an uncertainty is created in the mind of industrialists as to the precise policy of Government and this is not helpful to the development of the industry. The Tariff Board's estimate of the percentage of recovery at the end of 15 years' protective period is generally already exceeded all over India. The tonnage yields per acre of cane have also shown, improvement, Bombay Deccan being no exception to this progress in other respects is slower, but there is every hope for improvement. It must be remembered that the sugar industry of Java has passed through various stages before it reached its present position after a long period of steady work and experiment and that was at a time when Java was more or less in a privileged position in the World's Sugar Market.

Molasses and their utilization for manufacture of power alcohol.—For the vast quantity of molasses available in the country today, roughly estimated at about 4.5 lakhs of tons for the year 1936-37 on a conservative estimate, a remunerative use is yet to be found. This quantity can, on the whole, be said to yield next to nothing at present and the Tariff Board's estimated price of Rs. 1-8 per maund (paragraph 57 of their Report) is, it is unnecessary to add, not realised. A remunerative utilization of molasses will, therefore, be of definite advantage to the industry and the solution of this problem brooks no further delay, if the stabilisation of India's sugar industry on a strong and competitive basis is to be early realised. Molasses are at present not fetching anything for the most part and this is a distinct and great loss to the industry. Almost all the countries which make power alcohol from the molasses, make it obligatory to mix it in certain proportions, with petrol for use of internal combustion engines in fact in Hawaii, Cuba and the United States of America, it is made compulsory by law to mix 20 per cent. of such alcohol in petrol for the use of all automobile traffic. Such a use of power alcohol seems quite possible in the interior and the up-country areas of India where petrol sells dear and it is understood that it can bear the imposition of Excise duty also. Even though Government's policy be not to allow production of power alcohol at present, they have undoubtedly reserved the right to themselves to consider this, should there be found no solution of the molasses question in export. It is submitted that time has now come to consider it seriously. The Tariff Board, at the end of paragraph 84 of their Report have expressed the hope that the establishment of the denatured Spirit industry would be possible when white sugar industry had sufficiently developed.

Expenditure on Research.—Government of India have not spent as much as they should have on research. The industry has reached today a stage at which a more liberal expenditure on research both on the agricultural and manufacturing side, will be useful. Standardisation and uniformity of

qualities of sugars produced is necessary and there is good scope for work in this direction. The help and technical advice of the Director of Sugar Industry should it is suggested, be available to the factories at a small cost. It is complained that his consultation charges are heavy today. The result of research and experiment carried on by the sugar cane stations in various provinces should be available to the industry periodically.

Large employment created by the Industry.—The development of the sugar industry in the country has created large employment. It is estimated that the sugar factories employ about 150,000 workers skilled and unskilled, about 10,000 educated men including chemists, technicians, graduates, and under-graduates in various capacities. It is also to be noted that over 150,000 of people are employed in the cultivation of cane required by these sugar factories.

Consumer is not paying more for his Sugar.—The consumer is not paying more for his sugar today. It may happen in certain cases that the consumer may have to pay higher price for his article at the beginning before the protected industry has fully grown and stabilised itself. Even in that case there should be no justification to remove the protective Tariff Wall, in the larger national interest. But in the present case even this plea of higher price to the consumer cannot be advanced or sustained either.

For the various reasons detailed so far and in the interest of this important industry, it is urged that the *present level of protection should not be reduced*. If, however, the Tariff Board see otherwise, and come to the conclusion that some reduction of protection is necessary, it is submitted that the Tariff Board will do well not to recommend such reduction *immediately*. All the factories which exist today have come into existence during the last 2/3 years and they have had little time for adjusting things. It is hoped that the Tariff Board take a larger view of the matter.

Sugar Industry in the Deccan.—Having so far dealt with the country's industry generally, may pass on to the specific requirements of the sugar industry of the Bombay Deccan which finds itself in a peculiar position at present. What follows is more in the nature of an elucidation of its position with a view to invite the attention of the Tariff Board to its requirements.

A few more useful points of information regarding the Sugar Factories in Bombay (Deccan).—There are in all 8 sugar factories in Deccan, seven of these being situated in the tract served by the Deccan Canals on which Government of Bombay have spent about 10 crores of rupees, including the cost of minor irrigation works. The return from these canals being very poor, a Committee was appointed by the Government of Bombay to investigate how the financial position could be improved. It reported in 1932 after an exhaustive examination of the whole subject and came to the conclusion that improvement of the financial position of Deccan Canals was possible only by means of the development of white sugar industry in that tract. To quote their precise words, the Kamat Committee say "We trust we have shown that the Canals cannot depend on the area of cane grown for gul, as this is not an expanding market. The only other market for cane depends on the manufacture for white sugar and we are of the opinion that it is in this direction that we must look for methods of improving the irrigation revenue" (paragraph 29 of the Report). Encouraged by a subsequent Bombay Government communique, which promised all help and facilities, the industrialist put up factories in the Deccan Canals area. Each of the six new factories have its own extensive cane estates running into thousands of acres, cultivated and managed on the most up-to-date and scientific lines. The cane estates of the Sugar Factories in the Deccan Canals area today total over 12,000 acres. The factories employ in all 24,000 workers, during the season and between them they are producing over 50,000 tons of sugar today. Naturally they are distributing large sums in the form of salaries and wages. The sugar production in the Deccan will, it is expected, reach 70,000 tons in a couple of years.

A capital of more than 1.60 crores is invested, in the 8 sugar factories of the Deccan. Looking to the Balance Sheets of the new factories which have come into existence in the last 3/4 years it cannot be said that they have on the whole made any profits, if allowance is made for depreciation and interest charges.

Reduction in cane cost—the Principal Problem.—The main problem to be solved this side is a substantial reduction in the production cost of the raw material of the industry, viz., the cane which forms a large percentage of the total cost of sugar. Factories have attempted to do this with a certain measure of success during the few years they have been in existence, but a great deal yet remains to be done in this behalf. If the problem is not fully solved today it can be safely stated that the results achieved so far, put it beyond doubt that in the years to come the conditions of cane cultivation and sugar manufacturer will far more closely approximate to those of Java than now so far, as far as the Deccan Sugar Factories are concerned, (A) if Bombay Government give all the facilities and help promised by them, (B) protection to the industry is maintained at a level not below the present one in the remaining period, (C) and last but not the least its special difficulties are solved. There is scope for extending the crushing season in the Deccan and effecting improvement in other directions in time to come as things get adjusted and the various difficulties, small and big are removed. Looking to the progress of the Deccan Sugar Industry so far there is every reason to believe that it will do well in future. The good effects of the growth of the sugar industry in the Deccan can be seen by any one in rural areas surrounding the factories to which it has, as it were, brought a new lease of life. Unlike perhaps the Sugar Industry in other parts of the country which seems to be located near about towns and getting its cane supplies not in often from great distances, the sugar industry of the Deccan is established in the interior and grows its cane at its door having its own vast cane plantations. It may thus be said to have helped to a certain extent the good cause of rural uplift. The industry is however suffering at present because its natural and legitimate market is encroached upon by imported sugar from United Provinces and Bihar.

Natural and Legitimate Market for the Deccan Sugar Industry.—The Deccan Sugar Industry claims that its natural market annually consuming over a lakh of tons of sugar should be preserved for it to the extent of its production.

The Railway freight for transport of sugar from Cawnpore to Bombay has been reduced during the last three or four years as shown below. It was originally reduced and even subsequent reductions therein were made, on the representations of the United Provinces sugar manufacturers to enable them to land their sugar in Bombay to fight foreign competition. When the imports of foreign sugar have dwindled down and have practically ceased, in the year 1936-37 there being about 23,000 tons, it is no longer necessary to continue the reduced railway freight.

The reductions in the Railway Freight made—

In 1932-33 the price of sugar per maund was Rs. 11 and the Railway freight from Cawnpore to Bombay was Rs. 1-15-6.

In 1933-34 the sugar price fell to Rs. 10 and the Railway freight was reduced to Rs. 1-7-6 per maund.

In 1936-37 sugar stands at Rs. 7 and the Railway freight is at Rs. 1 per maund.

In 1934 and after the Railways reduced the freight to the low level ruling to-day, as shown above on the representation of the United Provinces sugar

manufacturers. This, it may be said, has not only reduced the quantum of protection available to the sugar industry of the Deccan but it has proved a definite handicap to its growth in spite of the fact that in Deccan ideal soil and other conditions obtain for its growth in the whole of India. When the Tariff Board reported and recommended protection, it knew that the Railway Freight for sugar transport from the United Provinces and Bihar to Bombay was Rs. 1-15-6 per maund. It is not proposed to raise here the rather subtle issue whether it should open to the transport system of the country, or for the matter of that, to any other agency engaged in transport to take such an action as may have the effect of reducing the time it is protected. The Tariff Board may usefully investigate the matter. What is however submitted for immediate consideration is that *when there is no longer any need for sugar from the United Provinces and Bihar to come over to Bombay to counter foreign sugar, this low transport rate should not be allowed to continue and it should be restored to the level at which it originally stood, viz., Rs. 1-15-6 per maund.* Alternatively by a suitable zoning the factories for purposes of marketing of their sugar this difficulty can be solved. A kind of joint sales policy and arrangement is already in operation for some months between all the eight sugar factories of the Deccan. The necessity for doing something definite in this direction will be clear when it is stated that the very low prices at which the United Provinces and Bihar sugar is dumped this side is not only doing harm to the Deccan Sugar Industry, but it is doing harm to the United Provinces and Bihar Sugar Industry also. There is another important point to which attention of the Tariff Board is requested. It was agreed that "the expansion of the sugar industry in India was an indispensable adjunct to be agricultural development". According to them the strongest aspect of the case for protection of sugar industry is that, resting on the national importance promoting the cultivation of the sugar cane as cane has always occupied a prominent position in the agricultural economy of India. In the United Provinces and Bihar and Orissa which together account for more than 80 per cent. of the cane crop of India, rules were made by provincial Governments to regulate the price of cane brought by sugar factories so that the cane-grower realised a reasonable profit on his cost price and shared the benefit accruing from the development of the white sugar industry. The Tariff Board considered a price of 4 to 5 annas per maund as a fair price for cane which left a reasonable profit to the agriculturist who grew cane in the United Provinces and Bihar and Orissa. Last season (1936-37) prices as low as 2½ annas or 3 annas per maund have been paid to the cane growers. Unlike the United Provinces and Bihar and Orissa sugar manufacturer the Deccan sugar manufacturer has to grow his own cane. He has to be both an agriculturist and an industrialist. This means a much larger outlay of capital. He has to take the risks of frost, disease and famine, etc. Further, he has to heavily manure his crop with oil cake and fertilisers. The prices of these have recently gone up! Naturally his cost of cane is much higher than that of the sugar manufacturer of the North. The advantage of the United Provinces and Bihar sugar manufacturer became naturally greater last season due to very low prices paid for cane.

It is therefore submitted that it should be seen that the agriculturist who sells his cane to the sugar manufacturer realised a fair price. Government should therefore fix a fair selling price for the cane for the whole of the sugar season each year taking into account what the Tariff Board have said in this connection. It may be added that the sugar cane prices rules have failed to serve the purpose for which they were made and they have not only not benefitted the cane-grower, but their failure has adversely affected the sugar industry of the country in general and that of the Deccan in particular.

Railway communications in the Deccan.—This representation cannot be concluded without a reference to the urgent need of providing means of transport in the sugar area of the Deccan.

To recapitulate the special needs of the Deccan Sugar Factories—

- (1) The natural market of the Deccan sugar factories should be preserved to them to the extent of their production. This can be done by restoring the Railway rate for transport of sugar from the United Provinces to Bombay to the level at which it should, viz., Rs. 1-15-6 per maund prior to its reduction, or by suitably zoning the factories in the country for the marketing of their sugar.
- (2) The cane-grower in the United Provinces and Bihar and Orissa is not getting a fair return on his cane cost and thus not sharing the benefit accruing from the development of sugar industry. The development of sugar industry by means of protection was undertaken for sustaining the agricultural economy of India of which the cane forms an important part. Cane price fixation rules have failed. It is therefore suggested that the fair price at which cane is to be purchased by the factories can well be fixed by Government each year for the whole of the season, taking into account what the Tariff Board have said on this subject of a fair profit to the cane-grower.
- (3) There is a great need of proper Railway communications for the sugar industry of the Deccan especially for the factories on the Nira Canals. This difficulty must be immediately tackled and removed.

(2) *Letter dated the 20th August, 1937, from the Deccan Sugar Factories.*

I am to address this to you on behalf of the Deccan Sugar Factories and state their views on three of the four points on which the Tariff Board sought their opinion when it examined their representatives at Bombay on the 5th instant. As for the fourth point, viz., which of the details at present wanted from the sugar factories by the Director of Sugar Technology, they think necessary and which not, I hope to be able to write to you at an early date.

(i) *Pooling together scientific and technical information.*—As regards the pooling together of scientific and technical information by the factories among themselves, it is not considered feasible at present.

(ii) *Economic Unit of Sugar Factories in the Deccan.*—A 500/600-ton sugar factory is considered to be an economic unit on the Major Canals, and a 300-ton factory on the Minor Canals in this part of the country.

(iii) *Excise Duty.*—As for the Excise Duty, it is considered that if it is halved it will be helpful to the industry.

(5) *Letter dated the 3rd September, 1937, from the Deccan Sugar Factories.*

With further reference to this office letter dated Bombay, the 20th August, 1937, I have the honour to submit the following on behalf of the Deccan Sugar Factories for the consideration of the Tariff Board.

(1) *Regular annual visit of the Imperial Sugar Technologist to the Deccan Sugar Factories.*—At present the Imperial Sugar Technologist's visits have to be arranged whenever necessary by the individual sugar factories at a great cost. It is, therefore, submitted that it will be in the interest of the sugar industry if the Sugar Technologist regularly pays an official annual visit to the Deccan Sugar Factories by previous arrangement with them enabling to discuss the difficulties with him and seek his guidance.

(2) A certain amount of money comes at present to the Government of Bombay out of the proceeds of the Excise Duty on Sugar. In this province the sugar factories do not buy their cane from the agriculturists; naturally,

there are not any cane-growers' co-operative or other societies to supply same. The sugar factories grow their cane on their extensive cane estates and have constantly to experiment on the problems connected with this. It is, therefore, submitted on behalf of the Deccan Sugar Factories that the amount of money which comes to the share of Bombay Government from out of the proceeds of the Sugar Excise Duty ought naturally to go to the sugar factories. Bombay Government's share is expected this year to be in the neighbourhood of forty thousand rupees, and the best way it can be utilised is to distribute it *pro-rata* on the basis of their sugar production to the Deccan Sugar Factories. It is not clear how Government of Bombay propose to spend this money in the absence of co-operative societies of cane-growers supplying cane to sugar factories. It is but fair that money recovered from the Sugar Excise Duty should be spent on the problems of the industry itself.

(3) Mr. Dahanukar and other representatives of the Deccan Sugar Factories, who appeared before the Tariff Board at Bombay on the 5th August 1937 to give oral evidence, complained that at present too many details are required by the Imperial Sugar Technologist and that some of them could well be omitted and some others made optional. It is understood that the eight forms issued to the sugar factories by the Sugar Technologist so far, viz., A, B (i), C, D (i), E (i), F, G (i) and H are under revision and what the Deccan Sugar Factories should like to see done in this behalf is shown on the enclosure.

The Vizagapatam Sugar and Refinery, Ltd., Vizagapatam.

Letter dated the 28th September, 1937.

We are herewith sending the copy of answers to the Sugar Tariff Board's General Questionnaire. We regret our delay as the list of questions came to us after we closed our factory. We dispensed with our staff as our factory is not paying enough to maintain even a few officials. After all it was prepared with some difficulty. We handed over to the Tariff Board Members one copy when they came here on their tour. In it we enclosed the three forms containing the figures for the question No. 80. We have not got spare copies of the printed forms to send along with these answers. If you want them please send separately the forms and we will send them after filling them with figures.

Production of Sugar—Introductory.

1. Our factory began Cane Crushing in the year 1934 March with capacity of 50 tons per day of 22 hours.

Season.	Sugar prepared in maunds.
2. 1933-34	1,200
1934-35	2,223
1935-36	8,874
1936-37	10,660

3. (A) Factory is advantageously situated in respect of cane supply and it is 21 miles off from Vizagapatam market.

(B) It has got road nearest to the factory and in 2 miles distance there is a Railway Station (Anakapalle).

(C) There is enough labour supply.

4. The process of manufacture adopted in our factory is double sulphitation.

Advantages and disadvantages are there in both the processes. In sulphitation plant the machinery is cheaper and less expensive to run the factory. But the sugar prepared out from this process cannot stand long. The sugar cannot keep its quality, owing to the instability of the action of Sulphur Dioxide. The carbonitiation plant is costlier and more expensive in running. It requires higher quantities of lime stone and coal. Much depends upon the cost of these two materials. The sugar prepared out of this plant can keep up its quality for a longer time. Comparatively this gives higher recovery.

5. Originally this plant is designed for 50 tons per day. It worked for two years with that capacity. We found that was in no way economical. Last year we wanted to extend it to 150 tons per day thinking that it would be economic limit of working. We supplemented Milling Plant with two more sets of rollers and one Engine to drive them. We added Eliminator and Subsider Tanks. For evaporation we erected one Tripplle Effect taking out Double Effect which was inadequate even for 50 tons capacity. We added one more Vacuum Pan, three more Crystalizers and three more centrifugals.

In Power house we added one boiler with the heating twice as much as the old one.

We spent Rs. 1,20,000 on 50 ton plant. With two years working we got about 40,000 loss. So the 50 ton plant with the management of the Sree Rama Krishna Co-operative Industrial and Credit Society, Ltd., could not work. The management was changed to Messrs. The Vizagapatam Sugars and Refinery, Ltd., Vizagapatam to which Messrs. The Andhara Engineering Co., Ltd., are the Managing Agents (Vizagapatam). The new company which is a public Limited company has taken the assets and liabilities of the old one. It floated a capital of Rs. 3,00,000. It spent 25,000 rupees on additional buildings and Rs. 1,06,000 on additional machinery.

6. Erection of additional machinery was not completed last year. Now we are giving finishing touches to it.

7. (a) The overhead charges of a factory decreases relatively per Unit increase of crushing capacity. The larger the factory the less will be the charges on skilled directing staff and some factory operations. The size will be determined by the capital available, availability of raw materials and the facility of access to markets.

(b) The determining factors are the quality of cane and the duration of the working season. The smallest unit of production which can be operated economically under present day conditions in 150 tons per day of 22 hours.

8. Excepting Steam Engines, Boilers, etc., all other things can be had in India. We got rollers with their Housings and Crystalizers, Gearing Calendria type Vaccum Pan only in India.

9. Both the Imperial Institute of Sugar Technology and Industries Department are giving us enough help. The Imperial Institute of Sugar Technology requires consultation fees in some cases of technical advices. Factories will be benefitted much if such a custom is removed.

Raw Materials.

10-12. We don't have our own cultivation of sugar cane. Leasing out lands here is costlier and the cultivation is a bit more expensive.

13. We did not try experiments on periodical ripeness of cane varieties, But we rely on Government Agricultural Department who give us some idea regarding the same.

14. From year to year the area of sugar cane cultivation has progressively increased. For the ensuing year the plantation is decreased in view of the fact that the rate of cane is decreased. Almost all the ryots left the ratoon crop from last year's plantation to save cultivation expenses. If the

present rate of sugar and sugar cane are continued, the cultivation of sugar cane in general and sugar industry in particular will fall in the near future.

(b) The quality of cane here is healthy. Except in rare fields where the cane is affected by borer disease.

15. Cane is affected by the said diseases in this locality.

16. There is enough supply of sugar cane to our factory. Co. 213, B. 208, J. 247 are the principal varieties of cane we crushed.

Variety.	Average field	Sucrose per
	yield per acre.	cent. cane.
	Tons.	
Co. 213	30-35	12.
J. 247	35-40	13
B. 208	40-45	13.5

17. Apparently there was no competition of other factories for sugar cane. The lowering of sugar prices and increase in Excise Duty compelled us to reduce the rate which highly affected the grower.

18. (a) Generally ryots used to change in the previous years, the area of cane cultivation for paddy crop, which was more economical than keeping it for ratoon crop. The ratoon crop gives less tonnage which hardly meet the cultivation expenses and land revenue. Lands in this area are highly rented.

(b) Climatic conditions are fairly good for sugar cane here, except in some years like 1935-36 in which cane is greatly affected due to lack of rains.

The sugar cane cultivation is closely related with the prices for sugar and gur. If the prices for sugar gur are low, costly cultivated varieties like B. 208, and J. 247 will disappear from the field.

19. The cane supply here is in excess of requirement. There are a few varieties of cane in this locality which ripe at nearly the same time as such we could not extend the period of cane crushing more than four months. If the Agricultural Department here selects and organise the ryots to plant early and ripened varieties, we hope to extend the period of crushing up to six months.

20. The cost of cultivation and outturn of the principal varieties are as follows:—

Particulars.	Varieties		
	B. 208	J. 247	Co. 213
	Rs.	Rs.	Rs.
1. Land rent	40	40	40
2. Seedling	30	20	10
3. Manuring	25	20	15
4. Hoeing and Weedling	10	10	5
5. Watering	15	15	5
6. Proping	15	15	—
7. Wrapping	15	15	—
8. Harvesting	10	10	15
Total	160	145	90
Outturn in tons	28	25	20

In the cost of cultivation, ploughing charges are not included as ryots will not count it much for he will have his own oxen and labour of his own.

21. Cane growers are not feeling any difficulty in delivering the cane to factory.

22. We have no idea on the subject as we have had no cultivation of our own.

23. We are not in good position to give any kind of help to cane-growers.

24. (a) There is no need for fixing a quota system at present and the need may arrive in the near future.

(b) Under these present circumstances there is no use of licensing new factories and extension of existing factories, as the production of sugar from the present factories is more than enough to meet the local demand and as the Indian Sugar is not allowed to export to Foreign Lands.

25. All the cane supply is only gate cane.

26. Our gate cane is entirely transported by carts only. About $\frac{1}{4}$ of a ton can be carried easily by country carts. Substitution of Rubber tyred carts to ordinary is not favourable to ryot. If the factory owns some carts specially to carry sugar cane Rubber tyred carts are favourable, as each can carry about 2 tons easily.

27. Our factory is favourably situated to road conveyance.

28. Cane has been supplied to factory within a radius of ten miles, and it can be delivered to factory within 24 hours after cutting.

29. Generally all the ryots will deliver the cane to the factory in their carts. But a few big ryots had to engage hired carts and the rate will be Re. 1 per ton per 10 miles.

30. No.

31. We will issue cutting orders one or two days previously and we will weigh the carts as soon as they come to our factory.

32. The cane will be delivered to the factory by carts only within 24 hours of cutting.

33-36. Cart conveyance of cane will suit well in this locality.

37. As our cane will be delivered within 24 hours of cutting, there is no fear of deterioration.

38. All our cane has been purchased direct from cane-growers.

39. We do not give advances in cash nor seed.

40. We purchase cane direct from cane-growers.

41. There is no cane growing association in these parts.

42. We have got Weigh Bridge in our factory. We will weigh the cane direct with carts. The payment is made within a week or two after the delivery of cane.

43. The following are the prices of cane paid for the principal varieties:—

Variety.	1933-34.	1934-35.	1935-36.	1936-37.
	Rs.	Rs.	Rs.	Rs.
B. 208	10 $\frac{1}{4}$	10 $\frac{1}{4}$	10	7 $\frac{1}{2}$
J. 247	10	10	9	7
Co. 213	10	10	9	7

We used to pay annas 4 or 8 higher per ton towards the close of season as a compensation for keeping the cane for later months.

44. We have to pay for the cane according to jaggery price ruling in the locality.

45. Vide answer No. 44.

46. There is variation in the price of gur from year to year. This depends upon the production of gur and its demand in the market.

47. The ryots are not bound to the act. If they think that our prices are a bit better than what they get by preparing jaggery and marketing it, they will be agreed to supply the cane to factory.

48. Fixing the price of cane according to the price of sugar in the market will be found unsatisfactory in the long run. Fall in sugar price leads to a fall in the price of cane. This in turn leads to price in sugar and so the process goes on. The revision of price periodically during season creates undesirable uncertainty both in the minds of cane-growers and the factory owner whose stocks of sugar produced from cane bought at higher price, deteriorate in price when the price of cane is subsequently lowered. So the price of cane should be disconnected from the price of sugar and should be fixed on the cost of production of cane.

49. The system of introducing bonus payments is feasible. It should be started on the lines favourable both to the ryots and the owner.

50. In 1933-34 season we worked from March to the end of April, 1934. This is due to late finishing of erection work.

In 1934-35 season we worked from February, 4th, to April, 4th. In first year the plant was not equipped well. This year we altered the plant. This alteration has taken cause of late starting of factory.

In 1935-36 season we worked from 14th December, 1935, to 15th May, 1936.

In 1936-37 season we worked from 28th December, 1936, to 15th May, 1937. Unless the factory works for full six months it is not economical.

51. The Government Agricultural Department introduce early and late varieties suitable to the soil and climatic conditions here and the bonus payments *vide* question No. 49 is introduced there is every possibility of extending the crushing season.

52. *Vide* Question No. 51, 9.

Labour.

53. In crushing season there will be one man responsible to sugar manufacture and there will be then skilled shift Chemists and Analysts. At every stage of Manufacture there will be three people to each station. Similarly in Engineering Department there will be one man responsible for his department and under him there will be one or two Assistant Engineer and 3 fitters and Oilmen. As for unskilled labour we employ local coolies for carrying cane, bags, etc.

In silent season, there will be a few skilled people in Engineering Department for overhauling work. Office establishment which consists of Accountant, Store Clerk, etc., will be throughout the year.

54-55. All the people are Indians.

56. We erected thatched houses for skilled staff and as regards unskilled they come from the villages which are within one mile radius.

The factory has not stabilized its position to look to the welfare of labour.

57. The bagasse is not enough to meet the demand of boilers. We have to supplement with casurina wood which costs Rs. 7-8-0 per ton.

In 1935-36 season we burnt 894 tons } of wood, costing Rs. 7,152 and
In 1936-37 season we burnt 1,124½ tons } Rs. 8,178 respectively.

By-products.

58. The By-products of our factory are molasses and filter press cake.

59. The outturn of molasses on cane is 3.9 for 1935-36 season and 3.5 for season 1936-37. This variation is due to the quality of cane. In 1935-36 cane is withered for want of rains and in 1936-37 cane is healthier.

60. Practically there is no market for our molasses. The Indian Molasses Company made some correspondence with us and they ultimately stopped when we were ready to dispose of it off at any rate.

61. We simply throw it off into the waste lands near our factory. The Government can try experiments on it cattle feeding, manuring. It can be used for preparing power alcohol and the Government should encourage power alcohol industry in India.

62. *Vide* Answer No. 57.

63. For molasses *vide* answer 61 and as regards press cake we are trying it as manure.

Storage and Transport.

64. We will have stock in the beginning of season as we dispose off the sugar in silent season. The following are the figures of stock by the end of season:—

1936-37 season 2,783 bags of each 1½ cwts.

65. We erected godowns with corrugated roofing and we can store sugar in them upto 4,000 bags of 1½ cwts. each. We did not increase the capacity of the godowns but in view of the present slow sales we have to extend the godown's capacity.

66. In the first two years the sugar became wet on keeping in godowns. This is because of the godowns being a bit inferior. This year the quality is improved and there is no deterioration till now. If the quality is bad, the non-sugar matter in sugar will absorb the moisture soon and if moisture content passes the limit of safety factor deterioration will set in.

67. We will give away for lower rates all the damaged stock and if it is not disposed we will refine it.

68. The keeping quality of sugar can be improved as follows:—

(1) *Keeping up the quality of sugar.*—This can be done in a smooth running factory. The sugar should be dried till the moisture content is below the limits of factors of safety. Hot sugar should not be bagged.

(2) *The design of godowns.*—Doors and windows of godowns should be air-tight, and we have to keep the humidity conditions favourable in godowns.

69. Gur sugar is damaged in transit.

70. We could get wagons whenever we wanted.

71. There are no suggestions as to the type of wagon, but we feel the railway freight is too high.

72. We never sold our sugar at ports. As for the rates for up country centres, they are varying from one month to another. The following is the statement showing the units in rate within which the rate used to vary. The rate is for bag of 1½ cwts.

1933-34.	1934-35.	1935-36.	1936-37.
Rs. 20 to 22	Rs. 18 to 20	Rs. 16 to 18	Rs. 14 to 16

73-79. In separate form.

80. In separate form.*

81. Originally our plant is only 50 tons factory without automatic arrangements in cane carrying, baggasse elevating, sugar elevating. It worked with that capacity for two seasons, 1933-34 and 1934-35. We have to spend highly for labour as every carry was to be done by men only. Output was very little. Establishment and overhead charges became high as such we incurred loss. For third season we thought of extending the factory to 150 tons. We got down the machinery and supplemented to the existing one. But the extension was not completed for fourth season. We are now giving finishing touches and we hope to crush 150 tons per day in the coming season 1937-38.

82. Till now the plant is not working smoothly. There are frequent stoppages. As everything should be done by human labour, the work was not

* Not printed;

be uniform. This year we are putting cane carrier, baggasse elevator, etc., for smooth working of factory and thereby hope to reduce labour and fuel. If the factory works in a smooth way, inversion losses will be minimised and there will be increase in recovery figures.

Marketing.

83. We sell our sugar only in local markets.

84-85. We appointed one sales agent through whom we send our sugar to nearest markets.

86. *Vide* answer No. 72. We have no idea of the imported sugar.

87. There is considerable difference between the wholesale and retail prices. It is the retail dealers that take more profits than the wholesale merchants. Generally average people cannot afford to purchase sugar in bags. When they go in for Visses and Maunds the retail merchant in spite of his getting day after day very low rates he will not reduce the price proportionally on Viss or a Maund. The people will be satisfied if the rate is one or two coppers less than that previous purchases.

88. They store the sugar separately. If they keep the sugar for a long time only the bottom bags in the rows will get moistured in rainy season.

89 and 91. Our sugar is as good as Java sugar in keeping quality.

90. Java sugar is preferred in hotels run in European style. In a few special Indian sweets where brighter colour is essential, foreign sugar is preferred. But year by year we are improving in quality and gradually our sugar is replacing foreign sugar.

92. Generally by the time we close down the season there will be about half the quantity of sugar produced. This will be in our factory godowns. We take loan from Provincial Co-operative Bank pledging those bags. This bank has got Co-operative Sugar Market Society (Madras) who appointed Messrs. Volkert Bros. as selling agents. We have to pay interest for the money we borrowed with bank rates and some commission to the selling agents. As we dispose of the pledged bags we repay the debt to the Bank.

93. Market survey of the Sugar Industry will be advantageous.

94-95. We are in favour of Central Sales Organisation. But in our view it is not practicable under the following reasons:—

- (1) All the factories are not equally equipped. Manufacturing and Engineering Staff may not be equally efficient as such it is very difficult to maintain the quality of sugar.
- (2) All Factories are not equally advantageous as regards labour, railway conveyance, free access of sugar into the markets and costs of fuel, lime, etc.
- (3) Some factories may be in a better position to get higher prices though their working costs are smaller.
- (4) Some factories are given special Railway concessions in freights while others were not given the same advantage.

96. We did not do business on the basis of sugar standards.

97. We have no idea of the standards prescribed by the Director.

98. As the Association of Indian Sugar Mills says, the time has not yet come for the establishment of a future or terminal market.

99. The normal consumption of sugar in India is about one million and one hundred thousand tons. Year after year the consumption of sugar is increasing both in India and outside as a result of lowering in price of sugar. There seems to be the probability of increasing the consumption in future.

100. It is impossible to state to what extent the sugar has been replaced by gur. Some people prefer gur while others sugar. There are some preparations which require their own ingredients to give their specific tastes.

101-103. We have no idea.

104. Export of sugar (in tons), 1930-31 and 1931-32 by sea 493 and by land 40,126.

105. Government has given protection to Indian Sugar Industry in the early thirties which resulted the erection of so many factories. The Sugar Excise Duty of 1934 has affected greatly these newly erected factories which have not secured their position. To add to that the additional Excise Duty in the Current Year has given another blow which affected the industry as a whole. If it were to continue we are sure that some factories would be closed in near future. The Government should not be so hasty in their taxing on Infant Industry.

106. We have no market for molasses.

107. Exports of molasses from India—

	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
Aden and dependencies.	13	12	11	13	..	..	..
United Kingdom .	..	..	7	179	153	..	13,622
Ceylon .	390	658	707	890	890	925	923
Union of South Africa.	13	12	9	14	..	..	9,500
Zanzibar and Pemba	14	15	17	17	..	..	..
Other British Possessions.	13	21	13	19	..	..	..
Other Countries .	..	..	..	..	110	101	140
Total .	443	718	764	1,141	1,153	1,415	24,195

Claim for Protection.

108. It is only on account of the protection that Indian Industry is thriving. With this protection the import of foreign sugar is minimised. There is no competition with foreign sugar. Competition is only internal.

109. There should be more protection so that the foreign sugar may not be seen in Indian markets, for another eight years as the industry is still in infant stage, which only creeping slowly with the burden of additional Excise Duty. The Government should protect the infant till it has got legs to walk and run.

The Excise Duty on Indian sugar should be reduced from Rs. 2 to Re. 1 per one cwt. Then only we can have some margin between the working cost and realizing value.

110. India should be allowed to export sugar to foreign lands with all facilities to compete foreign sugar as the present production is more than the Indian demand.

111. The following statement shows molasses produced in India and molasses imported into India in the last six years:—

Years,	Indian Production. Imports to India.	
	Tons.	Tons.
1930-31	269,000	102,204
1931-32	365,809	40,191
1932-33	461,658	31,991
1933-34	430,000	2,401
1934-35	406,000	415
1935-36	494,000	...

It is the increase of Indian production that affected imports of molasses, and not the duty. No Indian industry has suffered as molasses are available at nominal prices in India itself.

The Etikoppaka Co-operative Industrial and Credit Society, Ltd., Vizagapatam.

ANSWERS TO GENERAL QUESTIONNAIRE.

Production of sugar—Introductory.

1. The manufacturing of sugar was begun in the Etikoppaka Sugar Factory on or about 23rd March, 1934, by which date the erection of the plant and machinery was completed. Its original capacity was 1,000 maunds per day and its present capacity is 1,800 maunds. This factory is owned and managed by the Etikoppaka Co-operative Industrial and Credit Society, Ltd., whose members are cane-growers.

2. The information regarding the number of maunds of cane crushed, maunds of sugar produced is given hereunder:—

Year.	Mds. cane crushed.	Mds. of sugar produced.
1933-34	37,600	1,880
1934-35	75,700	6,200
1935-36	139,700	9,960
1936-37	152,600	12,307

In this factory two grades of sugar are produced and the details of the same are given below; 60 per cent. first sugar and 40 per cent. second sugar on the average:—

Year.	1st sugar.	2nd sugar.
1933-34	1,200	680
1934-35	3,700	2,500
1935-36	6,000	3,960
1936-37	7,300	5,007

3. (a) There is sufficient cane supply for this factory because the average yield of cane per acre being 800 maunds, the factory requires cane grown in 2½ acres per day. The crushing season cannot be more than 150 days having regard to the local conditions and the varieties of cane available and therefore cane grown in about 350 acres is enough for the factory. There are at present 63 members who cultivate their own cane in 200 acres and the rest of the cane will be purchased from non-members cultivating in about 150 acres, and there are more than 300 acres of sugarcane in the neighbourhood of the factory, cultivated by non-members. In this factory we are using shell lime whose magnesium contents are below 2 per cent. This is available in large quantities at a distance of 10 miles from the factory. The price of one maund of lime is As. 8 factory delivery. Fuel is available for As. 3-6 per maund factory delivery.

(b) The important sugar markets for the factory are Tuni, Anakapalli, Vizagapatam, Vizianagram, Berhampore, and the carting charges for one maund of sugar is As. 1-3, As. 1-3, As. 3, and As. 4, to Tuni, Anakapalli, Vizagapatam and Vizianagram respectively, and the Railway freight to Berhampur and carting charges to the Railway station is As. 9-3 and 6 pies per maund respectively.

(c) There is ample labour supply. The wages for unskilled labour are Rs. 6 per month and for the skilled labour Rs. 8 to Rs. 15 per month, and

in the case of panmen Rs. 35 to Rs. 50, the latter are being brought from Northern India.

4. Double sulphitation is the process adopted for the manufacture of sugar in the factory.

5. In the layout of the factory there are slight variations, by way of shifting (i) the vertical engine and the electric engine to one side room and the filter press to one side room and (ii) the sulphur furnace, the liming and sulphuring tanks to a convenient place in the main building. For increasing the crushing capacity of the factory from 1,000 to 1,800 maunds the following additional plant and machinery was installed:—

	Rs.
(i) one second-hand vertical boiler	2,500
(ii) third set of mills with gearing the second boiler at a cost of about	6,000
(iii) third evaporator vessel	6,500
(iv) one more centrifugal	3,000
(v) filter press	800
(vi) additional cooling arrangement	2,000
(vii) one crystallizer, cooling stirrers	1,400
(viii) one eliminator	500
(ix) second sulphitation and minor additions	1,000
	23,700

7. (a) (i) The crushing capacity, (ii) the percentage recovery of sugar, (iii) the cost of manufacture and (iv) transport facilities for raw materials and finished products will determine the size of an economic plant in sugar industry.

(i) *The crushing capacity.*—The cost of permanent staff, the depreciation, interest on invested capital, repairs and renewals, premiums and taxes, and office establishment are the items of expenditure which may be taken as overhead charges and in my view there may not be a great variation as between a small factory and a big factory in respect of the charges under these heads.

Now the Etikoppaka Sugar Factory is ready to crush 65 tons per day for 150 days and my calculations are as follows:—

The total number of tons cane crushed in one season will be not less than 9,000 tons. In this factory the expenditure under the above-mentioned heads is as follows:—

Permanent staff.	Per month.
	Rs.
One engineer	170
One chemist	35
One accountant	35
One packer	6
One time-keeper	12
	263
Total per month	263
Expenditure per year	3,156

(2) *Depreciation.*—Taking the life of the plant at 20 years as per the calculations of the Co-operative department comes to Rs. 8,000 the interest comes to Rs. 10,000 at 5 per cent. (3) The average repairs and renewals of this factory Rs. 2,000. (4) The expenditure under premiums and taxes is Rs. 1,000. (5) Travelling allowance, postage, etc., comes to Rs. 500. The

total overhead charges comes to Rs. 21,500. Therefore the average expenditure under these heads per ton of cane crushed will be about Rs. 2-6-6.

(ii) *Percentage recovery.*—The items of expenditure that will be common to all the sugar factories per maund of sugar manufactured are:—

	Rs. A. P.
(1) Cost of gunny per maund	0 2 0
(2) Commission to sale agents	0 1 6
(3) Conveyance to the Railway station	0 0 6
(4) Interest on working capital	0 1 0
(5) Excise duty per maund	1 8 0
	1 13 0

On the basis of 8 per cent. recovery of sugar about 2½ maunds will be recovered from one ton of cane and therefore the cost under Head No. 2 is Rs. 3-15.

(iii) *The cost of manufacture* will be under the following heads:—(1) seasonal staff, (2) cost of fuel, (3) cost of lubricants, (4) (a) cost of lime, (b) cost of sulphur, (c) other chemicals, (5) cost of filter cloth, (6) cost of waste cotton and miscellaneous articles. In this factory the expenditure under each of these heads is as follows:—

	Rs. A.
(1) Seasonal staff per day	42 0
(2) Cost of fuel	27 8
(3) Cost of lubricants	7 8
(4) (a) cost of lime	4 0
(b) cost of sulphur	3 0
(c) other chemicals	8 0
(d) cost of filter cloth	1 8
(5) Cost of waste cotton and miscellaneous	4 0
	97 8

The following is the statement of total cost per ton of cane to convert it into sugar and sell it:—

	Rs. A. P.
Overhead charges per ton	2 6 6
Cost under head No. 2	3 15 0
Manufacturing costs	1 8 0

Therefore the manufacturing costs, etc., per ton of cane crushed in a small factory will be about Rs. 7-14.

(b) It is not easy to determine under the present day conditions to determine the smallest unit for two reasons (i) the levy of increasing excise duty, (2) the continuous fall in the prices of sugar owing to overproduction in Northern India in general and the United Provinces in particular. I believe 150 tons plant will be an economic unit in these parts.

8. Sugar factory equipment is now obtainable in India with the exception of steam pumps and steam engines and boilers. In our factory the 3rd set of mills, the required gearing for the same, filter press, and all tanks are made in India. The vacuum pan and crystallizers and centrifugals of Thummapala factory were also manufactured in India.

9. (i) Now and then we refer some of our problems to the Imperial Institute of Sugar Technology and obtained prompt and useful information from them. But they have got a table of fees payable to them for consideration on certain matters. These fees are prohibitive to a small factory like ours. It is desirable that technologist of the Institute should visit all the factories once in a year and give the factories the necessary advice for improvement and rectification of defects.

(ii) The factories are not deriving any assistance from the Industries Department of our Local Government, because the department has not got any suitable technical men on its staff. It is desirable that in Madras the department shall have on its staff an experienced technologist who can command the confidence of the factories. Then only the Industries Department will be in a position to give reliable advice for the expansion of sugar industry in this province.

Raw Materials.

10. Most of the members of the society to whom the factory belongs cultivate their own sugarcane, the land on which they grow the sugarcane belongs to them.

13. The Agricultural Department of this province, has taken up the problem of growing varieties of cane suitable to this area but it cannot be said that effective results are achieved. Co. 281 and Co. 313 are the two early varieties but these two varieties are not popular among the growers of the cane because the yield of cane per acre is very poor and Co. 313 is badly lodging and is eaten away by rats. No attempts are made as yet to remove the above-mentioned defects. The only late varieties known in these parts are J. 247 and Co. 243. Late planted J. 247 has satisfactory high sucrose contents and matures as late as 15th May but when once it begins to deteriorate on account of dry weather and want of moisture in the land it deteriorates very rapidly (the purity falling from 84 to 75 in a short period). A proper tackling of the problem of evolving a suitable variety of cane for late crushing is very important and the Agricultural Department and the factory owners have to tackle this question both in the interests of the cultivator and the factory.

14. (a) There is perceptible increase in the area cultivated with sugarcane and more specially in the immediate neighbourhood of the factory.

(b) Attempt is being made to improve the quality of the cane but on the other hand there is deterioration on account of increased manuring with ammonium sulphate alone and decreased application of farm yard manure. The main cause for the decrease in quality is due to the adoption of a flat rate of price paid by the factory for the cane delivered.

15. In this area no damage is done to the cane from frost, disease or insect pest. In the case of lodged crop, there is some damage by rats and no estimate of the percentage of loss can be given.

16. The factory is assured of a sufficient supply of cane but it cannot be said that the supply is of suitable varieties. 50 per cent. of the cane is Co., 213, 45 per cent. J. 247, and 5 per cent. other varieties, such as purple mauritius, Co. 243. A great deal of work is yet to be done by the Agriculture Department by adopting demonstrative methods in growing suitable varieties of cane for early crushing and late crushing. In addition to J. 247 we crush Coimbatore varieties of which Co. 213 is the main early variety. The average yield of cane per acre in the case of J. 247 is 30 tons and Co. 213 is 20 tons and Co. 281 is 15 tons. The average sucrose contents of mixed juice from those canes is 15, 14 and 15 respectively.

17. There is no competition for the supply of cane by any other sugar factory in the locality.

18. (a) There is no variation by way of decrease of sugarcane cultivation but on the other hand there is always an increase in the area cultivated with cane.

(b) Sugarcane is the only cash crop for the locality. The growing of food crops is not at all economical and does not give sufficient return to the cultivator.

(i) For irrigation the locality depends upon wells and precarious supply of water by river channels and water supply fails once in three or four years and the sugarcane crop will be badly damaged for want of sufficient irrigation in May and part of June.

(ii) The price obtainable for sugar is the main factor in determining the price of cane.

(iii) In the locality the manufacture of jaggery from canes is a very old and well established industry. In the years 1934 and 1935 the price of jaggery used to be more than Rs. 4-8 per maund and the grower of cane was inclined to make jaggery instead of selling cane to the factory at Rs. 10 per ton but now on account of the low price of jaggery at Rs. 2-8 per maund he is more anxious to deliver his cane to the factory at Rs. 6-8 per ton of cane delivered on account of the decrease in price of sugar and the increase in excise duty.

(iv) There are no other alternative cash crops such as (1) oil seeds, (2) tobacco, (3) onions, (4) chillies as these cannot be grown here in the cane fields in this locality.

19. The production of sugar by the existing factories in our area is not in excess of our requirements. The surplus requirements of the area is being imported from Cawnpore. There is need for regulating the import of Cawnpore sugar to this area.

20. The following is the cost of cultivation of one acre of sugarcane in this locality:—

	Rs. A.
(i) Cost of eight tillings for one acre of land	12 0
(ii) Cost of putting sugarcane sets (irrigation by well)	8 0
(iii) Cost of three hoeings (20 women each time As. 1-6)	5 8
(iv) Cost of digging drainage channels	7 0
(v) Cost of manuring	30 0
(vi) Cost of props	15 0
(vii) Cost of wrapping and propping (seven times)	25 0
(viii) Cost of preparing cane for the factory	12 0
(ix) Depreciation of bullocks	15 0
(x) Cost of irrigation	15 0
(xi) The rent of the land	30 0
(xii) Cartage for 30 tons at As. 12 per ton to the factory	22 8
Total costs per acre	197 0
Cost of 30 tons at Rs. 6-8 per ton	195 0

* Receipts.

21. The main difficulties of cane-growers in the cultivation of cane are (1) the proper supply of irrigation water and (2) the non-operation of credit societies to give loans for the cultivation of cane and for manuring. There is real need for proper organisation and working of the credit societies. On account of easy collection of the loan amounts through the factory from the members who deliver their cane to the factory, it is easy to organise

and run a credit society for the benefit of the cane-growers. There is not any difficulty in delivering the cane to the factory.

22. For this factory, there is no need for the acquisition of land to grow sugarcane for the factory, as the members of the factory cultivate cane in their own lands.

23. (a) I am in favour of fixation of a quota for sugar manufactured by factories. There is overproduction of sugar in India and there are no facilities for the export of sugar from India to other places and the price paid for cane to the cultivator is consequently becoming inadequate and the factories are being obliged to sell their sugar below the cost of production. When quota system is introduced a reasonable economic level of the price of the sugar can be maintained.

(b) The licencing of new factories and also permission for the extensions to the existing factories will be necessary.

25. All the cane supplied to the factory is gate cane.

26. The substitution of rubber-tyred carts for the country carts will be a great advantage to the cultivator but he cannot afford to purchase one. The weight carried by country carts is on the average 24 maunds.

27. The mileage of metalled road in my vicinity is adequate and there are feeder roads to this road. The cane-growers are feeling no difficulty in bringing the cane from the field to the main road, and the factory except in the case of cane-growers of the village of Somalingapalem.

28. Cane is brought to the factory from a maximum distance of 15 miles metalled road. The average time taken between cutting the cane and delivery to the factory is 6 to 24 hours.

29. The average cost of transport of cane cart per maund for mile is about 2 pies. The cane-growers employ their own carts but there are instances of a few individuals hiring them. The average cart hire is 6 pies per maund from outside villages.

30. There are no tolls or other dues levied on carts supplying cane to our factory.

31. The factory adopted the system of issuing permits for the control of cane supply to the factory and this working satisfactorily. The carts are not detained in the factory for more than 15 minutes.

38. When cane is purchased it is done directly from cane-growers and there are no intermediaries between the factory and the cane-grower.

39. We enter into contracts with the cane-growers for the supply of cane to the factory having regard to our requirements. At the time of contract we are not giving any advance, and we do not provide seed or manure or render any other help.

41. Our cane supply is not obtained from any growing or cane supplying associations.

42. We maintain one cart weighbridge in the factory. No payment is made at the time of the delivery of cane. Ordinarily the interval between delivery of cane and payment is more than a month. We make payments partly as we borrow money on the pledge of sugar and pay fully after we sell our sugar.

43. In the year 1933-34, we paid Rs. 10 per ton of cane for all varieties of cane. In the year 1934-35 we paid Rs. 12 per ton of P.O.J. 2878, Rs. 11 per ton of Co. 281 and B. 208, and Rs. 10 per ton of Co. 213 and all other varieties; in the year 1935-36 we paid P.O.J. 2878 Rs. 12 per ton, Co. 281 and B. 208 Rs. 11 per ton, and all other varieties Rs. 10 per ton. In the year 1936-37, we paid P.O.J. 2878 and purple mauritius Rs. 7 per ton, Co. 213 Rs. 6 per ton, and all other varieties Rs. 6-8 per ton.

44. The price we pay for the sugarcane bears a definite relation to the price of sugar. At the beginning of the crushing season of 1936-37 the price of one maund of sugar was Rs. 7-8 Vizagapatam and Vizianagram delivery. Taking this into consideration and that our average recovery

will be 7.5 per cent. we have fixed the price of cane at Rs. 6 to Rs. 7 per ton.

45. The price of cane depends on the price of gur.

46. In the price of jaggery there has been considerable variations from time to time. The price of one maund of jaggery was Rs. 5.8 in the years 1918 to 1924. In the years 1924 to 1929 it was Rs. 5; from 1929 to 1933 it was Rs. 3. In 1934-35 it was Rs. 4-8, in 1936-37 it is Rs. 2-8. When there is lower production of gur in Northern India on account of frost or any other cause, price of jaggery rises in those parts. Most of the jaggery of our district used to be sent to the Central Provinces.

47. No prices are fixed under Sugarcane Act 15 of 1934 for this locality.

48. The basis on which minimum prices are fixed in other provinces and an attempt made to fix in this province is not satisfactory. The price of sugarcane must bear a definite relation to its sucrose contents, the price of sugar and efficiency of the factory concerned. The price of one ton of cane will be half the price of sugar, manufactured from one ton of cane in the factory concerned. In this formula the sucrose content of the cane will be an important factor.

50. Our factory worked in 1933-34—64 days, 1934-35—95 days, 1935-36—136 days, 1936-37—118 days. Under the existing circumstances our normal period of crushing will be 150 days but there is every possibility for extending the period by introducing of early and late varieties. When the factory works at least 180 days in the year it will certainly be very economic.

51. By introducing a system of bonus payment by the factory and by the adoption of monthwar cultivation by the members, the crushing of cane may be begun by 1st November and continued till the end of May in this locality.

52. This factory is getting assistance from the Co-operative Department. It is necessary to have once in a year a conference of the said officers, representatives of cane-growers, and the general managers and the technical staff of the factory to discuss the various problems concerning to the factory. When the officers know the actual difficulties of the factory and the cane-growers, then they can pay their attention for the solution of the difficulties.

Labour.

53. Answered in Question 3 (c).

54. No skilled labour is imported from abroad except in the year 1934-35. One Mr. J. L. Jobsis of Java was employed by the three factories of Etikoppaka, Birlampudi and Thummapala for technical advice. The factory is getting the pan boilers from Northern India.

55. After one year we found that the services of Mr. J. L. Jobsis were not necessary.

56. We have not made any arrangements for housing our labour and we have not adopted any measures for promoting the welfare of the labour because we are being financially crippled day after day by the excise duty and the reduction in prices of sugar.

Power.

57. We are not able to meet the whole quantity of the required fuel from bagasse available in our factory. We are supplementing at the rate of 8 per cent. The amount spent on fuel is as follows:—

Year.	Rs.
1933-34	2,350
1934-35	3,410
1935-36	3,900
1936-37	4,410

By-products.

58. The by-products produced in our factory are molasses and press cake.

59. Our production of molasses was as follows:—

1933-34	. . . . .	1,170
1934-35	. . . . .	...
1935-36	. . . . .	6,340
1936-37	. . . . .	5,990

60. There is no market for our molasses.

61. We send away our molasses into the fields.

Storage and transportation of sugar.

64. The stocks at the beginning and at the end of the crushing season are as follows:—

Year.	Beginning.	End.
1933-34	...	1,881
1934-35	335	5,118
1935-36	...	6,721
1936-37	...	7,007

65. The factory godowns hold 6,200 maunds. An estimate for the construction of another godown for holding about 6,200 maunds is under preparation and the said godowns will be ready for the next season.

69. I do not think that there is any damage to sugar in transit from the factory to the dealers.

70. I have no suggestions to make for improvements of rail transport of sugar.

71. The prices at which sugar sold ex-factory are given below:—

Year	Maximum	Minimum
	per maund.	per maund.
	Rs. A. P.	Rs. A. P.
1933-34	10 4 0	9 4 0
1934-35	9 4 0	8 14 0
1935-36	8 14 0	7 6 0
1936-37	7 0 0	6 4 0

Capital Account and Overhead Charges.

73. *Capital account and overhead charges*—The balance sheet for 1933-34, 1934-35, 1935-36 and the trading account for 1936-37 are sent herewith.

74. The writing off, on account of depreciation is as follows:—

In the year 1933-34 no amount was written off on account of depreciation as the factory worked for only a part of the season.

In the year 1934-35 the amount written off is Rs. 7,400.

In the year 1935-36 the amount written off is Rs. 7,900.

In the year 1936-37 the amount that will be written off is Rs. 8,200.

The accounts are audited by the Co-operative Department, and they adopt their own rules in calculating the depreciation.

75. We have not got any reserve fund.

76. No dividends or profits.

77. Our capital investment is as follows:—

	Rs.
Amount borrowed from the Co-operative Central Bank, Ltd.	1,95,000
Share capital paid by members in cash	9,950
	<u>2,04,950</u>

78. Our office expenditure is as follows:—

	Per month.
	Rs.
One accountant	36
One office peon	4
	<u>40</u>

No Managing Agent's commission is payable. The President and the Managing Director are honorary executive officers. But we have to pay the audit fees to the Co-operative Department.

79. According to bye-law No. 45 (2), 8 per cent. dividend is the maximum dividend that can be paid by the society.

Efficiency of production.

80. The forms* are filled and sent herewith.

81. (i) Extending the plant from 1,000 to 18,000 maunds.

(ii) Installing more efficient machinery—*Nil*.

(iii) Reducing overhead charges—*Nil*.

(iv) Any other measures of economy—*Nil*.

82. There is no room for further reduction of work cost but improvement in the recovery of sugar is possible by adopting the system of crushing Co. 213 canes in the month of December, January and February and J. 247 in March, April and May.

Marketing.

83. Anakapalli, Tuni, Vizagapatam, Vizianagram and Berhampore.

84. We have got Volkart Bros. as our selling Agents and we have now entered into an understanding with Messrs. Hajee Jamal Noor Mohamed to sell our sugar in Vizagapatam District.

93. A marketing survey of sugar industry would be advantageous. Some speculators enter into advance contracts for the purchase of sugar in Northern India and dump the same in various markets without knowing their requirements.

94. (4) We are not doing any business on the basis of the sugar standards prescribed by the Director, Imperial Institute of Sugar Technology. Our selling Agents take samples of sugar from us and show them to their dealers and book orders as per sample shown to them. We have not adopted the standards fixed in grading of sugars.

105. The sugar excise duty of 1934 and addition made thereto in 1937 has completely crippled all the new factories in general and the small factories in particular.

* Not printed.

Claim for Protection

108. The protection has enabled India to be self-supporting to a great extent. It is necessary in the interests of the sugarcane-growers of India to increase protection so that no foreign sugar may be imported into India.

109. At present sugar from Java and England are being imported into India and there is overproduction sugar in India; it is necessary to increase the protective duty in order to prevent the import of foreign sugar into India.

110. As sugarcane crop is the main cash crop in India it is necessary for the State to develop sugar industry in India and as there is already production of sugar in India over and above the requirements of the country, the Central Government should purchase the surplus sugar and export the same to other countries. This is only possible when the India Government purchases all the excess sugar of India and exports it to foreign countries in general and the United Kingdom and dominions in particular and sell Indian sugars in the markets thereof. There will certainly be loss in selling Indian sugar abroad, but the loss in the interests of the Indian sugarcane-growers, will have to be met by the Central Government, both from the excise duty on sugar and its general revenue.

The Srirama Sugar Mills, Ltd., Bobbili.

(1) *Replies to the General Questionnaire issued by the Sugar Tariff Board.*

1. Our factory began the manufacture of sugar in the year 1934-35. Its crushing capacity is 150 tons of sugarcane per day of 22 hours.

2. The out-put of our factory within the last three years is given below in standard maunds:—

Year.	Class I Sugar.	Class II Sugar.	Class III Sugar.	Total.
1934-35	15,839-25	5,432-87	1,801-93	23,074-03
1935-36	30,927-16	12,237-75	...	43,164-91
1936-37	43,691-66	12,439-88	...	56,131-54

The factory produced three grades of sugar.

3. (a) Our factory is advantageously situated in respect of cane supply but not so with regard to limestone and other important markets. Cane is available in close proximity to the factory, whereas limestone, sulphur, filter cloth and other materials have to be obtained from distant markets of Katni, Raipur, Madras, Bombay, etc.

(b) There is a Railway station at Bobbili which is about two miles from our sugar factory. There is no siding to connect the sugar factory with the Railway station. There are roads in a portion of the area from which cane is brought, while the rest of the area is connected by country cart-tracks, which need considerable improvement.

(c) There is adequate supply of unskilled labour. Some of the skilled labour is not locally available and has to be imported from Northern India and other places.

4. Double sulphitation is the process of our manufacture. We have not made use of other processes to complete results.

5. No changes have been made in the lay-out of our factory. A few extensions or additions such as one extra juice heater, one sulphur-burner, sulphur pipes for double sulphitation, gur refinery plant and three molasses tanks were made.

Six rollers were replaced. An amount of Rs. 22,347 have been spent on these.

6. It is under contemplation to put-up an additional boiler and replace the existing crusher by Krejewski rollers with hydraulic attachment.

7. (a) The main factors which determine the size of the economic plant are:—

(i) Availability of suitable cane, labour and water supply.

(ii) Demand and favourable location of markets for sugars produced, etc.

(b) A factory of 300 tons is the smallest unit of production which can be operated economically under the present day conditions.

8. Only minor equipments of sugar factories are ordinarily available in India.

Power and mill plants including boilers, pumps, tripples, pans, juice heaters, and centrifugals and crystallisers, and all other important machineries have to be imported.

9. (i) We are so far receiving no technical assistance from either the Imperial Institute of Sugar Technology or the Industries Department of our Local Government.

We beg to suggest that the Imperial Institute of Sugar Technology should investigate into the advantageous methods of cultivation, manuring and the varieties to be introduced both to the advantage of the agriculturist and the factory owner and offer advice from time to time to the agriculturists through the Agriculture and Revenue Departments. They should also investigate into the up-to-date and cheap methods of manufacture of commercial sugar and advise the factory owners by issue of periodicals, etc.

(ii) The Industries Department should investigate and advise the factory owners as to the effective and economic machinery to be used and also help factories in erection by lending experts on the mechanical side of sugar manufacture. The Industries Department will do well to help the factory owners by training and supplying trained mechanical staff to overcome the necessity of importing skilled labour from distant places at exorbitant rates, in obtaining concessions and facilities for transport of raw and finished products and in offering advice for starting suitable side Industries to find occupation for the skilled and unskilled labour during off-season.

10. We have undertaken no cultivation of sugarcane.

11. Nil.

12. (a) & (b) We have no cultivation of our own to set apart any area for experiments or production of seed for sale or distribution amongst cultivators. But we obtained seed of P.O.J. 2878 at a higher price and supplied the same to the ryots at cheaper rates in 1935-36. We also made cash contribution to the local Cane-growers' Association to supply to the ryots Co. 313 seed at cheaper rates.

13. We have not tried any experiments in relation to early and late varieties of cane and manuring. The Agriculture Department of our province has been assisting the cane-growers directly and through the Cane-growers' Association at Bobbili with advice as to the manures to be used and in selection and introduction of suitable, early and late varieties to be grown to be of advantage to the cane-grower and the factory through the local demonstrator.

14. (a) The area under cane has trebled since the advent of the mill.

(b) Co. 281 has been introduced and there was about 200 acres of it by 1936-37. P.O.J. 2878 also has been introduced and there was about 50 acres of it by 1936-37. There is a marked tendency on the part of the agriculturist to improve the quality of cane since the advent of the factory.

15. We do not experience frost in this part of the country. The cane of the varieties of J. 247 and P.O.J. 2878 is subject to red-rot. We have no information as to the percentage of losses on this account.

16. Our factory is fairly assured of a sufficient supply of suitable cane. The principal varieties crushed are Co. 213, Co. 281, J. 247 and P.O.J. 2878 newly introduced. Their average field yield and sucrose content are given below:—

Variety.	Average field yield in Mds.	Average Sucrose content.
Co. 213	544.4	13.32
Co. 281	408.3	13.56
J. 247	544.4	13.51
P.O.J. 2878	598.8	13.6

17. There has been no fluctuation in prices for supply of cane due to competition upto now.

18. (a) & (b) There has been increase in the area of cultivation under Co. 213 and decrease in the area of cultivation of J. 247. There are no other variations. These variations are chiefly due to climatic conditions such as excess or defect in rainfall. The increase in Co. 213 is due to its easy cultivation under dry conditions while the decrease in J. 247 is due to its being subject to red-rot and lack of enough irrigational facilities at the time when it attains maturity, as experienced during 1935-36. There has been of late a discouraging effect on the agriculturists owing to decline of prices both of jaggery and sugar.

19. The production of sugarcane in 1936-37 is not in excess of our requirements. No restriction is necessary especially because sugarcane cultivation in these parts is not new and does not depend on the sugar factory.

20. Information as to the cost of cultivation of one acre of sugarcane and the outturn per acre is given in the enclosed statement.

21. We have not so far known of any difficulties of cane-growers in the cultivation of cane and its delivery to the factory, except absence of roads from different cane growing centres.

22. (a) We are also of opinion that compulsory acquisition or leasing of land for cultivation of cane by factories is impracticable, as the former involves very heavy investment while the latter results in deprivation and consequent discontent among the owners of holdings.

(b) Prescription of zones for supply of sugarcane to the factories in these parts is not warranted.

23. Nil.

24. (a) We are not in favour of fixation of quota for sugar manufacture by factories.

(b) We are not in favour of licensing of—

(i) New factories.

(ii) Extension of existing factories.

25. The entire supply of our factory is from gate cane.

26. The gate cane is transported solely by carts. The average weight of cane carried per cart is 19.13 maunds. We brought a rubber-tyred cart for demonstrational purposes with a view to introduce this improved type of cart in these parts. But the ryots in these parts do not prefer them as the investment is prohibitive and rubber-tyred carts cannot be used in cross country localities. Their repairs are not readily possible by the ryots.

We have not employed any improved type of carts in conveyance of cane and are not therefore able to say what additional maundage cane be carried by it.

27. The mileage of roads in our vicinity is not adequate. The condition of main roads is fair but feeder roads are few and not quite good. Feeder roads require supplementation in number and improvement in nature.

28. The cane is brought by road and country tracks from an average distance of 6 miles. The average time taken between cutting and delivery at the factory will be 12 hours. The cane is mostly transported during cooler hours of the day and night and there is thus no noteworthy deterioration.

29. The average cost of transport of cane by cart per maund per mile is about a pie ($\frac{1}{10}$ anna). The cane-growers mostly employ their own carts. When they hire carts the average hire will be one pie per mile per maund as shown above.

30. No Tolls or other dues are levied on carts supplying cane to our factory.

31. We first fix with the cane-growers of the respective villages that they should each supply a particular number of carts of cane per day for a continuous period according to the daily requirements of the factory. In doing so the quality suitable to the season and the ripeness of it and facilities of transport such as release of intervening fields from the crops standing on it are also taken into consideration to afford necessary convenience to the agriculturist. This arrangement is repeated with those and other villages to ensure uniform and continuous supply of gate cane. The normal detention of carts at our factory ranges from about one to three hours. Carts which come first are weighed and released as they come. No more improvements are practicable nor necessary.

32. Cane is not transported by rail to our factory.

33. Railway freights on cane are calculated on the maund basis. Freight rates for cane have been reduced slightly of late between a few stations in this vicinity but even the reduced rates are found prohibitive to admit of transport of cane by rail. In the event of our having to obtain cane by rail we would prefer a flat rate.

34. Concessions in railway freights for the sugar factories for fuel, coal, lime, sulphur and lubricating oils which may come under raw materials are essential. There should be similar concession on manures, so that the agriculturists or the Association of cane-growers might be able to obtain manures at reasonable cost.

35. There are no tramways for transport of cane to our factory.

36. The tramway system is not useful for this area.

37. In case of delay in delivery by road the extent of deterioration is about .06 per cent. sucrose on cane per day. We have no information of deterioration in cases of delay in delivery by rail.

38. (a) The entire cane is purchased direct from cane-growers.

(b) No cane is purchased through Agents and contractors.

39. No other special arrangements are entered into with cultivators for supply of cane except those referred to against Question No. 31. We do not generally give advances in cash or procure seed or manure. We made advances in the shape of manure in 1934-35 before the advent of the Co-operative Cane-growers' Association. Afterwards we assisted them by supply of seed material at cheaper rates and contribution in cash for the same purpose as shown against Question 12.

40. Our cane is purchased direct from cane-growers.

41. We have not obtained supplies of our cane from any cane supplying or growing association. There is a Co-operative Society of Cane-growers;

but the individual growers themselves deal direct with the factory in consultation with the Association.

42. We have cart weighbridges to weigh cane. Payment for cane is made as promptly as the cane suppliers present their weightment slips in the mills office situated in the same compound.

43. Cane was purchased during the last three years at the following prices. The prices tend to vary at different periods of the season owing to climatic and other conditions such as price of sugar and jaggery:—

Year.	Per maund.
1934-35	6 2
1935-36	5 4½
1936-37	4 10

44. Prices of sugarcane do not bear a definite relation to the price of sugar alone. They bear a relation to the price of sugar and also gur/jaggery from time to time.

45. If the price of jaggery be high in the market the price of sugarcane also rules high irrespective of the high or low price of sugar to such an extent that sugar-making may become unremunerative at times.

46. There have been a few variations in the prices of jaggery at some periods of the cane seasons within the last three years and they were dependent upon the demand for jaggery from Raipur side.

47-49. The Sugarcane Act XV of 1934 is not in operation in this province, nor is there need since the prices paid in this presidency have always been higher than the minimum prices fixed for cane in other provinces.

50. The duration of the crushing season for each of the last three years is given below:—

1934-35—From 19th December, 1934, to 13th March, 1935.

1935-36—From 20th November, 1935, to 9th April, 1936.

1936-37—From 25th November, 1936, to 11th April, 1937.

The reasons for variations are mostly dependent upon the maturity of the cane for crushing and availability of labour and carts without detriment to harvesting of paddy crop which synchronises with the time of starting the mill. The period of duration is not sufficiently long for economic working.

51. The possibilities of extending the crushing season by the introduction of early and late varieties chiefly depend upon the following factors:—

- (a) Research as to the varieties which are suitable to the local sales and climatic conditions.
- (b) Availability of adequate seed of such varieties locally at reasonably cheap rates to the agriculturists.
- (c) Realization of proper prices for cane commensurate with the cost of cultivation of such varieties. This therefore depends upon the protection the industry commands and the help given to the agriculturists by the Government through the Agricultural and Co-operative Departments.

42. We have not received any material assistance from the Imperial Council of Agricultural Research, the Agriculture and the Co-operative Department in the matter of introduction of early and late varieties.

We would beg to suggest the following:—

- (1) Extensive experiments by the Agriculture Department at the instance of the Imperial Council of Agricultural Research as to

the early and late varieties suitable to the locality and advise the agriculturists as to their economic and efficient cultivation by periodical inspection.

- (2) Opening of nurseries of such varieties for supply of seed to the agriculturists at reasonable prices under the care of the Agriculture Department.
- (2) Grant of liberal co-operative credit at cheaper rates of interest to the agriculturists for this purpose.
- (4) The Imperial Council of Agricultural Research (Technology section) should advise factories on improved methods of chemical control to prevent losses in the manufacture of sugar.

53. Skilled and unskilled labour is employed as follows on an average per day. These figures do not include the superior and subordinate officers of the Mechanical and Manufacturing Departments, and the management establishment.

	No. of skilled workers.	No. of unskilled workers.
During crushing season	91	171
During silent season	15	22

54. The important skilled labour connected with the machinery and manufacture is imported from Northern India. No skilled labour is imported from abroad.

55. The skilled labour employed in our factory is all Indian.

56. We have hired and constructed suitable quarters for the officers and skilled workers recruited from outside. We supply them fuel, lighting, furniture and ordinary medical aid free in addition to the sanitary arrangements for them. All other labour is from Bobbili and its hamlets and they need no housing facilities.

57. We are not able to meet the whole of our requirements of fuel from the bagasse available by crushing. We had to supplement it with fuel including coal, to an extent of .96 tons per cent. of cane taking 1 coal=2 fuel in 1936-37 in which year the crushing was continuous and normal while in previous years fuel and coal had to be supplemented to over four to five times the quantity that was used during 1936-37. We give below actual amounts spent on fuel for the last three years:—

	Rs.	A.	P.
1934-35	6,666	8	9
1935-36	5,658	11	7
1936-37	1,367	7	10

No surplus bagasse is left.

58. The by-products produced in our factory are molasses.

59. The outturn of molasses for the last three years is as follows. There are no noticeable variations. Only 2,100 maunds have been sold at a price of 2 annas per maund, within the last three years:—

	Mds.
1934-35	6,048
1935-36	14,300
1936-37	15,807

60. Our present market for molasses is Calcutta. We despatch molasses in barrels. The railway facilities according to our present situation are adequate but the freights are felt heavy owing to paucity of demand for molasses even at normal prices. The Railway freight from Bobbili to Ramakrishnapur siding is As. 5-9 per maund.

61. There is practically no other means of disposing of molasses locally. We have to throw them away at some extra expense. We are of opinion that molasses should be manufactured into spirit and power alcohol by individual factories or in combination with the permission of the Government to be mixed with petrol as in other countries.

62. We have no surplus bagasse.

63. We have no suggestions in view for the utilization of any other by-products.

64. The position of stocks at the beginning and end of each crushing season from the commencement of the factory is given below:—

	Beginning of season.	End of season.
		Mds.
1934-35	13,475
1935-36	18,364
1936-37	26,107

65. We store our sugars in pukka godowns on wooden flooring having hollows beneath it to prevent dampness from floor. The capacity of our godowns is for 18,000 bags equivalent to 36,750 maunds. We have neither increased the storing capacity nor have we in contemplation of doing so at present.

66. There was a little damage in storage to the bags touching the walls due to atmospheric dampness in rainy weather. There was no deterioration due to quality of sugar.

67. The damaged sugar is sold at lower prices as it is otherwise good for consumption and the quantity damaged being very little.

68. The keeping quality of sugar is susceptible of being considerably improved to reach the normal standard. In fact the moisture per cent. and ash per cent. in commercial sugar of our factory has considerably decreased within these three years.

69. Very negligible damage occurred during transit and it was due to rains.

70. We experienced no difficulty in obtaining wagons for the transportation of sugar or delay in delivery of sugar.

71. We have no suggestions for improvement in the type of railway wagons.

72. We have not sold our sugars at any ports. The average prices per maund at which they were sold in up-country centres during the last three years are given below:—

	Rs. A. P.
1934-35	8 15 9
1935-36	9 1 5
1936-37 up to 20th April, 1937	7 8 4

It is gradually declining still. The Railway freight rates to the markets we supply are as follows per maund of sugar. There will be an extra expense of about 6 pies per maund at both ends for conveyance by carts:—

	As. P.
Vizianagram	2 5
Chicacole Road	4 1
Kantabanji	6 8
Berhampore	7 3

	As. P.
Parlakemidi	6 0
Titlagarh	5 11
Sompeta	6 4
Kesinga	5 8
Raipur	10 4
Mandasa	5 11
Naupada	5 1
Palasa	5 7
Ambodala	0 7
Tekkali	4 5

73. Copies of balance sheets for 1934-35 and 1935-36 are enclosed. Our accounts for 1936-37 will be closed at the end of October, 1937.

74. The particulars of the amounts written off for depreciation during the last two years are given below:—

	Rs. A. P.
1934-35	19,927 6 6
1935-36	19,826 3 6

Our rates for depreciation are not the same as allowed by the Income-tax Department as shown below:—

Description of machinery, etc., assets.	Rate allowed by the Income-tax Depart- ment.	Rate adopted by the Company.
	Per cent.	Per cent.
1. Plant and machinery	6½	5
2. Workshop	6½	10
3. Furniture	5	7½
4. Laboratory equipment	6½	10
5. Tools . . . . .	...	10
6. Buildings	2½	2½
7. Roads . . . . .	...	5
8. Tram line materials	10	15
9. Temporary quarters	10	33½

75. We have so far set apart the entire profits of 1934-35 amounting to Rs. 21,307-13-9 as reserve.

76. Only one dividend is declared and distributed during 1935-36 at 18 per cent. on ordinary shares. We have neither preferred nor deferred shares.

77. Our working capital is composed of the cash balance on hand at the beginning of the season and also by borrowing at an interest of 5 per cent.

78. We have no head office or managing Agents for our concern except the factory office.

79. Considering the fluctuating position of the industry and the life of machinery a dividend of 10 to 15 per cent. on the capital seems fair.

80. Forms* containing full information as to the cost of manufacture and recovery rates are enclosed.

* Not printed.

81. Reductions made in our works costs are given below:—

- (i) By extending plant—*Nil*.
- (ii) By installing more efficient machinery—We have substituted nickel steel rollers for ordinary rollers during 1936-37 as a measure of reducing breakages of rollers and to facilitate better extraction.
- (iii) By reducing overhead charges—*Nil*.
- (iv) Other economy—We have been able to economise expenditure of fuel, coal, chemicals, etc., by judicious use of the same.

82. There appears no room for further reduction of works costs on the existing plant or improvement in recovery rates. It is apprehended that the charges on skilled establishment will be higher in future and there may also be more renewals and replacements in future. So far as recovery rates are concerned the three years during which our factory was in existence are the best and most favourable in point of rainfall and all other conditions. There is no room for further improvement in recovery rates.

83. Our principal marketing centres are:—

1. Berhampore.	5. Parvatipur.
2. Chicacole.	6. Bobbili.
3. Vizianagram.	7. Parlakemidi.
4. Salur.	

84. We sell our sugars to the dealers and retailers through our selling Agents.

85. We have not received any sugar contract form to offer our comments.

86. We have no record of information of the wholesale and retail prices of either Indian factory sugar or other imported sugar in the area covered by our distributing centres. The average rates at which we sold our factory sugar at our godowns are given below:—

	Rs. A. P.
1934-35	8 15 9
1935-36	9 1 5
1936-37 (up to 20th April, 1937, and still on the decline)	7 8 4

87. We have no different rates of prices for wholesale and retail sales.

88. We have no definite information as to the storage arrangements made by the dealers and the extent of deterioration in storage.

89. Our sugar is not found to deteriorate within the last three years except damage by dampness as given against Question No. 66. There has been gradual improvement in the keeping quality of sugar.

90. Java and other foreign sugars are usually not imported into the markets of this area.

91. We consider the present quality of Indian sugar is coming equal to the Java and other imported sugars. The difference seems very negligible.

92. The entire stocks are with us in our godowns till they are sold. Sales are made on almost cash basis. There were no borrowings on stocks.

93. A marketing survey of the sugar industry we consider is advantageous.

94. We are not in favour of a central All-India Selling Organization.

95. We are in favour of standardization of sugars provided it is

restricted to divisional areas in each province in which they are manufactured and usually marketed.

96. (a) & (b) We have not transacted any business on the basis of the sugar standards prescribed by the Director of Imperial Institute of Sugar Technology; nor did we make use of these standards for grading purposes.

97. We have no suggestions to offer regarding these standards as they will not suit this area.

98. Establishment of "futures" and "terminal" market does not seem to be expedient at present.

99. We are not able to give correct information in this connection.

100. We have no correct data as to what extent factory sugar is replacing gur specially in the sweet meat trade. Gur is still used in sweet meat making in the mofussal while it is replaced to about 75 per cent. in the towns.

101. There will be a possibility of starting subsidiary industries such as manufacture of sweets and syrups, preservation of fruit if the import of such products from outside India be restricted by protection to give an impetus to the indigenous industry in them.

102. We have no information of prices of imported sugars.

103. We understand that sugars imported into India were landed on occasions at unremunerative prices in the years 1934 to 1936. The Java and other sugar producing countries have produced sugars far in excess of the consumption. They had therefore landed their excess sugars at unremunerative prices into India.

104. We have no information with us of exports of Indian sugar to other countries by sea and by land. We have not exported any from our factory.

105. The excise duty imposed in the year 1934 and the increase made in it in 1937 on Indian sugar have reduced the margin of manufacturer's profits in most cases. The agriculturist who supplied raw produce also has not been able to get adequate prices for their cane.

106. There is practically no market for molasses as it is.

107. We have no information of export of Indian molasses or of possibilities of its export.

108. The protection given to the industry has been effective in the following ways:—

(1) Consolidation and survival of some of the existing factories from dwindling.

(2) New factories could spring up particularly in the United Provinces, Bihar, Madras and also in other provinces.

109. The duration of the protection so far enjoyed has been very short and the industry has not been able to derive enough benefit to be above want of further protection. Researches have yet to be made to economise cost of cultivation of cane and improve varieties and yield also recovery. The industry has also to study and formulate effective measures for marketing the sugar produced in India. Some of the factories which are just recovering or establishing themselves from the depression they suffered in the past will be very much jeopardised while the industry in general which is coming to the rescue of the agriculturist will have a very severe set back. We are therefore strongly of opinion that continuance of the protection at the present scale for the rest of the statutory period is necessary to enable the Indian sugar industry to stabilise itself and stand both internal and external competition without fear of collapse.

110. We consider the following other forms of assistance necessary for the development of the industry:—

(1) Reduction of the excise duty on Indian sugar.

- (2) Provide facilities for export of Indian sugar to foreign countries which are importing sugar.
- (3) Provide control against preferential treatment by the Railway in the transportation of sugars and ensure equal treatment to all connected with the sugar industry in India, to prevent unhealthy internal competition of Indian sugars.
- (4) Provide for liberal grant of licenses for manufacture of by-products such as power alcohol from the molasses produced in the sugar industry with permission to mix it with petrol as in other countries. Sugar by itself cannot always maintain the industry without the aid of by-products. Conversion of molasses into power alcohol seems to be the only paying by-product of appreciable assistance to the industry.
- (5) Encourage manufacture of syrups and sweets and preservation of fruits on commercial basis by restricting imports from outside India.

111. We have no information as to the effect of import duty on molasses adversely or otherwise.

(2) Letter dated September, 1937, from the Srirama Sugar Mills, Ltd., Bobbili.

With reference to your letter No. 689, dated the 17th September, 1937, we have to state that our account year closes with 31st October, 1937. Balance sheet for the year 1936-37 is not yet prepared. We are therefore submitting information on the points noted in the statement enclosed to your letter as instructed with six spare copies.

Capital Account and Overhead Charges.

1. (a) Block capital during 1934-35 being the first year of operation—Rs. 4,19,781-8-5.
- (b) Block capital for 1936-37—Rs. 4,00,544-2.
- (c) Depreciation written off during this interval—Rs. 59,041-2.

Heads:—

- (a) Lands—Nil.
- (b) Buildings—Rs. 3,913-9.
- (c) Plant and machinery—Rs. 3,804-13-8.
- (d) Other assets such as railways, sidings, furniture and electric installations—Rs. 6,366-12-2.

2: Reserve fund during the last seven years—Rs. 21,307-13-9.

Our Reserve fund is invested in the business only. There are no earmarked investments representing the fund.

3. We have only ordinary shares. The dividends distributed are given below:—

	Rs.
1934-35 . . . . .	...
1935-36	72,000
1936-37	40,000

4. Our working capital is composed of the cash balance on hand at the beginning of the season and also by borrowing at an interest of 5 per cent.

5. No separate head office and Managing Agents.

The Vuyyuru Co-operative Industrial & Credit Society, Ltd., Kistna.

(1) Letter dated the 7th May, 1937.

We enclose herewith a note prepared by our Chief Agricultural Officer, M.R.Ry. S. Seetharna Patrudu Garu, L.Ag. (Madras Agricultural Service), as desired by the Board during the interview at Madras on 21st April, 1937.

A note by Mr. Govind P. Uplap, our Sugar Technologist, B.Sc. (Cal.), M.Sc. (Lous.), will follow.

Enclosure.

NOTE BY M.R.Ry. S. SEETHARAMA PATRUDU GARU, L.AG. (MADRAS AGRICULTURAL SERVICE), NOW CHIEF AGRICULTURAL OFFICER, VUYYURU CO-OPERATIVE INDUSTRIAL AND CREDIT SOCIETY, LIMITED, VUYYURU, KISTNA DT., SOUTH INDIA.

Introduction.

In submitting this note, it is presumed that the Tariff Board, as one of its main functions, will examine the effect of Protective Duty, hitherto imposed, on

- (I) the Cane-growers,
- (II) the Capitalists,
- (III) the Consumers

with a view to see whether it is to be continued and if so at what rate and for what period.

In approaching this question, it is necessary to discuss in detail—

- (1) the cost of production of cane both in India and in Java, the main importing country;
- (2) what facilities exist in both the countries for the development of this crop;
- (3) to what extent Indian grower actually gets by the sale of such crop in addition to the cost of production;
- (4) the relative working costs of manufacture of sugar in the above two countries, with the cost of production of cane as well as the freight charges of the sugar to reach the Indian ports being added, in the case of Java;
- (5) similar information of Indian sugars especially those produced in Northern India to meet the internal competition produced within the provinces.

PART I.

From the cultivator or the grower's point of view, it may be clearly stated, that the Protective Duty is certainly beneficial. Sugarcane occupies the ground for about twelve months and during this whole period, the grower, his family and his servants find work in some form or other. One of the greatest problems, not only in India but also in every part of the world, is unemployment. In Southern India, especially in the Deltaic Tracts where single crop ayakats exist, the production of paddy crop does not engage its growers for a period not more than 2½ months. During the rest of the time, he has no work. There are places where, attempts to tap the sub-soil water, met with success. Garden land cultivation is resorted to and the cultivator in such places finds continuous work throughout the year. But all places are not suitable for this purpose and the sub-soil survey of this nature will help a good deal and this is a special feature for the supply of cane in one of the oldest sugar concerns in Southern India. The

Government of Madras, ever since the publication of the Indian Sugar Committee Report, have been endeavouring to help this industry in all possible ways. The Indian Sugar Committee, while dealing with Madras, made certain recommendations for the improvement of this crop in all its aspects and in fact a special officer was appointed to find out large areas of land available in any part of the Presidency, with special reference to the Agency Tracts and also to select a site for the establishment of a sugarcane testing station somewhere in the Circars as recommended by the Indian Sugar Committee. As a result of this survey, it was thought desirable by the Government of Madras to extend the present Agricultural station at Anakapalle from 35 to 105 acres for intensive research on sugarcane. Necessary funds were granted and research on an intensive scale began from 1927 onwards and the results of research revealed great possibilities in the improvement of this crop in the existing areas and for an introduction of the same to areas where ordinarily sugarcane could not be cultivated. This period synchronises with the time when the question of fiscal protection was referred to the Tariff Board in 1930 and protection was decided upon in 1931. A summary of the salient features of work done for the improvement of this crop by the Madras Agricultural Department with special reference to the Agricultural Station at Anakapalli, on this crop is enclosed in Appendix No. I. (Pamphlet No. 7 Department of Agriculture, Madras, 1935). With the intimate knowledge of a particular tract (Bobbili, one of the Northern taluks of Vizagapatam District) where a small sugar factory was established after the imposition of duty on sugar, it can be safely said that with the help of the results of the research mentioned above, the area under cane increased considerably and the condition of the ryots where rents run very high, has considerably improved. Sugarcane, besides giving them work throughout the year, gives them credit and is also one of the very few cash crops that they can raise. Similarly in this district of Kistna in Southern India. Establishment of a separate sugarcane section at Coimbatore in Southern India resulted in the production of seedlings of inestimable value and their importance is realised in several parts of the world. In spite of their intrinsic worth, the area under these varieties, was only 549,025 acres in 1929-30 before protection was decided. If we compare this figure for 1934-35 after the protection, the area exceeded 2,400,000 acres. Had it not been for the protective duty, this phenomenal increase in area under this crop and in consequence increase in sugar production would not have been achieved. The Imperial Sugarcane Breeding Station at Coimbatore is producing year after year several new seedlings which are being tried under different kinds of soil, season and system of cultivation. Hence there is possibility of further increase in area of this crop. The Imperial Council of Agricultural Research is doing everything that lies in its power, and substantial subsidies are being given when sound schemes are submitted to them. Madras gets its own share and several problems are already under solution. It will take time, however, before the results actually reach the real grower. Attempts are, however, being made to start schemes which are to be financed from the subsidies that are expected out of excise duty. The scheme for Madras is awaiting sanction of the Government. If the position of the cane cultivator is compared with that in Java the condition here is very disappointing. Cane crop is raised by capitalists and factory owners in Java. Their research reached a stage where the cultivation of sugarcane is done on most business-like methods. All the factors associated with crop production are attended to in their minutest detail and nothing is left to chance. They have got control over all the controllable factors, the only uncontrollable factor being season. Even vicissitudes of season are controlled by their excellent system of irrigation. The preparation of land, the system of seed selection and the methods of manuring and after cultivation, are very perfect. They therefore get an average yield of over 60 tons per acre whereas we are getting less than 20 tons in some places, 25 tons in others and rarely 30 tons. The methods of cane cultivation here are still primitive and manures applied inadequate. The

erratic seasons and lack of proper scientific knowledge and even if available inadequate staff for propaganda and several other factors, are all in favour of continuing the duty for a period until these factors are satisfactorily solved. Many factory authorities have yet to find out suitable varieties of different duration (early, mid-season and late varieties) with a view to suit their own locality and also to increase the period of crushing. It may be a fact that fundamental researches are being attended to on some stations but conditions of season, soil and system of cultivation vary so widely that small substations primarily for demonstration and secondarily for a simultaneous trial of varieties with a view to study the duration, the degree of sucrose content at different periods of the season and deterioration of the sucrose content after reaching the peak of maturity, etc., have to be attended to, at each centre where a factory is established. The places where agricultural stations are already in existence may be left out if the local Agricultural Station takes up work on this problem. This point is brought to prominence by the fact that a variety, which was pronounced to be distinctly suitable for mid-season crushing at an Agricultural research station, turned out to be an early variety in a tract which is only 100 miles off from the Agricultural station. This is an instance where environmental factors influenced the degree of ripeness. A variety which was pronounced to be quite below average at the Agricultural Station, Anakapalle, proved to be the best of the existing varieties now in Kistna District. The above instances clearly indicated and emphasise the necessity for the location of small sub-stations at each place where a factory is located. The same organisation may also attend to the periodical analysis of canes of different varieties brought by the cane-growers, to the factory with a view to assess their value according to the ripening ratio and richness of juice. This may be the guiding factor for fixing the minimum prices of cane, for any tract. This method may have its difficulties. Some early varieties with very high sucrose content, are very often poor in output or tonnage while late varieties, which are necessarily to be kept on the ground for a longer period, increase the cost of production where lift irrigation is resorted to. Hence enhanced prices are often offered to the cane growers for such varieties with a view to prolong the period of cane crushing. Therefore it will take time before the cane-grower of these parts is able to reap the benefit of research or propaganda and in fact it was stated that Java took 100 years to increase the output of sugar from 1½ tons per acre to over 7 tons. It is therefore necessary from the cultivator's point of view to continue the protection to such a period as he is able to compete favourably with others of his type outside India.

PART II.

This question when approached from the stand point of capitalists, the sugar concerns recently started in Southern India, are at a very great disadvantage.

(a) The cost of production of cane is comparatively high and hence higher prices have to be naturally offered to ensure an adequate supply of cane. Figures of the cost of production are not given here as the same, I presume, will be supplied by the Department of Agriculture.

(b) Most of the concerns are lacking in finance. The internal competition for selling sugar is very keen and day after day the prices are going down.

(c) A central marketing organisation is probably necessary to control the prices throughout the country. Cost of manufacture is also comparatively high while the output of the sugar is equally low. The average recovery in India is 8.69 while that in Java is 11.83. Again when we compare the cost of production of cane in Southern India to that of Northern India, the former has to incur additional expenses in the shape of irrigation and after cultivation. In some parts of the Presidency lift irrigation is resorted to and this operation involves heavy additional expenditure,

involving higher cost of production. In consequence sugar factories have to pay higher prices. Sugar from Northern India is being dumped every day in several places in Southern India and the prices are going down.

PART III.

The question of consumer is also equally important. The majority of the masses are still depending upon gur or jaggery for their requirements. The quantity of sugar now produced in India is more than what can be consumed. A time may come when surplus sugar has to be exported to outside India. The consumer gets sugar at a reasonably low rate due to the overproduction in the country itself. Hence the question of consumer does not here arise.

APPENDIX I.

DEPARTMENT OF AGRICULTURE, MADRAS.

SOME SUGGESTIONS TO CANE-GROWERS.

Sugarcane occupies a very prominent place in the list of crops cultivated by ryots in many parts of Southern India. It was once a paying crop but in recent years the price of jaggery has fallen very low and the ryot is no longer able to sell his jaggery at the high rates prevalent previously. The cost of production is almost the same as when jaggery was sold at Rs. 62 to 80 per candy. In spite of the low returns the ryot grows this crop for the following reasons:—

- (1) It is a crop that gives him credit.
- (2) It engages him, his family and labour throughout the year.
- (3) It pays him to manure his fields.
- (4) It gives fodder for cattle in the shape of tops.

Hence, in some parts of the Presidency the area under cane is not on the decrease but is gradually increasing.

The question now arises as to how to make this crop a paying concern and if possible to introduce the same in other tracts where it is not now under cultivation. The Department of Agriculture is, therefore, concentrating its attention on two aspects of research:—

- (i) The improvement of crop in all its aspects in the existing areas to make its cultivation a successful business proposition.
- (ii) The extension of this crop to places where the cultivation of sugarcane is not ordinarily possible.

To meet this end, regular research was started at the Agricultural Research Station, Anakapalle, some years ago and the results reveal that real progress is possible in both the aspects. It was found both by experience and experimentation that improvements are possible under all items of expenditure without detriment to yield. The extension of this crop was also found possible to places where it is not ordinarily grown.

Every item of expenditure in producing sugarcane was taken into consideration and efforts were made to reduce expenditure on many items. The main items under which improvement can be effected by the grower of cane are:—

- (i) Seed.
- (ii) Irrigation.
- (iii) Manure.
- (iv) After cultivation.
- (v) Harvest and manufacture.

Since the object of this publication is to give practical suggestions to the cane-grower, detailed descriptions of experiments conducted are not given.

(i) *Improvement in Seed.*—In some parts, this item of expenditure is very high. Generally a portion of the previous crop is utilized for this purpose. In other places where crushing and planting synchronise the tops are used for seed material. There are also places where the cut tops obtained at the time of harvest are preserved carefully for planting at a future date, the main principle involved being to plant immature cane to ensure good germination. It was, therefore, thought necessary to produce immature cane by short cropping. This involves planting of cane early in February with liberal manurial and irrigational treatments. No prop-pings or wrappings need be done to this crop. The growth is ordinarily very satisfactory and by the middle of August or the beginning of September the crop can be cut and used as seed. It is desirable to plant this seed on garden lands and in places where such facilities do not exist, it can be planted in wet lands on raised beds. Each acre of such crop generally supplies seed material for 8-10 acres. It gives about 15 per cent. higher germination and similarly higher yields than mature cane seed. Any Agricultural Demonstrator will be able to give clear details of this method. The followings are the yields of comparison when short-crop seed and mature seed are used:—

Year.	Yield of jaggery in candies of 500 lb. each.	
	Mature seed.	Short-crop seed.
1924-25	22-74	26-30
1925-26	19-00	22-51
1926-27	18-00	20-06
1927-28	23-00	25-52
Average	20-27	23-52
Percentage increase . . . . .	...	16

It can be seen from the above statement that this method is a definite improvement over the local system as it gave an increased yield of 16 per cent. over the mature seed over a period of four years and can be taken up easily by anybody. If such sound seed material were to be used, it can be planted in lines of 4-5 links apart. Line planting is found very useful and beneficial.

(ii) *Improvement in Irrigation.*—This is one of the limiting factors in the cultivation of sugarcane and restricts the area under cane. Study of sugarcane varieties is one of the main items of work on the Agricultural Research Station, Anakapalle. A number of varieties were grown side by side with a view to study their characters as these exhibit wide differences in many respects. There are some with shallow root system like Fiji B, B. 208, purple mauritius, etc., which go up to 3 feet depth demanding frequent irrigations while others like Co. 213, Co. 243, Co. 281, etc., which go up to 6 feet depth do not suffer under restricted water-supply. Field observations of this type enabled us to lay out an experiment as to which of the two varieties Co. 213 and J. 247 could be grown successfully with restricted water-supply. Co. 213 was grown along with J. 247 with only one irrigation at the time of planting. The results are very satisfactory

and an average yield of more than 20 candies of jaggery per acre was obtained from Co. 213 against 14 candies of J. 247.

Serial number.	Year.	Yield of jaggery per plot.	
		Co. 213.	J. 247.
		L.B.	L.B.
1.	1927-28	167.88	133.12
2.	1928-29	168.75	106.25
3.	1929-30	136.42	81.50
4.	1930-31	138.38	118.13
5.	1931-32	110.44	84.13
6.	1932-33	192.37	108.93
Average		152.37	108.18
Per acre		10,154.00	7,212.00
Percentage increase		40.9	...

It was also found possible to try this variety as a pure rainfed crop, the raising of which will be described in greater detail elsewhere in this publication.

(iii) *Improvement in Manuring.*—A crop of 30 tons of sugarcane per acre removes 80 lbs. of nitrogen, 50 lbs. of phosphoric acid and 180 lbs. of potash from the soil.

The need for the application of nitrogen need not be reiterated in view of the deficiency of this ingredient in Indian soils. Experimental evidence favours the application of a mixture of organic manures containing nitrogen as cakes and inorganic fertilisers as ammonium sulphate.

Phosphoric acid may be added as superphosphate directly to the crop or as bone-meal to the previous cereal crop. As Indian soils ordinarily contain more than adequate quantities of potash, there is no need for the addition of this ingredient to the soil in cane manuring.

As stated above, different varieties of cane demand different treatments according to their characters both inherent and environmental. As J. 247 (247-B) occupies a fairly large area, it was thought necessary to find its requirements of manure. At Anakapalle, 6 bags or roughly 1,000 lbs. of groundnut cake and 2,000 lbs. of wild indigo green leaf were found to be sufficient to grow a decent crop of J. 247, and increased doses of cake did not give higher profits; but in the case of B. 208, this dose of manure was found inadequate while there are inclinations to show that the same is uneconomically high for Co. 213. The trend of experience shows that heavy manuring for hardy hybrids like Co. 213 is uneconomical and has a tendency to lower the sucrose content and purity ratio. The question of manuring, however, has to be decided according to the variety and the prevailing conditions in different localities. At the Agricultural Research Station, Palur, where systematic manurial trials were made, 100 lbs. of nitrogen was found to be the economic dose for a variety like Fiji B. At Anakapalle also the same quantity of nitrogen was found sufficient under the following rotation:—

- (1) Sugarcane—First year.
- (2) Sunnhemp for green manure—Paddy—Second year.
- (3) Early ragi—Paddy—Preparatory for cane—Third year.

Paddy and ragi do not receive any manure.

(iv) *Improvement in After Cultivation.*—Weeding, wrapping, propping, trenching, etc., constitute this head. Inter-cultivation with implements like

junior hoe, H. M. Guntaka or country plough saves expenditure and varieties like Co. 213 do not require ordinarily any props and no wrapping was found necessary either. As much as Rs. 100 to Rs. 150 is generally spent on this item alone, and a considerable portion of this amount can be saved.

(v) *Harvest and Manufacture.*—Improved furnaces like Sindhwahe or Godavari furnace economise the fuel bill and improved mills like Aswanikumar Mondal Mill with higher extraction are cheap and efficient. It will be a surprise to hear that cash cost of production of a crop like Co. 213 at the Agricultural Research Station, Anakapalle, was reduced from Rs. 328 to Rs. 100 per acre as detailed below the yield being 40 tons of stripped cane per acre.

The following figures give an idea of expenditure necessary to raise an acre of sugarcane of Co. 213 under improved methods when compared with the cost of cultivation of J. 247 or B. 208:—

Serial number.	Particulars.	Cost of production in former year, J. 247 or B. 208.		Cost of production, now, Co. 213.	
		Rs.	A. P.	Rs.	A. P.
1.	Preparatory cultivation	37	15 0	10	3 0
2.	Manures and manuring	42	12 0	36	7 8
3.	Seeds and sowing	38	12 0	12	12 0
4.	Irrigations	75	0 0	15	0 0
5.	After cultivation	133	8 0	25	8 6
	Total	327	15 0	99	15 2
		or		or	
		328	0 0	100	0 0

Extension of Cane to places where the same is not ordinarily cultivated.

(1) As stated above, Co. 213 can be grown successfully with one irrigation (*vide* Bulletin No. 30 for details).

(2) Attempts to grow this variety as a rainfed crop in dry lands on the Agricultural Research Station, Anakapalle, have been successful and as much as 28 tons of millable cane per acre was obtained. No proppings nor wrappings were given. The crop has to be planted in March or April or at any time from February to June after a soaking shower. But in planting dry and specially on dry lands white ants attack the crop badly affecting germination and subsequently the stand. As a preventive measure against the white ant attack, the cut ends of setts should be dipped in tar before planting.

(3) Raising seedlings and transplanting them in dry lands is successfully done at Anakapalle and this practice may find favour with scanty supplies of water in summer months.

Practical Hints to be observed by Cane Growers.

- (i) Good tilth is necessary for good growth.
- (ii) Cattle penning is always the best and wherever possible this may be done. In dry lands this operation is necessary if cane is to be cultivated successfully as a rainfed crop.
- (iii) Plant always short-crop seed material and if this is not available top setts at least may be used.
- (iv) As far possible plant setts in lines.
- (v) Keep the field clean of weeds by labour saving implements like hand junior hoe or a country plough.

(vi) Whenever any disease like that of red-rot or mosaic appears on the crop, the attacked spots may be dug out and burnt immediately.

Sugarcane Varieties.

Attempts were made in the past by various agencies to introduce into this country sugarcane varieties of good reputation elsewhere. Some of them proved very useful and occupy large areas in cane growing tracts.

B. 208, red Mauritius, purple Mauritius occupied extensive areas in Circars while Fiji B (Badilla) which was condemned at Coimbatore and elsewhere is still the predominating variety in South Arcot. Unless a number of varieties are simultaneously grown side by side it is not possible to assess their value correctly. It is, therefore, thought advisable to give below the following brief descriptions of economic and other characters of varieties which were tried at Anakapalle and which show signs of promise in some or in all respects:—

(1) *Co. 218.*—It occupies large areas in Northern India and is said to be the best of the existing canes there. It is a medium cane with good erect habit and has a germination of 68.32 per cent. It has very deep root system, tillers profusely with a stalk having a girth of two-third inch and the internodes number about 23.

It does not lodge easily and stands erect without wrappings and propings and matures at 11 months showing brix of 18 per cent. with over 16 per cent. sucrose and 87 per cent. purity. Thirty-five to forty tons of millable cane can be harvested from an acre and can be grown successfully with one irrigation or even as a pure rainfed crop on dry lands in Circars. Heavy manuring and frequent irrigations are uneconomical. It is found to resist even water-logged conditions. This appears to satisfy the majority of the conditions prevailing in this Presidency.

(2) *J. 247.*—This was introduced more than two decades ago along with other canes. Its utility as a good resister of drought and disease was realized as early as 1915. The results of investigation at Anakapalle, Samalkot and Palur are all in favour of this variety. It is spreading very rapidly in the Vizagapatam and Ganjām districts and is replacing the existing varieties. Its habit is not quite desirable and the stalk is too heavy in nature, and is therefore liable to lodge. It requires propping and wrapping in the Circars except in Ganjām and northern taluks of Vizagapatam where wrapping is invariably done without any props. It has a germination of about 57 per cent., fairly deep root system with a stalk having a girth of $\frac{3}{4}$ th of an inch, and a length of 109 inches with 29 internodes. It has a brix of 18 per cent., sucrose of 16 per cent. with purity of 86 per cent., keeps on for more than 1½ months even after attaining its maximum maturity, giving 35 tons of millable cane per acre. Very useful for late crushing under factory conditions.

(3) *M.A. 21.*—This is a seedling produced at Anakapalle from seed obtained from the Sugarcane Expert, Coimbatore. It is a tall early maturing cane with attractive yellowish straw colour. It is poor and slow in germination, resists drought fairly well, requires propping and wrapping and has a length of about 130 inches with nearly one inch girth, brix of 19 per cent., and sucrose of over 17 per cent., with a purity of 90 per cent.; jaggery is very good in colour and consistency. Output is 35 tons millable cane per acre. It gives more than 50 per cent. higher yield than B. 208.

(4) *Co. 281.*—A cane of medium thickness, erect habit, early ripening with high sucrose content. Resists water-logged conditions very well and gives jaggery and sugar of a very high order. It gives about 63 per cent. germination and has a fairly deep root system. The stalk is of medium height 111 inches, with long internodes (21) and two-third of an inch in girth. Its duration is about 10 months with over 20 per cent. brix, 18 per cent. sucrose, and 87 per cent. purity.

(5) *Co. 243*.—This resembles *Co. 213* in many respects but early in maturity and gives higher yields, and sucrose than *Co. 213*. It matures in 10 months yielding 38 tons of cane having brix over 19 per cent. and sucrose 17 per cent. with 98 per cent. purity.

(6) *Co. 313*.—It is a medium cane with a slightly lodging habit. It matures early, remains on the ground for a longer period without deterioration after maturity. Gives 63 per cent. germination with fairly deep root system, its stalk is $\frac{3}{4}$ inch in thickness; the cane matures in having high brix over 20 per cent. and sucrose 18 per cent. with 87 per cent. purity.

(7) *P.O.J. 2878*.—This is said to be the wonder cane of Java but its performances is not as promising as was reported. Its habit is bad and the cane grows very tall and is very early maturing, and it is fairly drought resistant. It is the tallest cane so far recorded with 20 per cent. brix, 18 per cent. sucrose and 89 per cent. purity. It gives jaggery of excellent colour and good consistency.

(8) *B. 208*.—It is a thick cane, introduced into the Presidency from Barbados. It is one of the canes that resisted red-rot and saved the sugarcane crop from extinction in the Godāvāri Delta. The cane is golden yellow in colour, thick and soft with rich juice, medium growth with very shallow root system, early maturing, very rich in sucrose over 18 per cent., and brix over 20 per cent. with 90 per cent. purity. Requires heavy manuring and frequent irrigations and does well in well drained fertile soils. It is somewhat poor in germination and tillering, but the canes being thick and heavy, a yield up to 30 tons of cane per acre is obtained. The cane is, of late, susceptible disease and hence being replaced rapidly by *J. 247*.

(9) *Purple Mauritius*.—It is thick juicy cane with a deep purple tinge. It is top heavy and lodges badly. The internodes bulge out prominently and often with deep cracks. It suffers from drought and water-logged conditions equally bad. It gives an extraction of 67 per cent., with 19 per cent. brix, 16.7 per cent. sucrose and 37.8 per cent. purity.

(10) *Red Mauritius*.—This was one of the first varieties to be introduced and was cultivated on a larger area than any other. It has the reputation of doing well in all classes of soils and particularly in light soils. It is a tall cane with a high percentage of juice which analysed well at one time. It was better than purple Mauritius under water-logged conditions but was a poor drought resister. It gradually deteriorated and became almost extinct.

S. SITARAM PATRUDU,

Superintendent,

Agricultural Research Station, Anakapalle.

(2) *Letter, dated the 10th May, 1937, from the Vuyyuru Co-operative Industrial and Credit Society, Ltd.*

We, the representatives of the Vuyyuru Co-operative Industrial and Credit Society, Ltd., Vuyyuru, beg to lay before you, the following memorandum about our cane sugar factory here with a great hope that, you will recommend such rules in your report, which will enable this concern, establish firmly. This factory was started by farmers of this district, organised as a co-operative body, against innumerable odds.

(1) Though we were zealously working since 1934, still our first season commenced in January, 1936. We had too many initial troubles due to the machinery, etc., which incurred heavy expenses. Still, we crushed all our available cane.

(2) The season, just passed, is our second season.

(3) This year's plantation is more than that of last year. And, the second most important thing, we have learned by experience and put into effect, is that, the cane plantation at a distance of 25 to 30 miles does not pay due to the exorbitant charges of transportation. Hence cane growing, in the vicinity of the factory, is encouraged. And, such area is increasing.

(4) Our cost of cane; cost of manufacture, etc., as attached on a separate paper herewith, are getting less and less every year due to the experience, we are having.

And, as because, we believed and still believe that—

- (A) cane in the tropical climate will thrive better both in the sucrose and tonnage as compared to with the subtropical area of the North if other conditions be the same, i.e., anything unnatural is more costly than natural.
- (B) Because, our cost of cane growing, being not the highest amongst the other tropical cane growing areas of this country which are feeding successful canesugar factories.
- (C) Because, we have the enough consuming public on all our sides, there being no sugar factory in the immediate neighbourhood.
- (D) Because, all sugar producing countries, however, scientific, they may be, took a long time to develop this industry; whereas, in our very second year, all the outside help, which, we thought, we will be getting (like a good sugar price of 1936; increment in the excise duty of 1937, etc., etc.), disappeared suddenly.
- (E) And because we know that, our only defect is the serious shortage of enough cane of good quality, to remedy which, we have, this year, borrowed the services of the Government Sugar Cane Expert. And, from the cost statement on page 5, you will see that, this concern will be a success if only, we could get enough cane.

We the farmers of the Kistna District who are organised into the Co-operative concern of this factory, humbly request you to help us by not decreasing the protective duty at all.

*A Statement of the Cost of Sugar Manufactured at Vuyyur, Kistna, Madras Presidency.**

Per bag of sugar (one bag=1½ cwts).

Items of expenditure.	In the year 1936.			In the year 1937.		
	Rs.	A.	P.	Rs.	A.	P.
1. Cane	11	5	3	9	9	2
2. Fuel	1	1	2	0	9	5
3. Lubricants	0	5	6	0	2	4
4. Chemicals	0	3	3	0	3	0
5. Gunny bags	0	4	11	0	4	4
6. Repairs and renewals	0	10	2	0	8	6
7. Wages	1	11	4	1	11	8
8. Miscellaneous	0	6	2	0	4	6
Total spent	15	15	9	13	4	11

* This does not include Depreciation, Interest, Excise.

A statement of our throughout expenses from the experience so far to crush 100,000 tons of cane in the season.

	Rs.
1. Cane at Rs. 9 per ton	9,00,000
2. Fuel	38,764
3. Lubricants	11,000
4. Chemicals	25,412
5. Gunny bags at 9 per cent. sugar recovery	37,942
6. Repairs, renewals	38,000
7. Wages	85,000
8. Miscellaneous	13,000
Total actual expenses	11,49,118
9. Excise	3,60,000
10. Depreciation, Interest	1,50,000
All total	16,59,118

If sugar be sold at Rs. 14 per bag, we get for 120,000 bags (Recovery at 9 per cent.) Rs. 16,80,000.

(3) Letter, dated the 14th June, 1937, from the Vuyyuru Co-operative Industrial and Credit Society, Ltd.

I have been long waiting for our Chief Agriculture Officer's answers which are not yet ready. So, being afraid of undue delay, I am posting two copies of my answers to your questionnaire.

Enclosure.

THE VUYYURU CO-OPERATIVE INDUSTRIAL AND CREDIT SOCIETY, LTD., VUYYURU.

Replies to the General Questionnaire.

1. In 1936—Its full capacity is 850 tons of cane per day.
2. In 1936—62,750 maunds of sugar.
In 1937—65,360 maunds of sugar.
3. (a) Yes, in respect of cane supply if farmers, surrounding the factory take to cane growing.
(b) Yes, in respect of road. The factory is just on the main road, between Masulipatam and Bezwada.
(c) Yes, in respect of canal till the end of February. We get adequate labour; but not a cheap one. Rs. 10 is the minimum.
4. Our process is double sulphitation. This is a cheaper process. But sugar turned out is not as white as a carbonitiation factory which is about 25 per cent. more costly.
5. No changes have been made yet.
6. Substituting our sugar dryer by a sugar cooler; sugar rotating screen and addition of three more centrifugals and miscellaneous costing about Rs. 25,000.
7. (a) For a particular locality, noting the price of sugar calculations will have to be made from the price of cane and its percentage and the duration of the season.
(b) Probably 1,000 tons in the north.

- S. About less than 25 per cent. is obtainable in India.
9. (i) Yes, but expect more in the solving of our problems.
(ii) Yes.
10. No.
- 11-13. Our Chief Agricultural Officer is explaining this.
14. (a) The quantity of cane available this year was less than last year.
(b) In 1936, some unidentified fungus had attacked cane.
- In 1957, cyclone in November had lodged all cane. And the soil being wet with water due to paddy crop, cane deteriorated.
15. Our Chief Agricultural Officer will explain this.
16. (A) Is not yet assured of a sufficient supply of cane.
(B) The principal varieties are Co. 243, Co. 213, Purple Mauritius and P.O.J. 2878.
(C) Our Chief Agricultural Officer will explain this.
17. We have no neighbouring factory.
18. Our Chief Agricultural Officer will explain this.
19. (A) Is in the North.
(B) No.
- 20-21. Our Chief Agricultural Officer will explain this.
22. (a) If sugarcane lands in one plot with abundant irrigation, free from adverse climatic effects, close to marketing centres and with enough labour be found in the tropical zone of India, I think Government for the good of the country should acquire such lands compulsorily and have them managed solely by the Indian capital. This is a national economy. Belapore is an example, though all of its lands are not good cane lands.
(b) } This question does not arise in our case.
23. }
24. (a) If all the Indian cane sugar factories would have been situated in conditions as explained in Question 22, quota for sugar manufacture would have been alright. But such is not the case. If Government sincerely takes protection of cane farmers, weaker factories will be extinct.
(b) (i) Should never be given; as it will be uneconomic, especially in provinces, which manufacture less than what they consume.
(ii) Licensing for the extensions in the provinces which manufacture less than what they consume, should not be allowed. Because by so doing the consumers will lose as they will have to pay a higher price. And 2nd the very object of giving protection to the sugar industry will be nullified. Because sugar will never be cheap to shut off Java sugar.

	In 1936.	In 1937.	Per 100 cane crushed.	
			1936.	1937.
25. Gate cane . . .	901,150	779,000	98.43	92.53
Rail cane . . .	14,350	63,000	1.57	7.47
Tram-borne cane . . .	...	...	...	...

Our locality is new to cane growing. Hence even a little variation affects cane supply. Want of finance and initial machinery troubles were the causes of the higher percentages of rail canes this year.

26. A large percentage by carts alone. Sometimes lorries are also used.
(b) About 22 maunds.
28. (a) Between 10 and 15 miles.
(b) About two days.
(c) Cane is simply bought in open carts; so, the top cane and sides cane are exposed to the sun and deterioration. No data is taken as to the extent of deterioration.

29. (a) 1.5 pies per maund of cane per mile.
 (b) Some do and some hire. The hiring charge is given above.
30. No.
31. We do not get enough cane to crush. So the question of detention does not arise except on a breakdown day which also is seldom.
32. We experimented to get cane from 124 miles. But it was not a success. We intend to try again.
 (b) The average time taken between cutting and delivery of cane was 5 days.
33. Railway freights calculated were on a flat rate of Rs. 2 per ton from 124 miles.
28. (a) In 1936 almost 100 per cent., in 1937 94.83 per cent.
 (a) In 1936 *nil*; in 1937 5.17 per cent.
39. The members of our society mainly grow cane. These have formed a separate organization called Sugarcane Growers Association which purchases manure and distributes it on a co-operative basis to its members.
41. We have one cane growers' association. But the price of cane is fixed by our directors.
42. We weigh at our weighbridges on the factory yard. Payment is made once a week.
43. Prices of cane are fixed for each season by our directors.
 In 1936 factory delivery per maund—As. 6-1.
 In 1937 factory delivery per maund—As. 5-10.
44. (a) No.
 (b) Prices are fixed to induce farmers to grow sugarcane.
45. The price of jaggery is very low. And this is not a jaggery making area.
 50. (a) In 1936—101 days; in 1937—79 days.
 (b) New area—no cane.
 (c) No.
51. Possibilities are many. But we are late. Our experiments are to start soon from this year.
52. The Indian Sugar Mills Association is not yet competent to control the following suggestion. So we suggest the following to be controlled by the Director of the Imperial Institute of Sugar Technology. The Director should have an advisory body composed of all the sugar interests of India and also representing Government if they still want. Under the Director there should be three departments, namely:—
- (1) Department of Agriculture.
 - (2) Sugar Technology
 - (3) Sugar Engineering.

These three departments should have separate heads. The aim of these three Departments should be the search for the best favourable conditions beginning with the soil, its preparation, etc. and ending not only with the final bagging of sugar but also with its storage requisites, till it has passed to the retailers.

Our agricultural department is very slow compared to other nations. We cannot sing long the glory of Co. 213 though we are proud of it. And as researches in agriculture are the most important of all, we suggest the present experimental cane stations be transferred under the above Director.

The sugar world outside is having organisations as suggested above. Only we do not have one containing all departments. This can be financed out of excise duty. Our own Society commenced its work in 1934. Still we do not know the sucrose content of even a single variety of cane suitable to the conditions here. So if the sugar industry be guided for progress by

a separate organisation as suggested above, the time may probably come in 1946 to declare that Government should reduce half of the protective duty at least. Otherwise we do not see much future.

Labour.

	1936.	1937.
53. Crushing season—		
Skilled	229	190
Unskilled	513	377
Silent season—		
Skilled	25	25
Unskilled	26	42

54. No skilled labour is imported.

56. We have got cottages with water by hand pumps.

Power.

57. Yes, if we crush to our maximum capacity. But as we did not crush even a single day to the full capacity, we burnt extra fuel. Our capacity is 850 tons a day. We crushed on average working day 11,450 maunds in this season. Still all extra fuel besides bagasse was in coal terms 4.79 per 100 cane crushed.

(b) 33,006 in 1936 and 18,764 in 1937.

(c) We had no surplus bagasse.

By-products.

58. (a) Bagasse, (b) Final molasses, (c) Press cake.

59. In 1936, almost all unsold; in 1937, yet unsold.

60. (a) We do not know for certain.

(b) Being 20 miles far from railway our transportation is by lorries.

61. We are thinking of making a compost of molasses, press cake and cane leaves.

Storage and Transportation of Sugar.

	Mds.
64. In 1936—	
At the beginning . . . . .	...
At the end	43,700
In 1937—	
At the beginning	2,750
At the end	61,600

65. We have three godowns. Our storage capacity roughly is 40,000 bags of 1½ cwts. each. We have not increased any capacity yet. We do not contemplate increasing our storage capacity in the near future.

66. In 1936 we had 2,750 maunds of sugar spoiled. In 1937 nothing yet is found. The causes of deterioration are (1) condition of godown; (2) quality of sugar as regards its structure, clarification, etc.; (3) condition of sugar while it is bagged as regards wet or dry; (4) the time the sugar is stored in the godown; (5) the time of sugar despatch. The latter, (4) and (5), mean the relative humidity of the air which should be between 60-62.

67. The 1937 is our second year. Last year's sugar was reconditioned.

68. Please read answer to question 66.

70-71. No.

72. Our sugar is not sold at ports and upcountry centres. Our markets and freight rates are:—

	Per maund.	
	As.	P.
(a) Secunderabad	9	2
(b) Hyderabad	9	2
(c) Warangal	5	11
(d) Khammameth	3	6
(e) Singareni collieries	4	7

Capital account and overhead charges.

73. A copy of the 1936 balance sheet is attached.

	1936.		1937.
	Rs.	A.	
1. Leases and concessions . . . . .	...		} Our year has not yet ended.
2. Lands	13,855	8	
3. Buildings	3,10,472	0	
4. Plant and machinery	9,50,000	0	
5. Other assets	11,88,526	2	
74. 1936—Rs. 72,860.			
1937—Rs. 69,500 approximate.			

Yes, our rates are the same as allowed by the Incom-tax Department.

75. Nil.

76. We have been working under loss.

77. Our working capital is provided by mortgaging all of our sugar and taking 80 per cent. of its market value from the bank at 5 per cent. interest per annum.

78. We have no head office separate from the factory. We also have no managing agents.

79. Not less than 10 per cent. at any cost.

Efficiency of Production.

80. Please see forms.*

81. For want of enough cane and enough capital, the plant cannot be extended and efficient machinery could not be installed.

Reductions in fuel; packing; stores and miscellaneous expenses are effected this year than last year. Please read Form I.

82. There is not much room for reduction. But our recovery should be at least 9.5 per cent. in which case the cost of sugar will be low.

83. Please read question 72.

84. Our sole commission agency is given to a party at 1½ per cent. of the total proceeds by the sale of our sugar.

(a) & (b) We do not know.

86. Prices f.o.r. Bezwada, our railway station, per maund—

	1936.		1937.	
	Rs.	A. P.	Rs.	A. P.
Wholesale	8	14 6	7	5 7
Retail . . . . .	...		8	5 4

* Not printed.

88. Our dealers have not big storage arrangements. Sugar is sold through them to retailers and sometimes to small dealers. We do not have much complaint of deterioration from them.

89. The causes are given in question 66. I think there has been some improvement.

91. No; because we have only recently started. Indian sugar is inferior in quality both as regards colour and structure.

92. We have only two years' experience. Last year no stock was carried except deteriorated sugar. But this year so far we have sold only 22,205 maunds of the total we have manufactured.

Our Bank lends money on sugar stocks amounting to 80 per cent. of the present total price of sugar deposited in our godowns in their custody.

93. I think so.

94. Yes, this will help us.

95. Yes. The basis should be both on colour and crystalline size. Colour standard to be arbitrary, decided by means of photo-electric colorimeter, and the standard crystalline size to be the biggest sold in the market.

96. (a) Not yet on this side.

97. Yes, the standards of the Imperial Institute should be advertised to a large extent amongst dealers, retailers, etc. The new standards price should be Rs. 10; and when it is to be filled its charge should be Rs. 5. By so doing, there will be loss which should be made out of the excise fund.

98. No.

99. From records we get per capita consumption of 8 lbs. of sugar *plus* 23 lbs. of gur, in all 31 lbs.

(b) The inclination of the people's taste is towards sugar. So gur will decrease and sugar will increase.

101. If there be an expert service obtainable, free to capital, from institutes like the Imperial Institute of Sugar Technology, capital will come in for these.

105. A tax on the consuming public and the cane farmers.

106. None yet.

107. (a) I do not know the exact quantity of export.

(b) No. But we do not see why we should export instead of making alcohol from it.

Claim for Protection.

108. Due to the measure of protection alone, the import of sugar has fallen and the sugarcane area has increased. Hence protection should not be reduced at any cost. The consumers will also gain as the quantity of sugar being more than the consumption the price of sugar will fall due to the competition of the manufacturers.

109. We want protection under any circumstances not reduced even by a pie; as we are quite new in the this line and not as scientific as the Dutch.

Even England not only gave but is giving still protection to her sugar industry. Further, the case of this Society is special. She wants protection in order to be able to live.

We want protection on the following grounds:—

- (1) Our society consists of members who, all, are *bonâ fide* farmers, owning lands and maintaining themselves on their land produce.
- (2) They have started this society on a co-operative basis and by investing a large capital of more than 23 lakhs in some form or another.

- (3) If studied from the standpoint of the farmers, agricultural crops should be as varied as possible. So, out of this Paddy growing area, some 6,000 acres if used for cane will be beneficial to all the farmers in the neighbourhood.
- (4) Sugarcane is a tropical plant, flourishing well between 0° to 22° latitude. (a) The northern sugar factories are situated in the subtropical climates; and further (b) they are very close to one another; and (c) they manufacture sugar more than their province consumes. So they have to come too far here, which is expensive to them (transportation); whereas, the sugar factories in the South, being not all close to one another, can supply their manufacture to the consuming public, surrounding them, which is far better than those of the North.
- (5) The Southern sugar factories, all being in the tropical zone get and will get tonnage of cane far more than the North. This is not only in India; but is true all over. Hawaii being in the supermost as compared with Cuba, so far as scientific application is concerned, Cuba gets higher percentage than Hawaii. Further, on this point, in the islands of Hawaii, itself, experiments were made (per H.P. Record, 143-156, 1936) at Manoa and Makiki. Manoa's minimum temperature is 67° F., maximum 79° F. Makiki's minimum temperature 68° F. and maximum 85° F. All other conditions were the same. The results showed that on the average, the sugar produced in the Manoa climate was only a third of that produced at Makiki. Hence the Southern India will produce more than North, soon.
- (6) Factories in the South crush more irrigated canes; whereas in the North, rain watered canes are crushed on a large scale. Irrigated canes will be cheaper because of high tonnage and also contain more sucrose. Hence, as the people of the North and the South being the same, if opportunity and help is given, being infants, the southern sugar industry will be more economical in the long run. Hence, if we get a little time of say four—five years, the South will compete with any northern sugar factory of the same capacity. In our opinion, the industry should move the South to take its natural course. And if the board helps in that direction, further, by steaming the experimental stations in the South, the movement will be quicker. Since about 15 years before, Co. 213, Co. 290, etc., were discovered for the Northern factories. But though Padegaon, etc., have recently started to work for the Southern factories, still nothing important is yet found. The South is imitating yet Java, Mauritius, etc., by planting their canes. So, we want time to develop. And, this time can be got only if the protective duty be not decreased.

110. The Indian Sugar Mills Association is not yet competent to control the following suggestion. So, we suggest the following to be controlled by the Director of the Imperial Institute of Sugar Technology. The Director should have an advisory body composed of all the sugar interests of India and also representing Government if they still want. Under the Director, there should be three departments, namely, (1) Department of Agriculture, (2) Sugar Technology and (3) Sugar Engineering. These three departments should have separate heads.

The aim of these three departments should be the search for the best favourable conditions, beginning with the soil, its preparation, etc., etc., and ending not only with the final bagging of sugar but also with its storage requisites, till it has passed to the retailers.

Our Agricultural Department is very slow compared to other nations. We cannot sing long the glory of Co. 213, though we are proud of it. And as researches in agriculture are the most important of all, we suggest

the present experimental cane stations be transferred under the above director.

The sugar world, outside is having organisations as suggested above. Only we do not have one, containing all departments. This can be financed out of Excise duty. Our own society commenced its work in 1934. Still, we do not know the sucrose content of even a single variety of cane, suitable to the conditions here. So, if the sugar industry be guided for progress by a separate organization, as suggested above, the time may probably come in 1946 to declare that the Government should reduce half of the protective duty at least. Otherwise we do not see much future.

111. Nothing so far as molasses is concerned.

(4) *Replies to General Questionnaire from Mr. S. Sitarama Patrudu Garu, General Manager, The Vayyuru Co-operative Industrial and Credit Society, Ltd., Vayyuru, dated the 19th June, 1937.*

In answering these questions attempts are made only to reply such questions which are directly dealing with the raw materials and wherever necessary information is supplemented on answers furnished by Mr. G. P. Uplal, B.Sc. (Cal., U.S.A.), M.Sc. (Ill., U.S.A.), who is our Factory Manager and Sugar Technologist.

A detailed note was already submitted to the Tariff Board in this office R.O.O. No. nil, dated the 7th May, 1937, and the same may be read along with this with a view to have a clear idea of this concern which is a new venture established after the protection duty was decided upon. Even the cultivation of sugarcane was also a fresh attempt in this part of the country.

1. In 1936—850 tons per day.

2. In 1936—62,750 maunds of sugar.

In 1937—65,360 maunds of sugar.

3. (a) It was pointed out above that the cultivation of sugarcane is comparatively new to this tract and the cane-growers have yet to learn a lot in cane cultivation. The lands are suitable, but sugarcane has to be grown under restricted conditions of irrigation and hence the cane supply is defective. Raw materials like limestone, coal, fuel, etc., have to be brought from distant places and our main market is the Nizam's Dominions besides towns like Bezwada, Guntur and Masulipatam.

(b) The factory is 18 miles from the nearest railway station (Bezwada) and is on the side of the road running from Bezwada to Masulipatam, and an irrigation canal runs by the side of the factory which is also used for navigation.

(c) Labour is available, but not efficient.

7. (a), (b) The main factors are:—

(a) The availability of cane.

(b) The availability of raw material within a reasonable distance from the factory.

(c) Marketing facilities.

(d) The size of the factory then depends on the availability of capital.

The bigger the size of the factory, the lower will be the cost of production, because of the economies in the overhead charges due to skilled labour and technical staff. 400 to 500 tons capacity may be generally put down as an economic unit for South India.

8. Except some cast iron tanks and pipes all sugar machinery has to be imported from outside.

10. No.

11-13. The factory does not possess area of its own for purposes of cultivating sugarcane. It is a co-operative concern, and the membership of

this is mainly restricted to the land owning classes of this district and each shareholder is bound to grow an acre of cane for every share he owns in this society. It was pointed out above that the cultivation of sugarcane in this part of the tract depends upon the water supply of the River Kistna, and the opening and closing of these canals; and the availability of water during the months of January, February and March determine the area under cane. During the first year, when the factory was under construction, it was reported that large areas of land were put under cane and the delay in erection and lack of facilities and necessary knowledge to prepare even gur resulted in heavy losses for the cane-growers in the first year. The second year due to this heavy loss the cultivation of cane was indifferent and in the third year good results were obtained but the area was quite inadequate and the supply of cane fell far short of the demand.

First year—about 3,000 acres not crushed.

Second year—about 1,800 acres crushed.

Third year—about 1,900 acres crushed.

Fourth—figures not completely available, but about 1,800 acres roughly.

The main varieties are Co. 243, Co. 213 which occupy almost all the area. P.O.J. 2878, 419, 421, 313 are getting popular. No definite analyses of canes have been made and as such the relative sucrose contents cannot be given. The system of cultivation in this tract is that paddy follows paddy year after year with a pulse between two main crops of paddy or sun hemp for fodder crops. Manuring for this crop consists in farmyard manure, pati mannu (earth from old village sites). As for manuring of sugarcane, oil cakes are being freely used which are supplemented by Ammonium Sulphate and Nicophos. The quantities are generally fixed to give 100 lbs. of nitrogen for plant crop, 150 for 1st ratoon and 200 lbs. for 2nd ratoon. No systematic experiments were attempted but several promising varieties of cane were brought from Ankapalle Agricultural station and were multiplied on raiyats' lands. The agricultural department posted an Agricultural Demonstrator specially for the benefit of sugarcane growers, but he is, since, transferred.

14. No changes, but the cyclonic weather during the past season lodged the crop badly and in consequence the quality of cane was deteriorated.

15. Except the appearance of rust on Co. 213 during the year 1935, there was no evidence of pest or disease.

16. No. That is the difficulty of the factory. It is not getting enough supply. Co. 243 and Co. 213 are the principal varieties, and they give 25 and 20 tons respectively per acre.

17. Nil.

18. This is not a jaggery manufacturing tract and hence these conditions do not arise.

19. Not in this tract.

	Cost.
	Rs.
20. (a) Preparatory cultivation 6 to 7 ploughings	10
(b) Seed material 2½ tons	25
(c) Labour for planting	6
(d) After cultivation	6
(e) Manure and application	50
(f) Harvesting charges 20 tons	20
(g) Transport charges	30
(h) Water rate, land tax and other cesses	18
Total	165

21. The main difficulties of cane-growers in this district are:—

(1) Irrigation.

(2) Communications (lack of feeder roads).

Cost of transport is the biggest item of expenditure that limits the area under cane cultivation. If these two factors are solved by the Government and probably by the Local Boards respectively the area under cane may increase.

22. (a) The view of the Tariff Board still holds good.

(b) }

23. } Does not arise in this tract.

24. (a) (b) Licencing and interfering with private concerns not desirable.

27. Feeder roads are very bad and in some places they do not exist.

28. (a) About 10 to 15 miles.

(b) 36 to 48 hours.

(c) Brought by open carts and no protection.

29. (a) 1.5 pies per maund of cane per mile.

(b) Carting is done both by their own carts and by hired carts.

The factory authorities loan lorries and rubber tyred carts to cane-growers to bring in cane to the factory.

30. No.

31. The question of detention does not arise, because the cane, as it comes, is crushed then and there.

39. It was mentioned above that this is a Co-operative concern and each shareholder is bound to supply an acre of cane or 20 tons per each share. There is also another organization called the Co-operative Cane-Growers' Society which is financed by local district Co-operative Bank and ryots get advances for manure, seed and other items of cost of cultivation.

41. Ryots supply cane direct to the Factory.

42. On weigh-bridges and prices paid generally within a week. In 1936, the price was As. 6-1 per maund, and in 1937 As. 5-10 per maund.

45. Price of jaggery has no influence on the price of cane here.

47. Not fixed.

50. (a) In 1936, the factory worked for 101 days; in 1937, 79 days.

(b) Cane supply not adequate.

(c) No.

51 & 52. There are very good possibilities for extending the period of cane crushing by the introduction of early and late varieties. It is most regrettable to note that this aspect of the question could not be tackled by the factory itself, nor the results of research obtained elsewhere on agricultural stations which are partly or wholly financed by the Imperial Council of Agricultural Research Station, maintained by the Provincial Government are not of great guidance to this part of the country. It was clearly submitted in my memorandum sent originally that the conditions of climate, soil, and system of cultivation vary so widely that the influence of environmental factors are so great that at each factory sub-stations should be started for the study of sugarcane varieties. This tract has unfortunately no data, experimental or otherwise for their guidance. It is also desirable to raise the status of this crop to that of other crops like paddy, cotton, millets, and oil seeds where each crop has its own specialist with an experimental station at Coimbatore. In its turn each section has a number of sub-stations attached to it in different parts of the Presidency. The Presidency on an average contribute about 115 thousand acres cane and out of this, Circars alone contribute more than 50 per cent. and again Vizagapatam District alone, has about 35 per cent. of the total area. The Anakapalle Agricultural Station in this District, which was originally meant for sugarcane research, should be kept under a specialist. This will

increase the efficiency of the station, and contribute greatly towards continuity of thought, policy and security of tenure for staff, who work at it. This does not involve any additional finance. The Imperial Council of Agricultural Research is subsidising a scheme of research on this station partly and meets all the expenditure for a sub-station at Gudiyatam in North Arcot District.

108 & 109. Detailed answers are submitted by me in my original memorandum to continue the protection.

110. If this industry is to thrive successfully and compete favourably either with Java or with the same in Northern India, the most important and pressing item is *research*. Without proper research on this crop in all its aspects, it is very difficult to produce cane at a cost that can be compared favourably with Java. Cane must be produced and supplied to the factories at the cheapest rates possible. This can be achieved by increasing the tonnage and reducing the cost of cultivation. These in turn involve studies of soil, investigation into the methods of manuring, proper rotation, methods of seed selection, designing of the implements for after cultivation, and every other item in its turn. If other countries are able to produce sugar at very cheap rates, and complete in this market, it is mainly by their intensive research and their successful attempts to solve problems affecting this crop. The enclosed illustration showing the gradual development of this industry in Java clearly indicates and emphasises the necessity for intensive research. Sugar factories, pure and simple, however, efficient they may be, do not get the full benefit, unless facilities are offered to convert the by-products into useful articles of daily consumption.

The East India Distilleries and Sugar Factory, Ltd., South Arcot.

(1) Letter dated the 22nd June, 1937.

We enclose our reply to your Questionnaire covering our Nellikuppam Factory.

Enclosure.

TARIFF BOARD QUESTIONNAIRE.

East India Distilleries and Sugar Factories, Ltd.'s Factory, Nellikuppam, South Arcot.

The existing factory at Nellikuppam was built in 1932 and commenced producing sugar in 1933 with a daily crushing capacity of 700 tons of cane. The crushing capacity has since been increased to 1,000 tons daily. The former factory in the same compound had been producing sugar from cane and palmyrah for very many years. It is now difficult to trace for how long, but milling of cane was certainly being carried out prior to 1882.

2. Output for last 7 years ending 30th September—

	Tons.	Maunds.
1929-30	4,185	113,915
1930-31	5,575	151,751
1931-32	6,931	188,662
1932-33	9,474	257,882
1933-34	7,164	195,004
1934-35	11,993	326,449
1935-36	10,047	273,479

Only one class of sugar is produced and this we have fixed on the basis of Indian Standard 24 B. for the past season. If our daily production is

below this standard we dispose of it otherwise than as our standard quality. Usually we do not market such sugar at all.

3. (a) As regards cane—Yes.

As regards limestone and coal—No.

As regards important markets—Yes.

(b) & (c) Yes.

4. The juice is treated by the lime and heat defecation process and after concentration in the evaporator filtered through *char*.

5. The factory has been entirely rebuilt since 1930. Cost Rs. 23,00,000.

6. Only minor improvements.

7. (a) The overhead charges of a factory decrease relatively per unit increase of crushing capacity. The larger the factory, the less are the proportionate charges on skilled directing staff, depreciation and certain factory operations. The size will ultimately be determined by the capital available, the availability of raw materials at a reasonable price in the neighbourhood and the facility of access to markets.

(b) Under our conditions we consider that a capacity of 1,000 tons daily is necessary for economic working.

8. As far as we know very little sugar factory equipment is available in India. We have, however, placed a trial order for a steel trash plate.

9. (i) We have never applied for or received any.

(ii) The only help we have applied for and received was in connection with an enquiry regarding availability of suitable limestone in Southern India. The results of the enquiry were unsuccessful.

10. Yes. All our land is taken on lease, none being purchased. We have some difficulty in leasing land due to the smallness of the average ryots holding and difficulty in obtaining agreement from the large number of ryots with which it is necessary to deal in order to obtain reasonably large blocks. In 1936 we had in our possession 241 acres owned by 103 different ryots giving an average area of 2.34 acres per ryot. In 1925 we had 2,371 acres in our occupation and the number of lessors was 901 giving an average of 2.63 acres per ryot. We have also had some difficulty in obtaining sufficiently large blocks in which the soil is suitable for sugarcane or the water supply satisfactory.

11. (a) & (b) The total area under our control in 1925 was 2,372 acres when we had over 1,000 acres under cane. Between 1925-26 and 1931-32 we reduced the area under cane to 500 acres and by 1931 the total area under our control was reduced to 1,142 acres. Between 1932-33 and 1934-35 we reduced the cane area to 400 acres and the total area under our control was reduced to 850 acres in 1934. In 1935-36 the cane area was again reduced to 150 acres and the total area under our control in 1936 was 266 acres. Since 1936-37 we are planting about 100 acres of cane and the total area under our control is at present 242 acres.

(c) The varieties of cane planted by the Company during the past four seasons and the current season are as follows:—

	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
	Acres.	Acres.	Acres.	Acres.	Acres.
Fiji B	276	248	9	8	4
Co. 281	40	116	93	29	23
P.O.J. 2878	11	26	34	39	42
Co. 213	64	..	..	..	..
Other varieties	16	10	14	30	43
Total	407	400	150	106	112

(d) *System of cultivation.*—Sugarcane is planted by the Company in the same land every alternate year and the normal rotation is as follows:—

Sugarcane—February-May/February-May.

Kumbu—June/August.

Green manure (sunhemp)—November/December.

Sugarcane—February-May/February-May.

The green manure crop is ploughed in before preparing the land for cane.

Land preparation is done by Steam Cable Plough and ridger as early as possible after the monsoon, the depth of the trenches being about one foot.

Planting is done simultaneously with the cutting.

Only the tops of the canes are used as planting material and the setts are steeped in Bordeaux Mixture before planting.

The trenches are flooded before planting and the setts are pressed into the mud at the bottom of the trenches to a depth just sufficient to cover them.

An irrigation is given about one week after planting and further irrigations are given as necessary throughout the season, the interval between waterings during the very hot weather being about one week. Irrigation is from wells, the water being lifted by 8 H.P. engines and 4" pumps. About 4 to 6 hours of pumping suffices to irrigate 1 acre and the number of hours of irrigation per acre during a season is about 200.

The first weeding is given about 21 days after planting and usually 6 or 7 weedings are given before the cane is finally earthed up at the age of about seven months.

The manure used is a special sugarcane fertiliser mixture which is given at the rate of 14 cwts. per acre in doses as follows:—

1st—7 cwts. about one month after planting.

2nd—3 cwts. about four months after planting.

3rd—4 cwts. about seven months after planting.

These applications give total plant food as under:—

Nitrogen—166 lbs. per acre.

Phosphoric acid—32 lbs. per acre.

Potash—40 lbs. per acre.

The crop is harvested when about 12 months old and transport from the Company's farms, which are situated within a radius of about seven miles from the factory, is by bullock cart.

(e) The average yields per acre in maunds for the past four seasons are as follows:—

Variety.	1933-34.	1934-35.	1935-36.	1936-37.
<i>Fiji B—</i>				
Plant	421	617	350	501
<i>Co. 213—</i>				
Plant	597	...	...	...
Ratoon 1st	358	...	...	...
2nd	397	...	...	...
Total	578	...	...	...
<i>Co. 281—</i>				
Plant	602	788	647	739
Ratoon 1st	671	602	430	708
2nd . . . . .	...	537	370	...
18 months . . . . .	...	...	897	...
Total	607	737	588	730

Variety.	1933-34.	1934-35.	1935-36.	1936-37.
<i>P.O.J. 2878—</i>				
Plant	776	875	912	825
Ratoon 1st	660	767	602	676
2nd . . . . .	...	...	...	619
18 months . . . . .	...	...	669	1,154
	<hr/>	<hr/>	<hr/>	<hr/>
Total	767	875	764	705
	<hr/>	<hr/>	<hr/>	<hr/>
Other varieties	751	924	678	854
	<hr/>	<hr/>	<hr/>	<hr/>
Total	486	671	621	739
	<hr/>	<hr/>	<hr/>	<hr/>

NOTE.—In 1933-34 there was a cyclone and severe cane fly attack.

In 1934-35 the Fiji B was planted in the better soils and Co. 281 in the poorer.

In 1935-36 the small area of Fiji B was planted in experimental control plots only, chiefly under unfavourable conditions.

In 1936-37 conditions were more or less normal.

Sucrose content of varieties.—The sucrose content of Fiji B, Co. 281 and P.O.J. 2878 may be taken as 13, 11.5 and 13 respectively. For other varieties accurate information under factory conditions is not yet available.

12. (a) The whole of the area planted by the Company is now set aside for experiments and for production of seed for distribution to ryots.

(b) In August, 1934, we put down 30 acres of Nurseries for seed cane of Co. 281 and at the beginning of the 1935-36 season we supplied ryots with sufficient seed of this variety to plant about 420 acres. In the same season we sold seed of Fiji B sufficient for planting 120 acres and supplied free seed of P.O.J. 2878 sufficient for planting 12 acres.

In August/September, 1935, we put down 25 acres of Nursery chiefly of P.O.J. 2878 and at the beginning of the 1936-37 season we sold seed of P.O.J. 2878 sufficient for planting 272 acres.

For the 1937-38 season we have sold P.O.J. 2878 seed for about 73.00 acres and seed of Co. 352 sufficient for 12 acres has been supplied free.

In 1938-39 we shall probably supply considerable quantities of seed of Co. 349.

13. For many years we have conducted extensive experiments with different fertilisers and during the past five years alone have experimented with the following:—

Fertiliser.	Season.					
Groundnut Poonae	1932-33	1933-34	1934-35	...	...	...
Cyanamide mixture	1932-33	1933-34	1934-35	...	...	...
Groundnut Sodium Nitrate mixture	1932-33	1933-34	1934-35	...	...	...
Complete sugarcane fertiliser	1932-33	1933-34	1934-35	...	...	...
Cane fertiliser	1932-33	1933-34	1934-35	1935-36	1936-37	...
Sugarcane fertiliser . . . . .	...	...	...	...	1936-37	...
Nitrogenous top dressing . . . . .	...	...	1934-35	1935-36	1936-37	...
Nitrolim	1932-33	1933-34	...	...	...	...
Genzyme	1932-33	...	...	...	...	...

Fertiliser.		Season.			
Potash . . . . .	...	...	1934-35	1935-36	1936-37
Activated compost . . . . .	...	1933-34	1934-35	1935-36	1936-37
Filter press cake compost . . . . .	...	...	1934-35	1935-36	1936-37
Artificial farmyard manure	1932-33	...	...	...	...
Molasses—					
Applied to trenches . . . . .	...	1933-34	...	1935-36	1936-37
Applied to fallow land . . . . .	...	...	1934-35	...	1936-37
Applied to fallow land and aerated . . . . .	...	...	...	...	1936-37
Compost . . . . .	...	...	1934-35	...	...

Regarding variety experiments we have kept in close touch with the Government Cane Breeding Station at Coimbatore and the following varieties have been grown in various stages of development during the past five years:—

Variety.		Season.			
Fiji B	1932-33	1933-34	1934-35	1935-36	1936-37
Co. 281	1932-33	1933-34	1934-35	1935-36	1936-37
P.O.J. 2878	1932-33	1933-34	1934-35	1935-36	1936-37
1499	1932-33	1933-34	...	...	...
2688	1932-33	1933-34	...	...	...
2690	1932-33	1933-34	...	...	...
2714	1932-33	1933-34	...	...	...
2722	1932-33	1933-34	1934-35	1935-36	1936-37
2725	1932-33	1933-34	1934-35	1935-36	1936-37
2727	1932-33	1933-34	1934-35	1935-36	...
2875	1932-33	1933-34	...	...	...
Co. 213	1932-33	1933-34	...	...	...
243	1932-33	...	...	...	...
290	1932-33	1933-34	1934-35	1935-36	...
352	1932-33	1933-34	1934-35	1935-36	1936-37
353	1932-33	1933-34	1934-35	1935-36	...
355	1932-33	1933-34	1934-35	1935-36	...
357 . . . . .	...	1933-34	1934-35	1935-36	1936-37
358	1932-33	1933-34	...	...	...
360	1932-33	1933-34	1934-35	1935-36	1936-37
361	1932-33	1933-34	1934-35	1935-36	1936-37
363	1932-33	1933-34	...	...	...
E.K. 2	1932-33	1933-34	...	...	...
28	1932-33	1933-34	1934-35	1935-36	1936-37
Java Hebal	1932-33	...	...	...	...
J. 247	1932-33	...	...	...	...
D. 131	1932-33	...	...	...	...
M. 55	1932-33	...	...	...	...
Q. 813	1932-33	...	...	...	...
Kavangerie	1932-33	...	...	...	...

Variety.		Season.				
Co. 300	1932-33	1933-34	...	...	...	...
310	1932-33	1933-34	...	...	...	...
312	1932-33	1933-34	1934-35	1935-36	...	...
313	1932-33	1933-34	1934-35	1935-36	1936-37	...
349	1932-33	1933-34	1934-35	1935-36	1936-37	...
364	1932-33	1933-34	...	...	...	...
365	1932-33	1933-34	1934-35	1935-36	1936-37	...
401	1932-33	1933-34	1934-35	1935-36	...	...
402	1932-33	1933-34	1934-35	1935-36	1936-37	...
403	1932-33	1933-34	1934-35	1935-36	1936-37	...
406	1932-33	1933-34	...	...	...	...
407	1932-33	1933-34	1934-35	1935-36	1936-37	...
408	1932-33	1933-34	1934-35	1935-36	1936-37	...
409	1932-33	1933-34	...	...	...	...
411	1932-33	1933-34	1934-35	1935-36	1936-37	...
412	1932-33	1933-34	1934-35	1935-36	1936-37	...
414	1932-33	1933-34	1934-35	1935-36	1936-37	...
415	1932-33	1933-34	1934-35	1935-36	1936-37	...
H.M. 320	1932-33	1933-34	1934-35	1935-36	...	...
Co. 270	...	1933-34	1934-35	1935-36	1936-37	...
299	...	1933-34	1934-35	1935-36	1936-37	...
384	...	1933-34	1934-35	1935-36	...	...
385	...	1933-34	1934-35	1935-36	1936-37	...
400	...	1933-34	...	...	...	...
413	...	1933-34	1934-35	1935-36	1936-37	...
416	...	1933-34	1934-35	1935-36	...	...
417	...	1933-34	1934-35	1935-36	1936-37	...
418	...	1933-34	1934-35	1935-36	1936-37	...
419	...	1933-34	1934-35	1935-36	1936-37	...
B.H. 10 (12)	...	1933-34	1934-35	1935-36	...	...
Co. 331	...	...	...	1935-36	1936-37	...
420	...	...	1934-35	1935-36	...	...
421	...	...	1934-35	1935-36	1936-37	...
422	...	...	1934-35	1935-36	1936-37	...
423	...	...	1934-35	1935-36	...	...
424	...	...	1934-35	1935-36	...	...
425	...	...	1934-35	1935-36	...	...
426	...	...	1934-35	1935-36	1936-37	...
427	...	...	1934-35	1935-36	...	...
428	...	...	1934-35	1935-36	1936-37	...
429	...	...	1934-35	1935-36	...	...
430	...	...	1934-35	1935-36	1936-37	...
431	...	...	1934-35	1935-36	...	...
Total	48	63	50	51	34	...

The testing of varieties is divided into six stages. The first stage is when a few sets of a new variety are received and the main object is to increase the quantity for later experiments. In the second stage the

variety is planted in one or two five cent. plots for comparison against the standard varieties. In the third stage it is planted in 1 acre in four $\frac{1}{4}$ acre plots against standard varieties and in the fourth stage it is planted out on a field scale by the Company without control plots. Varieties which have given satisfactory results in all these stages are then issued to a few selected ryots (stage five) and if found satisfactory are then released for general planting by ryots (stage six). All varieties which have reached stage three are also planted in stage two trials and those that have reached stage four are planted in stages three and two, and so on.

Varieties reaching the stage for general planting and also varieties known to be particularly early or late are tested for maturity at fortnightly intervals and if considered desirable plantings are arranged at monthly intervals between January and October. These monthly plantings have been done in the case of Fiji B, Co. 281, Co. 352, Co. 353, Co. 355 and P.O.J. 2878.

As a result of information obtained from these trials Co. 281 has been introduced as an early variety and Co. 352 is also being developed from this point of view. No suitable late variety has yet been discovered.

Work in connection with varieties has been done chiefly with the co-operation of the Coimbatore Cane Breeding Station. The Government Experiment Station at Palur has been testing varieties but recent records of this work have not been available to us. A request in 1933 for a copy of the Agricultural Station Report for 1931-32 could not be complied with as on account of economy in printing only limited copies of the Reports were printed.

The Palur Farm has always been open to us and the Managers have always given us full opportunities for inspecting the farm but more can be learned from records of results than from inspection in the field and we hope that it will be possible to obtain detailed results in future.

14. Practically the whole quantity available within a radius of 35 miles of the factory has been dealt with.

Tonnages crushed are given below:—

Year.	Tons.	Maunds.	Pol. per cent. Cane.
1930-31 . . .	60,032	1,634,071	...
1931-32 . . .	78,333	2,132,224	...
1932-33 . . .	94,395	2,569,432	13-12
1933-34 . . .	81,121	2,208,114	11-37
1934-35 . . .	129,639	3,528,774	11-74
1935-36 . . .	95,911	2,610,697	12-93
1936-37 . . .	108,501	2,954,000	12-56

15. Cane in this area is not liable to damage from *frosts*.

Diseases do not cause a great deal of damage. Red Rot is occasionally severe following weakening of the crop by other causes. "Smut" disease was very severe in Co. 213 in 1933-34 and in 1934-35 other varieties were badly infected but by the adoption of control measures recommended by the Government Mycologist it has been brought under control and is now practically non-existent in our own farms. It has been found to be still present on a small scale in ryots' ratoon crops, but is not at the moment a source of great anxiety.

The principal *insect pests* are Cane Fly (*Pyrilla*), Borers, Mealy Wing (*Aleurodes*), and Mealy Bug (*Ripersia sacchari*).

Cane Fly caused severe damage in 1933-34 and although the attacks have since diminished in severity it still did considerable damage in certain localities in 1936-37 and is a cause of great anxiety to us. Estimating the loss is very difficult but in 1933-34 it was probably responsible for a 10

per cent. reduction in tonnage and a 5 per cent. reduction in quality for the whole crop.

Information regarding the damage done by borers is meagre but the damage is probably considerable. A small survey early in 1936 indicated that 26 per cent. (by number) of the canes showed a red discoloration of the fibre chiefly as a result of borer damage and the percentage of unsound material was 9.88 by weight of the total examined. The juice quality of the unsound canes was considerably poorer than that of the sound canes and it was estimated that the total reduction in quality caused by borer attacks was about 2.83 per cent.

Mealy Wing has not done a great deal of damage in the past but the recently introduced Co. 281 appears to be particularly susceptible to its attack and since Co. 281 is being planted on a large and increasing scale the pest may assume considerable importance in the near future. It would be a serious matter both to ourselves and the ryots if Co. 281 had to be dropped on this account.

Mealy Bug does appreciable damage in certain cases the extent of which, however, cannot be estimated.

16. During recent years adequate supplies of cane have been obtained, the area planted by our ryots having risen from 1,400 acres in 1926-27 to over 2,000 acres in 1929-30, over 4,000 acres in 1932-33, over 5,000 acres in 1933-34 and nearly 6,000 acres in 1936-37. We have, however, to face considerable competition from other crops as will be seen from the areas of the principal crops grown in the three taluks from which we take practically all of our supplies.

	Paddy.	Sugarcane.	Cotton.	Groundnut.
1933-34	208,973	6,515	701	161,266
1934-35	189,655	7,966	1,893	123,655
1935-36	190,234	6,653	5,784	112,905

In the Cuddalore Taluk the cotton area has increased from 167 acres in 1933-34 to 3,475 acres in 1936-37, and there has been a falling off in cane supplied to us from our local sections from 3,700 acres to 2,000 acres, but we have been able to obtain increased supplies from further afield, chiefly from the Tirukoilur Taluk where the cotton area has only increased during the same period from 43 to 200 acres, and where some ryots have turned over from paddy to sugarcane. Sugarcane from this area has come to us only because jaggery prices have fallen from about Rs. 25 to Rs. 30 per candy of 500 lbs. in 1935 to about Rs. 17 in 1937.

In view of the very large areas of other crops chiefly paddy and groundnut, a rise in price for these commodities which resulted in only a small percentage of increase in their areas might mean a serious decrease in the cane area and our cane supplied can only be assured by a sufficiently attractive price.

The principal varieties crushed in this factory are Fiji B, Co. 281 and P.O.J. 2878, the percentages of each for the past three seasons being as follows:—

	1934-35.	1935-36.	1936-37.
Fiji B	94	76	71
Co. 281	4	22	21
P.O.J. 2878	...	1.3	7
Other varieties	2	0.7	1

For 1937-38 we expect to have about 49 per cent. Fiji B, 28 per cent. Co. 281 and 21 per cent. P.O.J. 2878.

The sucrose contents of the varieties are approximately 13 per cent. in the case of Fiji B and P.O.J. 2878 and 11.5 per cent. in the case of Co. 281.

The average yields per acre obtained by the ryots during the past three seasons are as follows:—

Variety.	1934-35.		1935-36.		1936-37.	
	Area.	Per Acre.	Area.	Per Acre.	Area.	Per Acre.
Fiji B.	5,455	586 Mds. 21·53 tons.	4,031	495 Mds. 18·18 tons.	4,497	467 Mds. 17·15 tons.
Co. 281	127	..	970	528 Mds. 19·34 tons.	1,072	549 Mds. 20·19 tons.
P.O.J. 2878 . . . . .	..	..	17	*	279	*
Total	5,582	586 Mds. 21·53 tons.	5,018	502 Mds. 18·43 tons.	5,848	492 Mds. 18·08 tons.

The Co. 281 area included 112 acres of ratoon in 1935-36 and 471 acres of ratoon in 1936-37. Plant and ratoon yields cannot be separated. The area of ratoons of other varieties is negligible.

Our position can never be considered secure unless the protection on sugar is sufficient to enable us to pay for our cane in competition with other crops. In the meantime, as explained elsewhere, we are endeavouring to increase the return to the ryots by the introduction of improved varieties. We also help ryots in numerous other ways.

17. There is no other factory competing for cane supplies.

18. (a) & (b) There has been a substantial increase in the area of cane available to us since the introduction of protection largely due to development of transport by rail from more distant areas. Locally there have been some important reductions of area, *vide* answer to 16, paragraph 2.

19. Restriction by Government is not necessary in an area as we are able to contract only for the area we require.

20. The cost of cultivating 1 acre of plant sugarcane of the Fiji B variety by the average ryot is estimated to be about Rs. 240 for dry land and Rs. 190 for wet land as detailed below:—

	Dry.	Wet.
	Rs.	Rs.
Land preparation	12	15
Planting	3	3
Fertiliser sugarcane fertiliser Rs. 78-12 or groundnut 6 cds.	80	80
Cultivation	21	13
Irrigation	60	8
Harvesting	15	15
Transport Rs. 2-8 x 20	50	50
	<u>241</u>	<u>189</u>

* On account of the large quantity of cane used for seed purposes the field yield of P.O.J. 2878 is not accurately known, but it is estimated at about T. 30 or 816 maunds per acre.

In neither case is rental included but if the land had to be leased rentals would amount to about Rs. 30 per acre for dry land and about Rs. 70 for wet land giving totals of about Rs. 270 and Rs. 260 respectively for dry and wet land.

These costs allow for payment of labour, but in many cases the work is done by the cultivator himself or members of his family in which case practically the only out of pocket expenses are for fertiliser and perhaps a little extra labour engaged for harvesting and transport.

For Co. 281 plant cane the cost per acre is probably less by about Rs. 50 per acre on account of savings of about one-third in the items manure, cultivation and irrigation as many ryots economise with this variety. For ratooned cane of Co. 281 variety there would be a further saving of probably Rs. 10 per acre on account of land preparation and planting.

The costs for the different varieties are therefore approximately as under. Our own farm costs are given for comparison.

	E. I. D.	Ryots.	
		Dry.	Wet.
(a) Plant Cane Fiji B.			
Land preparation	19	12	15
Planting	3	3	3
Fertiliser	80	80	80
Cultivation	29	21	18
Irrigation	51	60	8
Harvesting	20	15	15
Transport	49	50	50
Total	251	241	189
Including rental	285	271	259
(b) Plant Cane Co. 281.			
Land preparation	19	12	15
Planting	3	3	3
Fertiliser	80	53	53
Cultivation	29	14	12
Irrigation	51	40	6
Harvesting	20	15	15
Transport	49	50	50
Total	251	187	154
Including rental	285	217	224
(c) Ratoon Co. 281.			
Land preparation	3	3	3
Planting . . . . .	...	...	...
Fertiliser	63	53	53
Cultivation	17	14	12
Irrigation	41	40	6
Harvesting	20	15	15
Transport	41	50	50
Total	185	175	139
Including rental	221	205	209

For P.O.J. 2878 the costs will be the same as for Co. 281.

The average yields obtained by ryots are given in our answer to Question 16 and average yields for E. I. D. cane in reply to Question 11 (e).

Comments.

(a) *Plant Cane Fiji B.*—Our land preparation cost is higher than the ryots as we use stock tackle which is more expensive than hand labour but is quicker.

Our cultivation costs would be somewhat higher than the ryots as we do better work and probably pay higher wages.

Our irrigation charges on dry land may be less by the use of oil engines on large areas.

Our harvesting cost is the average for all varieties of plant cane and the yield is appreciably higher than the ryots.

Our transport charges are roughly the same as the ryots as we have a heavier crop but somewhat shorter lead.

(b) *Plant Cane Co. 281.*—The reduction in the ryots' costs as compared to Fiji B is due to savings on manure, cultivation and irrigation. Our costs are the same as for Fiji B as we give Co. 281 the same treatment as for Fiji B and obtain a heavier yield than the ryots (1936-37 Co. 281 average yield ryots—T. 20-19, E.I.D. 26-84).

(c) *Ratoon Cane Co. 281.*—Our and ryots' costs are less than for plant cane on account of savings on land preparation, and planting. Our fertiliser costs are lower as the ratoon crops are not green manured. Cultivation and irrigation costs are lower as the system permits savings on these items.

21. The main difficulties of local cane-growers in the cultivation of cane are poor soil and a water supply inadequate to enable the comparatively weak Fiji B variety of cane to withstand the very hot weather experienced for several months of the year. These difficulties are likely to be lessened by the introduction of more hardy varieties which are at present under development.

Another serious difficulty is the high cost of transport to the factory which varies from 5 per cent. to 30 per cent. of the total expenditure incurred. These problems have to be solved by more economic transport vehicles and reduced railway freights. Pneumatic tyred carts introduced for trial during the 1936-37 have carried cane at less than half the cost by country carts and the question of using open wagons for rail transport at lower rates than for closed wagons is already the subject of experiment.

22. (a) We met with a certain measure of success in obtaining land on lease so long as expansion was gradual and we were able to pay attractive rentals and at one time acquired a total of 2,371 acres. This area however proved uneconomic and we have now reduced our area to the requirements of experimental Farms.

In view of the intensive cultivation of all crops practised in this area and the keen demand that exists for land we do not consider that in the event of our wishing to expand our cane planting rapidly it would be possible to acquire a sufficient area of the right type of land in compact blocks without special measures being taken by Government for land acquisition and fixing of fair rentals.

(b) We do not consider that any special scheme for the allotment of areas in Southern India is necessary at present.

23. The same assistance as at present.

24. (a) We are not in favour of fixation by Government of a quota for sugar manufacture by factories in Southern India.

The production in Southern India is not sufficient to meet requirements and we are strongly opposed to any All-India fixation of a quota which would

preclude any further expansion of the industry in Southern India and would prevent Southern India becoming self-supporting.

(b) We are strongly opposed to licensing of new factories or the licensing of extensions of existing factories in Southern Indian for the reasons already stated in (a).

	Rail.	Gate.	Tram.
	Per cent.	Per cent.	
25. 1930-31	4.91	95.09	...
1931-32	10.75	89.25	...
1932-33	22.67	77.33	...
1933-34	37.42	62.58	...
1934-35	48.94	51.06	...
1935-36	63.30	36.70	...
1936-37	66.04	33.96	...

The steady increase in proportion of rail cane is due to introduction of concession freight rates enabling us to go further afield for the increased supplies necessary to operate out new factory at full capacity. It has also been necessary to go further afield as the cotton area near the factory has increased.

26. Carts only are used. Average weight of cane carried per cart is about 13 cwts.

We introduced 12x4 wheeled Dunlop carts during 1937 crop. The average load carried was 65 cwts. effecting a reduction in cost of transport by 50 per cent. This form of transport will probably be developed but the cost of the carts is at present very high. The 2 wheeled Dunlop cart proved unsuccessful in previous seasons.

27. On the whole the mileage of roads in the vicinity of the factory can be considered adequate. Generally the condition of the main road is good, but the feeder roads in most cases are bad.

28. The maximum distance from which cane is brought by cart is 17 miles, but this is exceptional and most of the cane comes from less than 10 miles.

Cane to be transported by cart is normally cut and delivered at the factory within 24 hours, the average time probably being about 20 hours. In a few cases carts are covered by gunny paduthas chiefly with the object of making pilferage difficult, but in most cases no special efforts are made to protect at the cane from deterioration during road transport.

29. The cost of transport of cane by cart per maund per mile ranges from about 1.2 pies to 4.9 pies the average probably being about 2 pies per maund.

A few cane-growers employ their own carts but in most cases carts are hired.

Rates are generally fixed at so much per trip according to the distance, the rate usually allowing for earnings by the cart owner of about Rs. 1-8 per day.

30. No tolls or other dues are levied on carts supplying cane to our factory.

31. Cart orders are issued for the following days requirements and the orders are valid for 24 hours only (6 a.m. to 6 a.m.). So far as possible orders are issued in accordance with dates of planting.

The normal period of detention at the factory is about 2 hours.

The recent introduction of the system of having the orders valid for only 24 hours has improved control and the progressive increase in rail-borne traffic has considerably lessened congestion.

32. The maximum distance from which cane is transported by rail is 11 miles, but about 85 per cent. of this rail cane is within a 35 mile radius.

The average time taken between cutting and delivery at the factory would probably be about 48 hours.

We work in very close co-operation with the Railway Company and except that certain of the wagons supplied are unsuitable for cane traffic, arrangements for transport are considered satisfactory. Negotiations are in progress with the Railway to ensure a more suitable type of wagon throughout. We are not in favour of a flat rate unless it means a reduction.

33. Railway freights are calculated on a maundage and mileage basis, the present rates for closed wagons being as follows:—

Distances.	Rate.	
	Per maund.	Per ton.
	As. P.	Rs. A. P.
0—5 miles	0 6	0 13 8
6—10 „	0 7	0 15 11
11—35 „	0 10	1 6 9
36—50 „	1 0	1 11 3
51—60 „	1 2	1 15 10
61—70 „	1 3	2 2 1
71—80 „	1 4	2 4 4

These rates have been in force since the beginning of the 1935-36 cane season.

The minimum weight charged for from the 1st February, 1937, is 120 maunds for all types of wagons.

In December, 1935, the Railway Company announced that the rates hitherto in force would be increased from the beginning of the 1935-36 cane season.

The proposed new rates meant an increase of as much as 40 per cent. for a great deal of the traffic, the average for all traffic being about 27 per cent. The proposal was opposed by us and as a result the proposed increases were cancelled and new rates as at present were introduced. In the case of the more distant traffic the new rates are a slight improvement on the old.

Up to the beginning of the 1935-36 cane season the minimum weight charged for all types of wagons was 160 maunds. Early in that season we were able to get the minimum weight charged for reduced to 120 maunds for the smaller (B. type) wagons and from the 1st February, 1937, the Railway Company fixed the weight at 120 maunds irrespective of the type of wagon.

Towards the end of the 1936-37 season the question of using open wagons was taken up and will be still further explored next season. For traffic in the open wagon lower rates than for the closed wagons have been allowed the rates being as follows:—

	Closed Wagons.		Open Wagons.	
	Per maund.	Per ton.	Per maund.	Per ton.
	As. P.	Rs. A. P.	As. P.	Rs. A. P.
0—5	0 6	0 13 8	0 4	0 9 1
6—10	0 7	0 15 11	0 4	0 9 1
11—30	0 10	1 6 9	0 8	1 2 2
31—35	0 10	1 6 9	0 9	1 4 5
36—40	1 0	1 11 3	0 10	1 6 9
41—45	1 0	1 11 3	0 11	1 9 0

34. We have no remarks to make.

35. We have no Tramway service.

36. We consider that a Tramway system could only be operated successfully with large compact cane areas and would not suit us.

37. We are not able to estimate the extent of deterioration of cane owing to delay in delivery but it is known to be rapid and very serious from the middle of April onwards when the weather becomes very hot in South India.

38. (a) & (b) We do not deal with agents or contractors and with one small exception all our cane is purchased direct from the growers. The exception is in the case of a few money lenders who do not themselves plant but have cane registered in their names in order to recover money due to them and who finance the actual growers. The total area concerned would not at present exceed more than about 100 acres.

39. In December each year the area of cane we require to be planted by ryots during the ensuing season is decided and the prices we are prepared to pay for this cane are published. This means that at the beginning of January, 1937, we advertised the prices that will be paid for cane crushed in January/May, 1938. See Enclosure I.

With the Cane Prices Notice we also distribute a form of Application for Cane Registration (Enclosure II) which is filled up and returned to us by the ryots wishing to supply cane.

These offers are accepted in full or part or are refused, according to our requirements. In considering acceptance, due regard is paid to the history of the ryots connection with the Company and so far as possible those whose connection has been long and regular receive preference. An acceptance letter (Enclosure III) is sent by us and this completes the contract with the ryot. If the offer cannot be accepted a refusal letter (Enclosure IV) is sent.

Advances are given in cash according to Schedule (Enclosure V).

We do not supply fertiliser directly ourselves, but we have a working arrangement with Messrs. Parry & Co., Ltd., of Cuddalore, by which fertilisers tested and approved by us are supplied on credit against a bond on the crop which is to be supplied to the factory.

A certain amount of seed is supplied by us and the value is usually deducted from the first cash advance.

In some cases we also arrange for seed to be supplied by one ryot to another, the value being adjusted in the respective ryots cane accounts.

The total cash, fertiliser and seed advances amounted to Rs. 3,94,122 in 1934-35, Rs. 3,92,357 in 1935-36 and Rs. 5,05,632 in 1936-37. The advances in the form of fertilisers have increased greatly in recent years and now total about one lakh of rupees yearly.

Other forms of assistance to ryots are hiring out pumping installations, selling pumping installations and preparing land.

We have also demonstrated in the ryots plots measures for controlling insects and disease, the cost of this work being as follows:—

	Insect Pyrilla.	Disease Smut.
	Rs.	Rs.
1935-36	2,612	...
1936-37	281	271

40. No commission of any sort is paid, vide answer to Question No. 38.

41. No.

42. The arrangements for weighment of cane are as follows:—

(a) Cart.—Cane arriving by cart is unloaded into our own tipping trucks. The loaded truck is then weighed on a Denison's

fraud-proof net weighing, ticket printing machine. The net weight is stamped on a ticket which is handed to supplier (Enclosure VI). A duplicate of the weight and name, etc., is recorded on a roll which is removed at the end of each 24 hours and the cane supplied is credited to the suppliers account.

- (b) *Rail*.—Cane arriving by rail is weighed on our railway weigh-bridges at the entrance to the factory in the presence of a clerk appointed by the Railway Company, and the name of the supplier and the gross weight of the wagon is recorded. The tare weight is taken as the wagon leaves the factory. The net weight of the cane is then calculated and the cane supplied credited daily to the suppliers account. A receipt is prepared (Enclosure VII) for each wagon load which is handed over or sent to the supplier.

Payment is made in accordance with Company's rules (Enclosure VIII)—

		Per ton.	Per md.
		Rs.	As.
43.	1930-31	19-4051	11-41
	1931-32	16-8194	9-89
	1932-33	15-6721	9-21
	1933-34	14-5398	8-58
	1934-35	14-7448	8-66
	1935-36	13-9642	7-62
	1936-37	13-1042	7-7

These are the average prices paid to ryots and do not include cost of collection of cane.

The 1931-32 and 1932-33 prices include a bonus of Rs. 1-096 per ton or As. 0-828 per maund and Rs. 1-0836 per ton or As. 0-637 per maund respectively paid in accordance with our scheme for bonus payments on cane when sugar prices exceed a basic amount as shown in Enclosure I.

Prices are uniform throughout the season.

44. Please see reply to Question No. 39 and Enclosure I.

45. Please see reply to Question No. 16, paragraph 2.

Practically no jaggery is manufactured within 25 miles of the factory.

46. Jaggery prices have fallen from about Rs. 25, Rs. 30 per candy in 1935 to about Rs. 17 now. The reason for this has not been ascertained but is probably due to overproduction of jaggery and lower sugar selling prices.

47. Prices are not fixed under the Sugarcane Act XV of 1934.

48. Minimum prices have not been fixed by the Government of Madras.

49. We already pay different prices for different varieties.

	Days.		Days.
50.	1930-31 . . . 111	1934-35 . . .	166
	1931-32 . . . 124	1935-36 . . .	132
	1932-33 . . . 143	1936-37 . . .	135
	1933-34 . . . 116		

The variation is due to variation of crop tonnage. Most of these periods have been too long for economical crushing as the quality falls off badly in May. With the present varieties grown the crop should not extend over a period of more than 130 days which is very short for economical working but hitherto we have been able to keep the factory working for a further period of about 3 months on Palmyrah Jaggery.

51. We have hopes of commencing earlier with Co. 281 and Co. 352. Both are thin varieties however and Co. 281 has not been taken up by the ryots with sufficient enthusiasm to enable us to start earlier. Co. 352 has only been issued to ryots this year. We are working for a longer crushing period but it is yet too early to state if our experiments will prove successful.

52. We are unable to keep in touch with the work of the Imperial Council of Agricultural Research and with the exception of the meeting of the Sugar Committee at Coimbatore in 1934 to which we sent representatives have no information apart from Press Reports of its activities.

We understand that a sum of Rs. 60,000 has been allotted from the proceeds of the Excise Duty for improvement of sugarcane cultivation in the Madras Presidency but it is regretted that so far it has not been possible to obtain any part of this for work in this district. Enquiries on the subject were made by us at the end of 1935 as we hoped to be able to obtain a grant and use it for the benefit of our cultivators, but we were informed that the grants are only made to Co-operative Societies. For over a year we have interested ourselves in the formation of such a Society. A draft scheme submitted to Government by the Society through the Co-operative Department was turned down and although a new scheme is now under discussion it does not appear likely that any useful work will be possible for some time to come.

The inordinate delay in allocating funds suggests that the methods employed are not suited to the requirements of the situation and that something should be done to speed it up.

We have received willing assistance from the Government Mycologist and the Government Entomologist in connection with the control of diseases and insect pests and the Officers of the Cane Breeding Station at Coimbatore are keenly interested in the production of cane varieties suitable for this tract.

	Crop period.	Silent period.
53. Skilled	254	83
Unskilled	526	85
	<hr/>	<hr/>
Total factory workers	780	168
	<hr/>	<hr/>

In addition to above we employ some 150 labourers unloading cane from rail trucks.

54. None.

55. We have not employed skilled labour from abroad for very many years.

56. The labour comes from highly populated adjoining villages and hitherto housing has only been necessary for certain Adi-Dravidas for whom we have recently constructed 36 modern houses.

A qualified whole time Medical Officer is employed to look after health and sanitation. Tiffin Room and Creche are provided with an Ayah in charge of the latter. Sick leave on half pay up to a maximum of 14 days is allowed to employees with more than 2 years service.

Privilege leave for 6 days per annum is allowed to daily rated labour subject to certain rules regarding attendance.

An annual grant of Rs. 1,000 is made to the local Mission School attended by children of some of our employees.

Employees stores have been established for the supply of food stuffs and support is given to the Employees Co-operative Credit Society.

57. The fibre content of our cane averages between 10 per cent. and 11 per cent. and considerable quantities of coal are required. For the last 7 years amounts spent are shown below:—

	Tons.	Rs.
1930-31	3,918	66,391
1931-32	4,267	74,427
1932-33	5,688	85,952
1933-34	5,329	72,724
1934-35	7,726	103,366
1935-36	6,678	87,849
1936-37	6,770	100,353

58. We produce Molasses, Spirit and Carbon Dioxide.

	Molasses produced 40 Bc.	Average price realised per Md. for Molasses. sold.	
	Tons.	Mds.	As. P.
59. 1929-30	1,733	47,170	...
1930-31	2,412	65,660	...
1931-32	3,385	92,130	...
1932-33	4,126	112,300	...
1933-34	4,322	117,700	2 7-6
1934-35	7,016	191,000	6 2-4
1935-36	4,932	134,300	6 4-3

60. Most of our molasses are used up in our distillery. Sales are made in casks to various people and no special railway facilities have hitherto been necessary. Freight rates amount to Rs. 14-8 per ton to our most distant market.

61. No suggestions.

62. No surplus bagasse.

63. No.

Sugar Stocks.

	Beginning of Crushing.	End of Crushing.	
		Mds.	Tons.
64. 1930-31	41,070	1,509
1931-32	41,210	1,514
1932-33	55,010	2,021
1933-34	56,300	2,068
1934-35	91,920	3,376
1935-36	96,550	3,547
1936-37	186,000	6,832

65. We can store 5,000 tons in specially built sugar godowns adjoining our bagging room and can accommodate another 2,000/3,000 tons in other godowns in our factory compound. Our storage capacity has been more than doubled in recent years and we do not contemplate any further additions meantime as space if required is available near the factory. We could, if necessary, store the whole of our cane season output.

66. We have not hitherto experienced any trouble on account of deterioration during storage.

67. Any damaged sugar is remelted.

68. We have no reply to this question as so far we have experienced no deterioration due to long storage.

69. Damage in transit is negligible as special precautions are taken by us when loading the sugar at the factory to prevent rain water damage. Some damage occurs when transshipment is necessary.

70 & 71. No.

72. We attach a statement.

73. We attach copies of the report and balance sheet. These not only cover sugar but also the various other activities of the Company.

74. The amounts of depreciation written off in our books for the last 7 years are as follows:—

	Rs.		Rs.
1930-31	72,912	1933-34	99,623
1931-32	72,172	1934-35	1,02,315
1932-33	61,371	1935-36	1,08,789

Our rate of depreciation is not the same as that allowed by the Income-tax Department as we depreciate in our books according to the estimated life of each unit.

75. The following amounts have been set aside for reserve during the last 7 years:—

1931-32—£2,500 at Exchange 1s. 6d.=Rs. 33,333.

1932-33—£40,000 at Exchange 1s. 6d.=Rs. 5,33,333 (set aside specially against obsolescence of old factory buildings, plant and machinery).

1935-36—£15,000 at Exchange 1s. 6d.=Rs. 2,00,000.

These amounts were reserved from the profit of the whole company and not only from the sugar factory.

76. We attach a statement showing the actual amount of dividends distributed for the last 7 years.

These dividends are of course paid out of the profit earned by the whole concern and do not only relate to sugar.

77. Our working capital is provided out of the Company's cash reserves and loan are obtained on the security of our stocks from banks. Interest is charged at bank rate with a minimum of 4 per cent. and a maximum of 7 per cent.

78. Our annual head office expenses and Managing Agents' commission are as follows:—

	Office.	Managing Agents.
	Rs.	Rs.
1930-31	1,49,177	6,132
1931-32	1,53,524	19,907
1932-33	1,71,720	32,759
1933-34	1,71,117	11,946
1934-35	1,93,030	18,829
1935-36	1,96,339	25,710

These figures represent that portion of the total which we calculate debitable to sugar.

Commission is allowed to the Managing Agents at the rate of 5 per cent. on the nett profit calculated in India before charging depreciation in India and Managers' commissions.

79. On any industrial undertaking an average of at least 10 per cent.

In such an industry as sugar profits are liable to wide fluctuations. As an instance a cyclone round Nellikuppan may result in such serious damage to the cane fields that the cane could not in such year be worked at a profit.

80. Forms* are attached.

81. The only figures available cover our actual cane working period and are given below:—

	Per ton.	Per Md.
	Rs.	Rs.
1929-30	54-01	1-98
1930-31	56-63	2-06
1931-32	51-07	1-87
1932-33	41-59	1-55
1933-34	40-02	1-47
1934-35	35-40	1-31
1935-36	35-00	1-286

The reductions shown are due to a combination of causes I, II, III and IV.

82. Actual factory working expenses including labour and at factory, fuel, power, packing, etc., but excluding depreciation, Managing Agents' charges, silent period charges, etc., amounted in 1935-36 to Rs. 35 per ton or Rs. 1-286 per maund.

For the present season figures are not yet available as the season has not been completed. We have, however, encountered very serious difficulties in manufacture throughout the season and our working costs for this year will not be lower than those in 1935-36.

We do, however, look for an improvement by making certain additions and alterations in the factory during the annual overhaul, by the introduction of new varieties of cane with higher fibre contents and improvements in our arrangements for the economic use of steam which should enable us to reduce our costs we hope to Rs. 30 per ton or Rs. 1-10 per maund of sugar produced during a cane season not including depreciation, silent season expenses, selling and head office overheads.

83. *Marketing.*—We sell our sugar throughout the whole of South India and more particularly in the following markets:—Trichinopoly, Kumbakonam, Tanjore, Madras, Tuticorin, Tinnevely, Erode, Salem, Coimbatore, Tiruppur, Udamalpet, Palachi. Also quantities are sold in Madras, Cuddalore, Ranipet and Vellore.

We do not now usually sell North of Madras or to the West Coast ports such as Calicut, Cochin, etc.

84. (a) We obtain offers from our up-country branches which are forwarded to our Madras Office. These offers are either accepted or refused. At the time of taking offers a deposit of Re. 1 per bag is obtained from dealers on the terms and conditions as set out in the sugar offer form, a copy of which is attached.

If business is accepted an acceptance is sent to the dealer and the goods are despatched from our factory by rail and Rail Receipts delivered after payment has been received by us in cash.

In the smaller markets we accept orders for a minimum of 5 bags but in the bigger markets we do not sell less than 50 to 100 bags; while we give a special concession of 2 annas per bag for any one dealer taking 500 bags at a time for one market, delivery to be taken within one month.

Owing to our numerous up-country branches we do not usually sell large quantities to wholesale merchants as our policy is to endeavour to

* Not printed.

sell direct as cheaply as possible to the comparatively small retail dealer so as to reach the ultimate consumer by the most economical means.

(b) In South India no contracts are usually made between wholesale dealers and retailers and most of the business is done through local brokers. Dealers issue a delivery order as soon as a sale is made and retailers take delivery subsequently. Payment is usually made within a week.

85. The contract form used by us is suitable. We do not consider the Indian Sugar Mills' Association Contract form suitable for our business as we do not book large forward orders.

86. We attach statements giving as much detail as we obtain.

87. The wholesale and retail prices per bag do not usually fluctuate widely as retail dealers are always anxious to sell at a minimum profit. Usually the margin is between 2 to 4 annas per bag of 2 cwt.

The retail price per lb. of sugar or per viss does not usually fluctuate to any great extent, and the difference between the wholesale selling rate per bag and the retail rate per lb. or per viss is approximately As. 10 per bag of 2 cwt. Actually selling rates of 7 years are not available.

88. Wholesale dealers usually rent separate well-built godowns but storage is often not properly supervised. If reasonable care was taken no damage would be experienced, i.e., sand is not laid on the floor, roofs are not properly inspected, etc. A certain amount of deterioration is therefore experienced if sugar is stored for more than 2 or 3 months in dealers godowns.

Retail dealers usually keep stocks in the premises, and owing to the small size of such stock deterioration is not usually experienced.

On the West Coast, where the rainfall is very heavy, stocks deteriorate quicker, and dealers endeavour to avoid storage during the monsoon months from May to the end of June when the humidity of the atmosphere is very high.

89. The average Indian sugar deteriorates more rapidly than Java or other imported sugars but the higher qualities now produced in this country show an increasing tendency to improve in this respect.

We have not noticed any definite improvement in the keeping quality of Indian sugars but it is still too early this year to state whether the general improvement in quality shown in the production of Indian sugars will have any effect.

20. In the past Java or other imported sugar has been usually preferred to the average quality Indian sugar but the higher grade Indian sugars now produced have been found to satisfy the requirements of manufacturers of sugar candy, sweetmeats, etc., who must use a sugar which will give a good and pure colour in solution.

Sugar candy merchants this year have used entirely better grade Indian sugars and their product has in no way been inferior to that produced when they used the best quality Java or imported sugar.

91. The better grade Indian sugars produced this year have been equal to or above the usual quality of Java or other imported sugars. The average quality Indian sugar produced is not, however, equal to Java as it is smaller in grain, not so pure in colour and lacking in uniformity regarding keeping quality.

92. (a) We ourselves hold stocks and endeavour so far as possible to distribute our production throughout the year.

This procedure is, so far as we are aware, adopted by all manufacturers in this Presidency.

(b) Large dealers in the South hold stocks of North Indian sugars but not usually for more than a month or two.

When necessary we hypothecate stocks to the Imperial Bank at the market rate less a margin of 20 per cent.

93. A Government Marketing Survey of the Sugar Industry would be of great use to the industry, if it were likely to be followed by some form of control over prices which would ensure a reasonable return to the producer.

94. We are in favour of a Central All-India Sugar Selling Organisation.

95. We are in favour of standardisation of the Indian sugar. The basis to be fixed by the Director of the Imperial Institute of Sugar Technology.

96. (a) We have not actually booked any business on the basis of the sugar standards prescribed by the Director, Imperial Institute of Sugar Technology for the reasons referred to under Question 97.

(b) We have used the standards for grading purposes every day and output is compared with the standards and the quality of the sugar manufactured is recorded.

Should our quality fall below the minimum fixed by us such sugar is stored separately and not put on the market as standard production.

97. The standards at present are little known except amongst manufacturers and bazaar dealers have not purchased sets.

We consider that standards covering the greater portion of sugar at present produced in India should be more advertised and the cost of these should be reduced so far as possible. The existing prices at which these are sold are too high and dealers will never purchase these standards unless the cost is considerably reduced. If bazaar dealers do not purchase on a definite quality basis it appears impossible to introduce any All-India quality standards.

The colour standards most in use are those numbered 23, 24, 25 and 26 while grain size can generally be found in A, B, C or D. It is, however, almost impossible to decide the colour of a large grain sugar with the existing colour standards as these are small grain sugars. We therefore suggest that for each of these colour standards there should be four samples which would correspond to the grain sizes mentioned above. For these four colours there would therefore be sixteen samples in all. Then, if it were known that a factory was producing sugar corresponding to Indian Sugar Standard 25-B, it would be a simple matter actually to see the class of sugar being produced.

98. We are strongly against the establishment of a "future" or "terminal" markets as the business would only pass into the hands of big merchants and speculators who would eventually control markets.

99. We estimate the normal consumption of sugar in India at between 1,000,000 and 1,100,000 tons per annum.

Consumption in the Madras Presidency, including the Indian States of Mysore, Travancore, Cochin and the territory east of Hyderabad/Secunderabad in the Nizam's Dominions at 100,000 tons.

We do not consider that there are any possibilities of increasing consumption except to the extent demanded by the gradual improvement in the standard of living particularly in the rural districts.

100. We do not consider that factory sugar is replacing gur to any great extent, but, as already stated, the use of white sugar should gradually become more popular with a higher standard of living.

101. We do not consider that there is any possibility as bazaar concerns already manufacture syrup, etc., from white sugar available locally. The majority of the population prefer fresh fruit and the demand for canned fruits is very limited.

102 & 103. We have no information.

104. (a) & (b) Nil so far as South India is concerned.

Export is not feasible until cane growing and manufacturing costs in India are approximately on a par with other large manufacturing countries in the world.

105. (i) The net profit to manufacturers was reduced.

(ii) The net profit to manufacturers was still further reduced and entirely wiped out.

106. A large proportion of the molasses produced by us is used in our distillery. Small quantities are also sold by us locally and in South India through our up-country branches but no special marketing arrangements are made.

107. There is no reason why the export of molasses should not be developed as has been already done by the United Molasses Co., from areas where there are a large number of factories situated.

It would be difficult to arrange the requisite transport facilities in the case of isolated factories.

108. The measures of protection have, we consider, been entirely effective during recent years as it proved by almost entire cessation of imports.

109. Quotations for Java Sugar for export have recently risen very considerably and it does not appear that present prices should be considered when deciding the measure of protection necessary for the Indian sugar industry.

During the recent years, it was, we understand, possible to purchase Java sugar at Rs. 3-8 per cwt. c.i.f. East Coast ports. The landed cost, therefore including duty would have been as follows:—

	Rs. A.
Per cwt. c.i.f.	3 8
Landing charges per cwt.	0 3
Duty and surcharge per cwt.	9 4
Total	12 15

or Rs. 258-12 per ton.

Allowing Rs. 10 per ton as the value of the higher quality Java sugar usually imported the Indian sugar industry must sell at Rs. 248-12 at terminal port to compete. If excise duty is deducted this is nett Rs. 208-12 at terminal port. At the present price of cane in South India the current duty and surcharge should be maintained if the cane ryot and the sugar producer are to receive a reasonable profit.

110. We consider that concentrated efforts by the Agricultural Department should be maintained to improve the varieties of cane now grown in India. The breeding of new varieties of cane should be undertaken in consultation with factories who have already control over the varieties of cane planted in their districts and who are at present carrying out considerable experimental work at their own cost.

Enclosure I (English original).

THE EAST INDIA DISTILLERIES AND SUGAR FACTORIES, LTD.,
(Incorporated in England.)

CANE PRICES NOTICE, 1937-38.

The Company will pay on the following scales for cane delivered at the factory in 1938:—

Sugar Price.	Fiji B.	Price including bonus, per ton cane.
Per ton 2,240 lbs.	Co. 281 and P.O.J. 2878.	
Rs.	Rs. A. P.	Rs. A. P.
275	16 6 6	12 15 0
270	16 2 9	12 12 6

Sugar Price. Per ton 2,240 lbs.	Price including bonus per ton cane.	
	Fiji B.	Co. 281 and P.O.J. 2878
Rs.	Rs. A. P.	Rs. A. P.
265	15 15 0	12 10 0
260	15 11 3	12 7 6
255	15 7 6	12 5 0
250	15 3 9	12 2 6
245	15 0 0	12 0 0
240	14 12 3	11 13 6
235	14 8 6	11 11 0
230	14 4 9	11 8 6
225	14 1 0	11 6 0
220	13 13 3	11 3 6
214	13 8 9	11 0 6
213	13 8 0	11 0 0

Irrespective of sugar prices the Company will pay not less than the following prices for cane:—

Fiji B, Rs. 13-8 per ton.

Co. 281, Rs. 11 per ton.

P.O.J. 2878, Rs. 11 per ton.

Bonus—

Fiji B, 9 pies per ton cane for every rupee rise in price of sugar above Rs. 213 per ton.

Co. 281 and P.O.J. 2878, 6 pies per ton cane for every rupee rise in prices of sugar above Rs. 213 per ton.

Proportionate bonus will be paid for every part of a rupee rise in the price of sugar above Rs. 213 per ton.

The price of sugar means the average price realised on rails Nellikuppam for 1 ton White Sugar between 1st January, 1938, and 30th September, 1938, after deduction of excise duty at the rate or rates ruling between these dates.

For general information the price realised for sugar during the 1936 bonus period was as follows:—

Rs. 219-4-6 per ton.

The prices announced above will apply only to those ryots who make a responsible offer to supply sugarcane as follows:—

- (1) Submit on the prescribed form which is available in the cane office an offer to supply sugarcane.
- (2) The Company will signify in writing its acceptance of such offer.
- (3) The Company will not consider any offer after the required area has been registered in its books.

A. McAVSLAN,
General Manager.

Nellikuppam,
9th January, 1937.

Enclosure II (English original).

APPLICATION FOR CANE REGISTRATION, 1937-38.

To

The East India Distilleries and Sugar Factories, Ltd.,
Nellikuppam.
Sugarcane Season, 1937-38.

Dear Sirs,

I, _____ son of _____ Post, _____
residing at _____ village, _____
Taluk, _____ intend to plant sugarcane to the extent noted
below during the 1937 Planting Season and hereby make application for
registration of this area or such part of it as you may be pleased to
accept:—

Fiji B	Acres.	Cents.
Co. 281 Plant	Acres.	Cents.
Co. 281 Ratoon	Acres.	Cents.
P.O.J. 2878 Plant	Acres.	Cents.
P.O.J. 2878 Ratoon	Acres.	Cents.

The Survey Numbers on which I intend to plant the sugarcane are
as follows:—

Village	Sur. No.	Letter.	Wet or Dry.	Acres.	Cents.
---------	----------	---------	-------------	--------	--------

Further I undertake to supply the whole of the sugarcane grown on
the area accepted by you for registration, for crushing in your factory at
Nellikuppam during 1938 Crushing Season at the price of Rs. 13-8 per
ton for Fiji B, and Rs. 11 per ton for Co. 281 and P.O.J. 2878 *plus*
bonus at the rate of 9 pies per ton for Fiji B and 6 pies per ton for
Co. 281 and P.O.J. 2878 for every rupee rise above Rs. 213 per ton in
the average price realised on rails Nellikuppam for one ton White Sugar
between 1st January, 1938, and 30th September, 1938, after deduction of
excise duty at the rate or rates ruling between these dates.

I will not fail in whole or in part to plant the area accepted for
registration and /or to deliver the produce thereof as and when required
by the Company and I agree to abide by the conditions printed on the
back hereof.

Signature.

Date:

GENERAL CONDITIONS OF OFFER TO SELL SUGARCANE.

The ryot undertakes to plant no variety other than Fiji B, Co. 281,
and/or P.O.J. 2878.

Cane will be cut and delivered to the factory only in strict accordance
with cutting orders issued by the Company.

Each variety of sugarcane will be delivered separately but if mixed
the Company may reject such cane or accept at the rate for Co. 281 only.

The Company may reject in whole or in part, any sugarcane that is
not free from tops and roots or if it is immature, diseased or otherwise
damaged. If by chance or otherwise bad cane is put in the truck and
weighed the Company has the right to pick and reject such cane before
crushing it, and the weight of such rejected cane shall be deducted from
the nett weight entered on the ticket.

Rejected cane shall be removed by the ryot at his own risk and the
Company is not responsible for delivering it back.

The accounts of such ryots as have taken no advance on the sugarcane
or otherwise owe no debt to the Company will be settled preferentially.

(For Office use only.)

No.

Area Accepted.	Fiji B	Ac.	Cents.
	Co. 281 Plant	Ac.	Cents.
	Co. 281 Ratoon	Ac.	Cents.
	P.O.J. 2878 Plant	Ac.	Cents.
	P.O.J. 2878 Ratoon	Ac.	Cents.

Date of Acceptance.

Cane Superintendent.

Enclosure III (English original).

THE EAST INDIA DISTILLERIES AND SUGAR FACTORIES, LTD.,
NELLIKUPPAM.

ACCEPTANCE OF CANE REGISTRATION, 1937-38.

To .

Date

Dear Sir,

With reference to your offer dated _____, to plant sugarcane for supply to the Company during the 1938 crushing season we have pleasure in informing you that we will accept the crop from the following areas:—

	Ac.	Cents.
Fiji B		
Co. 281 Plant		
Co. 281 Ratoon		
P.O.J. 2878 Plant		
P.O.J. 2878 Ratoon		

Total

Yours faithfully,

Cane Superintendent.

Enclosure IV (English original).

THE EAST INDIA DISTILLERIES AND SUGAR FACTORIES, LTD.,
NELLIKUPPAM.

To

Date

Dear Sir,

With reference to your offer dated _____ of sugarcane for 1937-38 season we regret that as our requirements of the Fiji B variety have now been fully arranged for we are not able to accept the _____ acres of Fiji B offered by you.

We are however accepting your offer of the Co. 281 and P.O.J. 2878 variety/varieties and our acceptance letter is enclosed herewith.

We are still in a position to accept a small quantity of Co. 281 and P.O.J. 2878 and if you wish to plant either of these varieties in place of the Fiji B that we are unable to accept please send us a further application immediately for our consideration.

Yours faithfully,

Cane Superintendent.

Enclosure V (English original).

CANE ADVANCE SCHEDULE, 1937-38.

1. Rate of advances per acre:—

Particulars.	First.	Second.	Third.	Total.
	Rs.	Rs.	Rs.	Rs.
Ryots with one acre or less	40	60	20	120
Ryots with more than one acre but less than ten	60	60	20	140
Ryots with ten acres or more	70	70	20	160

Special advances will be considered to ryots with more than 20 acres, but in no case will the amount of such advance exceed Rs. 175 per acre.

2. *Time of advances.*—First advance to be payable three months after planting subject to Cane Inspectors being available.

Second advance in July and August and not less than two months after the first advance became payable.

3. *Sureties.*—Two or more good sureties must be produced whose combined area is not less than twice that of the area of the applicant for advance.

4. *Ratoon Cane.*—Advances at half the above rates will be made on first ratoon crops of Co. 281 and P.O.J. 2878 subject to the crops being properly manured, watered and cultivated. No advance will be made on ratoon crops of other varieties or on second ratoons of Co. 281 or P.O.J. 2878.

5. *Tops.*—The value of tops supplied by the Company will be recovered from the first advance amount.

6. *Interest.*—Interest on advance amounts will be charged at the rate of 5 per cent. per annum.

Note.—The Company does not bind itself to grant advances to any ryot and reserves the right to refuse same without assigning any reason.

A. MCAUSLAN,

*General Manager,
The East India Distilleries and
Sugar Factories, Limited.*

Nellikuppam,

9th January, 1937.

Enclosure VI.

	Ryots No.	Name.	Truck No.	Variety.	Date.	Tons. Cwt. Qr. Lb. Nett.
THE EAST INDIA DIS- TILLERIES AND SU- GAR FAC- TORIES, LTD.						

Enclosure VII.

**THE EAST INDIA DISTILLERIES AND SUGAR FACTORIES, LTD.,
NELLIKUPPAM.**

Truck Cane.

Ryot's serial No.	-
Name.	
S. I. R. Truck No.	
Variety of Cane.	
Date of receipt.	
Nett weight.	Tons.

Officer in charge of Cane Weighment.

Enclosure VIII (English original.)

**THE EAST INDIA DISTILLERIES AND SUGAR FACTORIES, LTD.,
(Incorporated in England.)**

PROCEDURE IN SETTLING RYOTS' CANE ACCOUNTS, 1937-38.

1. Payment, on the basis of our guaranteed minimum prices, will be made at Nellikuppam about 15 days after receipt of information from the ryot that his cane harvesting is over, provided that there is no surety liability.

2. Advances against cane deliveries will be allowed pending settlement of accounts as in para. 1 above subject to previous advances and liability as sureties for advances of others.

3. Payment of bonus, if any, will be made about the middle of October after the Cane Season Sugar Sales Account has been completed.

A. MCAUSLAN,
General Manager.

Nellikuppam,
9th January, 1937.

Enclosure IX.

**SUGAR FREIGHT RATES FROM NELLIKUPPAM TO VARIOUS
PLACES.**

From Nellikuppam to places.	Per maund.	Per ton.
	As. P.	Rs. A. P.
Badagara	9 4	16 0 8
Calicut	9 3	15 14 5
Cochin (Ernakulam)	9 3	15 14 5
Cannanore	9 7	16 7 6
Mangalore	10 0	17 3 0
Tellichery	9 5	16 3 0
Madras	5 3	9 0 5
Tuticorin	5 0	8 9 6
Upcountry	1 0	1 11 6
	to	to
	12 9	21 14 8

Enclosure X.

Average nett prices at Nellikuppam Factory at which sugar has been sold

(Question

	October, 1929, to September 1930.		October, 1930, to September, 1931.		October, 1931, to September, 1932.	
	Nett rate per Md.	Nett rate per ton.	Nett rate per Md.	Nett rate per ton.	Nett rate per Md.	Nett rate per ton.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Badagara . . .	8 9 4	233 9 10	9 12 5	266 1 6
Calicut . . .	8 8 1	231 9 4	8 15 2	243 9 3	10 6 0	282 7 2
Cochin . . .	10 1 10	275 4 2	8 10 4	235 4 8	10 1 3	274 5 7
Cannanore	8 15 1	243 7 5	9 12 2	265 10 1
Mangalore . . .	8 8 8	232 9 0	9 4 7	252 13 5	9 15 9	271 12 6
Tallicherry . . .	8 9 0	233 2 4	9 1 8	247 14 7	9 13 10	268 7 11
Madras . . .	9 7 2	257 2 10	8 14 5	242 3 11	10 4 5	279 12 2
Tuticorin	9 3 10	251 8 6
<i>Up-Country main Markets.</i>						
Bangalore . . .	9 7 5	257 10 3	9 4 2	252 0 2	10 9 10	288 15 4
Coimbatore . . .						
Cuddalore and surrounding areas . . .						
Erode . . .						
Kumbakonam . . .						
Madura . . .						
Negapatam . . .						
Tiruvarur and surrounding areas . . .						
Palghat . . .						
Ranipet . . .						
Salem . . .						
Tanjore . . .						
Trichinopoly . . .						
Tinnevely . . .						
Dindigul . . .						
Pudukottah . . .						
Nilgiris . . .						
Pollachi . . .						
Udamalpet . . .						
Vellore . . .						
Average net at Factory for all markets.	9 6 8	256 7 4	9 2 10	249 14 5	10 7 3	284 8 5

by us for despatch to Ports and Up-country Centres.

No. 72.)

October, 1932, to September, 1933.		October, 1933, to September, 1934.		October, 1934, to September, 1935.		October, 1935, to September, 1936.	
Nett rate per Md.	Nett rate per ton.	Nett rate per Md.	Nett rate per ton.	Nett rate per Md.	Nett rate per ton.	Nett rate per Md.	Nett rate per ton.
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
9 13 10	268 9 5	9 3 11	251 11 4	8 15 8	244 7 8	..	..
9 13 7	268 1 7	9 6 3	255 9 10	8 12 6	239 1 7	8 15 4	243 14 3
9 12 6	266 4 6	9 2 8	249 9 1	8 10 11	236 5 10	..	..
9 14 1	269 0 2	9 4 4	252 4 10	9 1 8	247 14 3	..	..
10 1 5	274 10 10	..	..	9 6 6	256 1 9	..	..
9 14 1	268 14 8	9 4 2	252 0 0	9 5 4	254 0 0	..	..
10 0 9	273 6 9	9 10 3	262 6 11	9 1 11	248 3 6	8 13 8	241 0 8
..
10 6 2	282 10 3	9 14 3	269 4 10	9 7 10	258 5 4	9 3 0	250 1 8
10 3 10	278 18 4	9 13 3	267 8 8	9 5 9	254 14 3	9 2 3	248 12 11

Enclosure XI.

THE EAST INDIA DISTILLERIES AND SUGAR FACTORIES, LTD.

Statement showing dividends distributed on Preference and Ordinary Shares.

(Distributed out of profits of the whole Company.)

	Preference.	Ordinary.	Total.	Exchange.	(Less tax.)			
					Rs.	A.	P.	
	£	£	£	s.	d.			
1929-30	14,000	8,000	22,000	1	6	2,93,333	5	4
1930-31	14,000	2,000	16,000	1	6	2,13,333	5	4
1931-32	14,000	8,000	22,000	1	6	2,93,333	5	4
1932-33	14,000	8,000	22,000	1	6	2,93,333	5	4
1933-34	14,000	6,000	20,000	1	6	2,66,666	10	8
1934-35	14,000	8,000	22,000	1	6	2,93,333	5	4
1935-36	14,000	8,000	22,000	1	6	2,93,333	5	4

Enclosure XII.

MADRAS MARKET.

Wholesale Sugar Prices, Imported and Indian.

Month and year.	Imported per Md.			Indian. per Md.		
				From	To	
	Rs.	A.	P.	Rs.	A.	P.
<i>1931.</i>						
March	9	0	0	...	...	...
April	9	0	9	...	...	...
May	9	7	4	...	...	...
June	9	5	2	...	...	...
July	9	4	5	...	...	...
August	9	4	0	...	...	...
September	11	0	4	...	...	...
October	11	1	1	...	...	...
November	11	0	0	...	...	...
December	11	5	6	...	...	...
<i>1932.</i>						
January	11	3	0	...	...	...
February	10	15	7	...	...	...
March	10	4	7	...	...	...
April	10	6	5	...	...	...
May	10	5	8	...	...	...
June	10	9	9	...	...	...
July	10	12	8	...	...	...
August	10	10	10	...	...	...
September	10	12	8	...	...	...
October	11	5	6	...	...	...
November	11	2	2	...	...	...
December	11	3	3	...	...	...

Month and year.	Imported per Md.	India per Md.	
		From	To
	Rs. A. P.	Rs. A. P.	Rs. A. P.
<i>1933.</i>			
January	10 7 6	...	...
February	10 8 3	...	...
March	10 8 3	...	...
April	10 7 2	...	...
May	10 13 4	...	...
June	10 9 0	...	...
July	10 9 0	...	...
August	10 7 6	...	...
September	10 9 4	...	...
October	10 10 6	...	...
November	10 3 6	...	...
December	10 1 8	...	...
<i>1934.</i>			
January	9 14 8	9 11 0	9 14 0
February	10 1 8	9 11 9	9 14 8
March	10 1 8	9 11 9	9 14 8
April	10 4 7	9 13 3	10 0 2
May	9 13 7	9 10 3	9 12 6
June	9 12 10	9 11 5	...
July	10 0 11	9 13 3	9 14 0
August	9 13 7	9 12 1	9 12 10
September	9 15 1	9 13 3	9 14 0
October	9 10 3	...	...
November	9 15 5	...	...
December	9 12 6	9 4 5	9 8 10
<i>1935.</i>			
January	10 1 8	9 10 3	9 14 8
February	10 0 2	9 4 5	9 5 11
March . . . . .	...	9 3 8	9 5 2
April . . . . .	...	9 5 11	9 8 10
May . . . . .	...	9 7 4	9 11 0
June . . . . .	...	9 8 1	9 12 6
July . . . . .	...	9 7 4	9 10 3
August	9 14 8	9 7 4	9 11 0
September	10 3 1	9 15 5	10 0 11
October	10 6 1	10 4 7	...
November	9 12 6	9 8 10	...
December	9 11 0	9 7 4	9 8 10

Month and year.	Imported	Indian	
	per Md.	From	To
	Rs. A. P.	Rs. A. P.	Rs. A. P.
<i>1936.</i>			
January	9 11 0	9 5 2	9 11 0
February	9 11 0	8 14 7	9 5 11
March	9 11 9	9 0 0	9 7 4
April	9 11 9	8 14 2	9 8 1
May	9 11 9	8 12 4	9 4 5
June	9 11 9	8 12 4	9 6 7
July	9 11 9	8 10 1	9 5 2
August	9 11 9	8 7 2	9 4 5
September	9 11 9	8 5 9	9 4 5
October	9 10 3	8 1 4	9 0 0
November	9 10 3	7 14 4	8 8 8
December	9 8 10	7 5 7	8 4 4*
		8 1 4	8 4 4†
<i>1937.</i>			
January	9 8 10	7 7 0	8 4 4
February	9 7 4	7 1 2	7 11 5
March	9 8 10	7 3 5	7 11 5
April	9 7 4	7 0 5	7 11 5
May . . . . .	...	6 14 2	7 8 6
June . . . . .	...	6 13 6	7 8 6

Enclosure XIII.

COCHIN MARKET.

Wholesale selling prices of imported and Indian Sugars.

Month and year.	Imported	Indian
	Rate per Md.	Rate per Md.
	Rs. A. P.	Rs. A. P.
<i>1938</i>		
January . . . . .	...	11 14 0
February . . . . .	...	11 13 6
March . . . . .	...	11 13 6
April . . . . .	...	10 10 8
May . . . . .	...	10 6 9
June . . . . .	...	10 6 9
July	11 0 5	9 15 0 to 11 0 5
August	10 14 0	9 13-1 ,, 10 8 8
September	10 14 6	9 15 0
October	10 8 8	9 15 0 to 10 15 1
November	10 13 7	11 8 3
December	10 9 9	10 0 11 to 11 8 3

* Old crop.

† New crop.

Month and year.	Imported	Indian	
	Rate per Md.	Rate per Md.	
	Rs. A. P.	Rs. A. P.	Rs. A. P.
1933			
January	10 9 8	10 2 11	to 11 4 4
February	10 8 8	9 13 1	„ 10 14 6
March	10 11 1	9 15 0	„ 10 8 8
April	10 13 7	9 13 1	„ 10 6 9
May	10 8 9	10 0 11	„ 10 6 9
June	10 7 3	9 15 0	„ 10 8 9
July	10 10 6	9 15 0	„ 10 8 8
August	10 3 10	9 15 0	„ 10 2 10
September	10 5 9	9 6 4	„ 9 15 0
October	10 4 10	9 3 5	„ 9 9 3
November . . . . .	...	...	...
1934			
January . . . . .	...	...	...
February . . . . .	...	...	...
March	9 15 8	9 15 6	to 10 4 7
April	9 15 1	...	...
May	9 12 1	...	...
June	9 12 1	...	...
July	10 1 5	...	...
August	9 12 1	...	...
September	9 11 6	...	...
October	9 10 4	...	...
November	9 15 1	...	...
December	9 5 6	...	...
1935			
January	9 7 11	...	...
February	9 5 5	...	...
March	9 3 8	...	...
April	9 10 4	...	...
May	9 13 9	...	...
June	9 15 0	...	...
July	9 15 0	...	...
August	10 1 4	...	...
September	9 14 5	...	...
October	9 15 1	...	...
November	9 9 0	...	...
December	9 9 0	...	...

Month and year.	Imported	Indian
	Rate per Md.	Rate per Md.
	Rs. A. P.	Rs. A. P.
<i>1936</i>		
January	9 9 0	...
February	9 9 0	...
March	9 9 0	...
April	9 12 0	9 1 0
May	9 13 0	9 1 3
June . . . . .	...	8 10 2
July . . . . .	...	8 4 5
		Rs. A. P. Rs. A. P.
August . . . . .	...	8 8 8 to 8 15 3
September . . . . .	...	8 8 0 ,, 8 12 9
October . . . . .	...	8 5 5 ,, 8 10 9
November . . . . .	...	8 4 4 ,, 8 9 8
December . . . . .	...	8 6 4 ,, 8 9 9
<i>1937</i>		
January . . . . .	...	7 6 3 to 8 0 3
February . . . . .	...	7 4 9 ,, 7 8 5
March . . . . .	...	7 2 0 ,, 7 4 10
April . . . . .	...	7 4 0 ,, 7 6 9
May . . . . .	...	6 14 9 ,, 6 15 11

Enclosure XIV.

CALICUT MARKET.

Wholesale selling prices of imported and Indian Sugars for the last seven years.

Month and year.	Imported	Indian
	Rate per Md.	Rate per Md.
	Rs. A. P.	Rs. A. P.
<i>1930.</i>		
March	9 8 9	10 4 7
April	9 8 9	10 5 1
May	9 8 9	10 1 8
June	9 5 11	9 12 9
July	9 4 5	9 6 10
August	9 2 11	9 7 4
September	8 13 1	8 15 0
October	8 9 5	8 15 0
November	8 5 0	8 14 0
December	8 7 11	8 14 0

Month and year.	Imported	Indian
	Rate per Md.	Rate per Md.
	Rs. A. P.	Rs. A. P.
<i>1931.</i>		
January	8 14 8	8 15 0
February	9 2 2	9 12 9
March	9 3 8	9 11 3
April	9 7 4	9 11 3
May	9 8 9	10 0 8
June	10 3 1	10 4 7
July	9 14 9	10 1 8
August	9 11 9	9 15 8
September	10 7 6	11 10 1
October	11 3 4	11 10 6
November	11 12 1	12 5 3
December	11 5 6	12 1 11
<i>1932.</i>		
January	11 5 4	11 11 2
February	11 6 2	11 8 2
March	10 14 10	11 6 2
April	10 8 3	10 12 5
May	10 8 11	10 8 6
June	11 4 9	11 8 2
July	11 3 4	11 7 1
August	11 0 4	11 8 3
September	11 0 4	11 7 1
October	10 15 7	12 1 11
November	10 15 7	12 5 10
December	10 13 5	12 13 8
<i>1933.</i>		
January	10 7 6	11 0 4
February	10 9 8	11 12 5
March	10 14 5	10 13 4
April	10 9 8	10 11 5
May	10 12 8	10 12 5
June	10 10 6	10 12 5
July	10 10 6	10 11 5
August	10 6 1	11 1 5
September	10 11 11	11 1 8
October	10 11 3	11 1 5
November	10 6 1	10 15 4
December	10 6 9	10 15 4

Month and year.	Imported	Indian
	Rate per Md.	Rate per Md.
	Rs. A. P.	Rs. A. P.
<i>1934.</i>		
January	10 0 10	10 1 8
February	10 3 2	10 1 8
March	10 2 5	10 1 8
April	9 13 2	9 14 9
May	9 14 9	9 14 9
June	9 14 9	9 14 9
July	10 3 1	10 6 7
August	9 14 10	...
September	9 11 4	...
October	9 12 6	...
November	10 0 2	...
December	9 9 6	...
<i>1935.</i>		
January	9 14 1	9 10 9
February	9 9 6	9 10 9
March	9 8 9	9 8 9
April	9 11 9	9 10 9
May	10 0 10	9 15 8
June	10 4 7	10 6 1
July	9 14 9	...
August	9 13 11	...
September	9 14 4	...
October	9 14 9	...
November	9 10 4	...
December	9 9 6	...
<i>1936.</i>		
January	9 11 9	...
February	9 10 8	...
March	9 10 8	9 11 9
April . . . . .	...	9 6 11
May . . . . .	...	9 7 4
June . . . . .	...	8 11 7
July . . . . .	...	8 9 5
August . . . . .	...	8 5 0
September . . . . .	...	8 1 4
October . . . . .	...	8 7 2
November . . . . .	...	8 8 7
December . . . . .	...	8 4 3
<i>1937.</i>		
January . . . . .	...	8 1 4
February . . . . .	...	7 8 6
March . . . . .	...	7 4 10
April . . . . .	...	7 4 10
May . . . . .	...	7 1 2

Enclosure XV.

MADURA MARKET.

Wholesale and Retail Selling Prices of Imported and Indian Sugars.

Month and year.	Wholesale prices.		Retail prices.	
	Imported per Md.	Indian per Md.	Imported per Md.	Indian per Md.
	Rs. A. P.	Rs. K. P.	Rs. A. P.	Rs. A. P.
<i>1930.</i>				
April . . .	9 14 8	9 14 2	10 4 7	10 4 7
May . . .	10 9 0	...	11 1 9	...
June . . .	9 6 7	...	9 14 0	...
July . . .	9 8 1	...	9 14 0	...
August . . .	9 8 10	...	9 14 0	...
September . . .	9 8 10	...	9 14 0	...
October . . .	9 0 9	...	9 7 5	...
November . . .	9 0 9	9 0 11	9 7 5	9 7 5
December . . .	9 1 6	...	9 7 5	...
<i>1931.</i>				
January . . .	9 11 9	...	10 4 7	...
February . . .	9 8 5	9 7 10	10 4 7	10 4 7
March . . .	9 14 8	...	10 4 7	...
April . . .	9 12 6	...	10 4 7	...
May . . .	10 2 8	...	10 11 2	...
June . . .	9 15 5	9 8 9	10 11 2	10 11 2
July . . .	9 11 9	...	10 4 7	...
August . . .	10 0 2	...	10 4 7	...
September . . .	11 10 0	11 11 7	12 5 6	12 5 6
October . . .	11 7 10	11 9 8	12 5 6	12 5 6
November . . .	11 13 7	11 5 3	12 5 6	12 5 6
December . . .	11 11 10	11 3 4	12 5 6	12 5 6
<i>1932.</i>				
January . . .	11 7 4	...	12 5 6	...
February . . .	11 7 0	11 8 2	11 14 11	11 14 11
March . . .	10 6 1	...	11 14 11	...
April . . .	10 12 0	...	11 1 9	...
May . . .	10 14 11	10 11 11	11 1 9	11 1 9
June . . .	11 0 4	10 11 5	11 8 4	11 8 4
July . . .	11 1 10	10 11 0	11 8 4	11 8 4
August . . .	11 6 4	10 11 5	11 14 11	11 14 11
September . . .	11 1 10	10 12 11	11 14 11	11 14 11
October . . .	11 5 10	10 13 5	11 14 11	11 14 11
November . . .	11 6 2	10 15 10	11 14 11	11 14 11
December . . .	11 0 0	...	11 8 4	...

Month and year.	Wholesale prices.		Retail prices.	
	Imported per Md.	Indian per Md.	Imported per Md.	Indian per Md.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
<i>1933.</i>				
January .	10 10 10	10 7 0	11 8 4	11 8 4
February .	10 11 11	10 8 0	11 1 9	11 1 9
March .	10 8 7	10 8 6	11 1 9	11 1 9
April .	10 13 0	10 12 5	11 1 9	11 1 9
May .	11 3 3	11 1 9	11 8 4	11 8 4
June .	10 14 6	...	11 8 4	...
July .	11 0 4	10 13 11	11 8 4	11 8 4
August .	10 13 5	...	11 8 4	11 8 4
September .	10 14 6	10 11 11	11 8 4	11 8 4
October .	10 14 6	...	11 8 4	11 8 4
November .	10 10 1	10 9 6	11 8 4	11 8 4
December .	10 8 3	...	11 1 9	11 1 9
<i>1934.</i>				
January .	10 5 8	10 0 8	11 1 9	11 1 9
February .	10 6 5	10 0 2	11 1 9	11 1 9
March .	10 7 11	9 15 8	11 1 9	11 1 9
April .	10 6 5	10 4 7	11 1 9	11 1 9
May .	10 4 11	10 2 8	11 1 9	11 1 9
June .	10 6 1	10 1 2	11 1 9	11 1 9
July .	10 7 2	10 4 1	11 1 9	11 1 9
August .	10 5 4	10 4 1	10 11 2	10 11 2
September .	10 2 9	10 4 1	10 11 2	10 11 2
October .	10 2 9	10 3 1	10 11 2	10 11 2
November .	10 3 2	10 0 2	10 11 2	10 11 2
December .	9 15 9	...	10 11 2	...
<i>1935.</i>				
January .	10 2 4	9 14 2	10 4 7	10 4 7
February .	10 0 2	9 11 9	10 4 7	10 4 7
March .	9 15 9	9 11 3	10 4 7	10 4 7
April .	10 2 9	10 2 2	10 4 7	10 4 7
May .	...	10 6 7	10 11 2	10 11 2
June .	10 6 5	10 5 1	10 11 2	10 11 2
July .	10 5 4	...	10 11 2	10 11 2
August .	10 4 11	10 2 2	10 11 2	10 11 2
September .	10 12 0	10 8 6	10 11 2	10 11 2
October .	10 10 6	10 8 6	11 1 9	11 1 9
November .	10 4 11	10 2 2	10 11 2	10 11 2
December .	10 4 7	9 15 8	10 11 2	10 11 2

Month and year.	Wholesale prices.		Retail prices.	
	Imported per Md.	Indian per Md.	Imported per Md.	Indian per Md.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
<i>1936.</i>				
January	10 7 2	10 1 2	10 11 2	10 11 2
February	10 6 9	10 2 2	10 11 2	10 11 2
March	...	9 11 9	10 11 2	10 11 2
April	...	9 8 9	...	10 4 7
May	...	9 9 3	...	10 4 7
June	...	9 1 11	...	9 14 0
July	...	9 10 3	...	9 14 0
August	...	9 9 10	...	9 14 0
September	...	8 15 8	...	9 0 10
October	...	9 0 9	...	9 0 10
November	...	9 0 0	...	9 0 10
		to		
		8 13 1		
December	...	9 0 0	...	9 0 10
		to		
		8 4 8		
<i>1937.</i>				
January	...	8 1 0	...	9 0 10
February	...	7 14 9	...	9 0 10
March	...	8 1 4	...	9 0 10
April	...	...	...	...
May	...	...	...	...

Enclosure XVI.

TUTICORIN MARKET.

Wholesale selling prices of imported and Indian Sugars.

Month and year.	Imported Sugars.		Indian Sugars.	
	From per Md.	To per Md.	From per Md.	To per Md.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.
<i>1930.</i>				
January	9 0	...	...	...
February	8 11	...	...	...
March	9 7	...	...	...
April	9 12	...	...	...
May	10 4	...	...	...
June	10 3	...	...	...
July	9 1	...	...	...
August	9 6	...	...	...
September	9 0	...	...	...
October	8 14	...	...	...
November	8 14	...	...	...
December	8 13	...	...	...

Month and year.	Imported Sugars.		Indian Sugars.	
	From per Md.	To per Md.	From per Md.	To per Md.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.
<i>1931.</i>				
January	8 12	...	...	...
February	9 6	...	...	...
March	9 8	...	...	...
April	9 9	...	...	...
May	9 9	...	...	...
June	9 13	...	...	...
July	9 7	...	...	...
August	9 5	...	...	...
September	10 7	10 10	...	...
October	11 5	...	...	...
November	11 3	...	...	...
December	11 6	...	...	...
<i>1932.</i>				
January	11 3	11 4	...	...
February	11 4	11 6	...	...
March	10 4	10 9	...	...
April	10 4	...	...	...
May	10 4	10 5	...	...
June	10 7	10 9	...	...
July	10 13	11 0	...	...
August	10 13	...	...	...
September	11 3	11 4	...	...
October	10 13	...	11 2	...
November	11 0	...	10 13	...
December	10 15	...	...	...
<i>1933.</i>				
January	10 9	...	...	...
February	10 4	10 6	...	...
March	10 4	10 6	...	...
April	10 5	10 6	...	...
May	10 9	10 10	...	...
June	10 10	...	10 6	...
July	10 9	...	10 6	...
August	10 7	10 9	...	...
September	10 7	10 8	...	...
October	10 7	10 9	...	...
November	10 6	10 7	...	...
December	10 4	10 5	...	...

Month and year.	Imported Sugars.		Indian Sugars.	
	From per Md.	To per Md.	From per Md.	To per Md.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.
<i>1934.</i>				
January	9 14	9 15	...	...
February	10 0	...	...	...
March	10 1	...	...	...
April	10 1	...	...	...
May	9 9	10 0	...	...
June	9 9	10 0	...	...
July	9 9	10 1	...	...
August	10 0	10 2	...	...
September	9 15	10 2	...	...
October	9 9	9 11	...	...
November	9 10	...	...	...
December	9 11	...	9 15	...
<i>1935.</i>				
January	9 9	...	9 15	...
February	9 5	9 9	...	...
March	9 6	9 10	...	...
April	9 9	...	...	...
May	9 13	...	...	...
June	10 0	...	...	...
July	10 0	...	...	...
August	9 14	...	...	...
September	9 15	...	...	...
October	10 6	...	...	...
November	10 1	...	...	...
December	9 15	10 1	...	...
<i>1936.</i>				
January	9 14	...	...	...
February	9 15	...	...	...
March	9 15	...	9 15	...
April	9 15	...	9 15	...
May	9 15	...	9 10	...
June . . . . .	...	...	9 4	9 5
July . . . . .	...	...	9 0	9 6
August . . . . .	...	...	9 0	9 6
September . . . . .	...	...	8 13	9 0
October . . . . .	...	...	8 10	8 14
November	9 0	...	8 10	8 14
December . . . . .	...	...	8 7	8 10

Enclosure XVII.

COCANADA MARKET.

Wholesale and Retail Selling Prices of Imported and Indian Sugars.

Month and year.	Wholesale prices.		Retail prices.	
	Imported per Md.	Indian per Md.	Imported per Md.	Indian per Md.
	Rs. A.	Rs. A.	Rs. A. P.	Rs. A. P.
<i>1930.</i>				
January	9 14	9 14	10 4 7	10 4 7
February	9 13	9 13	10 4 7	10 4 7
March	10 3	10 4	10 4 7	10 4 7
April	10 3	10 8	10 4 7	10 11 2
May	10 3	10 8	10 4 7	10 11 2
June	10 3	10 4	10 4 7	10 11 2
July	9 15	9 15	10 4 7	10 4 7
August	9 15	10 0	10 4 7	10 4 7
September	9 15	9 8	10 4 7	9 14 0
October	9 15	9 4	10 4 7	9 7 5
November	9 15	9 0	10 4 7	9 7 5
December	9 15	9 1	10 4 7	9 7 5
<i>1931.</i>				
January	9 0	9 0	9 7 5	9 7 5
February	9 10	9 12	9 14 0	9 14 0
March	9 10	9 12	9 14 0	9 14 0
April	9 10	9 8	9 14 0	9 14 0
May	9 10	9 12	9 14 0	9 14 0
June	9 10	10 2	9 14 0	10 4 7
July	10 0	10 2	10 4 7	10 4 7
August	9 10	9 6	9 14 0	9 14 0
September	10 0	10 0	10 4 7	10 4 7
October	11 5	11 5	11 14 11	11 14 11
November	11 5	11 9	11 14 11	12 5 6
December	11 5	12 0	11 14 11	12 5 6
<i>1932.</i>				
January	11 14	11 7	11 8 4	11 8 4
February	11 0	10 15	11 1 9	11 1 9
March	11 6	11 7	11 8 4	11 8 4
April	10 10	10 9	11 1 9	11 1 9
May	10 10	10 11	11 1 9	11 1 9
June	10 10	10 12	11 1 9	11 1 9
July	10 12	10 14	11 1 9	11 1 9
August	10 15	10 15	11 1 9	11 1 9
September	10 12	10 11	11 1 9	11 1 9
October	10 10	10 12	11 1 9	11 1 9
November	10 14	10 14	11 1 9	11 1 9
December	10 15	11 0	11 1 9	11 1 9

Month and year.	Wholesale prices.		Retail prices.	
	Imported per Md.	Indian per Md.	Imported per Md.	Indian per Md.
	Rs. A.	Rs. A.	Rs. A. P.	Rs. A. P.
<i>1933.</i>				
January .	10 12	10 14	11 1 9	11 1 9
February .	10 12	10 13	11 1 9	11 1 9
March .	10 12	10 13	11 1 9	11 1 9
April .	10 12	10 13	11 1 9	11 1 9
May .	10 12	10 13	11 1 9	11 1 9
June .	10 10	10 10	11 1 9	11 1 9
July .	10 10	10 10	11 1 9	11 1 9
August .	10 10	10 11	11 1 9	11 1 9
September .	10 8	10 8	11 1 9	11 1 9
October .	9 8	9 8	9 14 0	9 14 0
November .	10 4	10 4	11 1 9	11 1 9
December .	10 4	10 4	11 1 9	11 1 9
<i>1934.</i>				
January .	9 11	9 0	9 14 0	9 0 10
		9 11		9 14 0
February .	9 11	9 0	9 14 0	9 0 10
		9 12		9 14 0
March .	9 12	9 2	9 14 0	9 0 10
		9 13		9 14 0
April .	9 12	9 2	9 14 0	9 0 10
		9 13		9 14 0
May .	9 13	9 2	9 14 0	9 0 10
		9 13		9 14 0
June .	9 14	9 2	10 4 7	9 0 10
		9 14		10 4 7
July .	9 14	9 3	10 4 7	9 7 5
		9 14		10 4 7
August .	9 14	9 2	10 4 7	9 7 5
		9 13		10 4 7
September .	10 0	9 7	10 4 7	9 14 0
		10 0		10 4 7
October .	10 0	9 7	10 4 7	9 14 0
		10 0		10 4 7
November .	9 15	9 7	10 4 7	9 14 0
		9 13		
December .	9 12	9 3	9 14 0	9 14 0
		9 9		9 7 5

Month and year.	Wholesale prices.		Retail prices.	
	Imported per Md.	Indian per Md.	Imported per Md.	Indian per Md.
	Rs. A.	Rs. A.	Rs. A. P.	Rs. A. P.
<i>1935.</i>				
January	9 0 9 9	...	9 0 10 9 14 0
February	9 0 9 13	...	9 0 10 9 14 0
March	9 4 9 13	...	9 0 10 9 14 0
April	9 1 9 15	...	9 0 10 9 14 0
May	9 2 9 11	...	9 0 10 9 14 0
June	9 2 9 11	...	9 0 10 9 14 0
July	9 0 9 8	...	9 0 10 9 14 0
August	9 0 9 9	...	9 0 10 9 14 0
September	9 0 9 7	...	9 0 10 9 14 0
October	9 5 10 6	...	9 7 5 10 4 7
November	9 0 9 8	...	9 0 10 9 14 0
December	9 0 9 1	...	9 0 10 9 7 5
<i>1936.</i>				
January	9 0 9 8	...	9 0 10 9 14 0
February	9 0 9 4	...	9 0 10 9 14 0
March	9 1 9 6	...	9 0 10 9 14 0
April	9 0 9 4	...	9 0 10 9 14 0
May	8 14 9 1	...	9 0 10 9 7 5
June	8 8 8 12	...	8 10 3 9 0 10
July	8 8 8 12	...	8 10 3 9 0 10
August	8 4 8 6	...	8 3 8 8 10 3
September	8 0 8 3	...	8 3 8 8 10 3
October	8 0 8 8	...	8 3 8 8 10 3
November	8 0 8 3	...	8 3 8 8 10 3
December	7 10 7 12	...	7 13 1 8 3 8

Enclosure XVIII.

NOTE ON THE COST OF GROWING CANE IN SOUTH ARCOT DISTRICT, MADRAS PRESIDENCY.

Towards the end of 1936, 53 Ryots representative of the whole of our area were interviewed with the object of ascertaining their costs of cane cultivation.

Few, if any, ryots are able to make a reliable statement of their total cost and it was only by eliciting one fact at a time and accepting the ryots personal views on each that approximate total costs could be arrived at.

The result showed a variation from Rs. 161 per acre to Rs. 357 per acre with an average of Rs. 251.

The items covered were Land Preparation, Planting, Manure, Cultivation, Irrigation, Harvesting, Carting, Railage.

The heads under which the chief variations occur are Manure, Irrigation and Transport (Cartage and Railage), also cultivation.

Lowest expenditure on Manure was Rs. 33 and highest Rs. 175.

Irrigation highest was Rs. 100 and lowest Rs. 6.

Transport varies with distance from factory and yield, and the latter was usually based on what the Ryot thinks he gets (or hopes to get). Usually the Ryot will say that he gets yields very much in excess of his actual yield.

The highest yield obtained by any of these 53 ryots was 44.11 tons per acre and the lowest 7.82 tons the average being 21.57 tons.

The average cost per ton of cane was therefore Rs. 11.63.

Taking a line through our own costs in which uneconomic doses of manure and irrigation are avoided we estimate ryots costs at Rs. 241 per acre for dry land and Rs. 189 for wet land, rental being excluded in both cases.

With expenditure at these rates the ryots ought to be able to obtain average yields equal to our own which for 1936-37 amounted to Rs. 27.20 tons per acre (mostly new varieties Co. 281 and P.O.J. 2878 Plant and Ratoon excluding normal setts only), with costs of Rs. 8.8 per ton on dry land Rs. 6.95 on wet land.

Roughly 50 per cent. of ryots cane is grown on dry land and 50 per cent. on wet land. The average cost of growing may therefore be taken as the mean of Rs. 241 and 189 or 215 per acre.

This expenditure should be more or less constant whatever the variety and based on the yields shown below, which are the averages of several years extensive experiments made by us the costs per ton of cane should be as shown opposite the variety:—

Variety.	Average Tons Yield from Ex- perimental Plots.	Cost Rupees per ton Cane.	Area represented by tests.
Fiji B	22	9.32	64 x 1/2 acre plots.
Co. 281	32	6.72	40 x 1/2 " "
P.O.J. 2878	36	6.00	24 x 1/2 " "
Co. 349*	43	5.00	4 x 1/2 " "
Co. 419†	46	4.65	4 x 1/2 " "

* 6 x 1/20 acre plots gave average yield of tons 40.25 per acre over 3 seasons.

† 5 x 1/20 acre plots gave average yield of 42.85 tons over 3 seasons.

These comparative yields may find independent corroboration from the results obtained at Palur Government Farm.

Madras, 7th July, 1937.

(2) Letter dated the 15th July, 1937, from the East India Distilleries and Sugar Factories, Ltd.

We shall be much obliged if you will correct the answers to question 43 in our reply to your questionnaire as follows:—

	Rs.		Rs.
1930-31	20-9404	1934-35	14-7448
1931-32	18-2926	1935-36	12-9680
1932-33	17-0888	1936-37	13-1042
1933-34	15-9271		

The error arise by the omission of the half cart hire paid to the ryots by us previous to 1934-35.

(3) Letter from the Tariff Board, No. 452, dated the 11th July, 1937.

During the examination of Sir William Wright and Mr. A. McAuslan before the Tariff Board at Madras on 8th July, 1937, information on the following points was promised to be given in a separate note:—

- (1) An estimate for block capital now required for a sugarcane factory of the size at Nellikuppam.
- (2) A note on the comparative purity of cane juice from damaged and undamaged cane.
- (3) In the written reply to question 109 of the general questionnaire, c.i.f. price for Java sugar is given as Rs. 3-8. The date for which this price has been taken may kindly be given.
- (4) A note on the utilisation of funds contributed by the Government of India from sugar excise duty.
- (5) Figures of production and price realised for carbon dioxide and spirit produced at the Nellikuppam factory.
- (6) A note on the palmyrah tappers and jaggery manufacturers.
- (7) A note on the overhead charges which should be added to the cost of manufacture given on page 4 of the reply submitted by Samalkot refinery.

(4) Letter dated the 14th July, 1937, from the East India Distilleries and Sugar Factories, Ltd.

In reply to your letter No. 452, dated the 11th instant, we enclose herewith notes dealing with points 2 and 4 as well as a note giving areas crushed at Nellikuppam and average prices paid during the last seven years.

Information on the other points referred to in your letter under reply will be sent shortly.

Enclosure No. 1.

NOTE ON FORMATION OF CO-OPERATIVE SOCIETIES IN NELLIKUPPAM AREA FOR UTILISATION OF GRANT FROM SUGAR EXCISE DUTY BY GOVERNMENT OF INDIA.

The question of the formation of co-operative societies in this district to take advantage of the subsidy was first raised by the local Deputy Director of Co-operative Societies early in December, 1935.

Draft by-laws were submitted to us for our views early in January, 1936, but they did not meet with our approval as it appeared that the principal business of the society would be duplication of work at present carried out by us, viz., the granting of advances on the security of the sugarcane crops planted by the member.

We considered that if funds were available they could be spent to the greater advantage of the ryots on demonstrations of improved methods of cultivation and combating pests, chiefly Pyrilla, etc.

On the 11th February, 1936, the Director of Agriculture was interviewed at Madras in this connection. We were referred to the Registrar of Co-operative Societies who was also interviewed at Madras and later we called on him when he was camping in Nellikuppam on the 16th February, 1936. On the 21st February we submitted a note to the Registrar of Co-operative Societies explaining what we had done in connection with demonstration and research and suggesting that pending the formation of a Co-operative Society which was likely to take some time, arrangements might be made to secure a grant to be administered by this Company.

To this the Registrar replied on 31st March, 1936, that the local Deputy Registrar of Co-operative Societies had been instructed to form a Co-operative Society in this district and the subsidy would be administered by this Society.

In the meantime we had been in touch with the Deputy Registrar and we sent a representative to a meeting of ryots held at Nellikuppam on the 16th March at which the formation of the Society was agreed upon.

A meeting of the Society was held on the 19th April, 1936, at which the Board of Directors was elected, one of whom was a representative of this Company. At a meeting it was decided to apply to Government for a grant for this district.

On the 20th April, 1936, we became members of the Society by remitting Rs. 20 towards the share capital and Rs. 1-4 registration fees.

Nothing more was heard by us for some time and on the 6th August we wrote to the Deputy Registrar of Co-operative Societies asking what progress had been made. To this we received on the 25th August a rather surprising reply to the effect that a revised estimate for spending the subsidy had been forwarded to the Director of Agriculture, but no final reply had been received either from the Deputy Director or Director of Agriculture. We were not consulted in the preparation of this estimate.

On the 26th August we asked the Deputy Registrar for a copy of the estimate.

On the 2nd September we received the reply directing us to apply to the Director of Agriculture.

We wrote to the Director of Agriculture the same day and on September 15th we were advised to apply to the Registrar of Co-operative Societies.

A copy of the scheme was received from the Joint Registrar of Co-operative Societies on the 20th October, 1936.

On the 27th October we wrote to the Deputy Registrar expressing our disappointment that the scheme had been put through without our being afforded an opportunity of expressing our views and asked for an

early opportunity of discussing the matter as the proposals afforded considerable grounds for criticism. A discussion was held on the 5th November, 1936.

No further progress was made until early April, 1937, when the Deputy Registrar arranged a meeting with us on the 23rd April which however he later postponed until the 30th April.

At this meeting we learned that the scheme had been turned down by Government and certain amendments to the by-laws were suggested. The amendments were generally approved by us, but a few points were not clear and a further discussion was held on the 2nd June, 1937.

That is the position at present.

The exact grounds for Government turning down the original scheme are not known to us and the information can no doubt be obtained from the Registrar of Co-operative Societies.

Enclosure No. 2.

NOTE OF JUICE PURITIES ASKED FOR BY MR. RAHIMTOOLA.

Replies to Question No. 15.

Mr. Rahimtoola asked for the comparative Juice Purities of the sound and unsound canes. These are given below:—

	74 per cent. Sound canes.	26 per cent. Unsound canes.
Brix	20.73	19.32
Pol	17.91	15.96
Purity	86.40	82.61

Enclosure No. 3.

CANE AREAS CRUSHED AT NELLIKUPPAM FACTORY AND AVERAGE PRICES PAID DURING THE PAST SEVEN YEARS.

Season.	Area crushed.	Average
		price paid per ton.
	Acres.	Rs.
1930-31	3,865	20.9404
1931-32	4,120	18.2926
1932-33	4,556	17.0888
1933-34	5,761	15.9271
1934-35	5,982	14.7448
1935-36	5,168	12.9680
1936-37	5,955	13.1042

(5) Letter dated the 7th September, 1937, from the East India Distilleries and Sugar Factories, Ltd.

We refer you to your letter No. 452, dated the 11th July, 1937.

We have already answered your queries Nos. 1, 2 and 4 and now deal with the remaining ones:—

(8) Business was booked locally in Madras for Java sugar on 12th March, 1937, at Rs. 3-8 per cwt. ex-Madras Harbour godowns.

(5) We enclose two statements A and B giving the figures you require.

(6) We enclose a note.

(7) We have now completed forms 1, 2 and 3 covering our Samaikot factory.

The overhead charges which we have shown have been calculated as follows:--

(a) The rate of depreciation is not the same as that allowed by the Income-tax Department as we depreciate in our books according to the estimated life of each unit.

(c), (d), (e) and (f) represent a percentage of the actual charges incurred the balance being debitable to the Distillery. Confectionary and CO, concerns at our factory.

Enclosure No. 1.

STATEMENT A.

CARBONIC ACID GAS.

	Total production.	Selling price after deducting bonus, railage and charges.	
		Total amount.	Per lb.
	Lbs.	Rs.	As. P
1929-30	1,487,086	2,59,415	2 10
1930-31	1,387,422	2,26,513	2 7
1931-32	1,043,822	1,57,302	2 8
1932-33	1,022,350	1,81,747	2 10
1933-34	986,881	1,86,835	3 0
1934-35	988,998	1,74,584	3 0
1935-36	655,966	1,64,851	3 6

Madras, 7th September, 1937.

Enclosure No. 2.

STATEMENT B.

NELLIKUPPAM SPIRIT STATEMENT FOR 7 YEARS.

Year.	Quantity sold in Proof Gals.	Nett Amount.	Nett rate per Proof Gallon.	
			Rs.	Rs. A. P.
October, 1929, to September, 1930	611,152	9,75,078	1 9	8-5
October, 1930, to September, 1931	445,817	7,07,551	1 9	4-7
October, 1931, to September, 1932	421,670	6,53,021	1 8	9-3
October, 1932, to September, 1933	392,084	5,64,511	1 7	0-4
October, 1933, to September, 1934	390,980	5,17,338	1 5	2-5
October, 1934, to September, 1935	528,365	6,06,279	1 2	4-3
October, 1935, to September, 1936	529,227	6,49,394	1 3	7-5

Enclosure No. 3.

JAGGERY INDUSTRY IN SOUTH INDIA.

Area.—We purchase in three areas—2 in the South and 1 in the North, i.e. :—

- (1) The taluks of Palghat and Walluvanad in the Malabar District.
- (2) Tinnevelly District.
- (3) The area round Nidadavol, Attili and Tadepalligudem in the West Godavari District and Kistna District.

A certain amount of jaggery is also produced in Travancore. The size of the crop is, however, smaller than in the areas mentioned above.

The approximate amount of jaggery produced in each centre for an average year is as follows :—

	Cds. of 500 lbs. each.
Palghat	20/25,000
Tinnevelly	between 80,000 and 90,000
Nidadavol	50,000 to 60,000
Travancore	10,000

All this jaggery is not, of course, taken to refineries but considerable quantities go into direct consumption locally.

Number of tapper employed.—It is difficult to estimate in the Palghat and Tinnevelly areas, but we know that in Nidadavol between 60,000 and 70,000 souls are dependent on the industry during the season, and we estimate about 40 to 50 thousand in Palghat while the Tinnevelly figure must be higher than either. These figures include the tapper and his dependents.

The industry is a very old established one and provides work and a means of livelihood to a large number of people who would not otherwise during the tapping season be able to obtain other employment. During the rest of the year the tapper and his family usually work on the land and after the tapping season return to such employment.

Method of manufacture.—In all areas approximately the same system is followed, there being only slight variations according to local conditions and customs. The manufacture can be divided into three stages :—

- (a) *Preparation of spathes.*—This consists of the removal of surplus leaves from the trees and the trimming and cutting of spathes.

After trees start to yield, spathes are trimmed twice daily in the morning and the evening.

Spathes consist of two kinds—those appertaining to the male and the female trees and the method of dealing with each differs slightly in detail. The male and female spathes also yield at different times, the male yielding earlier in the season than the female.

- (b) *Collection of Juice.*—From 3 to 6 days after cutting the spathes, earthenware pots in which is contained a certain quantity of lime are tied over the ends, or where the spathe is inaccessible or pots insufficient, a channel of palmyrah leaves may be used

to lead the juice of several spathes into one pot. The juice is brought down the tree once daily between 5 a.m. and 10 a.m. but if trees are yielding well the juice is occasionally also brought down later in the day.

Spathes are also trimmed at least once a day in the evening. A tapper may tap between 20 and 30 trees daily.

- (c) *Boiling of Jaggery.*—The limed juice from the pots is brought down from the trees and taken to the tapper's wife who is responsible for the boiling of the juice. The boiling usually commences in the early morning and is continued for 2 to 3 hours in a large iron pan or other suitable vessel until a small sample dropped into cold water will harden. The boiling is then decanted into another vessel and, after stirring well, poured into palmyrah baskets or gunny moulds and allowed to settle.

During boiling constant stirring of the juice and removal of the scum are essential. Also care must be taken to maintain a uniform heat.

In different areas, different kinds of jaggery are produced. In Nidadavol only one kind is produced which we usually purchase. In Palghat two kinds are produced—one called 'Mat' which goes direct into consumption and is of slightly superior quality and the ordinary quality which is purchased by us.

In Tinnevely there are three kinds—Shell, Thondi and Pattai.

Shell jaggery is produced by pouring cooled juice into coconut shells. This is for export or household use. Thondi jaggery is produced by pouring cooled juice into large size palmyrah baskets and is usually purchased by us or by other refineries. Pattai jaggery is produced by pouring cooled juice into cup-shaped containers and is also usually supplied to refineries.

During boiling castor seeds are sometimes added to prevent loss by foaming.

The wood required for boiling the jaggery is usually collected by the children in the family, but if supplies are short it is sometimes necessary to purchase fuel.

Tappers implements.—Each tapper has a special outfit consisting of a belt for climbing, a knife for cutting spathes and tapping, mud pots for collection of the juice and pots or pans for boiling the juice.

Effect of manufacturing methods of the quality of jaggery.—The fact that the tapper is his own master and works without supervision is a prime factor in the variable quality of the jaggery produced, some being more skilled, careful or more industrious than others.

The proper liming of the collecting pots is also of prime importance. Under-liming involves the risk of fermentation with consequent decrease of sucrose contents in the jaggery whilst over-liming prevents full recovery of the sugar present during the refining process.

Other factors also affect the quality, such as, the use of leaf channels which results in inversion of sugar while draining from spathes to the pot, undue delay in the boiling of the juice collected, the addition of fresh juice during boiling, the addition of badly prepared jaggery to fresh boilings.

Cost of production.—Accurate figures are almost impossible to obtain but we have endeavoured to give tappers' costs in the 3 areas in which we buy on a similar basis. Even so, we have found it impossible, for various reasons which we have explained briefly, to give a detailed comparison.

You will no doubt appreciate that obtaining accurate figures for an industry, which is a cottage industry, is extremely difficult.

We, first of all, give a summary of the 3 areas:—

Agency.	Production	Tappers	Middle-
	per tapper per season.	outlay per season.	man's charges per candy.
	Ods.	Rs. A.	Rs. A.
Nidadavol (average)	5 to 6	41 8 to 68 0	2 8
Tinnevelly	2½ to 4	24 4	2 3 to 3 0
Palghat	2 to 3	18 10	2 0

Middleman's charges include cost of the gunnies, transport from topes to buying centres, provision against bad debts, wastage, interest on loans given to tappers and a small profit.

Details of the total outlay per tapper per season are as per Statement I attached.

We regret we cannot produce figures for Palghat and Tinnevelly on the same lines as Nidadavol which we have given in more detail.

Oil.—You will note that this item at Palghat is heavier than at the other 2 centres as gingelly oil is used which is apparently more expensive than the castor oil used in the other 2 areas.

Fuel.—In Tinnevelly and Palghat brushwood and other such materials can be collected in sufficient quantity but in the upland in Nidadavol fuel must be imported into the areas as adequate supplies are not available.

Tree Rent.—In Palghat only 15 trees are rented on an average while in Tinnevelly 40 trees and in Nidadavol 60 trees are required. For this reason the outturn per tapper in the Palghat area is lower than the outturn per tapper in the other 2 areas.

In Palghat and Tinnevelly areas, the outlay per tapper per season does not vary to any great extent and also the outturn per tapper per season is within reasonable limits. We can therefore give, as we do in the attached Statement II—the profit per tapper per season taking the highest and lowest outturn.

In the Nidadavol area, however, the amount expended varies according to the outturn per tapper per season. Also the production varies from 3 to 10 cds.

We regret it is impossible to obtain the varying expenditure figures according to the amount of jaggery produced per tapper per season and we therefore take only an average production per tapper per season of from 5 to 6 cds.

The above figures are the best we can produce and we again wish to stress that it is almost impossible to obtain accurate figures from tappers.

It is, however, clear that the industry does little more than afford work and maintenance to tappers during a season when other employment is not easily obtainable. During the remainder of the year the majority of the tappers find other work such as agricultural, road-making, etc.

Besides the profits to tappers shown in our figures, the tapper and his family manage to live by drinking sweet toddy and eating roots and nuts, etc., collected and their expenses therefore are mainly for the purchase of rice.

It is also possible that the average tapper may make a small income out of sales of toddy or liquor illicitly distilled. We cannot, however, give an estimate of any possible income derived from this source.

It does not appear that the tapper can reduce his costs still further and the rate we are now paying for jaggery cannot consequently be reduced.

The fact, however, that we purchase large quantities of jaggery during the season does mean that considerable sums of money are disbursed in the tapping areas. The approximate figures below are our own expenditure and to these must be added the value of jaggery going into direct consumption and that purchased by other refineries:—

Palghat.—17/18,000 cds. at Rs. 16 per candy—Rs. 2,72,000 to Rs. 2,88,000.

Tinnevelly.—About 25,000 cds. at Rs. 13 per candy—Rs. 3,25,000.

Nidadavol.—50/60,000 cds. at Rs. 19 per candy—Rs. 9,50,000 to Rs. 11,40,000.

Purchasing arrangements.—At Palghat, Tinnevelly and Nidadavol we maintain central offices which control our purchases through a number of buying centres to which jaggery is brought by dealers or tappers direct.

The middleman, although reducing the profit to the tapper, has a definite function in the industry as he finances the tapper at the commencement of the season and collects his debts against jaggery subsequently purchased. It was estimated that Rs. 1,50,000 was advanced to tappers in the Nidadavol area for the 1937 season by petty dealers and most of this was used to finance the recent strike in that area.

The middleman also is only in direct touch with petty dealers or tappers over a comparatively small area. It is therefore impossible for him to make excessive profits as a tapper is always at liberty to go to another middleman or direct to us, if he is dissatisfied with the treatment he is receiving.

STATEMENT I.

Details of Outlay.

Particulars.	NIDADAVOL.							Tinnevelly (Average).	Palghat (Average).
	1930.	1931.	1932.	1933.	1934.	1935.	1936.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
Knives, Belts, etc.	3	3	2	2	1	1	1	0 12	0 6
Pots (Juice)	5	5	5	4	3	3	3	2 8	1 9
Boiling pans and pots	5	5	5	4½	4	4	4	2 0	4 1
Lime	5	5	4	4	2	2	2½	2 8	1 8
Oil	1	1	1	1	1	1	1	0 8	3 10
Fuel	16	11	12	11	7½	7	10	..	0 8
Hut . . . . .	..	..	..	..	..	..	..	1 0	..
Tree rent	28	24	23	23½	17½	17½	17½	15 0	6 0
Travelling Expenses	2	2	2	2	2	2	2	..	..
Sundries	3	3	4	..	4	4	4	..	1 0
TOTAL	68	59	58	52	42	41½	45	24 4	18 10

1937—No production.

500

STATEMENT II.

Tappers Profit.

PALGHAT.

Year.	Rate at buying station per candy of 500 lbs.	Middleman charges ; Transport, etc.	Gross proceeds to tapper per candy of 500 lbs.	Gross proceeds to tappers per season.		Less : tappers outlay.	Tappers nett earnings in 5 months.		Tappers nett earnings per month in a season of 5 months.	
				2 cds.	3 cds.		2 cds.	3 cds.	2 cds.	3 cds.
	Rs. A.	Rs.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A. P.	Rs. A. P.
1931	15 8	2	13 8	27 0	40 8	18 10	8 6	21 14	1 11 0	4 6 0
1932	16 6	2	14 6	28 12	43 2	18 10	10 2	24 8	2 0 5	4 14 0
1933	16 4	2	14 4	28 8	42 12	18 10	9 14	24 2	1 15 7	4 13 2
1934	14 15	2	12 15	25 14	38 13	18 10	7 4	20 8	1 7 2	4 0 7
1935	24 1	2	22 1	44 2	66 3	18 10	25 8	47 9	5 1 7	9 8 2
1936	20 5	2	18 5	36 10	54 15	18 10	18 0	36 5	3 9 7	7 4 2
1937	16 13	2	14 13	29 10	44 7	18 10	11 0	25 13	2 3 2	5 2 7

Lowest production 2 cds.
Highest production 3 cds.

STATEMENT II—*contd.*

TINNEVELLY.

Year.	Rate at buying station per candy of 500 lbs.	Middle-man's charges : Transport, etc.	Gross proceeds to tapper per candy of 500 lbs.	Gross proceeds to tappers per season.		Less tappers outlay.	Tapper nett earnings in 5 months.		Tappers nett earnings per month in a season of 5 months.	
				2½ ods.	4 ods.		2½ ods.	4 ods.	2½ ods.	4 ods.
	Rs. A. P.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.
1931	18 1 5	2 12	15 5	38 5	61 4	24 4	14 1	37 0	2 13	7 6
1932	19 11 5	2 15	16 12	41 14	67 0	24 4	17 10	42 12	3 8	8 9
1933	15 10 5	2 8	13 2	32 13	52 8	24 4	8 9	28 4	1 11	5 10
1934	16 15 2	2 10	14 5	35 12	57 4	24 4	11 8	33 0	2 5	6 10
1935	19 15 5	3 0	16 15	42 6	67 12	24 4	18 2	43 8	3 10	8 11
1936	19 1 4	3 0	16 1	40 2	64 4	24 4	15 14	40 0	3 3	8 0
1937	13 12 5	2 3	11 9	28 14	46 4	24 4	4 10	22 0	0 15	4 6

Lowest production 2½ ods.
 Highest production 4 ods.

STATEMENT II—concl'd.

NIDADAVOL.

Year.	Rate at buying station per candy of 500 lbs.	Middleman's charges; Transport, etc.	Gross proceeds to tapper per candy of 500 lbs.*	* No. of cds.	Gross proceeds to tappers.	Less tappers outlay.	Tappers nett earnings in 5 months.	Tappers nett earnings per month in a season of 6 months.
	Rs. A.	Rs. A.	Rs. A.		Rs. A.	Rs. A.	Rs. A.	Rs. A.
1930	27 0	2 8	24 8	5	122 8	68 0	54 8	10 14
1931	20 0	2 8	17 8	5½	96 4	59 0	37 4	7 7
1932	21 0	2 8	18 8	5½	101 12	58 0	43 12	8 12
1933	20 0	2 8	17 8	6	105 0	52 0	53 0	10 10
1934	18 0	2 8	15 8	5	77 8	42 0	35 8	7 1
1935	19 8	2 8	16 12	5½	92 2	41 8	50 10	10 2
1936	19 8	2 8	17 0	5	85 0	45 0	40 0	8 0

1937—No production.

* Average production.

The India Sugars and Refineries, Ltd., Bellary.

Letter No. 4697, dated the 21st July, 1937.

With reference to your letter No. 6-T. of the 12th instant addressed to our Managing Agent, we beg to enclose herewith 6 copies of our answers to the Questionnaire together with the Balance Sheets and Statement of Costs, etc.

Enclosure.

Production of sugar—Introductory.

1. The erection of our factory was completed in December, 1934, and we crushed 4,686.8 tons of cane in 1934-35 season as an experimental measure to see whether the machinery was alright.

Though the crushing capacity of the plant is 400 tons per day, we were able to crush as much as 550 tons daily during the last season, i.e., 1936-37 after effecting certain additions and alterations.

2. Only one quality of sugar, viz., Java White Crystals is produced. The output during the last three years has been as follows:—

	Tons.
1934-35	446.2
1935-36	2,336.6
1936-37	3,502.15

3. (a) Although there are about 5,000 acres of cane within a radius of 10 miles from the factory, Hospet being a jaggery making centre, cane supply is always affected by the price of jaggery and so there is a lot of uncertainty regarding adequate supply.

The ryots have taken to growing the improved variety of cane after we carried the necessary propaganda work.

(b) Yes. The factory has an up-to-date Railway siding within a mile from the Railway station and also a good road.

(c) The unskilled labour supply is adequate and cheap, and the local unskilled labour has also been trained by us for less difficult operations. The skilled labour such as panmen, process chemists, etc., have to be imported.

4. The process of manufacture is double sulphitation.

5. There was no change made in the layout of the factory after erection. Two new sugar godowns have been added, and the seeding arrangements for pan work installed.

In all the cost of the additions works up to Rs. 40,000.

6. Nothing until the concern begins to pay.

7. (a) The determining factors for the economic size of a sugar plant are the quality of the cane and the duration of the season.

(b) In this area it would be 500 tons a day with a duration of not less than 150 days.

8. Simple parts such as cast iron tanks and pipes and other plants comparatively easy to manufacture are obtainable in India. Generally speaking, sugar machinery is a specialised manufacture and has to be imported.

9. No satisfactory technical assistance is available from (i) the Imperial Institute of Sugar Technology, (ii) nor from the Industries Department of the Madras Government.

Item (i) above may give immediate criticisms on the fortnightly reports of the workings of a factory instead of merely filing and compiling papers. This will facilitate any improvements that may be immediately possible.

Item (ii) above have no qualified man who can give any assistance in the sugar line. They could appoint at least a consultant on a retaining fee whose advice may be sought for by factories from time to time.

Raw Materials.

10. Yes. On lease. Rents are exorbitant. Also they demand it in kind, *vis.*, jaggery.

Purchase of land is unthinkable for the prices demanded, are above Rs. 1,000 per acre.

11. (a) 350 acres.

(b) 200 acres.

(c) P.O.J. (Java) 2878 and Coimbatore variety.

(d) Rotated with paddy or green manure crop such as diancha after two consecutive cane crops.

(e) 30 tons per acre. This is due to certain abnormal conditions. All planting is done after Silt Clearance of Channel during March and April and harvest commences during January to April, *i.e.*, the plant gets only 11 months for growth, whereas 14 months are the minimum period for the above canes. The operation of Silt Clearance takes 45 days and therefore no planting whatsoever can be done during this period.

Sucrose—

P.O.J. (Java) 2878—13 to 15 per cent.

Co. (Coimbatore) 290—12 to 14 per cent.

12. (a) & (b) 20 acres.

13. *Varietal experiment.*—The following varieties are under experiment:—

Co. (Coimbatore), Java, Hebbal Mysore (H.M.) and local Pundya.

We tried Co. (Coimbatore) 281 as an early maturing variety; but as it has yielded a low tonnage it has not attracted any ryot. Unless he obtains the same tonnage as his neighbour who grows a late maturing variety, he is not likely to grow this one.

Duration Experiment.—Planting is done during all the months of the year and kept in the field for a period of 9 to 18 months with a view to find out the best season for planting and the effect of keeping them long on the field with regard to yield and sucrose.

Manuring.—(1) Ammonium Sulphate 3 cwts. in three doses mixed with oil-cake, groundnut, castor or safflower.

(2) Nicifos in place of Ammonium Sulphate and treated as above.

(3) Ammonium Sulphate 2 cwts. plus Superphosphate 1 cwt. with cake as above.

The Agricultural Department have not rendered any help worth mentioning.

14. (a) Though the total area of cane planted has not increased, the area under variety cane is increasing year by year from 1934 onwards. Since it yields a greater tonnage per acre, the quantity has increased.

(b) For the above reasons the quality has improved.

15. No damage from frost, but from early stem borer, late top borer and in general red rot.

The estimate of loss is 5 per cent., 5 per cent. and 20 per cent. respectively.

16. Not assured, as the jaggery market influences the availability of cane to the factory.

Pundya (Hospet local), Co. (Coimbatore) 290 and P.O.J. (Java) 2878.

	Yield per acre.	Sucrose. Per cent.
Pundya (Hospet local)	18	10—12
Co. (Coimbatore) 290	35	12—14
P.O.J. (Java) 2878	30	13—15

17. Local jaggery market controls the supply and price of cane here. There has been no competing factory in this locality.

18. (a) Yes. The local variety which is a 10 to 11 months crop, does not withstand the summer heat; hence it has to be harvested by the end of March as deterioration sets in the hot months.

18. (i) Deficiency in rainfall stunts the growth.

(ii) No.

(iii) This is one of the oldest gur manufacturing areas in South India, and in case of any rise in the price of gur, the supply of cane to the factory declines.

(iv) When the gur price falls, the ryots prefer to take paddy crops.

19. At present not in excess of requirements. No restriction is necessary.

20. The cost of cultivation including the lease amount is Rs. 180 per acre and the yield is 20 tons (cultivation on improved lines)—

	Rs.
Preparatory cultivation	10
Seed bed	4
Setts	25
Planting	3
Manuring	29
Earthing up	4
Irrigation and watching	5
Weeding	8
Harvesting	12
Carting	20
	<hr/>
	120
Lease amount	60
	<hr/>
	180
	<hr/>

The cost of cultivation to the ryot therefore amounts to Rs. 6 per ton including delivery but without taking lease into account which alone comes to Rs. 3 per ton. But if he takes up to growing improved varieties of cane, in which case he will get an average yield of 30 tons per acre, the costs will be Rs. 4 and Rs. 2 respectively.

21. (i) Lands heavily mortgaged and abnormal lease amounts.

(ii) High rates of interest and commission by Dalalis and also compulsion by them to manufacture gur on which alone they can collect their maximum commission and premium for shortage, including charity, go fund, contingencies, godown rent, etc., irrespective of the actual state of affairs. It may be mentioned that like other sweet products jaggery is hygroscopic and actually should gain weight instead of losing on keeping through the rainy season.

- (iii) The ignorance of the ryots in not taking up to improved varieties.
- (iv) Roads very badly maintained by the District Board and Municipalities and in certain places no connecting roads at all.

We have to make the following suggestions:—

- (i) Lease amount to be fixed by the Government.
- (ii) Construction of feeder roads. The roads to be improved and the supervision of this to be done by the District Collector.
- (iii) Free distribution of seeds of improved varieties for three years.
- (iv) Improvement of Live Stock for draught purposes.
- (v) Redemption of the mortgages of the ryots by long term loans, payable in easy instalments, the current expenses being financed by Cane Growers' Co-operative Societies. We would also suggest that the mortgages be redeemed through the Cane Growers' Co-operative Societies who finance them for current expenses so that the recovery of the loans may be better assured.

We may mention the case of one ryot who was helped two years ago by the Company. The interest paid by him amounted to 4 times the principal borrowed by him.

22. (a) Due to small holdings considerable loss is incurred as detailed below:—

- (i) Loss of land on account of the irrigation channels having to run along the contour of each S. No. separately.
- (ii) Bunding and draining up of each S. No. separately.
- (iii) Wastage of a large amount of water by independent irrigation.
- (iv) Grouping the small holdings into large blocks would facilitate mechanical cultivation with success.

To prevent the aforesaid losses the alternative to compulsory acquisition would be the grouping of small holdings on Co-operative lines. This would require very efficient propaganda and organization on the part of the Departments of Co-operation and Agriculture.

The following lines are suggested for the organisation of such cultivating Co-operative Societies:—

- (i) The land holders of each village shall become members of the concerned Society.
- (ii) The lands must be completely re-surveyed and levels taken so that they may be made into rectangular blocks of a convenient size say 30 to 50 acres.
- (iii) The Societies of different villages shall become members of one Union which would purchase and distribute tractors and implements and recover a proportionate amount of the actual cost according to the area controlled by each Society.
- (iv) The Public Works Department should hand over the control of the channels and the distribution of the water to this Union and the local Public Works Department Officials, who have been up to now handling this work, should work in co-operation with this Union.
- (v) Since sugarcane, as recognised by the modern agriculturist, is a crop of 13 to 14 months' duration and can be planted all the year round as is the case in Hawaii, the Government should alter the present system of collecting taxes, so that a uniform charge per year is levied instead of a variable tax on single and double crops.

The other details as to efficiency can be worked out when such a scheme is taken up.

(b) Yes; we are in favour of such zoning, but it does not arise in our case.

23. In any case, we are prepared to assist the ryots with advances of cash, supply of seed, fertilisers and technical advice, which we are now doing through the Cane Growers' Co-operative Society.

The development of the feeder roads will have to be done by the Government.

24. (a) No. Fixing such a quota without fixing the price of sugar and assuring the minimum quantity of raw material to the factory, and also the price at which it is to be supplied, would be very harmful to the working of the factory. In other words, whatever the quota may be fixed, it should enable the factory to cover depreciation, yield a reasonable interest on the invested capital and provide for the loss incurred in the past.

(b) (i) No more new factories should be given licence as it would lead to unnecessary and unhealthy competition amongst the existing ones.

(ii) The extension of existing factories is necessary so that they may work more efficiently and economically.

25. (a) Gate cane—88.2 per cent.

(b) Rail cane—11.8 per cent.

(c) Tram borne cane—Nil.

The operation has varied from year to year as below:—

	1934-35.	1935-36.	1936-37.
		Per cent.	Per cent.
Gate cane	All	93.2	88.2
Rail cane . . . . .	...	6.8	11.8
Tram borne cane . . . . .	...	...	...

The rail cane was increased because we could get that cane at reasonable prices.

26. Gate cane is entirely transported by bullock carts.

The average weight of cane carried per cart is 20 maunds.

Rubber-tyred cart can be used if the present roads and the live stock are improved. But the poor ryots are not able to incur the heavy investment that would be required on such carts.

27. Not adequate.

Main roads are neglected and feeder roads practically none.

28. From a maximum distance of 10 miles cane is brought to the factory by roads.

12 to 24 hours is the average time taken for delivery at the factory from the time the cane is cut.

No protection from deterioration.

29. 2 pies per mile per maund by bullock cart.

Some employ their own carts, i.e., about 15 per cent. and the rest are hired at the rate above stated.

30. Yes; the Municipal tax of Rs. 2-9 per cart for each of the half-years ending 31st March and 30th September is levied. As the cane is carted from January to April, the cartmen are made to pay for two half-years for only four months work. This being unfair scares the cartmen. The Government should therefore advise the Municipality to be more reasonable.

31. Gate supply. Factory controls by issuing Permit Cards, etc.

The period of detention of a cart is 6 hours.

The carts are released quickly by the extension of stacking yard near the cane carrier and rapid weighment of carts; also the harvesting permits for weighment are issued 24 hours in advance to restrict the gate cane to suit the factory requirements.

32. Cane is transported by rail from 3 to 12 miles.

Average time taken between cutting of cane and delivery at factory is $1\frac{1}{2}$ to 2 days.

No. Although the cane is loaded into wagons within 12 hours of the harvest, the wagons are not immediately brought to our siding.

33. Flat rate per wagon irrespective of the distance or the weight carried.

34. Railway freights on all stores should be reduced, particularly those on coal, lime, gunny bags, manures, lubricating oils and the heavier machinery spares.

35. Nil.

36. Tramway system is advantageous and would solve the problem of rapid transport. The difficulty is in obtaining the permission of the local boards to lay them and also lack of feeder roads into the interior so that every one gets the benefit of the Tram line. The investment is large and we cannot undertake it without assistance.

37. The extent of deterioration is 2 to 4 per cent. on cane.

38. The greater part of cane direct from ryots and the rest through the Dalalee merchants.

39. By agreement to supply a specified tonnage at a specified price.

Yes; we have established a Cane Growers' Society to whose members we provide every assistance like cash advance, and assist them by providing them with manure and seed, etc.

40. The price paid to the merchants is usually inclusive of commission also.

The merchants collect the commission from the ryots.

41. 15.8 per cent. of cane supply was obtained through the Hospet Sugarcane Growers' Co-operative Society, Ltd., Hospet, at a special rate of Rs. 11 per ton.

42. We have got cart weighbridges and lorry weighbridges for weighment of cane.

We are making bi-weekly payments.

	1934-35.	1935-36.	1936-37.
	Rs.	Rs.	Rs.
43. Private cane	13	12	9
Society cane . . . . .	...	12	11

Prices do not tend to vary at different periods of the season.

44. No. Depends on the local jaggery market.

45. This being a main gur producing area, the price and supply of cane depend mainly on price of gur.

46. Yes.

(i) Old stock of jaggery being held waiting for better price tends to drop the price of new jaggery.

(ii) Also quality of jaggery has deteriorated.

47 & 48. No minimum price was fixed in this Presidency.

49. We consider that fixing a minimum price prevents ryots growing cane at a cheaper cost. The question of fixing a "bonus" for better canes, etc., should be left to individual factories and circumstances.

50. The duration of crushing season is as follows:—

1934-35—48 days.

1935-36—116 days.

1936-37—109 days.

Results have proved that the longest period we have worked so far, is also economical. We consider that a period of 150 days is necessary with our capacity for an economical working of a season.

51. The possibilities are latent. But the Department of Agriculture is not doing anything in this direction and large scale demonstrations are necessary to achieve this result.

52. No help has so far come to us from the Imperial Council of Agricultural Research. Neither the Agriculture nor the Co-operative Departments in our Presidency have succeeded in obtaining for the local ryots the subsidy granted by the Imperial Government.

As to the practical ways in which they can help the ryots and the factory, we would draw your attention to our answer to Question No. 22.

Labour.

53. Labour—	Crushing Season. Silent Season.	
	Skilled	160	24
Unskilled	392	33

54. The panmen, quadruple operators, in all a dozen are imported from Northern India.

55. We are keeping an European in charge of our Engineering Department.

56. We have got Officers' Quarters, Clerks' Quarters and the Labour Colony. We have a Doctor and Dispensary attached to the factory.

Power.

57. We have to supplement our bagasse with coal to the extent of 4.054 per cent. on cane.

The amounts spent on fuel are as detailed below:—

Season 1934-35—Rs. 12,840.

Season 1935-36—Rs. 26,603.

Season 1936-37—Rs. 28,547.

By-products.

58. No by-products are produced by us except molasses.

59. Our outturn of molasses for the past three years is as detailed below:—

1934-35—3,359 maunds.

1935-36—27,288 maunds.

1936-37—52,800 maunds.

We have not been able to sell our molasses at all.

60. No market. Until a market is found, it is difficult to say anything about the other points.

61. We are running the molasses into the open pits through which it gradually percolates into the ground.

We have the following suggestions to make for the utilisation of the molasses:—

- (i) *Production of alcohol for human consumption.*—At present the alcohol that is consumed in the ceded Districts is produced from jaggery which is wasteful. The Distilleries in these Districts, viz., those at Bellary and Tadpatri should therefore be compelled to utilise molasses instead of jaggery. Otherwise

we should be allowed to distil the spirits and supply the same to the Abkari Department.

- (ii) *Production of Industrial Alcohol.*—We understand it is the practice in Great Britain to permit the admixture of the absolute alcohol with petrol to the extent of 25 to 30 per cent.
- (iii) *Production of Industrial Alcohol for Motor Cars and other Internal Combustion Engines as etherised spirit (i.e.), a mixture of Alcohol and Ether by a special process.*—This was being done in the Hawaiian Islands during the war when it was difficult to get petrol for use in the Islands.

Unless a definite market is found for the molasses produced in all the Indian factories, the calculations made by the previous Tariff Board have been and are very misleading and the sugar industry in this country will always be faced with a serious problem.

62. Since there is no surplus bagasse left, the question does not arise.
63. Nil.

Storage and Transportation of Sugar.

	Cwts.	Lbs.
64. 1934-35	5,449	34
1935-36	35,576	...
1936-37	65,103	96

65. We have erected one godown which can hold 20,000 bags of sugar. An additional godown is under construction which can hold 20,000 bags.

66. Our sugar has not deteriorated either in colour or in crystals and no damage has occurred up-to-date to the stored stock of our sugar.

67 & 68. Nil.

69. Our constituents have not complained so far of any damage in transit.

70. None.

71. The wagons could be made more water-tight.

72. The statement is enclosed herewith for years 1934-35, 1935-36 and 1936-37.

73. The published Balance Sheets for the years ending 31st March, 1934, 31st March, 1935, and 30th September, 1936, are enclosed.

74. We give below the amounts of depreciation written off by us on furniture and fittings and motor and lorry:—

	1934-35.	1935-36.
	Rs. A. P.	Rs. A. P.
Furniture and fittings	405 10 10	574 11 2
Motor car and lorry	593 1 7	1,061 0 0

We propose to provide for the full depreciation in respect of the other Assets at the rates allowed by the Income-tax Department.

75 & 76. None.

77. Borrowed. The rate of interest paid is 6½ per cent.

78. Rs. 800 per mensem is paid towards Office expenses.

The Managing Agent is entitled to a commission of 7½ per cent. on the net annual income of the Company after paying all interest charges and after making all proper and necessary allowances and deductions from

revenue for working expenses chargeable against profits and after allowing for depreciation at rates not higher than those from time to time in force for the purposes of British Indian Income-tax, but before setting aside any sum for reserve or bonus or any suspense account or for payment of income or super-tax or any other tax on income or any expenditure on Capital Account.

79. We consider 12 per cent. as a fair return on capital.

Efficiency of Production.

80. We enclose herein the forms duly filled in as required.*

81. As our working during 1934-35 was an experimental one, we give below the comparison of the working costs for the years 1935-36 and 1936-37, without providing for depreciation:—

	1935-36.	1936-37.	Reduction.
	Rs.	Rs.	Rs.
Working cost per ton of sugar produced	43-47	32-80	10-67
Overhead cost per ton of sugar	37-38	24-51	12-87

The reduction in the costs in the year 1936-37 as compared with those of 1935-36 was due to the reduction in the overhead charges and crushing more cane than in 1935-36.

82. No scope for further reduction in working costs unless the duration of the crushing season is increased and the quality of cane is improved.

Marketing.

83. The following are our principal centres for our sugar:—

Hospet, Kopbal, Gadag, Bagalkot, Hubli, Bellary, Nandyal, Kurpool, Yerraguntla, Raichur and Guntakal.

84. During 1934-35 and 1935-36 and up to 1st March, 1937, the sales were operated directly by the Company's Sales Department with the dealers. As from 1st March, 1937, Messrs. Volkart Brothers have been appointed as the Sole Selling Agents.

85. We have not so far found any necessity for making use of contract forms for the sale of our sugar.

86. Statement is enclosed.

87. There is a wide margin between the retail and wholesale price of sugar. The fluctuation in the sugar price has little influence on the retail price since the sugar passes through many middlemen before it reaches the consumer who is also little aware of and sometimes negligent of the movement in the wholesale prices.

88. Every principal trader has one or more godowns in which he stores many commodities along with the sugar, which seldom exceeds the quantity required for consumption in a month, and the retailer draws only four or five bags at a time from this principal trader and sells it away straight to the consumer.

Since the storage is for only a short period, there is no reason for any deterioration.

89-91. Our sugar compares very favourably with that of Java. Java sugar does not find a place in our markets now.

* Not printed.

92. We spread over our whole annual production till our next manufacturing season and the trader buys from us only the minimum monthly demand of his market.

Our stocks are held on produce loans.

93. Yes.

94. Yes; if unhealthy competition can be avoided.

95. Yes; on the basis of the colour, size of crystal and keeping quality of the sugar.

96. (a) No business has been done on the basis of sugar standardisation.

(b) We have adopted the 23-C of the Sugar Technologist's standard and our pan boiling was regulated to maintain the above standard.

97. Until the consumers' tastes are regulated by quality and not by the price, there is no use for the different standards set up.

99. The Sugar Mills' Association estimates the annual consumption of sugar in India at 11 lakhs of tons.

There are no possibilities of increasing the consumption of the same unless the purchasing power of the masses is also increased which in turn depends upon many other factors.

100. The progress of replacement of gur by factory sugar has been steady but very slow.

101. Being a tropical country, the people are accustomed to taking fresh food stuffs. As such fruit preserving and canning industries are not likely to be developed in the near future.

102. There is no import of foreign sugar in our markets.

103. We are not in a position to give any information on this point.

104. We are of opinion that special facilities should be offered for the export of Indian sugar to dominions.

105. The excise duty levied in 1934 has prevented the newly floated factories finding a footing and the addition made in 1937 has made the position still worse.

106. Nil.

107. No, not ours. The possibilities of inland consumption should first be explored and then question of the export of the surplus to foreign countries should be taken up.

Claim for Protection.

108. The protection so far enjoyed by the industry has been effective to the extent of keeping out external competition.

109. We consider that this protection should be continued for the remaining period, especially because the cost of cane as grown by our ryots is still high and the quality very poor. Until this side of the sugar industry is developed, we shall always go in fear of being wiped out by foreign competition.

110. The utilisation of molasses to its fullest value is necessary and at present the permission to distil alcohol is vested with the Government. They must grant permission to every sugar factory without reservation or open central distilleries at the ports from which the petroleum companies can be supplied with absolute alcohol and be compelled to mix at a certain proportion with the petrol.

For further particulars please refer to our answer to Question No. 61.

The Government may also refund to factories recently started which have not been able to set apart towards depreciation and worked at loss, equivalent amounts to the above sum from the excise duty paid by them.

111. For obvious reasons, no industry based on utilisation of molasses could be affected adversely in India.

APPENDIX.

Statement of sugar prices realised from the commencement of the factory, 1934-35, 1935-36 and 1936-37 seasons in the following markets.

Name of Town.	Railway freight from Factory.	Average ex-godown price.		
		1934-35.*	1935-36.	1936-37.
	Rs. A. P.	Rs. A.	Rs. A.	
Hospet (Factory) . . . . .	...	25 11	22 14	
Kopbal	0 5 4	25 10	22 12	
Gadag	0 8 9	25 4	22 9	
Hubli	0 12 6	25 4	22 1	
Belgaum	1 4 0	24 13	...	
Davangere	1 4 0	24 12	...	
Bijapur	1 5 0	24 11	20 15	
Bagalkot	0 13 6	25 2	21 15	
Bellary	0 8 0	24 15	21 13	
Guntakal	0 10 6	26 4	...	
Adoni	0 12 6	25 4	21 4	
Raichur	1 1 0	24 7	21 0	

The Coimbatore Lakshmi Sugar Mills, Ltd., Coimbatore.

(1) Letter dated the 27th April, 1937.

The history of this concern begins about 40 years back when some enterprising gentlemen of this town took into their minds to start a sugar factory. It was then refining Palmyrah jaggery. The competition then prevailed in purchasing the raw material and the consequent high cost of production of sugar could not stand with the low price of foreign sugar and hence it worked only for a few months in the year and stopped. Then the factory went into the hands of Rao Bahadur A. T. Thiruvengadasamy Mudaliar who also lost heavily and stopped working the factory. In 1932 when the new Act was passed protecting this industry Mr. V. Ramakrishnan, I.O.S., the then Director of Industries, advised Mr. A. T. Krishnasamy Mudaliar to improve the factory in modern lines. Mr. Mudaliar purchased new plants for crushing cane with a capacity of 50 to 60 tons per day. Only in 1934 it began to work by which time the excise duty was introduced and the factory being very small could not withstand with bigger factories' competition and was again stopped, when this factory fell into the hands of the present management.

Jaggery making from sugarcane is the practice in the Coimbatore District from the time immemorial. It is very difficult to organise for cane supply for a sugar factory in this District as all cultivators would refuse to supply cane to the factory if there is a slight increase in the price of jaggery; or they will send all the useless condemned canes to the factory keeping the good ones to the manufacture of jaggery. Most of the present Board of Directors are big cultivators, and in order to avoid the wasteful method of making jaggery from cane, the present owners of this factory purchased this with the hope of crushing their own canes and saving the loss of sugar by converting their canes into jaggery. To avoid the difficulty in organising the cane supply they have recently started a Sugar Cane Growers' Association with the help of the Co-operative Department of the Government. We can have a regular supply of sugarcane in future and with full working capacity we hope to work the factory.

* All the production was sold wholesale at Rs. 25-4 ex-godown.

There was not sufficient rain during the past four years and so, since we took up the management of this factory, we could not have any smooth running of the factory for want of the regular supply of good canes. Due to the scarcity of the rain, many of the sugarcane cultivators have now given away this crop, and they are growing cotton and chollam instead. As we found that we could not work the factory to pay a good remuneration to the sugarcane cultivation due to the excise duty, we approached Sir Md. Zafarullah Khan, the Commerce Member to the Government of India, and explained to him in detail that the Government must exempt those mills which have a crushing capacity below 50 tons a day from excise duty as they have done in the case of Match Industry. He promised to consider the matter and do the needful immediately he reaches Simla in consultation with the Finance Member.

With all these difficulties, there is another thing—the foreign competition. With the Act of 1932 of import duty, we are now able to compete with the foreign sugar in spite of the present difficulties stated above and unless the industry is protected with this Tariff by the Government the sugar industry in India cannot survive as it is not at present working in well organised lines and it requires some more time to get improved in organisation and technic. Until then such protection must be made to this industry without which the industry will perish in no time. We understand that the Government is of opinion that the industry is not doing enough to help itself—but if the Tariff Board understands how the Mills in South India are working together as regards the supplies of raw material as well as the sales of the finished product and we have great hopes in working together even more closely in future they will realise the co-operation and measures taken by the big and small factories in South India to elevate the industry to work in better lines.

Therefore we beg to approach the Tariff Board to help this industry by protecting it for a longer time until the industry gets more organised in the purchase of raw material, in the technic, manufacture and in the sales of the finished product, so that the sugarcane cultivators might get their proper share of remuneration to develop Agriculture and to stop the wasteful method of jaggery making.

(2) *Replies to questionnaire from Coimbatore Lakshmi Sugar Mills, Ltd., Coimbatore.*

1. This factory was in existence since the last about forty years as a refinery of Palmyrah jaggery. But in the year when it was under the management of Mr. A. T. Krishnasamy Mudaliar, this factory was remodelled to work along with jaggery refining with about 50 tons of sugarcane. Then the factory was passed into the hands of the present management in the year 1934 and since that date the Company is working. The present equipment of the factory with all the remodels and improvements is to enable to crush about 60 tons of cane per day.

2. The output of the factory in previous years are appended herewith.* We do manufacture only one grade of crystal white sugar.

3. (a) The factory is situated about a furlong away from the Railway station of Podanur on the main road Podanur to Coimbatore. There was very extensive cultivation of sugarcane during the past years on both sides of this road and the factory could command the required supply of sugar-cane within two or three miles radius of the factory. But now since the last three or four years, due to want of adequate rainfall and the consequent insufficient water supply most of the ryots have given up the sugarcane cultivation. But the factory being of very small capacity, there

* Not printed.

did not occur much difficulty in securing the required raw material as the cane cultivation in the Coimbatore Taluk is enormous and the requirements of the factory is only a fraction of it. So there cannot be any difficulty for the raw materials in consideration with the location of the factory. Other raw materials as limestone and other chemicals are also very easily accessible. The factory stands in a place from where with only very little freight expense, the commodity can be sent to markets in different districts as Madura, Trichinopoly, Nilgiris and Malabar as these districts are only about 30 miles away from the factory. The marketing of the finished product is not at all difficult in this factory as what is produced in this factory with the present capacity is only a fraction of the demand in Coimbatore market which is within four miles distance from the factory.

(b) As already stated the factory stands on the main road that connects Podanur to Coimbatore, Palghat, Udumelpet, etc., and it is only about a furlong away from the Railway station and it also can be said that the location of the factory is about the heart of cane cultivation. There is, therefore, ample facility of the factory of railway, road and other communications.

(c) Podanur is a small village surrounded by a number of smaller villages all clustered around Podanur and so there is ample inhabitants of labouring classes facilitating the factory with plenty of supply of the required labour.

4. The process of sugar manufacturing in our factory is by double sulphitation. Though it is possible to obtain better sugar by the carbonitiation process as well as the vegetable carbon and animal charcoal process, than that obtained by the sulphitation method, the difficulty in procuring the chemicals and other materials in the former processes and the high cost involved thereby and the comparatively easy availability of the chemicals and the cheapness with which these are got for the latter method, provides great advantage in the sulphitation process for our factory conditions.

5. The changes made in the lay out of the factory and the alterations or additions in the machineries is not much. Very slight changes to facilitate easy working and better output have only been made during the past few years. The details are given in Appendix V as to the improvement made in the land, building and the machineries and the respective amounts spent.

6. As the present size of the factory is too small for economical working the managements are contemplating to increase the present capacity to 150 tons per day. The cane is available in larger quantities and the duration of the season is longer in this District. So the hope of extension will be a successful one. But the present depression in the sugar trade discourages the public and so no capital is advancing for the extension. So the present partners have applied for a Government loan for the extension and if such loan is sanctioned from the Government there is every chance of an extension of the factory to 150 tons in the near future.

8. Almost everything required for a sugar factory is available in India. Though most of these requirements are manufactured only outside India many dealers have imported stock of these articles for ready supply on demand. In some cases the manufacturers themselves have their branches in India. So there is no difficulty in obtaining the sugar factory equipment in India.

9. (a) The technical assistance given by the Director of Imperial Institute of Sugar Technology is by sending us returns and statements every month, collected from all the working factories in India. These returns possess some technical information as well as very rare manufacturing control of the factories with the help of which we are able to make alterations and improvements that can be effected. In addition to this they are providing us with all the necessary forecasts and market reports and other useful information necessary for sugar manufacture. So we are

extremely satisfied with the assistance given by the Imperial Institute of Sugar Technology.

(b) The Industries Department are also doing us with the necessary help that is in its province. As they are not able to do any service particular and special to this industry we cannot say we are getting any useful assistance from them. We would suggest the Provincial Industries Department possess a Technical Expert in service always as they have a Government Textile Expert in service to shoulder the difficulties arisen in the private textile factories. As this industry is next in importance to the textile industry and growing with great rapidity, the services of a Government Sugar Expert will be of great help to the mill-owners to solve their practical difficulties.

Raw Material.

10. No.

11 & 12. Nil.

13. As we do not possess any land for cultivation we do not try any experiment. But these are left to the Agriculture Department and we are guided by their advice.

14. The cane that is available locally in former years were called Poovan and Vellai. These canes are of very high sucrose content and very soft variety also. But these varieties require a very high water supply, manuring and other intercultivation. The average yield would be normally 30 tons. The former practice of this tract and which is still continued is to make gur out of cane and these local varieties Poovan and Vellai are most suitable for the country mills. The Agriculture Department introduced the improved strains of Coimbatore Nos. 213, 290, etc., which are heavy yielding up to 40 to 60 tons per acre. But these canes were not suitable for the country mill and the ryots were not very eager to take up these varieties. In this juncture the cotton industry in this district began to flourish by the rising up of more than a dozen textile mills in and around Coimbatore. The rainfall in this district began to decrease and the last three or four years there was a very great scarcity of rain. So naturally there was a tendency amongst the ryots to give up the sugarcane cultivation in preference to cotton cultivation as they could not only cope with the scanty rainfall, they could find an easy market in these textile mills. People who took up sugarcane cultivation began to give up the local varieties in the place of Co. 213, 290 to cope with the scanty rainfall. But these hard canes were not suitable for their country mills. So they have to leave cane cultivation. Consequently the quantity of cane available became reduced year by year and due to the natural climatic change of the district even the small quantities of cane that were cultivated were not of good quality. The good quality canes as Poovan and Vellai were not possible to be cultivated under the existing climatic conditions and the Departmental varieties are far inferior to local varieties in quality. So during the past seven years cane cultivation was decreasing year by year and the quality of cane was going from bad to worse.

15. The climatic condition of Coimbatore district is such that there will not be excessive heat or frost as we have in Northern India. So the canes here are not affected in any way by frost. The insect and the fungoid diseases damage the cane to a great extent. The cane area round about the factory was yielding about 50 to 60 tons per acre but due to these diseases and the insect damage the yield decreases to less than 25 to 30 tons.

16. As already stated the location of the factory is in the heart of cane area and with no difficulty a small factory as ours can command sufficient cane supply from within a radius of two miles from the factory under normal conditions. But at present due to aforesaid reason of deficient rainfall many ryots have given up cane cultivation. But even now the total acreage round about the factory to a radius of about 20 miles the total average under cane is about 2,000 acres providing ample supply.

for a 200 ton factory. But the limiting factor is the price of jaggery. The usual practice of cane cultivators of this tract is jaggery making from cane, and as there is great fluctuation in the price of cane jaggery the supply of cane to the factory is not a definite one. When the price of jaggery/gur is less there will be ample supply of cane to the factory. So the non-supply of cane to the factory will never be for want of cane—but the price for the cane is the limiting factor. That is the price offered by the factory must be more than the equal amount of jaggery that can be obtained with that cane. But according to the present arrangement of the factory with the Sugar Cane Growers' Association of Coimbatore the factory undergoes an agreement that the factory should purchase and Association should supply the required quantity of cane to the factory, for which the factory is paying premium to the Association. According to this agreement the supply of cane to the factory is assured for ever. The principal varieties crushed in our factory is the local varieties called the Poovan and Vellai. In addition the Coimbatore strains No. 213, 219 are also largely crushed. Recently the Agriculture Department has introduced the Co. varieties 413, 419 which are also supplied to the factory and in view of the latter cane's superiority in quality, it is hoped that the future supply will be replaced completely by Co. 413 and Co. 419 varieties. These canes are very good varieties both for the cultivator as well as the manufacturers. The field yield of the local varieties are from 25 to 30 tons per acre having a high sucrose content of about 18 per cent. on juice, whereas the Co. 213, 219 varieties are heavy yielding varieties up to 40 to 60 tons per acre but the sucrose content is less only up to 13 to 14 per cent., whereas the Co. 413 and Co. 419 are both high yielding high sucrose content varieties the latter of these two is softer.

17. There is no other factory in existence around our factory to a radius of about 200 miles. Therefore there cannot be directly any competition or influence of other factories in the cane supply to our factory, as all the cane that are required by our factory can be got from within a radius of 12 to 15 miles and other factories from far off places cannot make any influence on the canes that are so near to us but the supply of cane and the price at which it can be obtained is indirectly influenced by other factories all over India to a very great extent. Because the supply of cane to our factory as already stated mainly dependent on the then existing price of jaggery/gur when the price of gur is limited it is possible to get the supply of cane to the factory only by paying higher price to the cane than the jaggery price. The influence of other factories in the purchase of canes to our factory is done by either increasing or decreasing the sugar price. That is when other factories reduce the price of sugar in the market we become unable to pay more for the cane and so the price can be offered by us is only less than the jaggery price so much so we become unable to get any supply of cane for our price. But when the sugar market is high our offer also becomes higher comparatively and so we get a good supply of cane. Therefore it can be said that though the supply of cane to our factory and the price at which we can purchase is not directly influenced by any other factory, all factories have indirectly a very great influence on our purchase.

18. (a) It has already been stated that though it is possible to get the adequate supply of cane for our factory within a radius of 2 to 3 miles around the factory, now-a-days it is possible for us to get our cane only from a distance of 15 to 20 miles and this shows that area under cultivation from which we were getting our supply of cane is undergoing considerable variation. Year by year the fertility of field is becoming inferior and the ryot find it impossible to cultivate such a highly cared crops as sugarcane. So the total amount of average that was under cane cultivation a few years back has been decreasing year by year.

(b) The main cause of the decrease in the acreage under cane cultivation during the past years is the demand for the alternate money crop in these localities. It has already been notified formerly that during the past few

years a number of textile factories have arisen round about Coimbatore and the demand for cotton is increasing year by year. Therefore the cultivators have a tendency to prefer cotton to any other crop and find an easy market for their produce.

(1) The rainfall was not plenty during the last few years and it was far below normal. The other climatic conditions are also very bad during the past years. These adverse climatic conditions did not permit the cultivators on this side to go in for sugarcane crop which requires plenty of water and manure that was not possible during the last years. If they take up more draught-resistant varieties as Co. 213, 290, etc., it was not possible for them to get them milled economically with their country mills. They have to find a market only in the factory which is not possible for them. So to cope with the climatic and rainfall condition the area under sugarcane cultivation has been undergoing considerable variation year by year by decreasing continuously.

(2) The supply of cane to the factory is not the only and main market of the produce of the sugarcane-growers in these tracts. This is only secondary thing. So the low price of sugar cannot have any effect on the sugarcane cultivation in these parts. Probably if the price of sugar is high and consequently the factory is in a position to pay a higher remuneration for the cane there might be some increase in the cane cultivation. But the low price of sugar that exists now does not bear any influence on the decrease in sugarcane cultivation. The decrease in the area of sugarcane cultivation might be perhaps due to any low price in the price of jaggery. But now it is a difficulty with which they are able to get the required outturn of jaggery per acre is the main reason of the decrease.

(3) As stated above the price obtainable for jaggery/gur is also one of the causes of the decrease in the area under cane cultivation. The fluctuation of the jaggery market and the uncertainty of the price that would be got for the jaggery does not encourage the cultivators to venture in sugarcane cultivation. So there is this variation of cane area.

(4) It has already been told that the starting up of a number of textile factories in this area has produced an easy market for the cotton. So this has the main influence on the decrease in the cane cultivation in this area.

19. The sugarcane cultivation is highest in 1936-37 all over the world but it is below normal in Coimbatore District and so it was not in excess of what is required in this tract. So no restriction is necessary.

20. The cost of cultivation of sugarcane in this tract is more than an average cost in other parts of India. Here an intensive intercultivation and manuring is done. The rent of the land also is fairly high—the water that is used for the local varieties as Poovan and Vellai is very great and so the water lifting charges are also more. But when the cultivator undertakes the growing of the Coimbatore strains as Co. 213, 290, 413, 490 the cultivation charge gets reduced considerably.

Cultivation charges for Poovan and Vellai varieties—

	Rs.
Preparatory cultivation	15
Manure and manuring	25
Seeds and sowing	40
After cultivation	15
Irrigation and watering	100
Rent and land, etc.	60

255

Average yield per acre is 30 tons of cane at Rs. 15 per ton comes to	450
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Net income per acre	<u>195</u>
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	Rs.
Cultivation charges for Co. 213, 290, etc.—	
Preparatory cultivation	15
Manure and manuring	20
Seeds and sowing	40
After cultivation	10
Irrigation and watering	40
Rent	60
	—
	185
	—
Average yield is 45 tons per acre at Rs. 10 per ton comes to	450
	—
Net income per acre	265
	—

21. The main difficulty with the cane cultivation is the low net price of cane. That is after deducting the amount they have spent either on jaggery making or cart-hire and other charges for cane supply to the factory, the net income is very low considering high expenses and labour incurred by them. At present the difficulty for water in the channels as well as in the wells and the other climatic conditions are the main difficulties. Secondly, there are not sufficient roads for the transport of cane. But this does not matter much in as much the cane is utilised only for jaggery making as the jaggery making is done only in the fields so no road facility is required for the transport of cane. So the difficulty of the cultivators in supplying the cane to a factory is want of sufficient number of roads and other transport facilities.

22. (a) We agree with the former report 22.

(b) We welcome the idea of allotting special area for different factories or the supply of cane though at present we do not feel the competition of other factories in our purchase directly. Until we are able to extend our factory to a paying business it will be unwise to allow other factories to draw their supply of canes from this area. Zone system will reduce competition in the purchase of raw material and so the working of the factories will be in a better place. But we are of opinion that this zone system should be put to force only after limiting the number of existing factories and the extension of bigger factories to still bigger sizes. Because very small factories like ours will get a comparatively very small zone for our cane supply so the rest of cane area should be sending to some other factories which is far off thus entailing an increased cost of transport. Therefore after specifying the size of the factory for a particular locality of cane area, the zone system is introduced, this will be a good working problem.

23. Though at present we are not in a position to contribute anything in the way of advance to the cultivators or in the development of feeder roads, we, however, can extend our full measure of co-operation by the required contribution and the advance when our business is extended to a paying concern.

24. (a) Considering the present fluctuation of the sugar market and the cut-throat internal competition, the idea of a fixation of quota of

sugar manufacture will be a blessing in disguise to the industry. By this fixation of a quota, the sugar prices will not be unduly lowered, and the manufacturers will be in a position to pay better for their raw materials and the agriculturists to spend, pay better attention to the improvement of the crops. So not only the fixation of a quota will place the industry in a sound basis but also the cultivators get up to a higher standard of life.

(b) (1) The licensing of new factories may be favoured in particular places only where the competition of other existing factories is not much. Considering our position, it is not wise to license any other factory in our district because already our factory is not on a sound basis, if any other factory is licensed, both ours and the new factories will be doomed, as the present capacity of our factory and the capacity of any other factory that could be licensed in this locality will be far below the minimum capacity for economic working.

(2) But on the other hand if any licence is granted to our factory for an extension, it will be an idea of supporting the industry. Because the cane that is available by very easy transport in this locality is to a factory of about 200 tons. So instead of licencing another factory of similar small capacity it will be advantageous to license the extension of our small capacity to a bigger capacity. So the licencing of new factories and the extension of existing factories are to be restricted and granted according to the locality. Our tract favours both restriction of new factories and the extension of the existing factories.

25. As regards our cane supply all the canes are gate canes. No variation.

26. Our gate canes are mainly transported by bullock carts and the very small quantity is brought by lorries. On an average about a ton of cane is carried by a one double bullock cart. But this quantity varies widely according to the distance carried and the condition of the road. When canes are carried from longer distances less cane is loaded. A four wheeler rubber-tyred cart can carry a load of about three times of the ordinary two wheeler double bullock cart. But we have not used any improved type of cart for our transport.

27. The mileage of roads in our vicinity is adequate. The condition of the main roads are fairly good. But the feeder roads are greatly neglected. In some places there are no feeder roads at all.

28. Cane is brought from about 12 to 15 miles by road and the average time taken by this transport ranges from 24 to 36 hours. This time includes the delay in loading the cart and the interval between the loading the cart and the commencement of actual transport. That is usually the canes are cut during the day and the carts are loaded in the dark. The actual transport commences late in the night so that the canes are delivered next day morning. But the actual transportation does not exceed 6 or 7 hours for this distance. All the protection that is made to prevent the deterioration of cane during the transport is covering the cane bundles with the straw so that there might not be excessive dryage of the cane during the day. Nothing special is done.

29. The average cost of transport by bullock cart in these parts is one pie per mile per maund. Cane-growers rarely go out for bullock carts on hire. They try to manage with their own carts. If on any occasion they find it impossible to manage with their own carts, and they require more carts they follow the system of exchanging carts. That is four or five ryots would lend their carts to one particular occasion in exchange of lending his cart to them on some other occasion. In this way they avail as much as possible engaging carts on hire.

30. No tolls or any other dues are levied on carts supplying canes to our factory.

31. The major portion of our gate cane is purchased through the agency of the Sugar Cane Growers' Association. The Association has made an agreement with the factory to supply regularly the quantity of cane we require every day on fair price in return of which the factory is paying a premium of four annas per ton of cane to the Association. Normally the cartmen are not made to wait for any long time unless in extraordinary cases when there is over-supply of cane, they are made to wait for some time. The arrangement of supply is made in such a way that each cart as it enters the factory gate is weighed and the tare weight found by a second balance and the cart is sent out immediately. So there will not be much detention of the cartmen.

32. We do not have any Railway cane.

35. No tramway serve our factory.

36. A tramway system is most suitable for this tract for the transport of cane. The major portion of cane cultivated in this area is in wet lands and the cane area extends far into the interior of the main roads, whence it is impossible to provide suitable feeder roads. Now-a-days these canes are brought to the main road only by manual labour which not only delays the work but also costs very heavily. So if transports are established instead of the feeder roads, the transport will be much cheaper and quicker, without affecting the adjacent fields. The feeder roads will entail a long extent of land whereas this tramway system will not be so. In the place of these tramways nothing can be more profitable substituted except perhaps ropeway transportation.

37. The deterioration of cane due to the transport by road or rail is not much at present as the delivery of these canes does not take much delay. But sometimes the canes are transported after a long time after the cutting of cane and so some deterioration takes place, in such cases. But no estimate of the extent of deterioration in this case can be exactly mentioned.

38. (a) About 50 per cent. of our cane is purchased direct from the cane-growers.

(b) The rest 50 per cent. of the whole cane supply is through the agency of the Sugar Cane Growers' Association.

39. We do not make any arrangement with the cultivators direct for our canes. In fact we do not have any reliance of their regular supply. We purchase what quantity we are supplied and the price is paid in cash when it is demanded. We do not make any advance of money or manure or seed or any other thing to the cultivators. But these advances of cash, manure, seed, etc., are made by the Sugar Cane Growers' Association mentioned already and they make the necessary arrangement for the marketing of the canes of the members.

40. As stated before we purchase only 50 per cent. of the whole cane supply direct from the cultivators and the rest 50 per cent. through the agency of the Sugar Cane Growers' Association, for which we pay a premium of four annas per ton of cane to the Association, which Association after making all the overhead charges of the Association, declares a dividend of this premium amongst the cane suppliers.

41. As stated above 50 per cent. of our cane is obtained from the Sugar Cane Growers' Association with the agreement that we should purchase and they should supply the canes we require for running our factory, on the terms that we should pay them an extra premium of four annas per ton over and above the fair price of the cane by the analysis and the Association should supply us cane irrespective of the price of jaggery.

42. The payments for the cane is made when it is demanded by the supplier. Usually the Association is paid once in a week.

43. Price of cane per ton—

	1934-35.	1935-36.	1936-37.
	Rs.	Rs.	Rs. A.
1st season	11	10	11 0
2nd season	11	10	7 8

The price of cane in our place do not vary in different periods of the same season unless there is variation in the price of sugar. But so far there was not much variation in a single season.

44. The price at which our canes are purchased mainly depend upon the ruling price of sugar in the market. We fix the price of cane only according to the price of sugar and the available sugar in the cane purchased.

45. The supply of cane is much influenced by the price of jaggery/gur. When the price of jaggery is increased the supply is much reduced and the price at which it is obtainable is increased to a great extent.

46. There is great variation in the price of jaggery in our tract during the last few years. But the cause of such variation cannot be definitely mentioned except that it could be due to the supply and demand question.

47. The price of cane is not fixed in our tract under the Sugarcane Act, XV of 1934.

48. No answer.

49. The system of bonus payments can be encouraged for superior early or late varieties as the system of payments will serve the cultivators to go in for the superior early and late varieties enabling the factory to work for a longer duration and to place the industry in a sound basis in the world market.

50. The duration of crushing season during the last years is appended.* The cause for any variation is mainly dependent in the supply of cane to the factory. There are two seasons of cane harvesting in and around Podanur the first season commencing in about the middle of December and lasting for about four months. The second season commences about the middle of June and last for about two months. So ordinarily the crushing of sugarcane in this factory can be extended to a minimum of about six months, in the year whereas if the supply of cane is well organised with sufficient early and late varieties planted in both the seasons the crushing season of this factory can be extended to about eight months, in the year. But we see that the present working of the factory does not exceed four months in the year and the duration gradually decreases year by year. The main reason for this would be is the slump in the sugar market and the steadiness with which the jaggery market stands. As already stated in previous paragraphs, when the jaggery trade is steady, the supply of sugarcane dwindle very much if there is any dullness in the sugar market due to internal competition of the bigger sugar factories. Besides this, main reason, the decrease in the variation of the duration of the crushing season is due to unfavourable climatic conditions that prevail in these parts during the past few years. Due to the lack of sufficient rainfall the cultivators are not able to produce good canes and consequently the value on the price of such canes in the factory decreases considerably in proportion to the sugar contents and so the suppliers stop sending cane to the factory; so the duration of the crushing season in the factory becomes very short.

51. The possibility of increasing the duration of crushing in this tract does not only depend upon the control of the sugar market but also in the hands of the Department of Agriculture, who by the introduction of early and late varieties and advocating their merits to the ryots, can

* Not printed.

assist the factory to crush for a longer time. But unless the sugar market is controlled, unless a "quota" for sugar manufacture is imposed on all the factories and unless any restriction of over-production by very big factories is made and unless the price of cane jaggery is maintained at a minimum, whatever attempts are made by the Agriculture Department by the introduction of late and early varieties to the cultivation, the supply of cane cannot last long enough to extend the duration of crushing of our factory.

52. The Imperial Council of Agricultural Research and the Co-operative Department of our Province does not do much work in the way of helping our factory. But the Department of Agriculture is rendering all their services by the introduction of different varieties of sugarcane to suit the profitable working of our factory. We are extremely satisfied with their work.

We would suggest the Imperial Council of Agricultural Research might open sugar research and testing stations in two or three places in the south and make the necessary researches with the local varieties. This will be greatly helpful not only to the cultivators but also to the manufacturers.

Labour.

53. We employ the whole labour on monthly wages—both skilled and unskilled. We retain the unskilled labourers only during the season but all skilled labourers are held in service throughout the year, even during off season.

54. Skilled labourers are only local people. As the factory was in existence since the last about 40 years most of the local people are acquainted with the technical works and they have become skilled labourers. We do not import any labour either from abroad or from other parts of India.

55. We did not feel the necessity of employing skilled labour from abroad to see how it is possible to replace those labourers from outside India by local people. Probably in the beginning of the working of this factory that is about 40 years back skilled labourers might had been brought from outside. But now everybody is replaced by local people.

56. We have not provided our labourers with any housing at present but we are in the hope of providing them with all the comforts as soon as our factory gets established in a sounder basis. As regards other comforts we have made all the necessary arrangements that the Factory Acts require us to do. We are giving complete satisfaction to the Inspector of Factories.

Power.

57. We are unable to meet the whole of our requirements of fuel from the bagasse available in our factory. We are provided with only two mills of three rollers each and so the extraction of juice is far incomplete, retaining the bagasse not only a large amount of sugar but also a great quantity of moisture. So when the bagasse is put inside the boiler most of the heat that is produced by burning bagasse inside the furnace is utilised in the evaporation of the retained moisture and in drying the bagasse. So we are unable to manage with the bagasse produced by our factory. We are supplementing our fuel requirements by additional use of firewood to about 4 per cent. on the cane crushed along with some electricity purchased from outside. A statement of the figures of the amount spent for power in different years is herewith appended. We do not bale our surplus bagasse.

By-products.

58. Molasses is the main by-product prepared in our factory in addition to bagasse and filtermud.

59. The production of molasses during the previous years is appended with the prices per maund factory delivery. The variation in quantity of production is due to the quantity of raw material used for sugar manufacture. The variation in the price of molasses cannot be definitely told by us as we are not aware of the exact use of the molasses we supply to the purchasers. All that we say about the variation in the price is due to the law of demand and supply.

60. We give our whole production of molasses to a Contractor in Tinnelly District. The transport is by rail and the buyer pays the freight charges. The Railway facilities are adequate. The freight rate from the factory to the godown of our Contractor is about six annas per maund.

61. We do not get adequately paid for the molasses. If we have a distillery attached to our factory we would realise better returns from the molasses.

62. As the quantity of bagasse produced in our factory is insufficient for our own use we do not have any surplus to think of.

63. The filtermud is the by-product we have other than bagasse and molasses. This mud we dispose of to gardeners and other cultivators as manure to their fields. The boiler ash is also another by-product which is also taken away by cultivators as manure. Besides these we do not have anything else.

Storage and Transportation of Sugar.

64. The stock of sugar in each crushing at the beginning and at the end is herewith appended.

65. All the arrangement we have for the storage of our sugar is to pile them stored in 2 cwts. bags, 1½ cwts. bags and 24 lbs. bags in our godown. Our godown can hold 50 tons of sugar at a time. We have not increased our godown during the last few years and we do not contemplate to increase it in the near future.

66. Our sugar deteriorates to a great extent during prolonged storages due to the existing climatic conditions of this place. By the rapid oxidation of the sugar surface, a yellowish tinge appears on the sugar thus affecting the colour. The atmospheric and the climatic conditions of this locality makes the sugar to undergo a sort of fermentation, most of it getting inverted to reducing sugar giving the stock a sort of wetty appearance unfit for good marketing.

67. The disposal of the damaged sugar is by mostly selling the product for a reduced price according to the quality as reconditioning is more costly for us.

68. Sugar is not much damaged in transit as the packing is very carefully done in the factory. If at all there is any damage in transit it must be due to carelessness of rain and frost, etc.

69. No. We have not so far felt the difficulty of getting wagons for the transport of sugar or the delay in transit to the market. Coimbatore is our main market which is about 3 to 4 miles from the factory and the sugar is sent by bullock carts within a couple of hours, during which time neither any damage nor any delay can be expected. To slightly farther places we send the products by lorries and the rest only we send by Railway. So we do not feel the difficulty of securing wagons for our transit.

72. The required statement is appended (Appendix II).

Capital Account and Overhead Charges.

73. Copies of Balance Sheet is appended herewith.

74. No amount is written off for depreciation so far.

75. No amount is set aside as reserve.

76. No dividend is declared so far.

77. A major portion of our working capital is financed by the Central Bank of India, Ltd., on Open and Key Loans at the rate of 4½ and 4 per cent. per annum respectively.

78. We have not spent any amount so far as our head office expenses and the Managing Agents commission. The Managing Agents' remuneration is about 3,000 rupees per annum and 10 per cent. of the profit.

79. At least 6 per cent. on the paid up capital after allotting for the depreciation and reserve is a reasonable dividend for this factory.

Efficiency of Production.

80. The cost of manufacture and recovery rates are appended herewith.*

81. It was possible for us to reduce the cost of production by slight extension of the plant by minor alterations here and there. Total cost of manufacture in the year 1935 is Rs. 2,55,940-6-6 whereas in 1936 Rs. 2,47,966-14-9. Though there is an increase of about Rs. 22,026 the cost per maund of sugar has decreased by Rs. 1-13-1. This is mainly due to the increased outturn daily. There is a reduction of Rs. 1,705 in salaries and wages account. About Rs. 800 saving in repairs and renewals. About Rs. 8,700 is saved from the miscellaneous account.

82. The canes that were being supplied these years were of very inferior quality, as already stated before, due to adverse climatic conditions. The recovery consequently was very poor thus increasing the cost of production to a great deal. So there is ample scope for further reduction of the cost of working by getting better varieties of cane and increasing the daily outturn. As already stated the crushing unit of the plant is not complete and by equipping with more efficient machineries, there is ample scope for greater outturn and further reduction in the cost of production.

83. Sugar marketing centres are appended herewith.

84. The arrangement between our factory and our dealers in selling our sugar on commission basis—we pay a commission of 2½ per cent. of the sale. The arrangement of the dealers with the retailers is not known to us and so we are not in a position to state anything on this.

85. We believe the present sugar contract form is suitable and we do not have any other suggestion.

86. The prices of sugar is appended herewith.

87. There is not much fluctuations between the wholesale and retail prices in this tract.

88. Our dealers do not stock sugar in their godowns as they order the sugar only whenever they require. The storing work is done only in the factory.

89. So far as we have seen Indian sugars do not deteriorate as rapidly as the imported sugars and the keeping quality of our sugar is always better.

90. Java and other imported sugars are preferred by very high class people—the reason of the preference cannot be definitely stated as there is not much difference in the quality of the sugars. But probably those high class people think that Indian sugars have not come up to the rank of foreign sugars in quality.

91. It has already been told that Indian sugars are equal in all the respects to foreign sugar.

92. Our factory has a working season of about 11 months in the year including the off season refining of palmyrah jaggery. So there is no necessity of stocking the sugar for a long time. The whole stock is with the manufacturers. Our dealers do not stock sugar they get the sugar whenever they find an order for that. The stock is financed by our bankers on key and open loans account.

* Not printed.

93. We do consider a marketing survey of the sugar industry would be advantageous.

94. We do favour a central All-India Selling Organisation.

102. The consumption of sweets and syrups is not so much in India that it will permit the starting up of a number of such subsidiary industries. But if this consumption is increased by some means it is possible to start such industries. As regards the industry of fruit preservation and canning, there is not much fruits available in and around these places, so such an industry also cannot be a paying concern under the present circumstances. Unless there is an increased availability of the raw materials and an increased market for the finished product it is not possible to start such industries.

105. *The effect of the sugar excise duty of 1934 and the enhancement of it in 1937.*—When a Tariff bar was introduced protecting the import of foreign sugar into India in 1932, a number of sugar factories sprung up and began working in all parts of India but though there was an increase in the number of the industrial concerns no care was taken by the capitalists to place the industry in a better standard. That is no measure was taken to place the industry in an economic condition and nothing was cared as to how to compete the world market at a latter age when the Tariff bar would be removed until later on it was found that unless some restriction is made in the margin of profit by instituting excise duty on factory made sugar, India cannot withstand the international competition in the sugar market for ever. But when the Government found that though it was losing a large amount of import duty by the stoppage of foreign sugar import, there was no advancement in the industry locally. So the Government introduced excise duty to restrict the margin of profit of the industry thereby compelling the manufacturers to pay more attention in a better economic method of working. Consequently, when a large portion of the profit was taken away by the Government in the form of excise duty, the manufacturers were compelled to be more careful about the industry. Then when the Government found that the industry has not yet reached the level to compete with the world market, they further increased the excise duty in 1937, so compelling the capitalists to encourage the really technical stuff and go in for better working. Thus the introduction of excise duty of 1934 and the enhancement of it in 1937 has formed the industry into a better shape than the previous years thus attempting to raise the technical side of sugar manufacture which is in its infant stage in India to the level of other sugar producing countries of the world within another ten years so that by the removal of the Tariff bar our country also attains a standard to compete with the world market.

108. *Effect of Sugar Protection.*—By the protective duty to sugar industry a large number of sugar factories have sprung up in all parts of India, the cultivation of sugarcane has increased to a very great extent and a large amount of money is saved from going outside India. The cultivators are in a better status of life than on previous years as they have taken up the more paying sugarcane crop in the place of the paddy, etc. Thus the protective duty has made India advance in Industrial, Agricultural and in economic aspects.

109. *Reasons for making no change in protective duty.*—The protection has been guarding the gradual development of this particular industry in India. But India has not fully developed in the industry as other countries and this is only the beginning stage of a combined work of the Agriculture and Industries Departments for the development of this industry. Year by year we see progress of the industry especially in its technical side. As the cost of production statements show, every year there is a decrease of cost of production, efficiency of work being increased, yet the industry has not got up to the state to compete with foreign trade. So it is necessary for the Agricultural Department to produce still more improved strains of cane and early and late varieties so that the duration of

crushing and other kinds of efficient works might advance still further. Only then India will be able to compete with world market. So we would request the Board to recommend for the continuation of the tariff for a longer time. We would also say that as the price of Java sugar does not compete with local sugar it is not necessary that the Board should recommend for an increase tariff. But the tariff bar should not be removed for some more time until the industry gets still better established.

110. *Other forms of Assistances.*—The other forms of assistances that the Board can recommend for the development of the industry are in various ways. Agricultural developments may be made by establishing more research stations and Demonstration farms, introduction of improved strains of early and late varieties to prolong the crushing of the factory and production of drought resistant and disease resistant canes to cope with the climatic changes of India that occurs so often.

Technological development may be effected by establishing institutions for the training of technical people, for making research work in the technical side of the industry and other improvements necessary in the machineries.

Marketing facilities should be made for better marketing of the finished product, in a more organised manner.

APPENDIX I.

(Refer Question No. 5.)

Improvements on Land, Building and Machinery.

	Rs.	A. P.	Rs.	A. P.
<i>Up to 30th September, 1935.</i>				
Land and Building—original value	25,000	0 0		
Additions during the year	5,398	4 0		
	<hr/>		30,398	4 0
Machinery (general)—				
Original value	1,26,000	0 0		
Additions during the year	936	11 0		
	<hr/>		1,26,936	11 0
<i>Up to 30th September, 1936.</i>				
Land and Building as per first year	30,398	4 0		
Additions during the year	5,690	13 0		
	<hr/>		36,089	1 0
Machinery (general)—				
As per first year	1,26,936	11 4		
Additions during the year	3,491	1 0		
	<hr/>		1,30,427	12 4
Less amount forgone by the seller . . . . .	...		10,000	0 0
	<hr/>		1,20,427	12 4
Machinery—Electrical—				
As per first year	670	0 0		
Additions during the year	502	13 0		
	<hr/>		1,172	13 0

APPENDIX II.

(Refer Question No. 72.)

Different markets supplied by our factory in different years and the quantities with the freight rates from Podanur Station.

Districts.	Per Maund freight rates.	1934.		1935.		1936.		1937.	
		Tons.	Cwts.	Tons.	Cwts.	Tons.	Cwts.	Tons.	Cwts.
	As. P.								
Coimbatore . .	...	601	..	450	14	409	10	49	19
Malabar . . .	1 5	26	15	184	6	182	11	5	19
Salem	4 5	1	..	44	3	85	14	..	..
Trichinopoly .	6 1	12	10	39	7	20	..	5	7
Tanjore . . .	7 4	..	..	25	..	3	6	..	..
Madura . . .	4 6	..	..	15	8	3	11	..	..
Nilgiri . . .	5 0	..	..	...	..	6	5	8	3
Cochin . . .	5 9	8	17	18	10	67	9	16	17

(3) Replies to question No. 2 from the Coimbatore Lakshmi Sugar Mills, Ltd.

1. The factory was in existence under a different management as Sri Ram Sugar Works since the last forty years. But the present management purchased the old factory in September, 1934, and since then it is working under the present name "The Coimbatore Lakshmi Sugar Mills, Ltd.". The present maximum capacity of the factory is to melt about 40 Candies jaggery or 240 msunds jaggery per day. We crush sugarcane for several months in the year and refine palmyrah jaggery during off season.

2. We refine sugar from palmyrah jaggery. We manufacture two grades of sugar 1. The crystal white sugar 2. The soft brown sugar.

3. We are able to supply figures only from year 1934 as the factory is working only since that date, under the present management. The output of sugar refined from palmyrah jaggery is appended herewith (Appendix I). The season in 1936-37 is not yet complete. The completion of each year season is only in the month of September. So the figures for 1936-37 is given up to the end of the month of May. There is a gradual increase in the total output of the sugar every year and this variation is due to slight alterations in the machineries during each year and due to more efficient work and management during the latter years.

4. There is no difficulty in getting the raw material. The jaggery area around this factory lies within a radius of about 30 to 40 miles only whence we can command a large supply of jaggery. In former years there was competition among the factories for the purchase of raw material. But now we have co-operated with Messrs. Parry & Co., in the purchase and sale of our raw material and the finished product and also in technical works so, that there is no competition or difficulty in the purchase of jaggery for this factory. The quantities of raw material purchased by us during the previous years and the average price we paid for delivery at our godown is appended (Appendix I).

5. The main source of our supply is from the British Malabar in and around Palghat. Besides this area we also get jaggery from Perundurai and round about Erode of Coimbatore District which is also about the same distance for our factory as of Palghat. Occasionally we get supplies from Tinnevely Circle which is about 200 miles from factory. But the purchase from the Tinnevely Circle is undertaken only when we get very cheap so that our factory delivery prices do not go above that of the purchases done at nearer places. The method of transportation is mainly by railway.

6. The average recovery of sugar during the previous years is appended (Appendix I).

(a) The improvement in the method of manufacture of the raw material is gradually taking place. In the Palghat area the jaggery making have improved very much more than the previous years to such an extent that in future much improvement is impossible. But in Perundurai area the jaggery making is at an early stage, the stuff produced is of very inferior quality unfit for refining purpose. There is a lot of work that requires to be done to improve the method of manufacture. The present stuff contains excessive percentage of reducing sugars and ash so much so the Outturn or Rendement is reduced to a great extent. The main defect in this method of manufacture is lack in the addition of sufficient quantity of lime and frequent overboiling of the liquor.

(b) The process of refining does not require much improvement as the present working is already an efficient one. If any improvement can be made, it is only by the extension of the factory and the introduction of new and up to date machinery.

7. The cost of manufacture of one maund sugar is appended (Appendix II).*

The variation is the gradual reduction of the cost of production. The main reason for this reduction is by increasing the daily output and maintaining the total expenditure as the same as in previous years. There is slight decrease in the overhead charges in the latter years. The price of raw material is also decreasing year by year due to lack of competition in the purchase after the purchase-contract with Messrs. Parry & Co. It is possible to reduce the cost of raw material only to a certain minimum point that will enable to manufacturers jaggery making as their livelihood which point is almost reached. A further reduction in the cost of raw material is not very possible.

8. Our sugar compares fairly well with other factory sugars and in some instances we have produced better quality sugar than other factories that are near ours. The prices obtained for our sugar during the last years are appended (Appendix I). The sugar manufactured by refining does not differ in quality from that manufactured out of cane.

9. The markets we supply our sugar and the freight rates from our factory station are supplied in Appendix III.*

10. The output of molasses in each year and the respective is appended (Appendix I).

11. Sugar excise duty has no effect on our palmyrah jaggery industry directly. But by the imposition of the excise duty on cane sugar the price of sugar does not go too low, so much so there is a slight protection for this refining industry and so if this duty is removed, the jaggery refining industry cannot survive with much profit. But if the same duty is imposed on this industry also, not only this industry of refining will have to be closed but also the cottage and the agricultural industry of jaggery making will get perished leaving thousands of labourers who live on jaggery making to become unemployed as there is no outside market for this jaggery other than the factory consumption.

* Not printed.

12. Refining industry can operate in competition with other cane sugar factories only when there is excise duty for the cane sugar and this refined sugar is exempted from it. Because of the high cost of the raw material, and the impossibility of reducing this cost of raw material to any further extent (as such reduction in the price of jaggery will kill the cottage industry of jaggery making affecting a lot of industrious labourers) and the consequent increased cost of production of sugar out of jaggery, cannot compete with the sugar factory sugar if either the same excise duty is imposed on this jaggery refining industry or the excise duty on cane sugar is removed.

APPENDIX I.

Particulars.	1934-35.	1935-36.	1936-37.	Reference question. No.
Output of palmyrah jaggery sugar during the year in maunds .	12,657	15,463	11,378	3
Quantity of jaggery purchased .	33,944	33,651	26,865	4
Price per maund factory delivery .	3-15-9	3-12-1	3-10-8	4
Recovery of sugar	56.36%	48.4%	57.1%	6
Price of sugar	10-0-0	9-0-0	7-8-0	8
Output of molasses	7,721	10,598	...	10
Price of molasses at factory . .	0-8-0	0-10-6	...	10

The Kalyanpur Sugar Mills, Ltd., Kallianpur, South Kanara.

Letter No. 487, dated the 23rd June, 1937.

In continuation of the letter dated the 17th instant addressed to you by our Director, Mr. Venkatesh Pai, Esq., Mangalore, we have sent by separate parcel the answer to the General Questionnaire as also the Forms I, II, III, with six spare copies of each and a copy of our annual report for your kind reference. We beg to invite your kind attention specially to the following items in the forms:—

1. *Manufacturing expenses—3 (c).*—*The salaries of Technical and no technical staff.*—The off season salaries of the staff have not been taken into account. Again these have not been charged fully as the staff had not been completely organised and many were taken as apprentices without pay for some months.

2. *Overhead charges—4 (d).*—The Directors of the company have waived their claim for their remuneration (sitting fees, etc.) this year and the Auditor's fee having been paid in May, has not been included.

Enclosure.

THE KALYANPUR SUGAR MILLS, LTD.

1. In 1936-37. 60-75 tons (daily crushing capacity).
2. 1936-37 season—Grade I, 4,262 maunds, Grade II, 90 maunds.
3. (a) Yes.
(b) There is no train communication, but there is communication by water up to distance of 20-25 miles, the location of the factory being at the junction of 3 rivers. It is near to the Malpe and Hangarakatta Ports.
(c) Yes.
4. Single Sulphitation. We have not tried any other method and hence can't give personal opinions.
5. Does not arise.
6. Modifications to work the factory to its fullest capacity in the light of experience gained this year have been made. Double sulphitation will be adapted. We propose to make it a 150 tons unit.

7. (a) The cost of production per ton of cane, depending upon the capacity of the mill, and extraction, economy of steam consumption, efficiency of the boiling house and capacity for producing quality sugar, granting regular supply of cane (good) at moderate rates is available for a reasonable period of at least 120 crushing days.

(b) 60-75 tons. Economic feasibility of this depends upon the rate of sugar being moderate and cane cultivation and the supply being under factory's control.

8. Important parts are not available.

9. (1) Fairly. Assistance and guidance should be further enlarged. Prompt advice should always be given. Papers of interest to sugar factories in general dealing with the technical difficulties and solution should be intimated to the factories to ensure progress of sugar industry.

(2) Yes. Periodical inspections should be more frequent. Selection of sites for tube wells, artesian wells, arrangements to fit up small pumps and such other irrigation facilities should be given wherever it is possible. Propaganda work in utilizing in the help of machines and pumps for cultivation purposes may be carried on.

10. Yes. Obtained it on lease this year. Propose to extend cultivation. Lands were not purchased outright. Irrigation facilities are found wanting; getting compact blocks is difficult.

11. (a) Only experimental cultivation—10 acres.

(c) Varietal trials:—H.M. 607, H.M. 320, P.O.J. 2878, Co. 419, M. 55, Co. 218, 352, 353, 355, 421, H.M. 544, Co. 400, J. 247, etc. The principal variety grown in our parts is Red Mauritius.

(d) The ryots follow their own fancies.

(e) 25-30 tons per acre, sucrose content 10.5 per cent. on cane. Variety:—Red Mauritius.

(f) Rs. 180 to 230 per acre.

Rent	Rs. 40
Irrigation Labour	35
Ploughing, planting, etc.	50
All coolies, charges for growing canes, ash, burnt earth, cattle manure, etc.	25
Artificial manures	25
Seedlings	25
Total	200

12. (a) 10 acres this year.

(b) Nothing.

13. We are having varietal trials to find out which variety suit our climate and soil conditions and how best we can extend the crushing. Early and late varieties of cane has been tried. The Agriculture Department had been helping us in supplying seed material only so far. More assistance has been sought.

14. Does not arise in our case.

15. White ant attack and red-rot disease are not very uncommon. Heavy rain and standing floods damage the crop.

16. Not at present. Red Mauritius only. Fields etc., have been stated already.

17. No other factories here in this district.

18. Not very considerable.

19. No. So no restrictions are necessary. On the other hand cane cultivation has to be encouraged so as to extend the season.

20. Some answer as 11 (f).
 21. (1) Good seed material.
 (2) No knowledge of improved method.
 (3) Irrigation facilities.
 (4) Conveyance facilities.

Suggestions.—Regarding (1) and (2) the Agriculture Department should establish seedling stations and hold demonstrations. Regarding 3 where large scale cultivation can be had, Industries Department should look into the possibilities of sinking wells, artesian wells, etc., for sufficient water supply. Regarding (4) feeder roads from the fields to the river side and to the road side by the local Government should be had.

22. Cannot comment.
 (b) Does not arise in our case.
 23. There is no need of such a system here.
 24. (a) & (b) Yes. Provided small sugar factories in existence now are allowed a quota and an extension of their capacity to the economic unit as decided by the Tariff Board.

This is to avoid ugly competition when the industry is in a state of being built up. Factories once started should be given reasonable time to attain stability, better efficiency and better production of sugar.

25. All gate canes.
 26. By carts and by boats. $\frac{1}{2}$ a ton per cart and 2 to 3 tons per boat. Rubber tyre carts used by us in the factory premises carry $\frac{3}{4}$ of ton.
 27. No. The feeder roads are very bad if there be scarcely any.
 28. From as far as a radical distance 10-12 miles from the factory. Time taken is usually one day. It can be better organized in the next season.
 29. No protection whatsoever. 3 to 3 $\frac{1}{2}$ annas per ton per mile is the usual hire for carts. Partly transport is by their own carts and partly by hired carts.
 30. No.
 31. We get canes more by boats through agents and during high tide. The detention will not be more than 10 to 20 hours.
 32. No railways. Does not arise.
 33. Does not arise.
 34. Nothing.
 35. No tramways.
 36. We have not given a thought to this and nothing from practical experience can be said.

37. Experiment in our factory on deterioration on cane—

	Pol.	Purity.	Glucose.
1st day	17-68	86-66	1-83
2nd day	16-89	85-10	2-26
3rd day	15-65	76-94	3-58
4th day	15-26	67-80	4-25

and so on.

38. Mostly through agents during the previous season and partly from the growers.
 39. No definite arrangement hitherto. Advance in cash and kind are made.
 40. A commission of As. 4 per ton of cane he supplies is paid.
 41. Yes. On the same terms.
 42. The cane is weighed at the weighbridge at the factory premises. One day is the usual interval.
 43. Does not arise.

44. This year the price was paid on the total solids. Next year onwards it will be paid on definite relation to the price of sugar and the expected recovery.

45. The supply and the price of cane is solely influenced by the price of gur.

46. Not much.

47. Does not arise, as there has been no such fixation.

48. Does not arise.

49. This will not arise when we pay on the expected recovery and sugar price basis.

50. Does not arise. 1936-37 season. 87 crushing days. The period is not sufficient for economical working.

51. There are possibilities of extending the crushing season to 200 days in a year by changing time of planting and introducing late and early maturing varieties.

52. Yes. The Imperial Council of Agricultural Research by investigation, etc., and proper advice to the factories for the improvement of the crop and suggesting simple remedies for diseases, etc. It should aim at the increasing yield of cane to the Java level. Unless this is done, the industry cannot survive and attain efficiency; and it will be entirely at the mercy of the Government. The Agriculture Department should establish demonstration farms as mentioned already in those parts as there are none here and should find out what variety is best suited for us, how best to reduce the cost of cultivation, how to improve the yield and how to extend the season., etc. If this seems to be a lot of expenditure, the Department should at least help the factory and any other body who actually do this research work by suitable subsidies considering their merits.

The Co-operative Department can very well help the ryots by loans on crop hypothecation and the dues recovered from the factory to which the cane is supplied or the factory can make advances in cash or kind or seed material, the Co-operative Department co-operating with the factory to realise the amount.

53. We had only one season.

54. The Chemist is from Andhra and the Panmen from Northern India.

55. Does not arise.

56. None hitherto.

57. No. To the extent of 45 per cent. of our full requirements during the last season which is the first season.

Does not arise.

58. *By-products*.—Molasses and Press cake.

59. Does not arise.

60. No market. Does not arise.

61. It is thrown out. Central distilleries should be established in the neighbourhood of the sugar factories. These distilleries should buy regular stock of molasses from the sugar factories in the vicinity.

62. Does not arise.

63. Press cake can be used as manure.

64. Does not arise.

65. Stored in godowns. Have proposed to increase the capacity.

66. Deterioration in colour and absorbs moisture. The process of manufacture being single sulphitation and the size of crystals being small and godowns being damp.

67. Yes. Reconditioned.

68. Double sulphitation.—Controlling moisture content, producing big size crystals, seeing that no film of molasses adhere to the crystals is expected to improve the keeping qualities.

69. As this is the first year nothing can be said.
70. Does not arise. It is transported by carts and lorries.
71. Does not arise in our case.
72. Does not arise.
73. Copy of the balance sheet has been included (for the season 1936-37). In the balance sheet, off season salaries, etc., have not been included. As a good many were taken as apprentices and probationers, etc., establishment charges has been considerably low during the working season and as also it had not been well organized.
74. Depreciation has not been written off this year.
- 75 & 76. Does not arise.
77. By shares (a limited liability).
78. Reference answer to question 73.
79. No managing agents.
80. Forms have been included.*
81. Does not arise in our case.
82. There is every scope for improvement.
83. South Kanara is the market.
84. (a) No definite arrangements this year.
(b) Sales by cash or credit.
85. Cannot comment as it does not affect us much.
86. Not in a position to supply. But 2 or 3 years back the price of sugar was as high up as Rs. 270 per ton while it has now come down to Rs. 180 per ton including excise duty, freight, commission, etc.
88. Godowns absorbs moisture.
89. Yes. Yes.
90. In view of the very competition price at which Indian sugar is sold Java sugar is not so much preferred now a days.
91. Indian sugar does not equal the quality of Java sugar or other imported sugars though there are a handful of factories in India which produce sugar to compare favourably with Java sugar except in keeping qualities. In sugar quality, size, shape and brilliance of crystals and in keeping qualities.
92. No high stock of sugar is usually carried on by dealers in our parts.
93. Yes.
94. Yes. Reference answer to question No. 24.
95. Not in favour of standardization at present as it will kill the industry before the factories recently started have reasonable time to attain the stage of producing standard sugar.
96. (a) & (b) Nothing has been done last year.
97. Nothing at present.
98. There are very few sugar factories in Southern India, while in this respect Northern India had an enormous growth. Southern Indian factories can maintain better efficiency as tonnage of cane per acre is double and can be made double if it is not now, than that found in Northern Indian conditions where only 18 tons per acre have been so far obtained. Considering this aspect, sugar factories in Southern India have got better chances in the long run if proper attention is paid to cane cultivation. But it is found that Northern Indian Sugar factories having an early start, now dump down sugar in our markets at such low rates and competition prices that the sugar factories recently started with some courage in Southern India and which are only a handful, are not allowed to keep their heads above the water level. Considering that it is the Southern

* Not printed.

India Sugar factories that can and will attain better efficiency provided sufficient protection and reasonable time is given for their growth; dumping of Northern Indian Sugar in Southern Indian markets at competition rates should be stopped.

99 & 100. Can't give personal opinion.

101. Yes. Where there is abundant supply of fruits and good exporting market with transport facilities, etc.

102 & 103. Does not arise.

104. The export of our sugar is feasible if preference is given in the United Kingdom or any other country which imports sugar whose preference shall be reciprocal with regards to their products and which we usually import.

105. The present competitive prices and the enhanced duty make the ryot give up cane cultivation entirely and if this state of affairs continue many factories in Southern India cannot hope to survive. The ryot's lot had been something when they were cultivating canes and when the factory used to buy it at moderate rates. Now the factory finds it very difficult to give the growers old rates because of the enhanced duty and competitive prices for sugar. The Government knowing this, have brought down their fixation of price to less than Rs. 6 per ton of cane in United Provinces, Bihar, etc., which step is bound to tell disastrously on cane cultivation next season. It need not be said that the return of the ryot is worse with other crops. The industry has received a blow before it is able to stand itself and the ryot is hard hit by this. It is doubtful whether sugar factories in Madras Presidency can be successfully worked under present circumstances next season.

106 & 107. Can't say anything from practical experience.

Claim for protection.

108. The protection given has not been very effective in Madras Presidency specially. Very few sugar factories were started in these parts after the protection was granted. None can dispute the fact that Southern India is best suited for running efficient factories, with better efficiency than the Northern Indian factories, *given sufficient protection and reasonable time for growing healthily as there will be economic cultivation of cane.*

109. Madras Presidency has to be given special consideration in this respect. Though protection was granted in 1932 it was not availed of. Sugar factories did not prosper as many were started recently and before attaining stability and efficiency excise duty and internal competition dealt a blow which they could not withstand. That is why and how sugar factories in Southern India such as:—

- (1) Etikoppake Sugar Factory, Etikoppake,
- (2) Sri Ramakrishna Sugar Factory, Kirlampudi,
- (3) Vizagapatam Sugars and Refineries, Ltd., Anakapalle.
- (4) Coimbatore Lakshmi Sugar Mills, Ltd., Podanur, Coimbatore District,
- (5) The Hospet Factory, Hospet,
- (6) Vuyyur Factory, Vuyyur,
- (7) The Kalyanpur Sugar Mills, Ltd., Kallianpur,

and such others, which form a majority in the presidency could not make headway. In Madras Presidency, west coast deserves special mention. There are only two sugar factories this side. It is quite impossible to run these factories successfully owing to the enhancement of the excise duty and internal competition. If protection is removed, all these factories will die out instantly and if more protection is not given from outside influences especially to Madras Presidency all these may suffer a lingering death. The present protection should therefore continue. The policy of protection

should be such as to encouraging the growth of the Industry on more efficient lines, especially in regard to economical cultivation of cane. Though the yield in our parts, owing to the ignorance of the ryots, is 25 to 30 tons per acre, 40 to 50 tons per acre can be had easily by proper cultivation. We have come across cases this year where ryots who properly looked after cane cultivation harvested 40 tons per acre. We wish to stress this aspect and the aspect that there are only two sugar factories on the whole of the west coast in the Madras Presidency, worthy therefore of special consideration, concession and protection and time to attain stability and efficiency.

110. For Madras Presidency, concession in excise duty is sorely needed. Restriction on import of Northern Indian Sugar which compete and impede the growth of the industry in this presidency is badly required.

111. Cannot give personal opinion.

The Sree Ramakrishna Sugar Mills, Kirlampudi, East Godavari.

Letter dated the 14th June, 1937.

I have to-day sent separately by registered book-post answers to the questionnaire issued by the Sugar Tariff Board.

Enclosure.

ANSWERS BY RAO BAHADUR C. V. S. NARASIMHA RAJU GARU, MANAGING PARTNER OF SREE RAMAKRISHNA SUGAR MILLS, KIRLAMPUDI, EAST GODAVARI DISTRICT.

Production of Sugar—Introductory.

1. The manufacturing of sugar was begun in Sree Ramakrishna Sugar Mills, Kirlampudi on or about 23rd February, 1935, by which date the erection of the plant and machinery was completed. Its original crushing capacity was 1,900 maunds per day and its present capacity is 3,300 maunds.

2. The information regarding the number of maunds of cane crushed, maunds of sugar produced are given hereunder:—

	Maunds of cane crushed.	Maunds of sugar produced.
1934-35	99,447-6	6,533
1935-36	163,500-0	10,764
1936-37	288,082-6	20,640

In this factory one grade of sugar is manufactured.

3. (a) There is sufficient cane supply for this factory. The average yield of cane per acre is 1,100 maunds, and the factory requires per day cane grown in 3 acres. The crushing season cannot be more than 160 days having regard to the local conditions and the varieties of cane available and therefore cane grown in about 500 acres is enough for the factory and within a radius of four miles of the factory there are at least 1,200 to 1,500 acres with cane every year.

In this factory we are using shell lime whose magnesium contents are below 2 per cent. This is available in large quantities at Cocanada, 20 miles from the factory site. The price of one maund of lime is As. 10 *ex*-factory delivery. Forest fuel is available at As. 2-4 per maund *ex*-factory delivery.

The two important sugar markets of the factory are Cocanada and Rajahmundry and the carting charges for one maund of sugar are As. 1-6 and As. 2 respectively. A portion of the sugar of this factory is being sold in Bezwada, Warangal and Hyderabad. The carting charges for sugar to Samalkota Station is one anna per maund.

(c) There is ample labour supply. The wages for unskilled labour are Rs. 8 per month and for the skilled labour Rs. 9 to 15 per month and in the case of panmen Rs. 35 to 50. Engineering staff Rs. 40 to 120. The chemical staff from Rs. 25 to 85. The panmen are being brought from Northern India.

4. Double sulphitation is the process adopted for the manufacture of sugar in the factory.

5. No changes have been made in the lay-out of the factory. For increasing the crushing capacity of the factory from 1,900 to 3,300 maunds per day the following additional plant and machinery was installed:—

	Rs.
(i) Second boiler at a cost of about	3,000
(ii) Third set of mills with engine and gearing (to convert eight roller into eleven roller)	10,000
(iii) Third evaporator vessel costing about	7,000
(iv) Second pan	11,000
(v) Two more centrifugals	6,000
(vi) Filter press	800
(vii) Additional cooling arrangement for the vacuum system	3,000
	40,800

6. It is under contemplation to add a bigger first vessel to the present triple effect. At present we are crushing a little over 135 maunds per hour, but when the rate is increased to 162 maunds per hour the crushing will be better and there will be enough baggase fuel for both the boilers. But this increase in capacity requires the fourth vessel and its addition will enable us to increase maseration which will result in higher percentage of recovery of sugar. There will also be reduction in the cost of production of sugar.

7. (a) (1) Capacity, (2) Percentage of recovery, (3) cost of manufacture, (4) the cost of transport of raw materials to the factory and of manufactured sugar to the markets, (5) the sucrose content of canes and (6) the period of crushing will determine the size of an economic plant in sugar industry.

(b) On account of (1) the levy of increasing excise duty and (2) the continuous fall in the price of sugar it is not easy to determine the smallest unit for the production of sugar. However, in my view a plant crushing 4,000 maunds of cane per day will be an economic unit in these parts.

8. Sugar factory equipment is now obtainable in India with the exception of steam pumps and steam engines and boilers. In our factory the 3rd set of mills, the required gearing for the same, filter press, crystallizers and all tanks are made in India and by Indian firms. The vacuum pan and centrifugals of Thummapala factory were manufactured in India.

9. (1) Now and then we refer some of our problems to the Imperial Institute of Sugar Technology and obtain prompt and useful information from them. But they have got a table of fees payable to them for consultation on certain matters. These fees are prohibitive to small factories like ours. It is desirable that a technologist of the Institute should visit all the factories once in a year and give the factories the necessary advice for improvements or rectification of defects.

(2) The factories are not deriving any assistance from the industries department of our local Government because the department has not got any suitable technical man on its staff. It is desirable that in Madras the industries department shall have on its staff an experienced technologist who can command the confidence of the factories. Then only the industries department will be in a position to give reliable advice for the expansion of sugar industry in this province.

Raw Materials.

10. We do not cultivate our own sugarcane. It is possible to obtain land on lease to have our own cultivation of sugarcane but rent will be high and uneconomical and it is not possible to obtain a contiguous plot of at least 300 acres in one block.

13. The agriculture department of this province, has taken up the problem of growing varieties of cane suitable to this area but it cannot be said that effective results are achieved at yet. Co. 281 and Co. 313 are the two early varieties but these two varieties are not popular among the growers of the cane because the yield of cane per acre is very poor and Co. 313 is badly lodging and is eaten away by rats. No attempts are made as yet to remove the above mentioned defects. The only late variety known in these parts is J. 247. Either heavily manured or late planted J. 247 will have satisfactorily high sucrose and purity as late as 1st May but when once it begins to deteriorate on account of dry weather and want of moisture in the land it deteriorates very rapidly, the purity falling from 84 to 75, in a short period of 3 or 4 days. Even early matured Co. 281 maintained a purity of 84 in the middle of May. A proper tackling of the problem of evolving a suitable variety of cane for late crushing is very important and the agriculture department and the factory owners have to tackle this question both in the interests of the cultivator and the factory.

14. (a) There is a perceptible increase in the area cultivated with sugarcane and more especially in the immediate neighbourhood of the factory.

(b) No attempt is being made to improve the quality of the cane but on the other hand there is deterioration on account of increased manuring with ammonium sulphate alone, and decreased application of farm yard manure. The main cause for the decrease in quality is due to the adoption of a flat rate of price paid by the factory for the cane delivered.

15. In this area no damage is done to the cane from frost, disease or insect pest but in the case of lodged crop, there is some damage by rats and no estimate of the percentage of loss can be given.

16. The factory is assured of a sufficient supply of cane but it cannot be said that the supply is of suitable varieties. 90 to 95 per cent. of cane grown in the neighbourhood of the factory is J. 247. A great deal of work is yet to be done by the agriculture department and the factory by adopting demonstrative methods in growing suitable varieties of cane for early crushing and late crushing. In addition to J. 247 we crush Co. varieties of which Co. 213, is the main early variety. The average yield of cane per acre in the case of J. 247 is 1,100 maunds, Co. 213 is 800 maunds and Co. 281 is 700 maunds. The average sucrose contents of mixed juice from those canes is 14, 15, and 15 respectively.

17. There is no competition for the supply of cane by any other sugar factory in the locality. There is yet scope for two or three sugar factories of 150 tons capacity in the locality. On account of the low price for jaggery the cane-growers of the locality do well come the erection of sugar factories in the locality and such factories are necessary to give relief to the cane-growers of the locality.

18. (a) There are not considerable variations by way of decrease or increase in the area cultivated with cane.

(b) Sugarcane is the only cash crop for the locality. The growing of food crops is not at all economical and does not give sufficient return to the cultivators.

(i) According to the prevailing practice of the supply of irrigation water once in 18 days, the locality may be said to be well irrigated but in the years of draught water supply in the river Yeleru fails and once in four or five years sugarcane crop will be badly damaged for want of sufficient irrigation in May and part of June, there being no secondary source of irrigation in this area such as wells and tanks.

(ii) The price obtainable for sugar is the main factor in determining the price of cane and it is apprehended that there will be considerable contraction in the area cultivated with cane in case the present low price of jaggery continues.

(iii) In this locality the manufacture of jaggery from canes is a very old and well established industry. In the years 1934 and 1935 the price of jaggery used to be more than Rs. 4-8 per maund and the grower of cane was inclined to make jaggery instead of selling cane to the factory at As. 6 per maund but now on account of the low price of jaggery at Rs. 2-8 per maund, he is more anxious to deliver his cane to the factory at As. 4-6 per maund but the factory will not be able to pay next year even As. 4 per maund of cane delivered on account of the decrease in the price of sugar and the recent increase of excise duty.

(iv) There are no other alternative cash crops such as (i) Oil seeds, (ii) Tobacco, (iii) Onions, (iv) Chillies in this locality as these cannot be grown on the cane fields. Here and there plantains are grown on a large scale but the same is not remunerative on account of the low price for plantains.

19. The production of sugar by the existing factories in our area is not in excess of our requirements. The surplus requirements of the area is being imported from Cawnpore. There is need for the regulation of import of Cawnpore sugarcane factories in order to give relief to the cane-growers of the area.

20. In this locality sugarcane is grown on partnership basis by the ryot and the labourers. Ordinarily a ryot prepares the land by tilling the same 3 to 4 times and hands it over to the labourers to grow sugarcane thereon. The ryot supplies (1) the prepared land, (2) half the seed material, (3) half the manure and (4) the cane mill, the pan and bullocks for the cane mill. The labourers supply half the seed material half the manure and all the propping bamboos and attend to all the agricultural operations such as planting, hoeing, digging drainage channels, wrapping and propping, preparing the canes for milling, milling the canes and making jaggery. The ryot and the labourers equally divide the jaggery. The assessment or rent of the land is entirely borne by the ryot. When cane is sold to the factory, the labourers prepare the cane, cart the same and deliver it to the factory instead of making jaggery. In that case the price of the cane given by the factory will be divided half and half between the ryot and labourers. There are some cases where the ryots half crop of cane is delivered to the factory and the labourers half crop is converted into jaggery and that was the case in 1934-35 but in 1936-37 both the ryot and the labourer were anxious to deliver the cane to the factory at As. 4-6 per maund on account of the low price of jaggery. Taking average yield of cane from one acre at 40 tons the factory pays Rs. 300 to the ryot and the labourers. Out of that Rs. 150 share of the ryot, the following deductions will have to be made:—

	Rs.
(i) Rent of the land	50
(ii) Preparation of the land for cultivation	15
(iii) Half the cost of manuring	15
(iv) Depreciation in the value of Bulls and Mill and Pan per year	45

	125

Thus the ryot will have a net profit of Rs. 25 per acre. In this calculation the value of seed material is not taken into consideration because there will be always seed material over and above the 40 tons delivered to the

factory. But when we calculate the wages of the labourers there is not any margin for them.

	Rs.
(i) The cost of planting in one acre with sugarcane .	5
(ii) Hoeing the sugarcane field of one acre (three times)	20
(iii) Digging drainage channels twice in one acre	15
(iv) Manure half cost for one acre	15
(v) $\frac{1}{4}$ cost of propping bamboo posts at the rate of 3,000 per acre at a cost of Rs. 50 per thousand	40
(vi) Wrapping four times	15
(vii) Preparing cane and carting the same to the factory at the rate of Re. 1 per ton	40
	150

21. The main difficulties of cane-growers in the cultivation of cane are:—

- (1) Failure of the timely supply of sufficient irrigation water.
- (2) The non-operation of credit societies to give loans for the cultivation and manuring of cane. There is real need for proper organisation and working of credit societies. In the case of Co-operative Sugarcane-growers' Association of Kirlampudi the said association was not able to secure any loans from the Co-operative Central Bank of Cocanada. On account of easy collection of the loan amounts through the factory from the members who deliver cane to the factory it is easy to organise and run a credit society for the benefit of the cane-growers. There is not any difficulty in delivering the cane to the factory excepting the non-existence of culverts over irrigation channels and well demarcated cart tracts.

22. The compulsory leasing of land for cultivation of cane by factories will have to be examined by this Board again.

24. (a) I am in favour of fixation of a quota for sugar manufacture by factories. There is overproduction of sugar in India and there are no facilities for the export of sugar from India to other places and the price of sugar is declining very rapidly and the price paid to the cultivator is consequently becoming inadequate and the factories are being obliged to sell their sugar below the cost of production; when quota system is introduced a reasonable economic level of the price of sugar, having regard to the interests of the consumer, the cultivator and the factory, can be maintained.

(b) *New factories.*—As a matter of corollary to the above proposition, the licensing of (1) new factories and (2) extensions to the existing factories will be necessary.

25. All the cane supplied to the factory is gate cane.

26. The substitution of rubber tyred carts for the country carts will be a great advantage to the cultivator but he cannot afford to purchase them. The weight carried by a country cart is 24 maunds.

27. The mileage of metalled road in the vicinity of the factory is adequate but there are no feeder roads to this road. The cane-growers are feeling great difficulty in bringing the cane from their fields to the main road.

28. Cane is brought to the factory ordinarily from a maximum distance of four miles of which two or three miles is metalled road. The average

time taken between-cutting of the cane and delivery at the factory is 6 to 24 hours.

29. The average cost of transport of cane by cart per maund per mile is about 2 pies. The cane-growers employ their own carts but there are instances of some individuals using hired carts. The average cart hire is 6 pies per maund.

30. There are no tolls or other dues levied on carts supplying cane to the factory.

31. We have adopted the system of issuing permits for the control of cane supply to the factory and this is working satisfactorily. The carts are not detained in the factory for more than 30 minutes.

32. The whole quantity of the required cane is purchased directly from cane-growers and there are no intermediaries between the factory and the grower.

39. We begin to enter into contracts with the cane-growers for the supply of cans to the factory before we begin crushing of the cane and contracts are entered into for the supply of cane even after commencement of crushing. At the time of contract we are giving in some cases some advance and we do not provide seed or manure or render any other help.

41. Our cane supply is not obtained from any cane growing or cane supplying association.

42. We maintain one cart weighbridge in the factory. No payment is made at the time of the delivery of cane. Ordinarily the interval between delivery of cane and payment is 15 days.

43. We paid in the year 1934-35 As. 7 to As. 6-6 per maund, in 1935-36 As. 6 per maund and in 1936-37 As. 4 per maund of Co. 213 and As. 4-3 per maund of J. 247.

44. The price at which we purchase sugarcane bears a definite relation to the price of sugar. At the beginning of the crushing season of 1936-37 the price of one maund of sugar was Rs. 7-8 per maund Cocanada Port. Taking this into consideration and that our average recovery will be 7-5 per cent. we have fixed the price of cane at As. 4 to As. 4-3 per maund.

45. In these parts the price of cane is influenced by the price of jaggery and their question has been answered to question No. 20.

46. In the price of jaggery there has been considerable variation from time to time. The price of one maund of jaggery was Rs. 5-8 in the years 1918 to 1924. In the years 1924 to 1929 it was Rs. 5 from 1929 to 1933 it was Rs. 3. In 1934-35 it was Rs. 4-8. In 1936-37 it is Rs. 3. When there is decrease in the production of gur in Northern India on account of frost or any other cause, price of jaggery rises in these parts. Most of the jaggery of Godavari District used to be sent to Ellore, Bezwada, Guntur, Narasaraopeta, Jaggayyapet and Hyderabad; or late there is considerable fall in sending jaggery from East Godavery to these places, the main cause being the growing of sugarcane in Hyderabad state and Guntur and Krishna Districts. Hyderabad is now sending its jaggery as far as Rajahmundry.

47. No prices are fixed under Sugarcane Act 15 of 1934 for this locality.

48. The basis on which minimum prices are fixed in other provinces and an attempt was made to fix in this province is not satisfactory. The price of sugarcane must bear a definite relation (1) to the price of sugar, (2) efficiency of the factory at which the cane is delivered and (3) the sucrose content of the cane delivered. The prices of one ton of cane will be under the present conditions roughly half the price of sugar manufactured from one ton of cane in the factory concerned. In this formula the sucrose content of the cane will be an important factor for the benefit of the cultivator that grows good varieties and properly manures them.

49. In the interests of the factory and also that of the cane-growers payment of bonus over and above the basic rate will have to be introduced for the early and late varieties. On account of early and late varieties of

cane the period of crushing will be extended and thereby the overhead charges will decrease and therefore the factory will be able to pay bonus at the rate of As. 8 to Re. 1 per ton or 3 pies to 4 pies per maund and, thereby the ryot will be induced to cultivate early and late varieties. No bonus need be paid to growers of superior cane because the formula for payment of price advocated with regard to answer to question No. 48 will satisfy them and higher price will be paid for superior cane when price is fixed on sucrose content of the cane.

50. Our factory worked in 1934-35, 74 days, in 1935-36, 116 days and in 1936-37, 130 days. Under the existing circumstances our normal period of crushing will be 150 days but there is every possibility for extending the period by introducing early and late varieties. When the factory works at least 180 days in the year it will certainly be very economical.

51. The crushing of cane may be begun by 1st November and continued till 15th May in this locality when bonus is paid for early and late varieties and when the factory has its own cultivation.

52. (1) The Imperial Council of Agricultural Research.

Some grant is being given by them to the Agricultural Research Station at Anakapalli for work in relation to sugarcane, the results so far achieved are not rapid enough. It may be necessary to place the whole work under the personal and immediate supervision of a sugarcane expert.

(2) This factory is not getting any assistance from any one of the departments mentioned in this question. There is not a single instance of any of the officers of said departments visiting our factory and studying our problems. It is necessary to have once a year a conference of the said officers, representatives of cane-growers, and the general manager, and the technical staff of the factory to discuss the various problems concerning cane-growing and varieties to be grown. The officers by such conferences can learn the actual difficulties of the factories and cane-growers and then only they can pay their attention for the solution of those difficulties by adopting necessary measures in the cultivation of cane, in the Government Agricultural Stations.

53. (i) *Skilled Labour* :—

(A) CHEMICAL SECTION.

Permanent.

1. Chief Chemist.

Seasonal.

2. Three Assistant Chemists.
3. Three Analysts.
4. Three Eliminator-men.
5. Three Subsidermen.
6. Three Triple effectmen.
7. Three panmen.
8. Four Centrifugal Mistrs.

(B) ENGINEERING SECTION.

Permanent.

1. Engineer.
2. Three Mechanics.

(B) ENGINEERING SECTION—*contd.*

Seasonal.

3. Fifteen Engine Drivers.
4. Nine Oil Boys.
5. Three Firemen

(C) GENERAL SECTION.

Seasonal.

1. Weighbridge Supervisor.
2. Three Weighbridge Clerks.
3. One Assistant Accountant.

Permanent.

4. One Supervisor.

Seasonal.

5. One Time-keeper.
6. Three Sugar Supervisors.

Permanent.

7. One Accountant.
8. Peon.
9. Watcher.

(ii) *Unskilled labour.*—*Seasonal.*

1. Three persons for sulphur burning.
2. Three persons for lining.
3. Twelve at Centrifugals for sugar and bagging, etc.

4. Three to help the panmen.
5. Nine to help to firemen.
6. Twelve at the cane carrier.
7. Eighteen at the Mills.
8. Boys.

54. No skilled labour was imported from abroad except in the year 1934-35. One Mr. J. L. Jobsis of Java was employed by the three factories of Etikoppaka, Kirlampudi and Thummapala for technical advice. We are getting our pan boilers from Northern India.

55. After one year we found the services of Mr. J. L. Jobsis were not necessary.

56. We have not made any arrangement for housing our labourers and have not adopted any measures promoting the welfare of the labourers, because we are being financially crippled day after day by the excise duty and the reducing prices of sugar.

57. We are not able to meet the whole of fuel from baggase available in our factory. We are supplementing by forest fuel at the rate of 8 per cent: The amount spent on fuel is as follows:—

1934-35—Rs. 4,068-4.
1935-36—Rs. 5,805-3.
1936-37—Rs. 6,042-10-6.

By-products.

58. The by-products produced in our factory are molasses and press cake.

59. Our production of molasses was as follows:—

1934-35—364 maunds.
1935-36—8,000 maunds.
1936-37—12,000 maunds.

60. There is no market for our molasses.

61. We send away our molasses after complete fermentation by throwing it into the irrigation supply channel.

Storage and transportation of sugar.

	Beginning.	End.
	Mds.	Mds.
64. 1934-35 . . . . .	...	280
1935-36 . . . . .	...	7,478
1936-37	1,300	17,324

65. The factory godowns hold 8,000 maunds. We have just now completed godowns accommodation for another 8,000 maunds. An estimate for the construction of another godown for holding about 20,000 maunds is under preparation and the said godown will be ready for the next crushing season.

66. Our sugar absorbed moisture in 1936 and drying halls were constructed to dry sugar for a longer period before packing. The deterioration of sugar was due to absorption of moisture by sugar and this may be due to two causes (1) insufficient drying of sugar before packing and (2) the presence of collides in the manufactured sugar.

67. We sold our damaged sugar partly at Cocanada to persons that manufacture sugar candy and also at Berhampur for the manufacture of lump sugar without reconditioning the same.

68. The keeping quality of sugar will have to be improved by adopting a better system of clarification and by drying the sugar by superheated steam in

the centrifugals and some improvement was effected in these two directions during the current season. I believe that it is necessary for the central institute to do research work in improving the keeping qualities of Indian sugar. It may be noted that the Java sugar keeps its quality for 3 years.

69. I do not think that there is any damage to sugar in transit from the factory to the dealers.

70. We have not experienced any difficulty in obtaining wagons or delay in the delivery of sugar in the markets we supplied.

71. I have no suggestions to make for improvements of rail transports of sugar.

72. The prices at which we sold our sugar at Cocanada is given hereunder:—

	Maximum.	Minimum.
	Rs. A.	Rs. A.
1934-35	9 0	8 8
1935-36	8 0	7 8
1936-37	7 8	7 0

Capital account and overhead charges.

73. The balance sheet for 1934-35 and 1935-36 and the trading account of 1936-37 is sent herewith.

74. The writing off on account of depreciation is as follows:—

1934-35: No amount was written off as depreciation as factory worked only for a part of the season.

1935-36: The amount written off was Rs. 13,105-13.

1936-37: The amount to be written off will be Rs. 14,000.

We adopt the rules of income-tax rules in calculating the depreciation.

75. We have not got any reserve fund.

76. No dividends or profits.

77. The working capital is provided by having (1) about Rs. 6,000 at the beginning of the season and (2) by borrowing on the pledge of manufactured sugar at 5 to 6 per cent. per annum.

78. Head office expenses are Rs. 500 per year. No managing agents commission was paid to the Managing Partner as there were no profits. The Managing Partner is entitled to 25 per cent. of the profits subject to a maximum of Rs. 6,000 when the profits are over and above 8 per cent. depreciation and 9 per cent. of interest of capital invested.

79. 10 per cent. will be a fair rate of dividend.

Efficiency of Production.

80. Forms filled up and attached hereto.*

81. (1) The plot was extended from a crushing capacity of 1,900 maunds per day to 3,300 maunds per day.

(2) In order to improve the efficiency—

(A) Steam supply improved by adding one boiler.

(B) Eight roller mills connected into 11 roller mills.

(C) Double effect converted into triple effect.

(D) One pan added.

(3) The overhead charges were reduced on account of increased capacity.

(4) No other measure of economy adopted.

* Not printed.

82. There is no room for further reduction of working cost but improvement in the percentage recovery of sugar is possible by adopting the system of crushing Co. 213 canes in the months of December, January and February, J. 247 in March and April and by not having any crushing in May except when late planted Co. 201 is available.

Marketing.

83. Cocanada, Rajahmundry, Ellore, Bezwada and Warrangal.

84. We have got Volkart Bros. as our selling agents and we have now entered into an agreement with Hazee Jamal Noor Mahammad to sell our sugar in Godavery Districts.

93. A marketing survey of sugar industry would be advantageous. Some speculators enter into advance contracts for the purchase of sugar in Northern India and dump the same in various markets without knowing their requirements.

94. A Central All-India Selling Agency is a clear necessity to maintain fair and economic price of sugar.

96. (a) We are not doing any business on the basis of the sugar standards prescribed by the Director of the Imperial Institute of Sugar Technology. Our selling agents take samples of sugar from us and show them to their dealers and book orders as per samples shown to them.

(b) We have not adopted the standards fixed by him in grading our sugar.

105. The sugar excise duty of 1934 and addition made to it in 1937 has completely crippled all the new factories in general and the small factories in particular.

106. There are no marketing arrangements for molasses.

Claim for Protection.

108. The protection has enabled India to be self-supporting to a great extent. It is necessary in the interests of the sugarcane-growers of India to increase protection so that no foreign sugar may be imported into India.

109. At present sugar from England and Java is still being imported into India and as there is overproduction of sugar in India, it is necessary to increase the protection duty in order to prevent the import of foreign sugar into India.

110. As sugarcane crop is the main cash crop of India it is necessary for the State to develop sugar industry in India and as there is already overproduction of sugar in India over and above the requirements of the country, the Central Government should purchase the surplus sugar and export into other countries in general and to United Kingdom and British Dominions in particular and sell Indian sugar in the markets thereof. There will certainly be loss in selling Indian sugars abroad but the loss will have to be met by the Central Government both from the excise duty on sugar and its general revenues.

The Srimati Sugar Mills, Ltd., Lalgudi.

Letter dated the 23rd June, 1937.

We have the honour to submit, with reference to the questionnaire on sugar factories communicated to us for answer, that our factory proposed to be started at Lalgudi has not yet started work. The Company was got registered only in December last and we are at present engaged only in collection of the required share amount. We therefore attempt below to answer such of the general questions in which we feel we have sufficient experience.

1. The factory is expected to start work only in the next year (1938). Its capacity is to be 250 tons with facilities for extension to 400 tons.

3. (a) The cane area is about $2\frac{1}{2}$ times as much as the factory could crush. Limestone is available within a distance of 5 miles from the factory site. Important markets for sale of sugar lie within a radius of 75 miles and good general roads and Railway lines connect these places from the factory area.

(b) The rail and road communications are good.

(c) Any amount of labour could be got from villages near the factory.

7. (a) A factory dealing with 250 tons of canes per day is in our opinion, an economic unit of minimum capacity. The running expenses by way of establishment, etc., and the output of sugar go to determine the size of the economic unit.

9. (a) The maintenance of a special qualified Engineer and a Technologist by the Industries Department particularly for periodical inspection of the various sugar factories in the Presidency will enable the factories to get the required technical assistance.

11. (a) The total area under cane is roughly 3,000 acres in our area.

(b) The average area under cane stands at 3,000 acres.

(c) The local reed cane, the improved thick canes of J. 247 and Fiji B and the improved thin canes of Co. 281 and Co. 352 are cultivated. Other improved varieties like P.O.J. 2878, Co. 419, Co. 290 are gaining ground gradually.

(d) Sugarcane is rotated with paddy once in 3 years. Sugarcane is grown mainly in wet lands. Sheep penning, applying oil cakes, Ammonium sulphate and Phosphatic manures form the manuring.

(e) The average yield of local cane 15 tons per acre and of improved canes is 25 tons per acre.

(f) The cost of cultivation of local cane—Rs. 75 per acre and of improved canes Rs. 100 per acre.

13. The short duration Sorghum hybrids like Co. 352, Co. 353 and Co. 355, and Co. 281 and late varieties like P.O.J. 2878, Co. 290 and Co. 419 have been introduced and attempted to be spread by the Agriculture Department.

14. (b) The area under improved varieties is gradually increasing.

15. Due to insect pests particularly 'stem borer' in the initial stages of the growth, slight damage results.

19. We don't feel that it is in excess of the requirements of our area. No restriction is necessary for this part of South India.

20. The cost of cultivation of local and improved canes per acre are respectively Rs. 74.4 and Rs. 102.2 as shown hereunder. The outturn of local cane is 15 and of improved 25 tons per acre.

Cost of cultivation.

Particulars.	Local.	Improved.
	Rs. A.	Rs. A.
Preparatory Cultivation	11 8	16 0
Manures and Manuring	22 0	41 8
Seeds and Sowing	22 12	20 4
After Cultivation	6 0	12 6
Irrigation	12 0	12 0
	74 4	102 2

The cost of crushing by bullock power is on an average Rs. 6 per ton of cane—both local and improved.

21. The main difficulty we observe is the transport. Suitable arrangements for transport through reduction of Railway freight and improvement of feeder roads will be useful.

24. We are not in favour of a quota for sugar manufacture. As Madras Province still depends on outside sugar, the restrictions are not to be desired.

(a) No licence is necessary.

(b) No limit need be fixed.

27. It can be taken as nearly adequate. The main roads are gravelled. The conditions of the feeder roads require improvement.

30. No.

46. There had been considerable fall in jaggery price since 1930. From 1930 onwards the prices are uniformly low. The production of white sugar and its increased consumption have caused to some extent the fall in prices, in addition to general depression.

49. The introduction of bonus payments is desirable, as the ryots will be induced to cultivate such of those varieties as are required by the factory.

51. We think that with proper introduction of early and late maturing varieties of canes, a factory can have crushing work for over 7 months in a year in these parts.

101. The subsidiary industries could be started and there are scopes for these.

109. The protection should be continued at the present rate up to March, 1946, to enable the Indian factories to set at proper work. The difference between the excise duty and the import duty as is prevalent at present should be continued to be maintained.

The Mysore Sugar Company, Ltd., Mysore State.

(1) *Letter dated the 27th April, 1937.*

With reference to your Circular dated the 5th April, 1937, inviting representations from interested bodies on the subject of protection to the Sugar Industry, we wish to inform you that we have this day sent to you under separate Registered Post our representation together with six spare copies as desired by you.

Enclosure.

REPRESENTATION OF THE MYSORE SUGAR COMPANY, LTD., PRESENTED TO THE SUGAR TARIFF BOARD OF 1937.

The Mandya Sugar Factory: Area of cane supply.—The sugar factory established by the Mysore Sugar Company, Ltd., is located at Mandya, the headquarters of the taluk of that name in the Mysore District. Mandya is a station on the metre gauge railway line between Bangalore and Mysore, and is 28 miles distant from Mysore and about 60 miles from Bangalore. The factory draws its supplies of cane chiefly from the Mandya taluk, and partly also from the adjoining taluks of Maddur and French Rocks. Sugarcane has always been an important crop in the Mysore State generally, but the cultivation of cane had been practised only to a slight extent in the area served by the Mandya factory, the soils being mostly poor and the tanks, the only source of irrigation, being extremely shallow and holding very little water during the summer. The rainfall is below 30 inches and the area is one which generally suffers from drought. The establishment of a sugar factory in the area was the natural development of the steps taken by the Government of Mysore to protect this tract against drought by the construction of the Krishna-rajasagara reservoir on the Cauvery river.

2. The reservoir has a capacity of 44,000 million cubic feet and when the system of canals is completed it will have brought under irrigation 120,000 acres of land in the Mandya, Maddur and Malavalli taluks of the Mysore District. The extent so far brought under irrigation is 52,000 acres. In order to prevent insanitary conditions by excessive irrigation and to enable the ryots to grow relatively valuable crops, the lands commanded by each distributary are divided into 3 blocks with a triennial rotation

of crops, viz., paddy, an irrigated dry crop and sugarcane (or other money crop with intermittent irrigation throughout the year). Water was let into the canals in 1932 but difficulties were experienced in getting the ryots to take advantage of the irrigational facilities provided. They were mostly unaccustomed to the cultivation of cane and before they would take to sugarcane cultivation on a large scale, they wanted to have an assurance as to the availability of a ready market for the cane grown by them. The passing of the Sugar Industry (Protection) Act No. XIII of 1932 in British India, whereby the Government of India promised protection to the sugar industry in India for a period of 15 years, was in the circumstances, most opportune.

3. *Initiative taken by the Government.*—The industry would not, however, have been started but for the initiative of the Government of Mysore, since, on the one hand, industrialists were not prepared to invest money in putting up a sugar factory before cane cultivation was established in the tract, and on the other hand, the ryots would not cultivate cane until a market for the cane should be assured by the establishment of a sugar factory that would purchase the cane grown by them at reasonable prices.

4. The Government had already established in this locality an agricultural farm with the object of experimenting on the various crops as to their suitability to the area and to the system of irrigation prescribed, and in particular to experiment on the one crop, sugarcane, which was expected to dominate the cultivation of the area for some years. Here, starting with 10 acres of H.M. 320 (a variety of cane produced as a result of the breeding work carried out by the Agricultural Department in the Hebbal Agricultural Farm, and found to be well suited for manufacture of sugar), about 200 acres of this cane had become available as seed for distribution during 1933, for an area of 2,000 acres. Government also authorised the Agricultural Department to start 3 new sugarcane farms covering an area of about 800 acres with the intention of eventually handing them over to the Sugar Company after it should be established. They also sanctioned a scheme of advances in the shape of cash, implements and fertilisers to ryots who undertook to grow cane and supply it to the factory at an agreed price, these advances also being eventually to be taken over by the Company.

5. *Formation of Joint Stock Company.*—A joint stock company with a capital of Rs. 20 lakhs was floated with the object of establishing a sugar factory in the locality, Government subscribing 60 per cent. of the share capital with a corresponding preponderance on the Board of Directors. Orders for the machinery required for the factory were placed in January, 1933, and the construction was completed well in time to deal with the crop planted in the 1933 planting season.

6. *Plant.*—The original plant was designed to have a crushing capacity of 400 tons and to be capable of being expanded to one of 700 tons, employing the Double Sulphitation Process of manufacture of white sugar. The milling plant consisted of a 15 Roller Mill of 24" x 48", driven by a Corliss Steam Engine of 32" dia. x 60" stroke, with a suitable set of Subsiders, one Quadruple Effect Evaporator with a heating surface of 8,000 sq. ft., 3 Vacuum Pans, 8 Crystallizers and a group of Centrifugals. Provision was made for this plant being semi-electrically driven, the electrical plant consisting of a Bellis Morcom Generating Set of 250 K. W. capacity.

7. The factory commenced milling in January, 1934, and during the first season it crushed 53,199 tons of cane, of which 19,502 tons were obtained from the Government's and Company's farms, and the remaining 33,697 tons from ryots, who had given agreements to grow and supply cane to the factory and had obtained advances. The price received by the ryots was Rs. 12 per ton (As. 7-1 per maund), and in addition half the transport charges were also borne by the Company, as a special case for that year.

8. *Expansion of Factory.*—The successful working of the factory and the attractive prices paid to the ryots growing cane for the factory brought about within three months of the starting of operations a keen and insistent demand on the part of the ryots to be permitted to grow cane for supply to the factory. This necessitated the immediate expansion of the factory and the management decided to raise its crushing capacity to 1,400 tons per day. The requisite finance was raised by means of a Debenture loan subscribed for by the shareholders themselves, and with the sum obtained an additional milling plant of a larger capacity was ordered with suitable additions to the Boiling House and to the battery of Centrifugals. Some slight changes in the manufacturing processes were also effected with a view to assimilate the system to that commonly adopted in Java, known as the Double Curing Method.

9. *Capital Cost.*—Two statements are annexed, the first showing the capital cost of the factory as originally constructed, and as subsequently expanded, classified under various heads, and the second giving the details of the working of the factory from the commencement up to the end of March, 1937. From the first of these statements it will be seen that the cost of the original plant (exclusive of the Distillery Plant) was Rs. 16,42,253 and compares favourably with the estimate for a plant of a similar capacity contained in the report of the Sugar Tariff Board, 1930, and that the cost of the enlarged factory with the crushing capacity of 1,400 tons amounts to Rs. 33,57,020. Subsequent additions made to the equipment of the factory bring up the total capital cost so far incurred to Rs. 35,81,446.

10. *Results of operations.*—The salient features of the working of the factory so far, are summarised below (*vide* Statement II). During the first year of operation, the mill worked for 196 days, during the second year for 262 days and during the third year for 269 days. The quantity of cane crushed during the past three completed years of its existence was 53,199 tons in 1933-34, 83,383 tons during 1934-35 and 226,696 tons during 1935-36. The amount paid to cultivators for cane (that is, excluding the cane grown in the Company's farms) was Rs. 4,20,330 in 1933-34, Rs. 9,06,733 in 1934-35 and Rs. 24,60,718 in 1935-36, the average price for each of the three years being Rs. 12.9 (inclusive of half the cost of transport), Rs. 12 and Rs. 11.05 respectively, per ton of cane. Ryots have been helped with advances to the extent of Rs. 1,48,000 during the first year, Rs. 4,11,000 during the second year, Rs. 5,10,000 during the third year and Rs. 6,90,000 during the current year.

11. The production of sugar increased from 5,245 tons in 1933-34 to 8,072 tons during the next year and to 23,243 tons during 1935-36, the average recovery of sugar being about 10.4 per cent. per ton of cane.

12. The cost of production including the price paid for cane during the three years respectively has been Rs. 209-13-4, Rs. 209-15-8 and Rs. 171-14-10 per ton of sugar. Of the cost incurred, the price paid for cane during the three years respectively amounted to Rs. 121-6, Rs. 125-8 and Rs. 118-11-9, representing 57.9 per cent. 59.78 per cent. and 63.24 per cent. respectively of the total cost of sugar manufactured.

13. *Molasses.*—In the above calculation of cost of production, no credit has been allowed for the value of molasses produced in the factory, as this has been negligible. With the object of finding an outlet for the molasses, the Mysore Sugar Company has secured the contract for the supply of potable alcohol to the Government Excise Department and has put up a Distillery as an adjunct to the sugar factory. The quantity of potable alcohol supplied during the two years during which the contract has been in existence was 166,000 and 153,000 gallons of 35° U. P., or an average of 159,500 gallons. The equivalent of this in terms of 96 per cent. alcohol, which is the strength at which the Distillery is capable of producing rectified spirits, is 63,800 gallons and the quantity of molasses consumed on this account would be 1,060 tons a year, which would absorb 13 per cent. of the molasses produced by the sugar factory at its present capacity.

14. The requirements of the Excise Department in respect of potable alcohol would not give work to the Distillery for more than three months in a year. The distillation plant is designed to produce rectified spirits and is capable, with the addition of an extra column of producing absolute alcohol, which, with an admixture of petrol, could be used as motor fuel. The possibilities in this direction can be tried out only with the support and encouragement of the Government of India. Meantime, the Company has had to seek other outlets for the spirits produced so as to keep the concern working for a larger number of days.

15. A small market for denatured spirits has been built up and a certain quantity of the spirit produced is also used on locomotives and lorries in the Company's transport system. The quantity of 96 per cent. alcohol used in this way is 174,714 gallons, which accounts for a further 2,900 tons of molasses. Having regard to the realisations from the disposal of potable alcohol and other spirits, the molasses used in the Distillery may be considered to bring in an income of Rs. 7 per ton or Rs. 27,000 in all. A sum of Rs. 2,000 is expected to be realised for the supply of molasses to the Public Works Department during 1935-36 for experiments in road surfacing. Taking into account the income from all these sources the reduction in the cost of manufacture of sugar on account of the value of molasses would be only Rs. 1-3 per ton of sugar produced. The rest of the molasses is used for manure by way of experiment, chiefly in the Company's farms, or is burnt under boilers. It may be mentioned here that the value of molasses as estimated by the Sugar Tariff Board was 10 annas 8 pies per maund of sugar or Rs. 18 per ton.

16. *Markets.*—Out of a production of about 5,230 tons of sugar during the first year of operations of the factory, 3,286 tons were sold in the Mysore State and the balance in the neighbouring British districts and in the Hyderabad State. During the second year 8,028 tons have been sold, out of which 3,864 tons were disposed of in the Mysore State, 860 tons in the West Coast, 1,197 tons in other parts of the Madras Presidency and 2,068 tons in the Southern Mahratta country and Hyderabad State. During the third year 22,400 tons of sugar have been sold, out of which sales in the Mysore State accounted for 6,242 tons; 6,266 tons were sold in the West Coast and 3,890 tons elsewhere in the Madras Presidency, and 6,087 tons in the Hyderabad State and Southern Mahratta country. The factory is favourably situated to cater to these markets, as the total production of sugar in Southern India is considerably below the consumption.

17. The factory has realised an average selling price of Rs. 257 per ton during the first year, Rs. 253 during the second year and Rs. 244 during the third year, whereas the average price realised during the current year (1936-37) till the end of February, 1937, has been Rs. 216, which has further fallen to Rs. 206-12 during the month of March, 1937.

18. *Excise Duty.*—In the year 1934, very soon after the factory commenced operations, the Government of India levied an Excise Duty of Rs. 26-4 per ton of sugar, which was intended to counterbalance, to some extent, the loss of Customs revenue due to decreased imports of sugar from Java. The Government of Mysore too followed the lead of the Government of India and levied an Excise Duty of the same amount on the sugar produced in the Mandya factory. This was, however, not felt to be too heavy a burden during the first three years of the Company's working, as there was a sufficient margin between cost of production and selling price, which, even after paying the Excise Duty, left a substantial balance from which to pay a return on the capital invested and to lay by a reserve. The position, however, became unsatisfactory from the current year owing to the further rapid and phenomenal fall in sugar prices, and the margin of profit after paying the Excise Duty of Rs. 26-4 became very slender.

19. From March, 1937, the Excise Duty has been enhanced simultaneously in British India and in Mysore to Rs. 40 per ton. At the time

of levying this additional duty it seems to have been thought that the increase would be transferred to the purchaser and that the level of sugar prices would rise to a corresponding extent. This hope has not been realised and there has been no improvement in the price of sugar, with the result, that the already slender margin between the cost of manufacture and the selling price has been practically wiped out. As far as the Mysore Sugar Company is concerned, the Excise duty levied bears a proportion of 78·4 per cent. to the margin of profit during March, 1937, as against 53·6 per cent. prior to the enhancement of Excise duty.

20. *Price of imported sugar.*—During the period under review, the cost of Java sugar landed in Indian ports has varied from Rs. 140 to Rs. 81 per ton, and the Indian sugar industry would not have been able to hold its own to the extent it has done, but for the protective customs tariff of Rs. 7·4 per cwt., which with surcharge at 25 per cent. amounted to Rs. 181·4 per ton, and now stands at Rs. 145 plus Rs. 40, imposed to counterbalance the Excise duty levied on Indian sugar.

21. *Effect of Protection.*—The Sugar Industry (Protection) Act has more than fulfilled the objects with which it was passed. Within the short space of four years, the production of sugar in India has been increased from 158,580 tons to 912,000 tons, thereby meeting the whole of the Indian demand. The efficiency of the manufacturing process has been improved, the average recovery having risen from 8 per cent. to 9·4 per cent. The price paid by the consumer is substantially lower than what prevailed at any time previously. Above all, the agricultural population has been substantially benefited. In the Mandya area alone, the cultivators have received no less than Rs. 24,00,000 during 1935-36 as the price of cane supplied to the factory. If the cost of imported fertilisers is deducted, the amount of new money that came into the tract last year is Rs. 21,000. The unexpectedly rapid growth of the industry, without adequate time for its proper organisation and consolidation, has doubtless created problems which require early solution; but there is no reason to think that given the sympathetic support of the Government, the problems would prove impossible of satisfactory solution.

22. The Sugar Protection Act of 1932 has guaranteed protection to the industry for a period of 15 years; the question now before the Tariff Board is whether the protective tariff should be continued at its present level, or whether it should be enhanced or reduced, and if so, to what extent.

23. *Fair selling price.*—At the stage it is necessary to indicate what, from the point of view of this Company, would be a fair selling rate for sugar, with reference to the manufacturing and other costs. The cost of manufacture during the current season is estimated as below:—

	Per ton. Rs.
Cane (at an average price of Rs. 10-12 per ton and on a recovery of 10 per cent.)	108·75
Other Raw Materials	4·7
Labour	8·1
Power and Fuel	5·75
Supervision, Office Charges, etc.	8·1
Current Repairs	3·7
Packing	4·4
Miscellaneous	2·75
Total	146·25
Add Depreciation and Interest	15 1 6
	161 5 6

The total cost of production is thus Rs. 161-5-6. Allowing Rs. 20 per ton as profit and adding the Excise Duty of Rs. 40, the fair selling price would be Rs. 221-5-6 *ex-Factory*. The corresponding price at the nearest port, Madras, would be Rs. 236, the present specially reduced freight to Madras being Rs. 15 per ton. Since our largest sales are on the West Coast, and a great portion of the output of our factory has to be sold in markets like Hyderabad and the Southern Mahratta country, and the freights to these stations range from Rs. 21 to Rs. 29 per ton, a selling price of Rs. 236 at the port, with differential rates to other stations, based on the freight from the factory and from the ports, would be approximately sufficient to ensure an *ex-Factory* price of Rs. 221.

24. *Cost of Cane*.—A reduction of the fair selling rate arrived at above, would be possible only either by bringing down the cost of production or by reducing the Excise duty. As regards the first alternative, no appreciable reduction is possible in the present cost of manufacture, which compares favourably with what was laid down by the Sugar Tariff Board of 1930 as the scale of manufacturing charges to be reached at the end of the period of protection. The cost of production of sugar could be reduced only by obtaining a reduction in the price of cane. The average prices paid by the Mandya factory have been Rs. 12-9 in the first year, Rs. 12 in the next year and Rs. 11-05 in the third year. It has been always recognised that the cost of producing cane in Southern India is appreciably higher than in the North. In the area round about Mandya sugarcane is practically a new crop and the factory is able to obtain supplies of cane only by entering into agreements with the cultivators 12 to 18 months ahead and undertaking to pay them prices fixed in advance, with the additional proviso that if Government, under the Sugar Industry Safeguarding Regulation, should prescribe higher minimum prices, the Company would pay such higher prices. Thus, for the milling season of 1937, the minimum price fixed by the Government is Rs. 10 per ton, but the agreements executed by the cultivators provide for their supplying cane at Rs. 10 per ton in the first half of the season and at Rs. 11 per ton in the second half. This means an average of Rs. 10-12 per ton, since the quantity of cane milled in the second half of the season is much more than in the first. For the next year's milling, agreements are now being obtained to supply cane at Rs. 9 in the first half year and Rs. 10 in the second half of the year, but the cultivators are showing no keenness to supply cane at these rates, which they protest would be unremunerative. They are, of course, aware that if sugar prices in 1938 should be better than at present, Government will fix higher minimum prices than what they have contracted for; which the factory will be bound to pay.

25. It is realised that the price which the Company can afford to pay depends on the selling price of sugar and that ultimately when the period of protection terminates and the Indian industry will have the benefit of only the ordinary revenue duty on imported sugar, the success of the industry will depend upon factories being able to obtain their supplies of cane at prices approximating to those obtained in other countries, like Java. Every possible effort towards this is being made by the State Agricultural Department and the Government.

26. The experimental work done on the Government Farm is largely directed towards producing and supplying strains of cane that will yield higher tonnages. The Company maintains a number of farms with a total extent of 1,526 acres, which serve to demonstrate to the ryots the possibilities of obtaining good yields of cane even in the poor soils generally met with in this tract. The Company also maintains a large staff of inspectors and fieldmen whose duty it is to supervise the cultivation of cane by the ryots who undertake to grow cane for the factory, to see that planting, manuring, irrigation and control of pests are properly attended to, and generally to instruct and guide them in the methods of cane cultivation, so as to obtain

the best yields. The Company has also instituted a system of prizes to the ryots obtaining the heaviest tonnage of cane on their lands. That these measures are bearing fruit is apparent from the fact that the average yield of cane on ryots' lands has increased from 16 tons per acre in 1933-34 to 19 tons in 1934-35 and 23 tons in the year 1935-36. The average outturn of plant cane on Company's farms was 30 tons, 32 tons and 36 tons respectively in the same three years. Yields of 53 tons have been obtained on small plots on the Company's farms, while there are instances of individual ryots who have obtained yields of 41 tons per acre. There are, thus, hopeful indications of gradually increased yields of cane being obtained by the cultivator, and some further progress in this direction may be expected to be achieved before the expiry of the 15 years of protection now guaranteed. But very marked improvement in this direction so as to obtain yields approaching what obtain in other countries can be effected only as a result of intensive scientific research carried out over a number of years.

27. As regards the period on which the industry has now entered, although agreements to supply cane at Rs. 9 per ton for cane supplied in the earlier months of the season with the addition of an extra rupee in the later months are being now taken, the general feeling among cane-growers in the tract is that a price lower than Rs. 10 per ton would not be remunerative, and it must be conceded that the experience of the Company on its own farms tends to support this view. A reduction in the cost of cane is thus not possible of early achievement.

28. Northern Indian factories obtain their cane much cheaper. During the last three years, the minimum prices laid down by the Governments of Bihar and the United Provinces have declined from 5½ annas to 3½ annas a maund, and in the past few weeks even 3½ annas and 3 annas a maund appear to have been paid. How far these prices are remunerative to the cultivators is a point on which we can express no opinion but it is undoubted that the fact that the North Indian sugar factories can obtain their supplies of cane at very favourable rates when compared with the prices paid in Southern India, is one chief reason why sugar prices in the markets open to the factories in Southern India have fallen to such low levels.

29. In the foregoing paragraphs the possibility of the Mysore Sugar Company reducing its cost of production by reduction in the cost of cane has been discussed. It has been explained that this is not immediately possible and that the Company can make a reasonable profit only if it realises an ex-Factory price of Rs. 221. In point of fact, the ex-Factory price realised in the month following the enhancement of the Excise duty (March, 1937), is only Rs. 206-12 and the April realisations are likely to be even worse. Market reports indicate that prices show no signs whatever of recovery, but on the other hand continue to fall.

30. *Excise Duty.*—In these circumstances, the recent enhancement of the Excise duty on sugar has gravely affected the prospects of the sugar industry, at any rate, in Southern India. Unless prices improve, factories may have to close down, or cultivators will have to sell their cane to the factories at unremunerative prices. In either case, the result will be disastrous. Not only will the capital sunk on the factories be lost, but there will be serious contraction in the cultivation of the one money crop now available to the agriculturist.

31. With the present level of sugar prices, the Excise duty is strangling the industry, and unless the Government are prepared to face with equanimity the collapse of the industry, and the loss of a great part of the capital sunk on it, it is necessary that the recent addition of Rs. 13-12 to the Excise duty should be taken off without delay. It is doubtless the fact that the Customs revenue of the Government has fallen considerably consequent on the fall in, and practical stoppage of, imports, and that by the Excise duty of Rs. 26-4 per ton, only a small portion of the loss was recouped. But the Government must not expect this new industry to make good the entire loss, but should take into consideration, as a set-off against:

of industry and trade, the improvement of railway earnings, the additional source of employment to labourers and educated classes and the innumerable other benefits to the country, direct and indirect, due to the growth of the sugar industry.

32. *Increase of Sale Price.*—As regards the possibility of this factory, working at a profit by a rise in the selling price of sugar, the position is as follows. The price which the Mysore Sugar Company can get for its sugar depends chiefly on the prevalent price at which competitive sugars can be had at the various distributing markets, especially at the ports and in the west coast markets. Till recently, these prices were regulated by the price at which Java sugar could be imported. During the last and the current year, however, the prices obtainable are controlled entirely by the prices at which Northern Indian sugars can be had at the various markets. Due to internal competition and an anticipated overproduction of sugar in North India, the sugar mills there are anxious to secure markets for the disposal of their annual output. With this end in view, instead of spreading sales throughout the twelve months of the year, as is the practice in Southern India, they enter into contracts covering disposal of their entire output produced in five months, in many cases, for immediate delivery. Aided by exceptionally low rates of railway freight, the dealers who buy the output of these factories are able to dump the sugar at rates with which the South Indian factories cannot compete except at a loss. The means whereby prices could be improved in South India, are the following:—

- (1) The grant of specially reduced railway freights, thereby aiding uneconomic competition, should be stopped.
- (2) The industry itself should take steps to avoid uneconomic competition. The importance of this has been realised by the general body of sugar producers, and the Indian Sugar Mills' Association has been considering a scheme for creating a common sales organisation. This, however, is necessarily a matter of time. Meanwhile, some of the sugar companies in South India, including the Mysore Sugar Company, have arranged to avoid competition among themselves by appointing common selling agents.
- (3) An outlet should be found for the disposal of the excess-production of the Northern Indian factories by giving special facilities for export outside India, assisted, if necessary, by subsidies from the State. In view of the national importance of the industry, such assistance would be fully justified for a few years, during which the industry might organise itself by restricting output, carrying on propaganda for increasing consumption and such other ways.

33. *Basis for Minimum Price for cane.*—As stated above, when the Excise duty was recently enhanced, it appears to have been anticipated that the increase would fall on the consumer. In Southern India the increase has actually fallen on the manufacturer. In Northern India it would appear to have been passed on to the cane-grower. The chief consideration in favour of protection to the sugar industry is the benefit that would accrue to the agriculturist. This object will not be gained if the price of cane is reduced at frequent intervals with reference to the fall in the price of sugar in the Cawnpore market, irrespective of the cost to the grower, as the sugar produced from the lower paid cane will only further weaken the market. What is required is that cane prices should be so fixed that the grower gets a reasonable return, and at the same time he should be enabled to share with the manufacturer in any improvement in prices; that is to say, the grower should get a minimum price independent on the price of sugar.

34. *Enhancement of Protection not required.*—It has already been stated that the price of sugar in India is no longer regulated with reference to the price of Java sugar. The lowest price at which Java sugar has been landed at the ports so far appears to be about Rs. 3-12 per cwt. It is not likely that the price can go down much further. With the present rate of duty, the price at which Java sugar can be sold at the ports is Rs. 13 per cwt. or Rs. 260 per ton, which is appreciably higher than the fair selling price of Indian sugars, as calculated above. It is obvious that the answer to the question whether the present customs tariff on imported sugar should be enhanced, must be in the negative, provided it is understood and definitely laid down that any Excise duty levied on Indian sugar is counterbalanced by the addition of an equal amount to the protective duty of Rs. 7-4 per cwt.

35. *Reduction of Protective Tariff not possible.*—The rate of protective duty cannot also be appreciably reduced. If the fair selling price of Mysore sugar is Rs. 221 *ex-Factory* or Rs. 236 at the ports, and if a difference of 8 annas a cwt. or Rs. 10 per ton is to be maintained, in view of the superior quality of the Java product, the selling price of Java sugar will have to be not less than Rs. 246-4 per ton or Rs. 12-5 per cwt.

36. *Summary of Representation.*—From the above paragraphs, it will be seen that in the view of the Mysore Sugar Company, the following measures are necessary to assist the sugar industry and to place it on a stable basis:—

- (1) The quantum of protection to be fixed for the remaining period in which protection has been promised to the industry, should be the same or very nearly the same as now prescribed.
- (2) The additional Excise duty recently levied should be withdrawn.
- (3) Minimum price of cane should be fixed so as to give a reasonable return to the grower, irrespective of the price of sugar.
- (4) The problem of improvements in the cultivation of cane, so as to enable manufacturers to obtain cane at lower prices without reducing the return to the cultivator should be vigorously tackled. In particular, breeding of new varieties of cane suited to the various climatic and soil conditions of the cane growing areas which give better yields and better sugar content, should be undertaken on a much larger scale than at present.
- (5) Encouragement should be given to the manufacture of Power - Alcohol from molasses and research carried out to find other profitable uses for molasses.
- (6) An outlet should be found for the excess production of sugar in India by facilitating, and if necessary, subsidising for a time, exports to other countries.

STATEMENT No. I.

(Enclosure to the Representation presented to the Sugar Tariff Board of 1937.)

Showing the cost of original plant and enlarged factory.

Particulars.	Value of the plant of 400 tons capacity.	Total value of enlarged factory with 1,400 tons capacity as on 30th September, 1936.
		Rs. A. P.
1. Site	13,416 15 2	16,824 14 2
2. Railway Siding	53,856 13 2	59,243 11 0
3. Plant including Laboratory and Workshop Equip- ment	10,37,223 9 11	23,77,572 9 9
Carried over . . . . .	...	...

STATEMENT No. 1—contd.

Particulars.	Value of the plant of 400 tons capacity.	Total value of enlarged factory with 1,400 tons capacity as on 30th September, 1936.
Brought forward . . . . .	...	...
4. Factory Compound Wall	11,958 7 10	13,173 10 10
5. Factory Buildings including Office, Stores and Work- shop	1,84,621 4 7	3,18,123 9 2
6. Godowns	14,917 15 7	45,375 13 1
7. Residential Buildings— (a) Manager's Bungalow, etc.	49,392 4 7	74,919 1 6
(b) Staff Quarters, furni- ture, etc.	99,766 3 1	1,50,022 6 2
8. Cold Water Supply	31,284 11 8	40,284 15 7
9. Weighbridges, etc.	41,004 9 0	63,018 13 11
10. Locomotives	16,275 4 3	49,415 4 3
11. Cane Cars, including Motor Car, Lorries, etc.	76,437 10 3	1,22,542 12 0
12. Molasses Tanks	12,047 10 10	26,502 0 9
	<u>16,42,253 7 11</u>	<u>33,57,019 10 2</u>
13. Distillery Plant . . . . .	...	1,33,799 8 7
14. Distillery Buildings . . . . .	...	92,489 10 10
Total	<u>16,42,253 7 11</u>	<u>35,83,308 13 7</u>

(2) Replies to General Questionnaire of Tariff Board. From Mysore Sugar Co., Ltd., Mandya.

NOTE.—The financial year of the Mysore Sugar Co., Ltd., is from 1st October to 30th September. The statistical and other information furnished below relates to the respective financial years, except where it is otherwise indicated.

Production of Sugar—Introductory.

1. In January, 1934.

The present capacity of the plant is 1,400 tons of cane per day of 24 hours, and with the additional rollers now in course of erection, the crushing capacity will be 2,000 tons from 1st August, 1937.

2. 5,245 tons or 142,769 maunds in 1933-34.

8,072 tons or 219,720 maunds in 1934-35.

23,248 tons or 632,811 maunds in 1935-36.

Only one class of sugar is now produced.

3. (a) The Mandya Sugar Factory is advantageously situated with reference to cane supply and important markets.

(b) Yes; there are facilities of rail, road and other communications.

(c) The factory is conveniently situated for the supply of labour.

4. Double Sulphitation, with filtration of syrup and remelt sugar before sulphitation. The double sulphitation process was adopted as we consider that the product has good keeping qualities and we have no good source

of limestone or cheap fuel which are essential for the successful economic working of the Carbonization process.

5. The following extensions have been made since the factory commenced working in 1934:—

- (1) An additional Boiler, an additional Vacuum Pan and additional Filter Presses were put in in 1934-35 at a cost of Rs. 89,077.
- (2) The capacity of the plant which was 400 tons at the commencement was increased to 1,400 tons in 1935-36 by the addition of one new 9-Roller Mill, 3 Boilers and Engine, additional Vacuum Pans, Evaporators, Centrifugals, etc., at a cost of Rs. 12,69,121.
- (3) Six additional Rollers, with Boiler and Engine and a few Centrifugals are being erected in 1936-37 at a cost of Rs. 1,56,892. (The work is near completion.)

The above additions did not necessitate any change in the original layout as these extensions had been contemplated from the beginning.

6. We do not at present contemplate further extensions to the plant except some minor alterations to improve the classification of sugar.

7. (a) The availability of an adequate supply of cane, cheap fuel and a market within a reasonable distance.

(b) With the present Excise Duty of Rs. 40 per ton and the low prices at which sugar is now being sold, no plant can be operated economically.

With an Excise Duty not exceeding Rs. 26-4 a ton and the cane prices being at the present rates, viz., 6½ annas a maund, the smallest economical unit in Mysore would be one crushing 800 tons of cane per day and producing not less than 10,000 tons of sugar a year.

8. To no extent, as far as economic units are concerned.

9. (i) We have not had any occasion to utilise their services.

(ii) We have had no occasion to refer any problems to the local Industries Department, but we are in close touch with the Department here as the Director of Industries is a member of the Board of Directors.

Raw Materials.

10. Yes; chiefly with a view to demonstrate to the ryots what can be done on poor soils, and also for supply of seeds to ryots, if required.

We have obtained the lands on lease from the Government of Mysore. We have experienced no difficulty in obtaining the same.

11. (a) The total area held at present is 1,532 acres.

(b) The average area under cane each year has been as follows:—

Calendar Year.	Area.
1933	581 acres.
1934	919 „
1935	569 „
1936	800 „

The areas given above for 1933, 1934 and 1935 include both plant cane and ratoon cane.

(c) The chief variety of cane grown in the area is H.M. 320 and we have now an area of 140 acres under P.O.J. 2878.

(d) The system that is adopted is to plant cane in the first instance and after cane is harvested for supply to the factory or for purposes of setts, the land is ploughed and allowed to lie fallow for about six months, when a crop of green manure is raised and ploughed in. The land is then ready for planting cane again.

(e) The average yield of cane during the three years has been as follows (this relates to plant cane and excludes ratoon cane):—

Year.	Variety.	Yield.
1933-34	H.M. 320	29.9 tons.
1934-35	H.M. 320	32.2 „
1935-36	H.M. 320	39.1 „

The sucrose content of the cane varies between 13 and 17 per cent.

(f) The statement marked 'A' annexed*, gives the cost of cultivation per acre on the Company's Farms during the three years.

12. (a) An area of about 30 acres has been reserved on the farms for experimental work. Experiments in this area are confined chiefly to manurial and varietal tests.

(b) Though no particular plots of the farms are set apart for seed supply, the entire area is available for seed purposes whenever and to the extent required.

13. We have not conducted any experiments with reference to early and late varieties of cane. Our experience with H.M. 320 has been that, by varying the time of planting, we are able to secure mature cane over a prolonged milling season. We have also conducted experiments to ascertain the effects of varying quantities of nitrogen and phosphoric acid in the manures applied.

The local Agricultural Department have an experimental farm in the Irwin Canal area where they are carrying on experiments to ascertain the changes in yields and sucrose content for cane planted in various months of a year and harvested at different periods of maturity. We are in close touch with their work and they have been of considerable assistance to us.

14. (a & b) The area under cane has increased from 3,100 acres in 1933 to 12,197 acres in 1937. The area has grown with the expansion of the factory. Cane is grown exclusively for supplying the factory and such area is regulated by agreements entered into with the company.

There has been no change in the quality of the cane.

15. There being no severe winter, there is no damage to the crop by frost. We have had cane affected by the borer pest. The estimated loss on account of this has so far not exceeded 10 per cent.

16. We are assured of a sufficient supply of suitable cane. The principal variety of cane crushed in the factory is H.M. 320.

The average yield of cane (H.M. 320) obtained by the ryots is now about 23 tons to the acre. The sucrose content may vary from 11 to 17 per cent. depending mainly on the time of harvesting.

17. There is no such competition as there is no other factory.

18. (a) No, *vide* answer to question No. 14.

(b) Nil.

19. The supply is not in excess of the milling capacity. We do not consider that any restrictions are necessary in this area.

20. The statement marked 'B' annexed, furnishes the average cost of cultivation by an ordinary ryot, and the average outturn would be 23 tons of cane or 1,891 maunds.

21. There are no particular difficulties, either in cultivation or in delivery to the factory.

22. (a) This question does not arise in our case since our factory has been put down with the object of helping the ryots in the area to grow sugarcane.

* Not printed.

(b) This question also does not arise in the case of Southern India at present. But we are in favour of allotting special areas to different factories, if the necessity arises.

23. The question of allocation of 'zones' does not arise here.

We have been from the beginning giving advances by way of cash, manures and seeds to the ryots. The improvement of communications is the duty of the public authorities (Government, District and Taluk Boards, and Village Panchayats & Unions), but the Company has in the past made substantial contributions for the development of roads.

24. (a & b) We are in favour of fixing a quota for sugar to be produced by each factory, as well as for the licensing of new factories and extensions of existing factories.

It is common knowledge that the production of sugar in India has grown with the utmost rapidity. In four years it rose from 158,520 tons to 912,000 tons. As regards the current year, the forecast of the Director, Imperial Sugar Institute, is that the total production of white sugar in factories will amount to 1,072,000 tons and that this will, after meeting the entire demand of the country, leave a carry over of about 100,000 tons. In some quarters there is doubt as to whether production is really in excess of demand, but in any case, with the opening of new factories now under erection or under contemplation, extensions of existing factories and improvements in cane yields and manufacturing processes, it is certain that in the immediate future the production will be substantially in excess of the demand. As it is, the feeling in the trade appears to be that the production is in excess of requirements and this has led to the inevitable result of a steady and phenomenal decline in prices. For stabilisation of prices it is essential that there should be limitation of production. Voluntary limitation of production is out of the question at present. It is, therefore, necessary that a quota should be fixed for each factory, having regard to its capacity and maximum production, and as a corollary, erection of new factories and extensions to existing factories should also be strictly controlled. The industry cannot complain if such limitation of production and control are enforced during the period in which it enjoys the benefit of a protective duty. For obvious reasons, the fixing of quotas and the licensing of new factories, etc., should not be left to the Provinces or States, but should be in the hands of an All-India Statutory Body.

25. (a) 45 per cent. Gate cane.

(b) 28 per cent. Rail cane.

(c) 27 per cent. by lorries.

The proportion has varied slightly, rail-borne traffic being recently increased and lorry-borne traffic reduced, due to the establishment of more loading centres on the railroad.

26. The gate cane is mainly transported by ox carts. The weight carried by an ox cart varies from $\frac{3}{4}$ ton to 1 ton (20 to 27 maunds).

The country cart can be considerably improved by the widening of wheel tyres and also by putting ball races to the axles. The rubber-tyred carts are not popular in this area. If there are good roads, the ordinary country cart would be preferred by the ryots to the rubber-tyred cart on account of its cheapness and suitability for other uses also.

27. The mileage of roads in the vicinity of the factory is fairly adequate, although there is room for still further development of feeder roads.

The condition of the feeder and main roads is very fair.

28. Arrangements for delivery centres have been so made that no ryot will normally have to transport his cane for more than 5 miles before his cane is taken charge of by the factory.

The average time between the cutting of cane and delivery at the factory is 48 hours. The cane is not subject to much deterioration during road transport.

29. The average cost of transport would be 3 annas per ton per mile, or about $1\frac{1}{2}$ pie per maund per mile. Normally, cane growers employ their own carts for purposes of transport, but if they hire, they do not pay more than the above rate of $1\frac{1}{2}$ pie per maund per mile.

30. The Municipality at Mandya levies a toll of 2 annas for every loaded cart coming to our gates.

31. Continuous and uniform supply of gate cane is ensured by the issue of permit cards to the ryots so as to regulate harvesting. Every week the quantity of cane required for supply to the factory daily is forecasted and permits are issued to the ryots for supplying the requisite quantity. This system has worked satisfactorily during the last 3 years.

If the factory is operating normally, the period of detention of an ox cart is the time it usually takes the ryot to transfer his cane from the bullock cart to our little cars, which would be about half-an-hour.

We have recently added to the number of weighbridges in the cane delivery stations so that there can be no delay in releasing carts.

32. A maximum distance of 16 miles, with the exception of a small quantity of cane that comes from Bangalore and Hassan, which are from 60 to 100 miles.

48 hours.

Yes.

33. Please see statement marked 'C' annexed.

We would prefer a flat rate to a maundage rate.

34. Yes; they are generally too high. Recently, the railways have enhanced the rates of manures. They have also classified Limbux (lime) which we obtain for fabrication purposes in the factory, as "Chemicals", thereby subjecting it to a heavy railway freight.

35. There is no tramway system here. The average cost of transport per maund is $10\frac{1}{2}$ pies and is borne by the grower.

37. In this area cane does not appreciably deteriorate for about 3 days after it is cut. We therefore have had hardly any cases of deterioration owing to delay in delivery.

38. (a & b) We buy directly from the growers.

39. We have a system under which our growers execute contracts to grow and deliver cane to the factory at the time specified by the factory. The contracts also provide for the supply by the Company, of manure, cane setts, etc., and agricultural implements, if required, and also for the deduction of these advances from the cane bills when cane is supplied to the factory.

41. No.

42. We weigh cane at the place where the ryot is asked to deliver it. This may be an outlying weighbridge from where the cane is transported by lorries to the transfer yard, or at a railway station where our own gangs load cane after weighing, or at our gate weighbridges.

The ryot is given a duplicate of the weighbridge ticket on which the gross weight and the tare are punched.

No payment is made at the time of delivery, but the ryot is paid Rs. 2, per ton, if he so desires, as cane cutting advance. The final payment is made when the ryot has delivered all the cane for which he had permission to cut. The interval between delivery of cane and the final payment is from three to four weeks according to the quantity delivered.

43. The average price paid for cane is as follows:—

1933-34 crop—Rs. 12-9 per ton, or As. 7-6 per maund.

1934-35 crop—Rs. 12 per ton, or As. 7-4 per maund.

1935-36 crop—Rs. 11-57 per ton, or As. 6-9 per maund.

We pay the ryot one Rupee more per ton for cane supplied during the second half of our milling season, viz., between August and December. This is done to compensate the ryot for not being able to raise a paddy crop after harvesting his cane crop.

44. No.

The price was originally fixed with reference to the price of jaggery. At present it bears no relation to the price of sugar.

45. To no extent, at present.

46. Jaggery is not manufactured in this area as all cane that is grown in this area is grown only under agreement for supply to the factory.

47. The minimum price to be paid for cane supplied to the factory has for the first time been fixed this year under the Mysore Sugar Industries Safeguarding Regulation. During the first half of the milling season, the price paid is equal to the minimum fixed by Government. In the second half, the price will be Re. 1 per ton, or slightly over 7 pies per maund, in excess of the minimum laid down by Government. This is because the agreements entered into with the ryots provide for such increase.

48. Under the Sugarcane Safeguarding Act XV of 1934 in force in British India, the power to frame rules for the fixing of the minimum price of cane supplied by ryots to a factory has been delegated to the local Governments.

We are of opinion that the existing formula which relates the price of cane to the price of sugar and the existing practice in the United Provinces and Bihar which entails revision of the price of cane every fortnight are both unsatisfactory. A fall in the price of sugar leads to a fall in the price of cane, this in turn leads to a fall in the price of sugar and so the process goes on. A fortnightly revision of the price creates undesirable uncertainty both in the minds of the ryot and of the factory owner whose stocks of sugar produced from cane bought at a higher price deteriorate in price when the cane price is subsequently lowered. The price of cane should be disconnected from the price of sugar and should, it is suggested, be fixed on the cost of production, as ascertained by the Tariff Board in its present enquiries. The price once fixed at the commencement of the crushing season should be maintained for the whole of that season.

49. We do not consider the payment of a bonus over and above the minimum for early and late varieties of cane, to be quite practicable. There should be no great difficulty in paying higher price for a superior variety which gives a better recovery.

50. During the year 1933-34, we milled for 196 days; during 1934-35 we milled for 262 days and during 1935-36 we milled for 269 days.

This period would be 8 months, more or less, which we consider is quite favourable for economical working.

51. None, in our area.

52. We are in close touch with the local Agricultural Department and they have been of considerable assistance to us. Moreover, the Director of Agriculture is on the Board of Directors.

There has been no occasion for us to utilise the services of the local Co-operative Department.

Labour.

53. (a) The following figures give the skilled and unskilled labour employed in the factory:—

	1933-34.	1934-35.	1935-36.	1936-37.
(i)	131	203	189	193
(ii)	486	846	1,007	1,073

(b) So far, all employees have been kept on during the silent season also in view of extensions, additions and alterations to the plant and the large amount of overhauling work to be done.

54. Besides the European staff, which consists of a General Manager and Sugar Technologist, a Factory Manager and a Chief Engineer, we have imported two Chinese pan boilers from Java and three pan men from Northern India.

55. One of the Chinese pan boilers has been sent back, and we have a sufficiently large number of young men under training to replace even the imported pan men from the North.

56. We have made arrangements to provide accommodation for our skilled labour. Ordinary unskilled labour comes from the neighbouring villages. So far, we have provided accommodation for 181 labourers. The quarters have water laid on, and have modern sanitary fittings.

We have provided a dispensary where free medical aid is given. We have also an aided Stores where provisions can be obtained. A club house, hockey ground and a park have been also provided.

Power.

57. Running at full capacity without any stoppages, we should have just enough bagasse for our full requirements. Actually we are obliged to use a great deal of extra fuel and outside electric power when our generators are stopped.

The following figures show the quantity of wood fuel consumed and the price paid for the same as also the amount paid for outside electric power.

Year.	Wood fuel.		Electric Power.
	Quantity. Tons.	Price. Rs.	Cost. Rs.
1934-35	5,211	45,968	16,453
1935-36	14,125	1,11,608	29,756
1936-37 (October to March)	8,689	78,071	14,182

By-products.

58. The only by-product obtained in the factory is molasses, part of which is converted into alcohol.

59. The details of molasses produced during the last three years are furnished below:—

Year.	Quantity.
1933-34	2,050 tons.
1934-35	3,200 „
1935-36	8,700 „

We have not had any sales for the molasses except small quantities to the Public Works Department at a nominal price of Rs. 2 per ton or As. 1-2 per maund. For the molasses used for the production of alcohol, the factory is given credit at Rs. 7 per ton or As. 4-1 per maund. The price thus realised is Rs. 1,481 in 1933-34, Rs. 12,498 in 1934-35 and Rs. 28,464 in 1935-36.

The increase in the production of molasses is due to the larger quantity of cane milled. The production varied only slightly per ton of cane. In 1934-35, 25.5 tons of cane produced one ton of molasses; in 1935-36, 25.3 tons of cane produced one ton of molasses and during the current year 27.8 tons of cane produce one ton of molasses.

60. As already stated, there is no market for our molasses, except for the small quantity supplied to the State Public Works Department. There are no railway facilities to transport large quantities.

61. We use about half of our production of molasses for the manufacture of alcohol for potable purposes and for use as denatured spirits. A small amount is used for fertilising green manure crops and some quantity is issued to the Public Works Department for road surfacing. The rest is burnt under our boilers.

With reference to other methods of utilisation of molasses, we wish to suggest that it should be used for the manufacture of absolute alcohol which, as in other countries, could, with an admixture of petrol, be used as motor fuel. We have carried out certain experiments with reference to the production of 96 per cent. alcohol which we have been using as a motor fuel on our transport system, either by itself or with an admixture of petrol, subject to certain changes being effected in the engines of the vehicles. From our experience, we consider it possible to produce absolute alcohol at a cost which would enable it to bear a duty equivalent to what is levied on petrol.

62. We have no surplus beggasse, and no suggestions to offer.

63. The filter press cake has manurial value and we use it on our Farms. There is no other by-product.

Storage and Transportation of sugar.

64. Our stocks of sugar at the commencement of each book year were as follows:—

	Tons.
October, 1934	8.7
October, 1935	96.8
October, 1936	934.0

Our milling season commences about the third week of January and with breaks (May to July and December to January) continues till next January. For the purpose of this question, we note below the stock just before and after the long shut-down (May to July):—

	Tons.
1st June, 1934	143.9
1st August, 1934	3.1
1st June, 1935	734.0
1st August, 1935	228.5
1st June, 1936	2,885.1
1st August, 1936	84.0
1st June, 1937	4,537.6

65. We have a good sugar godown in the factory compound which has been twice increased in size and can now hold 4,200 tons of sugar. We contemplate a further increase if the present depressed state of the market continues.

66. So far, we have not had any instance of deterioration or damage of our sugar in storage.

67. As stated above, we have had no damage through long storage. But in cases where damage occurs on account of rain water, we recondition the sugar before sale.

68. Our sugar has good keeping quality and there is no question of effecting improvements in this respect.

69. There have been cases of damage in transit although only to a very small extent (under $\frac{1}{2}$ per cent.) due to rain water getting inside railway wagons.

70. No great difficulties have been experienced. Occasionally there is a shortage of wagons, but seldom for longer than a day.

71. Improvement could be effected in preventing the inflow of rain water through the doors on the floor. A semi-circular angle iron, rivetted or welded to the floor from door post to door post, will prevent this. At present a sand barrage is used. We have offered some suggestions to the Mysore Railways and they contemplate taking action.

72. The following statement furnishes the average prices at which our sugar has been sold at the ports and at other important up-country markets.

	Price per maund.		
	1935,	1936,	1937.
	Rs.	Rs.	Rs.
Calicut	8 15 0	8 9 6	6 15 0
Ernakulum	8 15 0	8 9 6	6 15 0
Tellicherry	8 15 0	8 9 6	6 15 0
Mangalore	8 15 0	8 9 6	6 15 0
Bangalore	9 9 0	8 15 6	7 10 0
Davangere	9 8 0	8 14 0	7 8 6
Hubli	9 3 6	8 10 6	7 9 0
Belgaum	9 4 6	8 9 6	7 6 6
Hyderabad	9 8 0	8 8 6	7 0 0
Salem	9 9 0	8 12 0	7 6 6

The freight rates to the markets we supply are as follows:—

Railway freight per maund on sugar booked from Mandya to—

	Rs. A. P.		Rs. A. P.
Madras	0 8 1	Davangere	0 9 3
Calicut	0 7 6	Hubli	0 12 4
Ernakulam	0 8 4	Belgaum	0 12 5
Tellicherry	0 7 6	Hyderabad	1 1 5
Mangalore	0 10 3	Salem	0 9 0
Bangalore	0 3 3		

Capital Account and Overhead Charges.

73. Copies of all Balance Sheets of the Company issued so far, are enclosed herewith.

74. The amounts set apart for depreciation during the last three years are as follows:—

	Rs.
1933-34	80,865
1934-35	1,19,135
1935-36	3,23,104

The rates provided for depreciation are those allowed by the Income-tax Department, except in the case of motor lorries and electrical machinery for which we adopted last year a rate slightly higher than that allowed by the Income-Tax Department.

75. The amounts set apart for Reserve Fund have been Rs. 50,000 during 1933-34, Rs. 1,00,000 during 1934-35 and Rs. 7,50,000 during last year.

76. The amounts distributed as dividends on capital, which is only of one class, *viz.*, ordinary, are as follows:—

	Rs.
1933-34	2,00,000
1934-35	2,00,000
1935-36	3,00,000

77. Normally, the funds at our disposal are adequate to meet working expenses. Recently, owing to accumulation of stocks of sugar we have borrowed funds at 3 per cent. from the Bank.

78. The Company is managed by a Board of Directors and the expenditure incurred on account of such management is as follows:—

	1933-34.	1934-35.	1935-36.
H. O. Expenses	22,916	38,975	38,156
Directors' Fees	2,130	1,445	4,680
Total	25,046	40,420	42,836

79. We would consider that a dividend of 15 per cent. on the share capital, or 10 per cent. on the block account, would be a fair return on the capital invested.

Efficiency of Production.

80. The information called for is furnished in the enclosed statements (Forms I, II and III).

81. The works cost has been reduced from Rs. 2-0-10 per maund of sugar in 1933-34 to Rs. 1-3-2 per maund in 1935-36, due mainly to increased production.

82. A slight reduction in working expenses and an improvement in recovery will be possible after the extension to the mill and boiler plant, now in course of erection, is completed. It is expected thereby to attain a higher mill extraction and more regular running and easier steaming with consequent saving in fuel.

Marketing.

83. The principal marketing centres in which we deal are Calicut, Tellicherry, Badagare, Cannanore and Cochin in the West Coast, Madras, Hyderabad, Secunderabad, Belgaum, Hubli, Bangalore and Mysore.

84. We sell directly to dealers in Mysore and to accredited selling agents in other areas.

The usual practice in Mysore is that dealers pay an advance of Rs. 2 per bag against orders booked and pay the balance against rail receipts. The dealers in their turn, distribute to retail merchants giving them credit for a month or two.

85. The contract form as used in Northern India is not adopted in Southern India as no forward sales spreading deliveries over an extended period are undertaken.

86. At present in the Bangalore market the wholesale price is Rs. 20-8 per bag of 2 cwts., or Rs. 7-7-6 per maund (the Company's sale price being Rs. 20-2 per bag, or Rs. 7-5 per maund, *ex-godown*, Bangalore, equivalent to Rs. 7 per maund *ex-factory*). The retail price is 5 annas a viss, or Rs. 8-3 per Bengal maund.

We have no definite information as regards previous years, or other distributing centres.

87. There is not much fluctuation in the difference between wholesale and retail prices.

88. Dealers in Mysore store their sugar in well-built mundies. While in storage, our sugar does not generally deteriorate.

89. We have had no complaints from our dealers about our sugar deteriorating.

90. For certain purposes in the confectionery trade and for the manufacture of white sugarcandy, Java sugar is occasionally preferred.

91. We consider that the present quality of Mysore sugar is equal to that of imported Java sugar and is in a position to replace it.

92. As far as our factory is concerned, sales of sugar are spread over the 12 months of the year and stocks are carried in our own godowns. Dealers carry just enough stock that is required for day to day business.

93. We consider that the conducting of a marketing survey of the sugar industry would certainly be advantageous and are in favour of it being immediately undertaken.

94. We are in favour of an All-India sugar selling organization as we consider that the interests of sugar manufacturers can be secured only by mutual co-operation and goodwill.

95. We are in favour of standardising Indian sugars. We would suggest that the number of standards by which Indian sugar is to be classified should be limited to three or four.

96. (a) No business has been done on the basis of sugar standards, so far as we are aware.

(b) Attempts are being made by individual mills like us to grade sugar on the standards prescribed by the Imperial Institute of Sugar Technology.

97. We would suggest that the number of grades on which sales are to be conducted should be limited to three or four.

99. Based on the statistics of production of white sugar in India and the import figures of refined sugar to India during the last five years, the consumption of white sugar may be estimated to be between 11 and 11½ lakhs of tons.

100. Factory sugar has definitely replaced jaggery in the sweet-meat trade and also, to some extent, in the domestic consumption of the middle and upper classes in urban areas.

101. There is very little scope for starting subsidiary industries for the manufacture of sweets and syrups, fruit preservation and canning. There are a number of small factories in Southern India which are engaged in the preparation of sweets. Their consumption of white sugar is not very appreciable. As regards fruit preservation and canning, unless the price of fruits goes down and difficulty is felt in obtaining fresh fruits of one kind or another right through the year, the market for preserved fruits will be very limited.

103. In the ports about which we have information, we understand that Java sugar has been landed at so low a price as Rs. 3-12 a cwt., equivalent to Rs. 2-12-3 per maund, which seems to be unremunerative.

104. The following statement furnishes figures relating to export of sugar from India both by sea and by land:

Export of sugar (in tons).

Year.	By sea.	By land.
1930-31	493	40,126
1931-32	226	23,885
1932-33	437	27,729
1933-34	425	33,110
1934-35	363	34,034
1935-36	389	25,836
1936-37	521	23,381 (for 10 months up to January, 1937).

In our opinion, facilities should be offered for exports of Indian sugar to the United Kingdom by admitting it at certified colonial rates (1s 5-3d). Exports will become possible when the Indian price *plus* freight *plus* this preferential rate is equal to or lower than the price of non-Indian sugar landed in England after paying the regular customs duty. India at the moment does not make sugar of 96° polarisation as there is no internal demand for it. Indian sugar has a polarisation of 99° and upwards.

105. In the years 1934-35 and 1935-36, the price realised by the sale of sugar was such as to leave a substantial margin of profit after deducting manufacturing and selling charges, and the original duty of Rs. 26-4 per ton, although heavy enough (being in addition to income-tax) was not an unbearable burden. But the selling price of sugar has in the meantime been continuously declining during the past three years—steadily and slowly during the years 1934-35 and 1935-36, but rapidly and phenomenally during recent months—and the margin between sale price and cost price had shrunk so greatly that the old duty of Rs. 26-4 per ton was itself proving an unduly heavy burden. The enhancement of the duty to Rs. 40 per ton has made the burden intolerable. This position will be clear from the sub-joined statement:—

	1934-35 October to September.	1935-36 October to September.	1936-37 October to February.	March, 1937.	April, 1937.	May, 1937.
	Per ton.	Per ton.	Per ton.	Per ton.	Per ton.	Per ton.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Average cost of production including idle-time charges.	209-98	171-93	187-13	155-79	157-55	164-98
2. Average selling price.	253-42	244-12	216-40	206-75	195-63	188-50
3. Margin of profit.	43-44	72-19	49-27	50-96	38-08	23-52
4. Excise Duty .	26-25	26-25	26-80	40-00	40-00	40-00
5. Percentage of Excise Duty to margin of profit.	60-40	36-40	53-60	78-40	105-06	170-10

106. We have no market for molasses.

Claim for Protection.

108. The measure of protection enjoyed by the industry has been quite effective as evidenced by the fact that there has been a rapid development of the industry and the factories established in India are now capable of producing sugar approximately equal to the normal estimated consumption of the country and owing to internal competition are selling sugar at a price, the lowest ever known.

The price of sugar in India is no longer regulated with reference to the price of Java sugar. The lowest price at which Java sugar has been landed at the ports so far appears to be about Rs. 3-12 per cwt. It is not likely that the price can go down much farther. With the present rate of duty, the price at which Java sugar can be sold at the ports is Rs. 13 per cwt., or Rs. 260 per ton, which is appreciably higher than the fair selling price of Indian sugar. It is obvious that the answer to the question whether the present extent of protection should be increased, must be in the negative, provided it is understood and definitely laid down that any Excise Duty levied on Indian sugar is counter-balanced by the addition of an equal amount to the protective duty of Rs. 7-4 per cwt.

109. The rate of protective duty cannot also be appreciably reduced, since, for reasons given in our Memorandum dated the 27th April, 1937, the fair selling price of Indian sugar at the ports would be about Rs. 236 per ton. Allowing a difference of 8 annas a cwt., or Rs. 10 per ton to be maintained in view of the superior quality of the Java product as compared with the product of the large majority of Indian factories, the selling price of Java sugar will have to be not less than Rs. 246 per ton, or Rs. 12-5 per cwt., which means that the present protective duty has to be continued practically without reduction.

110. In addition to the protective duty, the following measures appear to be necessary for the development of the industry and placing it on a stable basis:—

- (1) The additional Excise Duty recently levied should be withdrawn.
- (2) The minimum price of cane should be fixed once every year and not be subject to fluctuations due to the price of sugar every fortnight as is now being done in Northern India and should be so fixed as to give a reasonable return to the grower.
- (3) The present uneconomic railway freight allowed for sugar that is being transported from Northern India to most of the port towns in Southern India, thus enabling sugar being dumped at unremunerative prices, should be modified so as to stabilise the prices at which sugar could be sold at these ports.
- (4) Opening of new factories and further extensions of existing factories should be strictly controlled.
- (5) Production of existing factories should be controlled during the period of protection, and quotas fixed for protection with reference to existing capacity, maximum production in the past and other relevant considerations.
- (6) The problems of improvements in the cultivation of cane so as to enable manufacturers to obtain cane at lower prices without reducing the return to the cultivator, should be vigorously tackled. In particular, breeding of new varieties of cane suited to the various climatic and soil conditions of the cane growing areas which give better yields and better sugar contents, should be undertaken not only by the Central Government but also by the Provincial Governments on a much larger scale than at present.

- (7) Encouragement should be given to the manufacture of Power Alcohol from molasses for use as motor fuel with an admixture of petrol.
- (8) Encouragement should be given to sugar producers finding an outlet for their production in foreign markets, like Afghanistan, Nepal, Arabia and also by giving preferential treatment for exports to Great Britain.

STATEMENT B.

Average cost of cultivation by an ordinary ryot.

Particulars.	Cost per acre.
	Rs.
1. Preparatory cultivation—	
Ploughing, levelling, furrowing, etc.	8
2. Setts—10,000 per acre	23
3. Manures—	
2½ bags of Ammonium Sulphate, ½ bag of Conc. Superphosphate and 6 bags of oil cake	58
4. Irrigation wages	18
5. Weeding	5
6. Earthing up	4
7. Harvesting (12 annas per ton)	18
8. Transporting	31
9. Interest on principal	8
Total	173

(This is exclusive of Land Revenue payable to Government.)

STATEMENT C.

Schedule of Railway Freight Rates of Mysore Railways for cane supplies to Mandya Sugar Factory.

(See Question No. 33.)

Stations.	Distance.	Railway freight per ton of cane
		OR. CC. L.
	Miles.	Rs. A.
Bangalore to Mandya	61	1 4
Kengeri to Mandya	50	1 4
Closepet to Mandya	38	1 2
Chennapatna to Mandya	24	1 0
Settiahally to Mandya	18	1 0
Maddur to Mandya	12	0 14
Hanakere to Mandya	7	0 14
Induval to Mandya	3½	0 10
Yeliyur to Mandya	5	0 14
Byadarahalli to Mandya	12	0 14
French Rocks to Mandya	17	0 14
Hampapur to Mandya	52	1 4
Hassan to Mandya	102	1 10
Bhadravati to Mandya	200	3 4

(3) Letter No. B-28-5/10288, dated the 22nd July, 1937, from the Mysore Sugar Company, Ltd., Bangalore.

I am forwarding herewith certain additional information which we had promised to send to the Tariff Board.

Enclosure.

ADDITIONAL INFORMATION REQUIRED BY THE TARIFF BOARD.

I. In regard to the question of fixing the minimum price of cane supplied to sugar factories and the view expressed by us that the minimum price should be fixed with reference to the cost to the cultivator, I was asked as to whether I had any other suggestions to offer. I answered that I had nothing to add to what had been stated in our Memorandum and in the answers to the Questionnaire.

It has since struck me that in this connection I might have referred to the connected question how the cultivator is to get the benefit of any increase in the price of sugar. When the Government of Mysore decided at the beginning of the 1937 milling season to fix a minimum price for cane, we gave some thought to this question and had a proposal under consideration to give a bonus to the suppliers of cane at the end of the milling season (over and above the price paid at the time of supply) in case the price realised during the whole of the season enabled the Company to do so, on the basis of half the price of sugar being paid as price of cane. But the question was not further pursued owing to the fall in the price of sugar.

II. With reference to the statement in paragraph 34 of our Memorandum that the lowest price at which Java sugar had been landed was Rs. 3-12, the question was asked whether this included landing charges. Our information is based on the published report of D. N. Marshall of Bombay and we find that we have mentioned is the c.i.f. price. The landing charge, estimated at 2 annas a cwt., has to be added to this. This would make the selling price of Java sugar at the ports Rs. 13-2 instead of Rs. 13 per cwt.

III. The two Statements referred to in the answer to Question No. 80 give figures up the end of the Company's last financial year ending 30th September 1936. Figures for 1936-37 could not be given as the year is not yet over; but as desired, the statements have been now brought up-to-date, i.e., up to end of May 1937 when the mill was closed for the long shut down.

IV. In regard to the particulars for arriving at the "fair selling price" of sugar, furnished at page 12 of our Memorandum, I was asked for details of the entry under "Depreciation and Interest", and how the profit of Rs. 20 per ton was arrived at, and whether the calculations were made on the basis adopted by the previous Tariff Board in their Report. I explained that depreciation was calculated according to our practice (which on a few items is slightly higher than is allowed by the Income-Tax authorities), that the interest was what was actually payable on account of Debentures and not on working capital and that the profit was calculated at a percentage of the sale price; and also that our calculations had reference to our estimate of costs under the conditions existing at the time of writing and not with reference to possible reductions and improvements that might be expected to be effected hereafter. I was desired to furnish a fresh calculation of the "fair selling price" on the basis adopted by the Tariff Board. Accordingly, revised figures are given below:—

	Rs.
Cane (at an average price of Rs. 10-12 per ton and on a recovery of 10-51)	103-26
Other raw materials	4-64
Labour	7-83
Power and Fuel	5-43

Carried over

	Rs.
Brought forward . . . . .	...
Supervision, Office charges, etc.	8-19
Current repairs	3-61
Packing	3-65
Miscellaneous	1-08
Selling commission	2-00
	<hr/>
Total	139-69
Add Depreciation and Interest (9-91 and 1-65)	11-56
	<hr/>
	151-25
Excise Duty	40-00
Profit (at 10 per cent. on capital)	16-57
	<hr/>
Fair Selling Price, ex-Factory	207-82
	<hr/>

For the revised figures, we have taken into consideration a production of 23,000 tons of sugar with an average recovery of 10-51 as against a recovery of 10 per cent. adopted for the original statement. (By the installation of additional Rollers and an additional Boiler, already completed, we expect this better recovery).

As regards Depreciation, we have now provided for this only under the Statutory Rates, which amounts to Rs. 2,28,000 on a block capital of Rs. 38,11,878.

As regards interest, an amount of Rs. 43,000 is provided, being interest at 6-1 on a sum of Rs. 8,00,000 which is the amount required for working capital especially as our recent experience shows that we will have to keep a considerable stock of sugar unsold throughout the year:—

	Rs.
Stock of 20,000 bags at cost	2,80,000
Outlay on Farms	1,20,000
Cane purchases and other stores	4,00,000

As regards profit, a sum of Rs. 16-57 is provided for and it is arrived at on the basis of a return of 10 per cent. on a capital of Rs. 38,11,878 which is the sum spent for putting up the factory with a crushing capacity of 1,400 tons of cane per day.

The Nizam Sugar Factory, Ltd.

Letter dated the 7th/8th August, 1937.

I am forwarding herewith a copy of the answers drawn up by Mr. Athalye to such of the questions contained in the Questionnaire of the Sugar Tariff Board Committee as are of general interest or applicable to the Nizam Sugar Factory, Ltd., and hope that they will be found interesting and possibly useful in discussing the subject with the Members of the Tariff Board.

ANSWERS TO THE QUESTIONNAIRE.

1. It is under erection. The Capacity is 1,000 tons.
3. (a) The cane supply in the immediate neighbourhood is not adequate at present but can be developed to satisfy the requirements in a year or

two. Supply of lime-stone is not within a convenient distance. It has got the advantage of the markets in H. E. H. the Nizam's Dominions.

(b) The railway and road facilities are good. Internal communications require improvement and extension.

(c) Labour supply fair.

4. Double Sulphitation.

7. (a) Quantity and quality of cane-supply, facilities and time of transport, facilities for the profitable disposal of exhaust molasses.

(b) A plant of 600 tons capacity. This unit will have to be increased as the sugar market depresses.

9. Yes.

Raw Materials.

10. Yes, in part. The rest to be obtained from Ryots by purchase. We had so far no recourse to purchase or lease of lands as the Government have acquired some lands for Company's cultivation.

11. (a) Approx. 3,500 acres.

(b) This being the first year, about 125 acres are planted for seed. But the area of Company's cane will be increased to 1,500 acres shortly and more later on.

(c) P.O.J. 2878 and Co. 290.

(d) We propose to adopt a two year rotation.

(e) & (f) Cannot be answered, this being the first year.

12. (a) & (b) None at present.

13. None so far. The Government Department is conducting experiments and they may be of guidance to us.

16. There are immense possibilities but the supply has got to be organised and developed.

17. There is no other competing factory.

22. (a) The compulsory acquisition being not practicable, it is necessary that the Government should help the factory-owners by facilitating leasing of lands that are required for their cane cultivation. Without such help the factories may not be able to get their cane supply assured and will have to work uneconomically. Private purchasing of lands is sometimes economical.

(b) We are of the opinion that in areas having local cane growers with a tendency to use their cane for the manufacture of gur it is not safe for a sugar factory to depend entirely on the local supply. A system of "Zones" can work well only if the factories and cane-growers operating in a particular zone are prohibited by legislation from encroaching upon other zones.

23. Ordinarily it is risky to advance cash to cultivators. The development of feeder roads and if possible the provision of facilities of quick transport are necessary and will be helpful to the factories as well as to the cane growers.

24. (a) We are not in favour of placing any restrictions upon the natural development of sugar factories in India but would on the contrary suggest that the Government should encourage the expansion of this industry by facilitating the sale of Indian sugar in the neighbouring foreign markets.

(b) The sugar industry being largely a rural industry, is definitely helpful to the agricultural population. It helps the agriculturists by securing money-return for his crop, and provides employment to the landed labour in the slack season. India being mainly an agricultural country, the Government should help the stabilisation and expansion of the sugar industry by all possible means.

27. The main roads are good. Feeder roads will have to be improved or made.

33. Freight rates on the transport of cane by the Nizam State Railway are under consideration. Certainly a maundage rate on waggon load basis would be preferable to a flat waggon-rate per mile, since cane cannot be packed in waggons as some other goods.

34. Reduction of freight rates on coal and lime is very desirable in lowering the cost of sugar manufacture, as also reduction of freight in oil-cake, agricultural implements, etc., for economic cultivation of sugarcane.

36. Yes. The tramway system will be definitely advantageous for the quick transport of cane from the fields to the Factory, as well as from the point of economy. For the Trunk lines passing along the metal roads permission for the use of narrow strip of land will have to be obtained from the Public Works Department and for feeder lines, the necessary land may have either to be acquired or obtained on long lease. In this respect the help of H. E. H. The Nizam's Government can be relied upon.

45. The price of cane acceptable to cane growers, depends on the prevailing price of gur, the supply of adequate skilled labour required for harvesting in the specified time, the distance of the cane fields from the factory, the facilities of transport to the factory, correct weighments and prompt payments of cane bills. Cane growers having an option for the manufacture of gur will expect a price equivalent to the price of gur minus the cost of its manufacture.

46. Yes. The variations in the price of gur from time to time and in the same year are very common in the cane-areas. Among other causes these variations may be attributed to the extension of cane cultivation, condition of cane crop, accidental damages by frost, sugar-cane diseases and pests and calamities like earthquake (as in Bihar) and also to the fluctuating demands for gur from the rural areas.

49. The "bonus" system will certainly encourage the plantation of cane according to the early and late requirements of the sugar factories and should be rated on the basis of varieties and the early and late seasons, i.e., say 15th October to 15th of December and 1st of May to 1st of June.

51. Extension of the crushing season is one of the vital necessities under the present conditions of the sugar Industry. This can be achieved only by the introduction of early and late maturing varieties and of such other varieties as can withstand the hot weather conditions as obtained in the later part of May without considerable deterioration. Certain Coimbatore varieties have given promise of their long standing capacity.

52. The Agricultural and Co-operative Departments of this Government have been and will continue doing their best to guide the sugar factory in the matter of experiments on sugarcane. It is, however, desirable that the Imperial Council of Agricultural Research should establish a research and testing station in the neighbourhood of the Nizam Sugar Factory Ltd., and work in co-operation with the local agricultural experts.

56. We are providing pucca quarters for housing skilled and unskilled labour. They are now under construction. We have also opened a dispensary for medical help and shall shortly construct a permanent dispensary building with necessary fittings and equipments. It is also proposed to supply filtered and purified drink water for the labour and the residential staff.

Marketing.

105. (i) The levy of excise sugar duty had the immediate effect of large reduction in the margin of profit of the factory owners. It also compelled the factory owners subsequently to introduce the measures of economy in the supply of cane and the manufacture of sugar.

(ii) The increase of Excise Duty by Ans. 11 per cwt. since 1st March, 1937, has hit the factory owners very seriously on account of present low level of the price of sugar. With the present cost and methods of manufacture and prevailing price of sugar, the incidence of Excise Duty exceeds

the margin of nett profit even in the cases of the most efficiently and economically managed sugar factories. This being a fixed charge on the production of sugar, the duty acts more severely than the levy of an income-tax. This heavy burden has made the position of small factories very precarious and under the strain of increasing competition and the decline of sugar market, they may have to be closed sooner or later. In the case of Khand-sari Sugar Mills, the Excise Duty has virtually resulted in driving them out of existence.

106. In the case of the Nizam Sugar Factory, Ltd., arrangements for marketing the molasses when the factory is in operation are not still in sight, and we are afraid the molasses will have to be disposed of without any appreciable remuneration.

Claim for Protection.

108. The rapid rise of the Indian Sugar Industry and the increase of sugar factories all over India can be attributed entirely to the protection given by the India Government against foreign imports.

109. The very fact that foreign sugar amounting to about 3 lakhs of tons is imported into India in spite of the heavy import duty, justifies the retention of the protective duty at least on the present level. We therefore suggest that the Import Duty at the prevailing rate should be continued to 31st March 1946 and the position as regards its reduction or otherwise be examined in the year 1945. In India the cost of production of cane is comparatively much higher than that obtained in the importing foreign countries. India therefore stands in need of protection, so long the cost of production of cane per ton is not substantially reduced or brought to the level approaching that in the foreign countries. If the protective Duty is reduced, the sugar concerns will have no alternative but to reduce the price of cane paid to the cane-growers. The reduction therefore will give a harder blow to the cane-cultivators than to the factory owners.

110. (1) Introduction of such measures as will reduce the cost of purchase of manures, implements required in the cultivation of cane and of coal, lime and such other stores as are required in the manufacture of sugar. For example reduction of freight rate on these articles from the centres of production to the centres of consumption.

(2) Reduction in the existing water rate of cane-crop.

(3) Research work aimed at the improvement of yield and the reduction in the cost of cultivation of sugarcane.

(4) Research in the economy of fuel consumption.

New India Sugar Mills, Ltd., Darbhanga.

Letter dated the 8th October, 1937.

As desired by you, we are herewith sending our replies to the general questionnaire issued by the Tariff Board and we hope you will find the same in order.

Please note that the accounts of 1936-37 season, are under audit and we are sending you the approximately correct figures for this season.

Enclosure.

REPLIES TO GENERAL QUESTIONNAIRE.

1. 1933-34. 800 tons.

2. 1934-35—77,420 Maunds.

1935-36—135,729 Maunds.

1936-37—286,999 Maunds.

3. Double Sulphitation.

4. (1) Two 3-Roller Horizontal Sugarcane Mills having rollers 26" dia. x 54" long. Journals 13" dia. x 15" long and accessories.

- (2) One single cylinder Horizontal high pressure steam engine having cylinder 24" dia. x 42" stroke. Working pressure 120 lbs. per square inch exhausting against 10 lbs. per sq. inch and gearing.
- (3) Three unchokeable pumps D. couple motor.
- (4) One 42-Chamber side Fedd filter press having 500 sq. ft. filtering surface with plates and frames 34½" square and accessories.
- (5) One Horizontal high velocity juice heater having 500 sq. ft. heating surface piping, etc.
- (6) One Standard cast iron vertical triple effect evaporator having mild steel tubeplates and solid drawn brass tubes, giving a total heating surface of 4,500 sq. ft. and complete with all the usual fittings and mountings including lagging.
- (7) One Steam driven vertical double ram Flywheel pump for Calandria drain.
- (8) One Steam driven vertical double ram Flywheel pump for syrup extraction.
- (9) Two cast iron calandria Type vacuum pan. 9'-0" dia. having a strike capacity of 22 tons of masseuite fitted with mild steel tubeplates and solid drawn brass tubes giving a heating surface of 850 sq. ft. complete with all the usual fittings and mountings and piping, etc.
- (10) One Cast iron central Barometric condenser complete with internal baffles, etc., piping, etc.
- (11) One Horizontal steam driven dray slide valve vacuum pump having steam cylinder 16" dia. air cylinder 26" dia. x 24" stroke, complete with the necessary fittings and mountings piping.
- (12) One steam driven centrifugal water pump capable of delivering about 225,000 gallons per hour, complete with strainer, non-returning valve, sluice valve and crankshaft Governor and piping, etc.
- (13) Four Mild steel Crystallizers of the Non-Jacketted open "U" type each 5'-6" wide x 6'-0" deep x 21'-0" long.
- (14) Nine 42" x 24" Water-driven suspended self-balancing Centrifugal Machines having perforated steel baskets to run at 950 R. P. M., etc., complete.
- (15) One Horizontal Duplex steam Pump 24" x 12" x 15" to drive 9 42" x 24" centrifugals only with a net effective steam pressure of not less than 70 lbs. per square inch.
- (16) Sundry Plant.

	Block.					
	1934-35.		1935-36.		1936-37.	
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
Land	23,975	9 3	23,975	9 3	23,975	9 3
Buildings	2,44,569	9 6	2,69,555	0 0	3,22,805	9 3
Machinery	7,35,272	9 6	7,42,489	7 6	12,24,530	14 4
Railway siding	26,491	9 9	26,921	9 9	26,921	9 9
Weighbridges	13,654	7 3	16,681	11 3	16,681	11 3
Motor Cars	8,540	14 0	2,303	0 0	1,630	15 0
Furniture	4,761	4 9	4,973	15 9	5,468	15 9
Molasses Tank . . . . .	...		...		10,978	3 3
Bundh (Embankment) . . . . .	...		...		940	2 3
Total	10,57,266	0 0	10,86,900	5 6	16,33,933	10 1
					about	
Less Depreciation			49,900	5 6	85,000	0 0
GRAND TOTAL	10,57,266.	0 0	10,37,000	0 0	15,48,933	10 1

5. Cannot say definitely.
 6. No.
 7. 1934-35—99 days.
 1935-36—120 days.
 1936-37—154 days.

	Beginning.	End.	
		Mds.	srs. chs.
8. 1934-35	30,987	20 0
1935-36	66,372	33 12
1936-37	117,754	20 0

9. Built one Sugar Godown in 1936-37. One New Molasses Tank in 1936-37.

10. Yes—we had been able to reduce our cost of production by extending our plant and installing new machineries and also have reduced overhead charges. We have also tried to reduce our costs by employing more efficient labourers.

Capital Account and Overhead Charges.

1. (a) & (b) Attached in separate sheet.*
 (c) 1935-36 Rs. 49,900-5-6.
 (a-d) Attached in separate sheet.*
 2. No.
 3. 5 per cent. in 1934-35.
 4. Through the Managing Agents and by borrowing on stock of sugar from Imperial Bank of India. Rate of Interest $3\frac{1}{2}$ per cent.

	1934-35.	1935-36.	1936-37.
5. Head Office Expenses	14,526 6 11	9,209 7 3	...
Managing Agents Commission	7,336 15 0	10,694 0 0	...

The Belsund Sugar Co., Ltd., Muzaffarpur.

Letter dated the 7th October, 1937.

Further to our letter of 23rd ultimo, we send you herewith our replies to the supplementary questionnaire enclosed with your letter No. 684 of 17th idem. Form 1 has not yet been completed and will follow. As the Company's financial year only ended on 30th ultimo, we regret we cannot send you our Balance Sheet for 1936-37, but the Company's printed Directors' Reports and Statements of Accounts for the years ended 30th September, 1933, 1934, 1935 and 1936 are enclosed herewith.

Enclosure.

REPLIES TO QUESTIONNAIRES ENCLOSED WITH CIRCULAR NO. 684, DATED THE 17TH SEPTEMBER 1937, FROM THE SECRETARY, SUGAR TARIFF BOARD.

1. The Belsund Sugar Co., Ltd., completed the erection of their factory and started crushing operations on 4th December, 1933, but in the Earth-

* Not printed.

quake of 15th January, 1934, the factory buildings and plant were so badly damaged as to necessitate complete dismantling and re-erection and manufacture could not be resumed during the 1933-34 season. In the short period of operation in Season 1933-34 only approximately 300,000 maunds cane were handled and the factory may be said to have started operations finally on 17th December, 1934. Present average crushing capacity 875 tons per day.

Season.	Cane Crushed.	Sugar manu- factured.	Recovery of
			Sugar per cent Cane.
	Mds.	Mds.	Per cent.
2. 1933-34*	295,733	18,881	6.38
1934-35	1,052,309	86,820	8.25
1935-36	1,836,206	167,320	9.11
1936-37	3,392,730	309,295	9.116

3. Double Sulphitation.

4. Our original factory was designed for a crush of 450 tons cane per day but was so arranged as to be readily capable of extension. During the off-season of 1935 we spent approximately Rs. 19,500 in providing spare pumps and electrical parts and in making minor modifications to plant as had been shown to be desirable but no attempt was made by this expenditure to extend the operating capacity excepting in a minor way by improving the operation of the existing plant.

During the off-season of 1936 extensive alterations were made to the factory and these had the effect of increasing its operating capacity up to 875 tons cane per diem. On these extensions an amount of approximately Rs. 1,10,000 was spent and the major items of plant included the following:—

	Rs.
Juice pumping equipment	8,243
Extensions to Main Switchboard and electricity distribution	1,685
Pre-evaporator 4,000 sq. ft	19,600
Alterations to existing evaporator	5,690
One Calandria Type Vacuum Pan 20 tons	28,272
One Seed Mixer	3,991
One Magma Pump	2,632
Four 42" x 20" W. D. Centrifugals with Molasses pump	17,927
Four Filter Presses, each 500 sq. ft. and sundry minor modifications	17,598

The above are erected costs. The item Four Filter Presses was provided, not to increase capacity but to improve quality of outturn.

5. We have no further extensions or additions to the plant for the purpose of increasing the crushing capacity in view for the time being.

6. We do not cultivate any of our supply of cane.

* Earthquake stopped further operations for the season on 15th January, 1934.

Season.	Starting date.	Closing date.
7. 1933-34 . . .	4th December, 1933.	15th January, 1934.
1934-35 . . .	17th December, 1934.	21st March, 1935.
1935-36 . . .	14th November, 1935.	26th March, 1936.
1936-37 . . .	25th November, 1936.	1st June, 1937.

The 1933-34 season was brought to an abrupt close by the Earthquake of 15th January, 1934. The closing dates since have been dictated by the exhaustion of available cane supplies, the very favourable conditions for cane growers during season 1935-36 being responsible for the great quantity of cane-grown account Season 1936-37 which permitted of crushing being continued up to the beginning of June this year. The opening dates have been dictated by the readiness of the factory to operate in conjunction with the ripeness of the cane and price of sugar. By agreement with the majority of other factories in Bihar, Season 1936-37 was not started in earnest till 1st December 1936, the period from 24th/30th November being occupied in crushing small quantities of gate cane only to try out the factory.

8. Sugar stocks—

Season.	At opening of Season.		At close of Season.	
	Unsold.	Sold.	Unsold.	Sold.
	Mds.	Mds.	Mds.	Mds.
1933-34 . . .	...	...	13,040	2,046
1934-35 . . .	...	...	62,720	5,265
1935-36 . . .	...	...	108,255	20,930
1936-37 . . .	21,015	3,220	33,918	143,070

9. The factory now have three sugar godowns with a total storage capacity of 215,000 maunds during the working season and 225,000 maunds after the close of working. The largest of the three godowns with a capacity of 105,000 maunds was added during off-season 1936. We are not contemplating increasing the sugar storage capacity further for the time being.

Capital Account and Overhead Charges.

	Lands.	Buildings.	Plant and Machinery.	Other Assets, e.g., Rly. Siding, Furniture, etc.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.
1. (a) Block 1933-34 (1st year of working).	36,544	4,92,674	12,81,112	93,912	19,04,242
(b) Depreciated Block 1935-36.	36,544	3,75,923	11,22,964	98,649	16,34,080
(c) Total depreciation to 1936 inclusive	..	32,056	1,55,505	12,414	2,00,065
Value of Block written off by High Court Order as a result of earthquake.	..	1,65,000	1,85,000	..	3,50,000
(d) Renewals and Additions to 1936 inclusive.	..	80,306	1,82,447	17,151	2,79,904

2. Nothing has so far been set aside for reserve fund the company having so far made a loss each year.

3. Nil.

4. Working Capital is provided by the Managing Agents, interest at 4 per cent. being charged on debit balances.

	Head Office Expenses.	Managing Agent's Commission.	Total.
	Rs.	Rs.	Rs.
5. 1933-34	9,000	3,098	3,098
1934-35	9,000	14,448	23,448
1935-36	9,000	13,736	22,736
1936-37	9,000 (Est.)	37,424 (Est.)	46,424

The Managing Agent's Commission due account 1935-36 was Rs. 27,472 but in view of the disappointing result of the year's working the Managing Agents volunteered to forego half their commission for the year.

The Managing Agents' Commission is calculated at 2 per cent. on the gross proceeds of sugar and molasses sold.

The Managing Agents' undertake the selling of a portion of the factory's output without additional remuneration.

Shree Hanuman Sugar Mills, Ltd., Champaran.

Letter dated the 9th October, 1937.

With reference to your letter No. 684 of the 17th ultimo we beg to inform you that the balance sheet for the year 1936-37 is not ready and therefore we are sorry we cannot send you the same. As regards other particulars we give below the same:—

Capital Account and Overhead charges.

	Rs.	A. P.
1. (a) Our Factory started in the year 1932-33 and the block capital at that time was	13,07,773	0 9
(b) The block capital on the 30th September, 1936 was	15,28,584	9 5
(c) The depreciation written off is	2,08,000	0 0

Changes and additions during the interval have been as follows:—

	Rs.	A. P.
(i) Land	1,042	7 9
(ii) Buildings	34,043	9 9
(iii) Plant and Machinery	1,70,192	9 4
(iv) Other assets such as Railway siding, Electric Installation, etc.	15,532	13 10

2. We have not been able to keep aside any reserve in any of these years, as our Factory was badly affected during the earthquake.

3. We have distributed the dividend at 5½ per cent. only amounting to Rs. 55,000 on the ordinary shares for the profits of the first season 1932-33.

4. The working capital is being provided by the Managing Agents and the rate of interest is As. 2 (annas nine) only per cent.

5. The Managing Agents' Commission is fixed as provided in the Articles of the Association, namely, an allowance of Rs. 500 per month and a commission at 1 per cent. on the total sale proceeds of the product of the Company.

The annual amount of Head Office expenses are as follows:—

For the year—

1932-33—Rs.	17,853-6-2.
1933-34—Rs.	16,711-3-9.
1934-35—Rs.	19,449-1-3.
1935-36—Rs.	17,709-6-3.

The total amounts of allowance and commission paid to the Managing Agents in the different years are as follows:—

1932-33—Rs.	16,428-12-0.
1933-34—Rs.	12,391-15-6.
1934-35—Rs.	14,894-14-6.
1935-36—Rs.	17,335-1-9.

GENERAL QUESTIONNAIRE.

1. We started manufacturing sugar in November, 1932 (Season 1932-33), and our capacity was 400 tons of cane a day and now our capacity is increased to 600 tons daily.

2. We have been able to manufacture sugar as follows:—

In the year—

1932-33—	151,342 maunds (including sugar from Gur Refinery).
1933-34—	58,114 maunds.
1934-35—	118,605 maunds.
1935-36—	156,844 maunds.
1936-37—	244,103 maunds.

3. We manufacture sugar with double sulphitation process.

4. We have made extensions in the milling plant boiling house as well as curing since we first installed the Factory.

5. We are contemplating to add one pan and a few centrifugal machines.

6. We do not undertake sugar cane cultivation.

7. The duration of the crushing season has been as follows:—

1932-33—	179 days.
1933-34—	82 days (owing to earthquake).
1934-35—	118 days (shortage of cane).
1935-36—	144 days.
1936-37—	166 days (too much cane).

8. We give below the stocks of sugar at the end of our crushing season:—
In the end of—

1932-33, i.e., 30th September, 1933—

	Mds.	Srs.	Ch.
Cane Sugar	6,457	20	0
Gur Sugar	15,702	20	0
Total	22,160	0	0

1933-34, i.e., 30th Sept., 1934—Cane Sugar .	5,808	30	8
1934-35, i.e., 30th Sept., 1935—Cane Sugar .	9,772	20	0
1935-36, i.e., 30th Sept., 1936—Cane Sugar .	32,308	6	4

9. We have increased the storage capacity and are contemplating to increase further.

10. There has been some reduction in the working cost since the plant was extended and some efficient machinery installed. As our Factory was badly damaged by Earthquake in the year 1934, which was the second year of our working season, the exact amount of saving under each heading could not be estimated. But it may be presumed that our fuel bill and overhead charges are reduced by extending the plant.

Motilal Padampat Sugar Mills Co., Ltd., Champaran.

Letter dated the 10th November, 1937.

With reference to your letter No. 684, dated the 17th September, 1937, and subsequent inquiry, No. 920 of the 6th instant, we submit our replies to the general questionnaire in the attached sheet.

Enclosure.

ANSWERS TO THE EXTRACT FROM GENERAL QUESTIONNAIRE.

1. Our Factory commenced manufacturing of Sugar from January, 1933.
2. The output of the factory for the last five years is detailed below:—
 1932-33—127,441-15 Maunds.
 1933-34—71,020-0 "
 1934-35—102,519-0 "
 1935-36—214,028-25 "
 1936-37—326,632-35 "
3. The process of manufacture is Double Sulphitation.
4. Extension of machinery was made as detailed in the annexed statement comprising of Capital and overhead charges.
5. No further extensions or replacements are in contemplation.
6. We do not undertake cultivation of Sugar Cane.
7. The duration of the crushing season for each of the last five years is detailed below and cause of variations explained:—

Year.	Duration. Days.	Reasons of Variations.
1932-33	141	The first year of operation hence the factory was started late.
1933-34	98	Due to Bihar Earthquake of 1934, which damaged machinery and building and thus crushing had to be suspended.
1934-35	107	Due to shortage of cane supply and machinery trouble.
1935-36	133	Shortage of Cane Supply.
1936-37	178	This is the normal crushing period.

8. The figures are as under:—

Year.	Stock at beginning.		Stock at end.	
	Mds.	Srs.	Mds.	Srs.
1932-33	...		80,225	0
1933-34	10,257	20	17,972	20
1934-35	107	20	56,421	36
1935-36	7,839	16	106,347	24
1936-37	26,049	24	181,407	39

9. It has been increased last year, but we do not contemplate further increases.

10. It is not possible to give an idea about this as our factory has had to meet abnormal circumstances from year to year since its start. It will be noticed that the factory was started in January, 1933. Immediately the following year there was an earthquake which damaged the factory considerably. In the 3rd and 4th years there was shortage in supply of cane due to under production of Sugar Cane on account of damage caused by the earthquake of 1934 in Bihar Province, in which our Factory is situated and we had to close the factory much earlier. The extensions that have been made are only on an experimental measure and we require at least three years to watch the economy that can be made. It is therefore regretted that this information is not available.

Capital Account and Overhead Charges.

1. (a) Block Capital in 1932-33:—

Building	3,41,000
Plant and Machinery	10,39,000
Land	9,700
Other assets	35,300
	<hr/>
Total	14,25,000

(b) Block Capital in 1936-37:—

Building	4,51,000
Plant and Machinery	15,33,000
Land	9,700
Other assets	50,000
	<hr/>
Total	20,43,700

(c) Depreciation written off during this interval is Rs. 4,52,000.

(d) Renewals and additions:—

	Rs.
Lands . . . . .	...
Building	1,10,000
Plant and Machinery	4,94,000
Other assets	14,700
	<hr/>
Total	6,18,700

2. The amount set aside for Reserve Fund during the last 5 years is Rs. 1,25,000. It was done in 1933-34 and thereafter no increase of this fund could be made owing to loss in the factory. The amount is invested in business.

3. No dividend has been declared so far since inception of the Company.

4. The working Capital is provided partly by allotment of shares and partly by borrowings. The usual rate of interest on borrowings is Rs. 6½ per cent. per annum.

5. The head office expenses amount to Rs. 2,000 per annum. We have no Managing Agents. The question of their commission therefore does not arise.

New Savan Sugar and Gur Refining Co., Ltd., Saran.

Letter dated the 6th October, 1937.

As requested in your letter No. 684, dated the 17th September, we have pleasure in enclosing herewith three copies of our Balance Sheet as at 31st May 1937, together with replies in triplicate to the extract from the general questionnaire and three copies of Form I.*

We should like to make it clear that it was not in any way due to unwillingness to assist the Board that we refrained in the first instance from replying direct to the questionnaire. We understood that all essential statistics would be incorporated in the Indian Sugar Mills' Association's memorandum and that it would be redundant to submit these separately as well as through the Association.

REPLIES TO EXTRACT FROM GENERAL QUESTIONNAIRE.

1. This Company commenced operation as a Public Company on the 10th July, 1919. It was registered on the 18th December, 1918. Formerly it had been operated as a Private Company but no records are available of its working during this period.

The Crushing capacity is 800 tons per 24 hours.

2. The output of sugar of our Factory for each of the last eight years has been as under:—

Year.	Superior Crystal.	Crystal No. 1.	Crystal No. 2.	Total.
1929-30	37,727 (45.23%)	45,710 (54.77%)	83,437
1930-31	64,485 (55.41%)	51,880 (44.59%)	116,365
1931-32	82,491 (62.2%)	54,372 (39.8%)	136,863
1932-33	90,124 (61.53%)	56,337 (38.47%)	146,461
1933-34	125,053 (71.79%)	49,162 (28.21%)	174,215
1934-35	144,663 (87.16%)	21,306 (13.24%)	165,969
1935-36	262,958.9 (96.76%)	8,846 (3.24%)	271,804.9
1936-37 . .	219,212 (74.36%)	76,109 (25.64%)	..	295,321

3. Our process of manufacture is Double Sulphitation.

4. New machinery installed in our Factory since 1930 is as follows:—

- 1 Mill Engine (Replacement).
- 1 Cane Carrier Engine (Replacement).
- 1 Cush Cush Elevator (Replacement).
- 1 Bagasse Elevator (Extension).
- 6 Multitubular Boilers (Replacement).
- 2 Watertube Boilers (1 Replacement, 1 Extension).
- 4 Sulphuring Tanks (Replacement).
- 3 Juice Heaters (Replacement).
- 1 Evaporator (Extension).

* Not printed.

- 1 Vacuum Pan (Extension).
- 4 New Condensers (2 Replacement, 2 Extension).
- 1 Vacuum Engine (Replacement).
- 2 Condenser Water Pumps (1 Replacement, 1 Extension).
- 3 Crystallisers (1 Extension, 2 Replacement).
- 16 Centrifugals (10 Replacement, 6 Extension).
- 2 Pressure Pump for driving Centrifugals.
- 6 Filter Presses (Extension).
- 2 Sugar Dryers (1 Replacement, 1 Extension).
- 1 Sugar Elevators (Replacement).

Expenditure on the above, and on minor items auxiliary thereto, from 1930-31 to 1936-37 has amounted to Rs. 6,86,472.

5. We contemplate alterations to our Crushing plant in order to reduce sugar in bagasse. We are also considering improvements in our Boiling House plant in order to improve the quality of our sugar. We have, however, no intention of deliberately increasing capacity, nor of replacing plant except when same becomes worn out, obsolete or inefficient.

6. We do not undertake Cane Cultivation.

Year.	Duration of Season.	Year.	Duration of Season.
	Days.		Days.
1930-31	180	1934-35	120
1931-32	156	1935-36	159
1932-33	146	1936-37	162
1933-34	153		

The duration of the season is entirely controlled by the cane supply available. As an example, 1934-35 was a short crop season and only lasted 120 days.

	Stock of sugar at beginning of crushing season.	Stock of sugar at end of season.
	Cwts.	Cwts.
8. 1934-35	1,493	89,283
1935-36	.....	118,876
1936-37	3,056	70,273

We regret figures for the seasons previous to 1934-35 are not available.

9. Two new godowns have been built in recent years, one in 1933 and one in 1936. The capacity of each of these godowns is 50,000 maunds.

10. Since 1930 our costs of manufacture excluding cane costs, have been reduced by nearly Rs. 1-2 per maund sugar. This reduction is partly due to increased capacity of the Factory, and partly to increased efficiency.

The increase in capacity is shown by the fact that in 1930-31, when the season was 176 days, 1,367,000 maunds of cane were crushed. The 1936-37 season lasted 165 days and 3,131,000 maunds of cane were crushed. The cane crushed per day for the two seasons was:—

1930-31—7,770 maunds cane crushed per day on average.

1936-37—18,975 maunds cane crushed per day on average.

The increased efficiency of our plant is shown by our total recovery figures for the two years:—

1930-31—73.76 per cent.

1936-37—78.42 per cent.

Since 1930 increased capacity and improved efficiency have increased output by 1,200 maunds per day.

Total Establishment, Labour and Depreciation charges have increased during the period though the incidence per unit of output has decreased. Fuel, sulphur and lime consumption per maund of sugar has also been reduced.

Capital Account and Overhead Charges.

1. Block Capital in 1930-31 and 1936-37 and additions during the period were as follows:—

	1930-31 Block (a).			1936-37 Block (b).			Difference Additions (d).		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Land . . .	28,074	8	3	28,074	8	3	...		
Buildings . .	3,32,775	9	11	3,75,591	12	3	42,816	2	4
Machinery . .	13,19,727	3	5	20,06,199	12	8	6,86,472	9	3
Miscellaneous .	27,576	10	1	37,011	4	8	9,434	10	7
Total . . .	17,08,153	15	8	24,46,877	5	10	7,38,723	6	2

(c) Depreciation written off during this interval amounted to Rs. 6,69,097-4-

2. During the last seven years we have set aside Rs. 1,00,000 to our Reserve Fund.

The Reserve Fund is invested in the business.

3. The Capital of this Company is in ordinary shares and the amount distributed in dividend for the last eight years has been as under:—

For the year ended 31st May.	Dividend paid. Rate per cent.	
	Rs.	
1930 . . . . .	...	...
1931 . . . . .	...	...
1932	1,65,000	15
1933	1,37,500	12½
1934	1,10,000	10
1935 . . . . .	...	...
1936	1,10,000	10
1937 . . . . .	...	...
Average	65,300	5.9

4. This year our Company has been able to provide its working capital from its own resources. As we have not had occasion to borrow we do not know what rate of interest it would have been necessary for us to pay. In previous seasons we have borrowed at various rates in accordance with circumstances at the time.

5. Head Office expenses and Managing Agents' commission for the year ended 31st May 1937, were as follows:—

	Rs.
Managing Agents' Allowance for Office expenses	12,000
Postage, Printing and Stationery, Travelling Expenses, Interest, Provident Fund, Charges General and Directors fees	16,714
Total	28,714
Managing Agents' commission at 2½ per cent. on value of sales amounting to Rs. 18,42,720	46,068
Total	74,782

Sonepat Sugar Factory, Rohtak.

Letter dated the 22nd November, 1937.

We beg to enclose herewith replies to the questions.

Enclosure.

1. The Factory commenced manufacture of sugar in year 1930-31, the crushing capacity of the plant now is 350 tons of cane per day of 24 hours.

2. Following are the figures of sugar manufactured:—

- (a) 1931-32—22,082 maunds.
 1932-33—44,950 maunds.
 1933-34—59,528 maunds.
 1934-35—26,197 maunds.
 1935-36—57,005 maunds.
 1936-37—71,186 maunds.

3. Double sulphitation system.

4. Following have been the additions:—

- (1) One Battery of Centrifugals. (2) Sugar Crusher. (3) Boiler feed Pump. (4) Graphoid Electrolyser. (5) Filter Press. (6) Crystalliser. (7) Air Compressor. (8) Sugar Mixer. (9) Settling tanks. (10) Sulphur furnace. (11) Sulphur Juice Heater. (12) Pan supplying Molasses tank. (13) Small steam engine. (14) Cane Mill. (15) Grader Machine. (16) Boiler. (17) Sugar Elevator. (18) Weigh Bridge. (19) Sulphuring Vessels. (20) Tip Wagon and Rails.

5. Addition of battery of 10 Centrifugals, Pans with necessary equipment and Boilers, Larger pumps, Filter Presses, etc.

6. We do not undertake cultivation of sugarcane.

7. Following—

- 1931-32—15th December, 1931 to 4th April, 1932.
 1932-33—7th December, 1932 to 21st April, 1932.
 1933-34—20th November, 1933 to 8th April, 1934.
 1934-35—25th November, 1934 to 22nd February, 1935.
 1935-36—26th November, 1935 to 20th March, 1936.
 1936-37—3rd December, 1936 to 13th April, 1937.

9. Yes.

10. By the addition and extension of the plant we have somewhat saved towards fuel, stores and repairs, etc.

Capital Account and overhead charges.

(1) (a) Value of Block in 1930-31—

1. Land—Rs. 32,195.
2. Building and Water Supply—Rs. 2,70,993.
3. Plant and Electric Installation—Rs. 6,48,849.
4. Tools, Furniture and Railway siding—Rs. 22,603.

(b) Block Capital for 1935-36—

1. Land—Rs. 32,195.
2. Building and Water Supply—Rs. 3,01,101.
3. Plant and Electric Installation—Rs. 7,07,600.
4. Tools, Furniture and Railway siding—Rs. 25,232.

(c) Depreciation written off up to 1936-37—Rs. 1,98,536.

No depreciation was charged in 1930-31 and in 1931-32 depreciation was charged for only 4 months.

(d) Additions:—

- (1) Plant and Machinery—Rs. 59,727.
- (2) Building and Water Supply—Rs. 28,341.
- (3) Cane and Coal Trolleys—Rs. 2,223.

(2) No reserve has been laid aside since the Company indicated loss from the very beginning.

(3) No dividend has ever been distributed.

(4) The Capital was borrowed from Ganesh Flour Mills Co., Ltd., the Managing Agents at 8 per cent. interest which was reduced to 7 per cent. since 1st May, 1934.

(5) The Head Office expenses were debited to the Managing Agents.

The Managing Agents as financiers charged 50 per cent. of the nett profits calculable before charging depreciation on Buildings and Plant and other overhead expenses such as Directors' fee, etc. The percentage was reduced to 40 per cent. since 1st May, 1934.

The Jaora Sugar Mills, Jaora (C. I.).

REPLY TO THE EXTRACT FROM GENERAL QUESTIONNAIRE FROM TARIFF BOARD.

1. Our Sugar Factory at Jaora commenced manufacturing sugar in the year 1934-35, and its present full capacity is from 450—600 tons of sugar-cane every day.

2. The output of our Factory for the past 3 years is as follows:—

- 1934-35—27,767 maunds.
- 1935-36—102,792 maunds.
- 1936-37—132,366 maunds.

3. We manufacture sugar by "Sulphitation Process".

4. The following Extension took place in the year 1935-36:—

- 2 Mills, 2 Boilers, 1 Pan, 2 Crystallizers, 1 Sulphur Vessel, 1 Mill Engine, 1 Liming Tank, 3 Sub-siders, 5 Centrifugals.

The whole amount spent for the above extension was Rs. 2,74,000 Crushing Capacity was increased from 250 tons to 450 tons.

5. We are not contemplating any extension or replacement for the present.

6. We do not undertake cultivation of sugarcane; and hence no particulars regarding it can be given by us.

7. Duration of Crushing Season in our Factory for each of the following years was:—

- (1) In 1934-35—100 days.
- (2) In 1935-36—149 days.
- (3) In 1936-37—122 days.

Since the cultivation of sugarcane at this place and in the vicinity from where we get our cane supply is carried on chiefly by means of Wells, the duration of season depends upon and varies according to the extent and quantity of annual Rainfall. In case there is no sufficient rain any year, wells run dry and consequently the cane condition becomes miserable.

8. Following is the account of stocks of sugar, at the beginning and end of each crushing season:—

	In the beginning.	At the end.
	Bags.	Bags.
(1) 1934-35 . . . . .	...	1,436
(2) 1935-36 . . . . .	...	6,760
(3) 1936-37	300	6,094

Each bag contains 2½ maunds of sugar.

9. In the beginning when our factory commenced working, there was only one godown for the storage of sugar, and in 1935-36 another new godown was more added to it.

10. We have not kept any record regarding this item.

Capital Account and Overhead Charges.

1. (a) Block Capital in the year 1934-35, our first crushing year, was Rs. 10,00,000 (ten lakhs).

(b) Block Capital in the year 1936-37—Rs. 12,74,000.

(c) Depreciation written off during this interval—Rs. 1,60,000.

(d) In the year 1935-36, extension worth Rs. 2,74,000 took place, including the charges and cost of machinery, lands, buildings, Railway Siding, etc.

2. We have got no Reserve Fund in our Factory.

3. Since Proprietors are the sole owners of the Factory, and it is not a limited concern, no dividend is distributed at all.

4. The annual amount of our Head Office expenses is about Rs. 22,000. Since the proprietors are themselves the Managing Authority, there is no Managing Agents' commission.

Mr. Dwijadas Biswas, Jessore.

(1) *Letter dated the 1st May, 1937.*

We beg to submit the following representation to your Board, on behalf of the gur refiners of Kotchandpur in the district of Jessore, Bengal.

We manufacture so-called country-sugar from gur, available in the district of Jessore and Nadia.

Preparation of gur from date juice is age-long and one of the most important cottage industries in the aforesaid districts. The cultivation of sugarcane also has of late acquired no less importance.

Our process of manufacture is to separate fluid molasses from gur by centrifuging or by percolation. The manufactured sugar is inferior in quality

and appearance to that manufactured by Vacuum-pan and Open-pan factories, consequently carrying a far lower return in price even in comparison to Khandsari Sugar.

The utility of our so-called refineries are such, that they are regarded as boons to the agricultural population, as these refineries purchase nearly 75 per cent. of gur, produced both from Date and Cane juice in the district of Jessore. In agricultural off-season, from December to June, these refineries employ the cultivators as labourers.

In Bengal, having the advantage of only two Cane Crushing Factories worth the name, the cultivators being unable to dispose of their cane crop, are compelled to prepare gur, the production of which can also be regarded as an important industry throughout India, supplying employment to many, either directly or indirectly.

Before the inauguration of Protection Tariff, this industry of gur refining was being badly handicapped by competition from foreign cheaper factory sugar, and many refineries were abolished, suffering heavy losses; when the said Protection saved them, still existing. Under "Protection", the industry revived to some extent, till the competitive lower rates of Indian Factory-sugar again gave a death blow to it. After imposition of sugar excise duty in 1934, the industry began to pulsate with new life, as the excise duty rightly exempts the small refineries as ours, below the factory definition and those not driven by any mechanical power. Increase of excise duty this year, has at the last moment saved these refineries and the cultivators alike; from the exceptionally lower market rates, threatening their very existence.

We most humbly pray, that for the poor cultivators, especially of the district of Nadia and Jessore in Bengal, and for the so-called small gur refineries, who operate as cottage industries, both the protection and excise duties are not only essential but also require enhancement, so as to keep the market artificially higher. Though it may affect the rich and middle-class consumers only nominally, one of the main country-wide cottage industries, viz., preparation of gur may survive to the benefit of a large number of population.

We, on behalf of the gur refiners, ask the board—

- (a) To protect our national sugar industry from foreign competition even by increasing the present Tariff, whenever foreign sugar will get a chance to enter Indian markets.
- (b) To recommend to the proper authorities with the Government of India, for increase of sugar excise duty so that the big factories with their enormous resources may not throttle the poor and small cottage industries, viz., gur preparation and its refinement.
- (c) To recommend for some relaxation of the factory definition regarding number of workers in case of gur refineries, so as to exempt them altogether from sugar excise duty even if their number of workers entitle these refineries to be included within the factory definition by excess of a very low margin.

(2) *Reply to the questionnaire issued by the Tariff Board relating to the manufacture of sugar from gur, dated the 2nd June, 1937.*

1. We manufacture sugar from gur, prepared both from Date-palm juice and Cane juice.

Our process of manufacture is shortly as follows:—

Both the varieties of gur, viz., Date-gur and Cane-gur are available in earthen-ware called Kalsies. They are broken on wooden plank called patta, the gur sticking to the broken pieces are scraped. The gur is then removed for pugging, which is made entirely by manual labour, no machines being used. The pugged gur is then centrifuged by the aid centrifugal machines, driven by oil engines. In time of centrifuging, the gur is

washed by syringe spray. In case of Date-gur, the time required is nearly double of that required for Cane-gur. The first molasses driven by centrifugal force is collected in earthen basins. The sugar adhering to the centrifugal basket is scraped out by wooden scrapers, collected in bamboo baskets and spread in the sun over gunny carpets. After sufficient decrease of moisture the sugar is sieved to remove the foreign particles in it, negligently imparted in time of preparing gur. Some lumps of sugar caught in sieving are separately and carefully collected, pounded on a wooded Patta and mixed with the sieved sugar, which is again spread to be well dried in the sun. After three or four hours, the sugar dries up, slightly bleached by the action of the rays of the sun; it is then weighed and bagged.

The first molasses is boiled in a single-pan furnace, fed by coal, when properly boiled to the required density, it is poured in big earthen jars for crystallisation. After a fortnight or so, it crystallises as the 2nd gur or rab, which is taken out and kept on bamboo baskets for two or three days in order to allow the fluid to percolate. This fluid is collected in earthen jars and sold or stocked to be sold as final molasses. The 2nd gur is again pugged with some water or with some chemical solutions and then centrifuged as in case of 1st gur. As the 2nd gur, prepared from molasses, is darker and viscous, it requires more careful treatment and takes longer time in centrifuging. Instances are not rare when costly machineries have been spoilt for the slightest negligence on the part of the centrifugal operator. The 2nd sugar is also treated in the same way as in case of 1st sugar.

2. Arrangements for obtaining rab or gur. Gur, the raw material of our manufacture is obtained in near about centres and is supplied by wholesale dealers, who in their turn purchase them from village cultivators. These wholesale dealers, themselves well-to-do cultivators, act as intermediaries between ourselves and the growers. Before the commencement of the season, these suppliers are paid in advance some amount as earnest money, sometimes amounting to hundreds. Gur is delivered to us taken in bullock carts and requires full payments in cash after delivery. We have to pay nothing to these intermediaries as direct commission, which they themselves earn indirectly as profit in their transactions. So far as we know, their earnings are approximately 1 anna per maund of gur.

3. Average prices of gur per maund—

Year.	Date-gur.		Cane-gur.	
	Rs.	A. P.	Rs.	A. P.
1934-35	2	14 6	3	9 9
1935-36	2	9 9	2	9 3
1936-37	1	13 4	2	1 9

The abovementioned statement for prices of gur is only for three years, since I am utilising the aid of power, through my firm had been established some centuries back, operating in old indigenous process.

4. This question does not apply as there is no vacuum pan factory in our district.

5. Data of amount of sugar extracted from 100 maunds of gur by our process:—

Year.	Date-gur.		Cane-gur.	
	Per cent.		Per cent.	
1934-35	42.5		50.5	
1935-36	42.4		53.5	
1936-37	43.7		55.6	

6. Qualities of sugar we manufacture.—Sugar obtained from gur by our process requires some special mention, as instead of sugar it can better be termed—“Molasses-free gur”. Our so-called sugar consists of mixture of heterogenous small crystals partly amorphous, pale yellowish in colour and contains small foreign particles as impurities. Our best quality of 1st sugar has shown on analysis only 92.5 per cent. of Sucrose contents, while those

of factory sugars are shown below from "Scientific Monogram No. 3, the Imperial Council of Agricultural Research, Tables XXXVIII and XXXIX":—

Factory sugar—
1st sugar 99·6 per cent.
2nd sugar 98·0 per cent.

Khandsari sugar—
1st sugar 97·4 per cent.
2nd sugar 94·8 per cent.

Sugar from gur—
1st sugar 92·5 per cent.
2nd sugar not analysed.

Our 2nd sugar is darker and of marked brown colour, nearly amorphous, highly hygroscopic and contains less than 90 per cent. of sucrose. We generally prepare three qualities of sugar, viz., (1) 1st Date-sugar, (2) 1st Cane-sugar, (3) 2nd Sugar, prepared from mixed molasses of both varieties.

Output in maunds.

Year.	1st Date-sugar.		1st Cane-sugar.		2nd Sugar.		Total.	
	Mds.		Mds.		Mds.		Mds.	
1934-35	975		422		687		2,084	
1935-36	915		1,303		1,040		3,258	
1936-37	115		883		485		1,483	

7. Cost of production—

	1934-35.		1935-36.		1936-37.	
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
Total prices of gur purchased	14,056	4 6	17,489	13 9	5,719	3 6

MANUFACTURING EXPENSES.

Details.

(1) Machinery expenses including lubricating and fuel oils, beltings, grease and minor repairs	495	11 3	454	0 0	185	7 0
(2) Salaries and wages	1,462	3 9	2,059	6 9	995	0 0
(3) Coal for boiling molasses	420	10 0	400	0 0	265	0 0
(4) Earthen jars, basins and mattings	149	13 6	230	0 0	36	0 0
(5) Gunny bags	246	12 9	351	0 0	189	0 0
(6) House-rent	424	2 3	416	9 6	457	2 3
(7) Municipal tax	18	13 0	18	13 0	18	13 0
(8) Initial expenses for installation of machineries	577	9 6	...	...	...	...
(9) Miscellaneous expenses	104	8 6	231	7 0	27	0 0
(10) Interest on temporary loans and on working capital	861	3 0	1,061	0 3	340	0 0
(11) Depreciation at statutory rates	198	0 0	198	0 0	198	0 0
Totals	19,055	12 0	22,910	2 3	8,430	9 6
Deducting prices obtained from sales of molasses and other raw materials	2,611	8 0	1,965	4 6	1,129	3 6
Net cost of total sugar	16,404	4 0	20,944	13 9	7,301	6 0
Average per maund	7	13 11	6	6 10	4	14 8

Market for our sugar.

8. Though some portion of our produce is sold locally, the chief market is Calcutta, and our arrangement for distribution is as follows:—

Sugar is sent by bullock carts to the nearest Railway Station, Majdia, Eastern Bengal Railway, 20 miles off, and thence to Calcutta by railway. From the station it is carried by lorries or carts to stockists or Aratdars. They sell our sugar to the grocers in different village markets, mill, dock, and other bustee areas.

9. Reply to this question will be supplied within a fortnight, as we are unable to supply the same immediately, owing to some unavoidable causes. The later address of the Board may be kindly informed.

10. Though in certain cases,

(a) Our sugar is preferred to gur in preparing cheaper sweets and drinks in which the characteristic taste, odour and colour of gur are disliked by consumers.

(b) In comparison to factory sugar our sugar is preferred only by those poor consumers, who can not afford to pay for the luxury, of taking better quality of factory sugar.

Another class of consumers, the orthodox Hindus also prefer our sugar as Pavitra, but this preference is gradually decaying with modern tendencies of the Hindu Society.

Our consumers are generally the mill-hands, porters, dock-labourers, in the urban areas and day-labourers, kishans, etc., in the rural areas, only for the reason of its lower price.

11. We have no statistics and are not much informed.

12. So far as we have come to know, competition from Indian factory sugar has been instrumental in closing down 2 open-pan factories in our district, one at Chougacha, and another at Bongong. 2 other factories which manufactured sugar from gur in our process, have been compelled to close down, one at Keshobpur and another at Fultala.

13. The business of manufacturing sugar from gur was a loosing concern till the time of the inauguration of high protection tariff, after which the industry improved somewhat and the manufacturers were getting at least some amount though small as remuneration. In the meantime big Vacuum-pan factories grew up throughout the country, almost all outside Bengal and the competitive lower prices of their product threatened our existence, in the beginning of 1934.

(a) Just in time the sugar excise duty of 1934, prevented the market going down further and we were saved. The excise duty thus elongated our life up to 1935-36, as we could avoid the tax by engaging less than 20 workers and bargained the market of rupee one (Re. 1) per maund, the amount of tax imposed on our powerful competitors. Last year, i.e., in the later months of 1936, the factories began a competitive race of lowering down the prices of sugar. Among ourselves, though the power driven factories barely managed to make both ends meet, the followers of indigenous process at Kotechandpur suffered heavy losses.

(b) The additional excise duty of 8 annas per maund imposed in 1937, has at the last moment saved us from ruin, as in spite of the low prices of gur, together with the cost of production, left to us no margin as profit, compared with the sales rates. The ever decreasing market of sugar has been made steady to some extent by this additional excise duty.

Our Difficulties.

The main difficulties in our industry of manufacturing sugar from gur are as follows:—

(i) The low quality of the gur we purchase are prepared in a most negligent process. Not only it is charred to some extent during boiling, the cane or date juice is not even strained to remove

the foreign impurities, such as, megasse particles, dead ants and insects, etc. No scum is removed and the gur is generally dark and poor in crystals. Mr. Petterson, Agricultural Engineer, Government of Bengal, in his tour diary, has rightly observed, "they are trying to prepare good sugar from a very bad quality of gur".

- (ii) Our 1st sugar is generally sold in Calcutta at a price which is about Re. 1 less than that of the lowest quality of 2nd sugar of Vacuum-pan factories. After deducting 10 annas as transportation charges, stockists' commission and other charges, we get a price, which is practically Re. 1-10 less than the 2nd sugars of factories. To compete with the sub-normal lower rates of factory sugar, we have to purchase gur at such a low price, that does not remunerate the grower even to prepare gur. The result is that, cane growing in our vicinity, which was lately gaining popularity is again decreasing. If this condition prevails, the preparation of gur, not being remunerative, will be wiped out of existence to the suffering of the growers, they having no other alternatives to follow.
- (iii) Though we work on a very small scale, constant inspection from the excise authorities and recent heavy arbitrary assessment of excise tax on two of our type of factories, without neither ascertaining the number of workers, nor analysing the sucrose contents in our sugars, has made us nervous to utilise the full capacity of our factory and to add necessary improvements to our machineries in order to lower down our cost of production.
- (iv) Though at present we have nothing to grumble against import of foreign sugar, competition from it being nearly impossible due to the present high tariff-wall, occasional rumours of the decrease of tariff duty and of changes in foreign exchange policy, make the sugar manufacturers nervous.
- (v) The high transportation charges, viz., As. 2-3 per maund as Railway freight and the same amount as cartage for 20 miles from Kotchandpur to Majdia, loading and unloading charges, weight-shortage, etc., we get As. 10 less than the actual sale-price of our produce. Consequently to make us meet the amount, the growers suffer 4 to 5 annas less in price per maund of gur.

Suggestions for removing the difficulties.

In order to overcome the difficulties in the industry of manufacturing sugar from gur, we can submit the following suggestions:—

- (i) The Agricultural Department of Bengal should carry on an extensive propaganda throughout the province, specially in this district to enlighten the cane-growers to utilise the modern improvements in cane growing, and betterment of the quality of gur, derived both from Date-palm juice and cane juice. Like the Government of the United Provinces, as they have recently decided to help the gur manufacturers, the Government of Bengal also should follow the lead. It will not only improve the qualities of both gur and its sugar, but also bring to the growers better price for their manufacture.
- (ii) The Tariff Board can recommend to the Government of India to keep the market of sugar artificially higher, by not only retaining the present excise duty as it is, but also by increasing this excise duty on sugar. Increase of excise duty will benefit the Central Government, avoid internal unhealthy competition among the factories themselves and save the small cottage industries of the manufacture of gur and of manufacturing

sugar from it, by indigenous process or by improved methods upon the age-long process. By this way the big factories with their enormous resources and highly better quality of their product at competitive lower rates, will not be able to throttle the poorer and smaller cottage-industries as ours. Though this suggested increase in excise duty, if given effect to, may affect the rich and the middle-class consumers, only nominally, a larger number of poorer population may be benefitted.

- (iii) The hanging sword of excise duty should altogether be removed from our head, to enable us to work to our utmost capacity. If free from anxiety and suspense, we can purchase more amount of gur and add some possible improvements in our machineries, so that we can reduce our cost by increase of production, minimising labour and improving efficiency in extraction of sugar.

The purpose of exempting ourselves from this sugar excise duty may be served by amendment of the act in the following lines:—

- (a) By directly exempting those who manufacture sugar from gur.
 (b) By change in the definition of "sugar" to that which contains 94 per cent. and more of sucrose instead of 90 per cent. as at present.
 (c) By relaxation of the "Factory" definition in case of gur refineries to 30 workers instead of 20 as at present.
 (iv) The present high wall of tariff should be maintained and be enhanced, whenever foreign sugar would get any chance to compete.
 (v) The Eastern Bengal Railway authorities have only recently opened an out-agency at Kotchandpur to our convenience. They should be moved to enable our sugar to reach Calcutta market from Kotchandpur on a charge of not more than as As. 2-6 per maund of sugar.

(3) *Letter dated the 13th July, 1937.*

In continuation of replies dated the 21st June, 1937 to your questionnaire, I beg to submit the following as a reply to the question No. 9, with a special note.

Enclosure.

REPLY TO THE QUESTIONNAIRE ISSUED BY THE TARIFF BOARD.

(To be read with my replies forwarded to the Board on 21st June, 1937.)

9. Sales of Sugar—

	1934-35.			1935-36.			1936-37.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Total prices obtained	17,419	5	0	20,949	0	0	7,797	4	0
Deducting:—									
(a) Sales expenses	400	4	6	268	5	0	171	14	0
(b) Transportation Charges	743	7	9	629	0	0	426	2	0
Net amount received	16,275	8	9	20,051	11	0	7,199	4	0
Average per maund	7	12	11	6	2	6	4	13	9

The report about the cost of production and the sales account for the present year 1936-37 may be regarded as approximate only and not perfectly accurate, as our account books have not been finally closed; our official year ending in December.

Several replies do not correspond in their details with the Board's questionnaire, owing to the fact that our books are kept according to our special requirements.

Special Note.

There are innumerable factories of preparing country-sugar from gur, not only in Bengal, but also throughout the length and breadth of India, operating as small cottage industries, mostly in crude indigenous process and some with small machineries. Probably a very few of them have informed the Board of their difficulties due to ignorance or some other causes. I earnestly appeal to the board to consider kindly their cases also, though unrepresented.

Another point also, which also deserve your attention, is that in Bengal a considerable portion of gur is derived from Date-palm juice. Preparation of sugar from date-gur, due to its greater viscosity, darkness of colour and lower yield of sugar and consequently being costlier in comparison to cane-gur, require some special privilege and protection for its existence.

Amritsar Sugar Mills Co., Ltd., Amritsar.

1. In 1930 the capacity of the plant was to melt 500 maunds of gur daily. So the expenses of manufactured sugar per maund was naturally higher. Plant was doubled in 1931 and in this way the expenditure per maund was reduced, so much so that it was brought down to Rs. 1-8 in 1931.

8. Our sugar is comparatively whiter and contains less amount of molasses as compared to the ordinary Khandsari sugar.

We produce sugar of two qualities:—(1) Ganesh Brand, (2) Lion Brand. The average prices of these two qualities were as follows:—

	Lion Brand.			Ganesh Brand.		
	Rs.	A.	P.	Rs.	A.	P.
1930	10	5	0	10	15	0
1931	9	10	2	10	4	2
1932	9	14	8	10	8	8
1933	9	7	9	10	1	9
1934	9	3	0	9	13	0
1935	9	7	2	10	1	2
1936	7	10	6	8	4	0

9. We supply our sugar to the following markets:—

- | | |
|-----------------|----------------------|
| (1) Amritsar. | (8) Peshawar. |
| (2) Lahore. | (9) Kasur. |
| (3) Gujranwala. | (10) Ferozepore. |
| (4) Sialkot. | (11) Lyallpur. |
| (5) Jullundur. | (12) Toba Tek Singh. |
| (6) Batala. | (13) Gojra. |
| (7) Multan. | |

Multan, Kasur and Ferozepur does not consume much of our sugar, and so only small quantities are transported to these places.

The freight rates are as follows:—

Per maund.		Per maund.	
As. P.		As. P.	
Lahore	2 1	Gujranwala	3 4
Sialkot	3 7	Batala	1 9
Peshawar City	11 9	Jullundur	2 8
Kasur	2 11	Multan	9 1
Ferozepur	3 4	Toba Teksingh	6 7
Gojra	6 0	Lyallpur	5 0

Amritsar 2 annas per bag.

10. The output and price of Molasses obtained were as under:—

	Mds. Srs.	Per Mds. Rs. A. P.
(1) 1930	61,579 19	3 10 3
(2) 1931	101,968 0	2 3 0
(3) 1932	134,691 28	0 14 6
(4) 1933	137,483 27	0 8 8
(5) 1934	135,980 3	0 9 8
(6) 1935	119,692 15	0 12 9
(7) 1936	123,122 4	0 13 10

11. The result of the sugar excise duty imposed in 1934 was that the profits of the mill began to decrease and the mill began to work at par. But the result of the re-imposition of 1937 has been more severe. The mill has been completely stopped, because it can run only at a loss.

12. We can run this factory if the duty chargeable from us is equal to that of Khandsari sugar.

The Deccan Sugar and Abkhari Co., Ltd., East Godavari.

(1) Letter dated the 19th June, 1937.

We enclose our reply to your Questionnaire covering our Samalkot Factory.

QUESTIONNAIRE FOR SUGAR REFINERIES.

1. The Factory commenced manufacture in the year 1899. The maximum capacity of the factory is 1,089 maunds (40 tons) per day.

The Factory refines gur only and does not crush cane.

2. Normally we refine sugar from Palmyrah Jaggery only but we occasionally purchase comparatively small quantities of cane jaggery as a supplementary raw material.

We make a standard white crystal sugar corresponding to 24°C of the Indian Sugar Standards.

3. The output of sugar during the last 7 years has been as follows:—

Year.	Maunds.	Tons.
1930	115,576	4,246
1931	131,282	4,823
1932	158,312	5,816
1933	177,311	6,514
1934	209,322	7,690
1935	188,145	6,912
1936	196,229	7,209

The quantity manufactured entirely depends upon the quantity of raw material available.

4. Normally we are able to obtain sufficient Palmyrah Jaggery to keep the factory working from 9 to 10 months in the year.

If supplies of Palmyrah Jaggery are short we endeavour to purchase cane jaggery to keep the factory working for 10 months, but since the imposition of the Sugar Excise Duty on cane sugar the refining of cane jaggery has been unprofitable.

The average price of gur melted during the last 7 years has been as follows:—

Year.	Per Md. of 82½ lbs.		Year.	Per Md. of 82½ lbs.	
	Rs.	A. P.		Rs.	A. P.
1930	5	7 5	1934	3	12 2
1931	4	8 10	1935	3	12 5
1932	4	4 2	1936	3	14 8
1933	4	4 2			

5. We purchase our supplies of Palmyrah Jaggery in the West Godavari District through our Agent at Nidadavol.

This jaggery is made by sweet-toddy tappers from Palmyrah Trees. The industry is a very old established one and as many as 10,000 licences are taken out by tappers each year.

The tapper with his family camps in the topes where Palmyrah trees are available and the industry gives employment to a large number of people who otherwise would have no work to do during the tapping season, i.e., from January to June.

After the season the tappers return to work on the land.

The jaggery purchased by us is brought in to our Nidadavol office by country carts and despatched by rail to our Samalkot Factory.

The railage paid by us during an average year amounts approximately to Rs. 30,000 on jaggery only.

6. Our average recovery of sugar during the last 7 years has been as follows:—

Year.	Per cent. Recovery.		Year.	Per cent. Recovery.	
	Per cent.	Recovery.		Per cent.	Recovery.
1930	65	42	1934	68	63
1931	63	77	1935	66	83
1932	64	98	1936	66	37
1933	66	17			

(a) We have at various times considered improved methods of manufacture of raw material but have found it impossible to control and educate the tappers to any great extent. We have, however, inaugurated a scheme some years ago whereby we pay higher prices for better quality jaggery and this has improved the quality of the raw material available.

(b) We do not consider that any improvements are possible.

7. We give below the cost of manufacture during the last 7 years:—

Year.	Cost of Manufacture.		Year.	Cost of Manufacture.	
	Per maund.			Per maund.	
	Rs.	A. P.		Rs.	A. P.
1930	11	4 2	1934	7	7 10
1931	9	12 8	1935	7	9 6
1932	8	13 6	1936	7	12 5
1933	8	10 2			

These figures do not include Managing Agents' charges, Directors' fees, audit fees, depreciation, interest on capital and other expenses and only represent the actual factory manufacturing costs, i.e., cost of raw material, establishment at factory, labour at factory, packing, fuel, etc.

The variations are due to the percentage of recovery and the cost of raw material.

8. The sugar now produced by us is equal to an average quality cane sugar.

We only produce one quality and our average price at factory during the last 7 years has been as follows:—

Years.	Average price at Factory per maund.	Year.	Average price at Factory per maund.
	Rs. A. P.		Rs. A. P.
1930	9 11 6	1934	9 11 2
1931	9 15 3	1935	9 8 5
1932	10 14 0	1936	8 6 6
1933	10 7 8		

9. We supply to Cocanada, Rajamundry, Bezwada, Secunderabad, Vizianagaram, Vizagapatam and Anakapalle.

The present freight rates per maund are as follows:—

From Samalkot to stations.	Rate per maund.	From Samalkot to stations.	Rate per maund.
	As. P.		As. P.
Cocanada	1 7	Hyderabad	13 7
Rajamundry	1 5	Vizianagaram	5 11
Bezwada	5 5	Vizagapatam	4 4
Secunderabad	13 5	Anakapalle	3 10

10. Our output of molasses during the last 7 years has been as follows:—

Year.	Quantity. Maund.	Year.	Quantity. Maund.
1930	43,567	1934	71,071
1931	57,590	1935	69,936
1932	63,236	1936	74,845
1933	69,563		

The majority of our output was until recently used in our distillery but during recent years owing to reduced spirit sales we have not used any large quantities of treacle and we have therefore been forced to jettison or burn our surplus stocks. As a fuel we calculate the value of treacle is As. 1-2 per maund.

11. (a) & (b) Without any protection the Sugar/Palmyrah Industry could not exist owing to the high cost of raw material.

The imposition of Sugar Excise duty imposed in 1934 and the excess imposed in 1937 would have helped the Palmyrah Industry provided the duty had been passed on to consumers. As the selling prices of sugar have gradually decreased in recent years, the imposition has not had any material effect.

The refining of cane jaggery or gur, however, is now uneconomical due to the Excise duty on cane-sugar and we do not think it likely that we shall ever refine further quantities under present conditions.

The imposition of an Excise Duty on sugar produced from Palmyrah Jaggery would immediately have the effect of killing the industry.

12. The Palmyrah Jaggery Industry is confined to South India and is a very old established one giving employment to a large number of labour during the season when other work is not available.

Owing to the low selling price of sugar it is doubtful whether the Palmyrah Industry can exist much longer under present conditions and the industry would be killed immediately by the imposition of an Excise duty, or the lessening of the present protection which it enjoys.

In this connection we enclose a more detailed Memorandum.

The amount of sugar produced from Palmyrah Jaggery is comparatively small and does not, in a good year, exceed approximately 20,000 tons in all refineries.

(2) *Note regarding Palmyrah Jaggery.*

This year we fixed the price of Palmyrah jaggery at Rs. 17-8 per candy of 500 lbs. delivered godown Nidadavol. This is actually the lowest price we have ever paid.

There was this year a strike of tappers with the result that our purchases have been negligible. The strike commenced due to causes outside our control altogether, but the low price we paid was very probably a contributing factor towards the success of the strike from the point of view of those agitators who were interested in promoting it. In any case as far as we can see this is the maximum price we are likely to be able to pay for jaggery in competition with cane.

After making due allowance for transit wastage and cost of transport to Samalkot, Rs. 17-8 per candy is equal to Rs. 87-7 per ton in godown Samalkot.

The jaggery is then stored until the "runnings" have been drained and from experience we place the loss of weight in the shape of "runnings" at 18 per cent.

After crediting the value at the rate of Rs. 44 per ton of "runnings" so collected, the cost of drained jaggery at Samalkot is then Rs. 98-35 per ton.

With really good drained jaggery we can expect an outturn of 65 per cent. white sugar. The cost of our raw material, using jaggery, is therefore about Rs. 151 per ton of sugar produced.

Our actual average manufacturing costs of sugar produced from jaggery are about Rs. 46 per ton.

We now give the comparative figures as between sugar produced from Palmyrah and sugar produced from cane:—

Total cost of Palmyrah Sugar—

	Per ton ex-factory.
	Rs.
Material	151
Manufacturing costs	46
	—
Total	197
	—

North Indian cane sugar is now quoted at about Rs. 6 per maund ex-factory—Rs. 187 to Rs. 194 per ton at Samalkot after having paid excise. Prices vary according to markets.

Rs. 6 per maund ex-factory—Rs. 163 per ton or Rs. 123 per ton without excise at Rs. 40.

North Indian Mills are selling at these rates.

Difference in cost of production between Palmyrah and cane sugar, ignoring excise, is therefore:—

Rs. 197

Rs. 123

Rs. 74 per ton.

Excise on cane reduces this difference by Rs. 40 per ton leaving Rs. 34 per ton in favour of sugar from cane.

Cane costs may be too low but even allowing for this and taking a cost in North India of Rs. 140 per ton (Rs. 180 per ton with excise) it is quite clear that the Palmyrah industry would be killed immediately an excise was imposed on sugar manufactured from this jaggery.

Working costs for a Palmyrah Refiners are higher than in a modern cane factory as:—

(i) a refinery is smaller.

(ii) clarification is more difficult.

All the costs quoted above do not allow anything for silent period charges, selling expenses, depreciation, Madras charges such as income-tax, etc.

Lakshmi Sugar Mills, Tinnevely.

QUESTIONNAIRE FOR SUGAR REFINERIES.

1. Mr. N. S. T. Chari, M.A., started working this factory from August, 1933. Only palmyra jaggery is refined and the maximum capacity to melt is 7,200 candies of 560 lbs. each of palmyra jaggery per annum.

2. Only crystal sugar is made from palmyra jaggery.

3.	1933.	1934.	1935.	1936.
	Aug. to Dec.			
	Mds.	Mds.	Mds.	Mds.
	5,630	15,502	10,816	14,381

Variations in output is due to inadequate availability of raw material.

4. Sufficient quantities of raw material are not obtainable. It is available for only 6 months in the year. The average price has been Rs. 22-8 per candy of 560 lbs.

5. Jaggery is supplied by dealers. They purchase the stuff in small quantities from tappers who manufacture it. The tappers are unable to store it up themselves due to economic conditions. The dealers bring cart loads to factory or purchase depôts.

6. 50 per cent. on the weight of jaggery melted, is the average recovery of sugar. Jaggery is manufactured by people without sufficient scientific knowledge. The ordinary man so limes his juice as to ensure a good setting and avoids over liming as the stuff is also intended for direct consumption, which overliming if done may be advantageous to the refiner. Tappers may be educated by demonstrators in the correct methods to get a better refining value. As for the process side, prevailing methods will do.

7. Our average cost of manufacturing one maund of sugar is Rs. 2-10-10. (In the absence of any appreciable variation in the working cost the average for the past 3½ years is given.)

8. The quality of our sugar can compare favourably with any other sugar in the market. Our average sample is No. 19 Indian sugar standard.

9. Tinnevely and Madura are our chief markets. The freight rates are As. 2½ and As. 2 per bag of 1½ cwts. for Tinnevely and Madura.

10. The output in molasses has been 24 per cent. on the weight of jaggery and the prices fetched have been Rs. 2 in 1933-34, Rs. 5 in 1935 and Rs. 6 in 1936 per candy of 500 lbs.

11. Palmyra sugar is exempted from the excise duty. It may be presumed therefore that taxed cane sugar must sell at a higher rate than without the duty and so palmyra sugar must be able to withstand competition. But we find that in spite of the duty on cane sugar, palmyra sugar is unable to compete with cane sugar in price without incurring a loss. Neither the excess duty imposed in 1937 has given any salutary effect.

12. Palmyra sugar refineries can compete with cane sugar factories only with a good protection by means of subsidy and more import duty at the same time encouraging greater production of jaggery.

Al. Vr. St. Sugar Mills and Distillery, Tinnevely.

Letter No. 1186, dated the 2nd October, 1937.

With reference to your letter No. 685, dated the 17th September, 1937, we herewith enclose the answers for the General Questionnaire and the Capital Account and Overhead charges duly filled up. We have already sent the answers for the Questionnaires for Sugar Refineries only but, since you write you have not received them, we herewith enclose six copies of the same. Kindly acknowledge receipt.

Enclosure No. 1.

1. This factory was started some forty years back and is manufacturing sugar ever since its inception. The maximum capacity of the plant is 25 tons of (raw jaggery) melt. We refine jaggery into white sugar only and we do not crush sugarcane.

2. The raw material we use is palmyra jaggery and we manufacture only one quality sugar, which is as good as British refined sugar.

3. The production of sugar in our factory for the past seven years is as follows:—

Years.	I Sort. Tons.	II Sort. Tons.
1930-31	467.6	278.7
1931-32	656.6	248.2
1932-33	843.4	391.0
1933-34	756.5	406.6
1934-35	672.1	455.7
1935-36	779.2	294.9
1936-37	775.8	...

4. The supply raw material, i.e., jaggery is becoming very scarce year after year due to social, economical and religious reasons. The price of one ton of jaggery is about Rs. 65 now, but last year it was Rs. 80.

5. Our sources of supply is from the palmyra plantations of this District, and we transport our goods both by train as well as by country carts.

6. The average recovery for the past seven years is nearly 50 per cent. sugar on the purchased quantity.

(a) Improvements can be made in the methods of manufacture of the raw materials and also in the process of refining.

7. The cost of manufacture until three years back was more than Rs. 10 for every candy of jaggery melted, but ever since the factory is under an expert's control for the past three years, and so the manufacturing charges have gone considerably low. The present manufacturing charges come to

nearly Rs. 7 for every candy of jaggery melted (1 candy is equal to 500 lbs.). The cost of manufacture can be even reduced to minimum of Rs. 4 per candy or even lower than this. But because this factory is old, we have practically no labour saving devices and other modern arrangements and improvements and hence the cost of manufacture is high.

8. The quality of our sugar compares very favourably with any imported foreign sugar. We were manufacturing two qualities but from the last year onwards we manufacture only one quality sugar, i.e., "A" quality.

9. We supply sugar to South Indian markets and the rate of freights charged by the Railways are the usual schedule rates.

10. Our output of molasses is nearly 1,500 tons out of which nearly 500 tons is used in our distillery and the balance is a problem. One ton of molasses costs approximately Rs. 15.

11. The excise duty on sugar imposed in 1934 has checked the growth of industry and excess imposed in 1937, will ruin the industry in the long run.

12. We suggest that instead of all the sugar factories manufacturing white sugar during cane season, it would be better, if several big factories crush cane to their maximum capacity and manufacture raw sugar only. The raw sugar can be refined in refineries situated in big sea-port centres which can be worked all the year round. The above idea will benefit the agriculturists to a very great extent because maximum amount of cane can be crushed during the season, when the cane is just ripe, resulting in better recovery. Moreover if white sugar is refined from raw sugar, the quality will be very good and there will not be any complaints from the trade. Such a refined white sugar only, can be exported to overseas markets. It is well-known that United Provinces leads other provinces in sugar manufacture. Nearly 50 per cent. of the factories in India operate here manufacturing more than 58 per cent. of the Indian sugar requirements. All the sugar manufactured in the United Provinces is sent to distant markets like Bombay, Calcutta, Punjab and Madras involving lot of difficulties in transport and otherwise and there have been lot of disputes in disposing them (sugar) due to the deteriorated condition of the sugar on account of climatic changes, and inefficiency in the manufacturing operations. Such a state of affairs should not continue long, for the healthy growth of the industry. If some of these factories in the United Provinces in the cane belt, manufacture raw sugar and export it to North, West and Southern India, to be refined in refineries situated in these parts, then there will be an equal distribution of the work and all the provinces can enjoy the benefit of the industry. This would also satisfy the ultimate buyer, who is in close touch with the refiners either to make for claims or to complain regarding a faulty supply. If the white sugar factories were in the far off places, the intervention of numerous agents and middlemen would complicate the matter. So, for the healthy-growth of the industry, the refineries are quite necessary and we suggest to the Tariff Board that this branch of the refining industry should be encouraged, as it being encouraged in European and American countries.

13. The palmyrah sugar industry has been all along neglected by the Government, and its present lowest ebb is certainly due to the apathy of the Government. The Government Agriculture and Industries Departments have hardly done anything to solve the different problems that confront the industry. It is a fact that many of our country-men including the educated class have no idea about the possibilities of this national and national wealth and we wish to emphasise, that given necessary encouragement, the industry is bound to rival cane. The Government is spending enormous sums of money on cane research but so far to our knowledge palmyrah has been untouched and remains an untouchable. Here in this District, we have several millions and millions of palmyrah trees, which give its sweet juice for nearly six months in a year. The difficulties that attend on cane cultivation, the expenses involved in agricultural work,

the amount of labour required and many other factors like drought and disease are unknown to palmyrah plant. This plant on the other hand, once it starts giving sweet juice, goes on continuing to yield a good juice for more than 60 to 70 years and during this period the plant requires no special attention. If the season is good, the yield is not affected, but continuous drought affect the yield. But if the Government takes up the palmyrah question there is lot of scope for research and investigation. By a systematic scientific study and research we think the palmyrah tree can be made to give probably a better yield three to four times more than what we actually get now. But there are also difficulties that face the industry seriously. The scaling of the trees twice a day and the dearth of necessary men to climb them, is no small matter to go unheeded. Scaling can be made easier by some contrivance, but to get the necessary labour is a problem. The chief reason why people are slowly discontinuing this industry is due to the fact, that there is no sufficient amount of remuneration compared to the amount of risky work it involves. In addition to this, the Government Excise Officials interfere with their work very often and put them to unnecessary troubles and hardships. As a result of these tappers have discontinued their work. But if the Government encourages the industry by a systematic scientific study in all its aspects and improves the yield of juice, we are sure the future of the industry will be guarded. Instead if no help or encouragement is given, in a short period of say 5 or 10 years the industry which is already in a most pitiable and deteriorated condition, will be a thing of a past. We would like to point out in this connection that there are factories in Malaya, manufacturing white sugar direct from palmyra juice and they are working very successfully.

14. The Travancore State is adjacent to Tinnevely District and produces a large quantity of jaggery. The Government of Travancore levy a customs duty on all jaggery exported from Travancore into British India and of late the rate of this customs duty has gone very considerably high than it was some years back. But the Government of India does not levy any customs duty on jaggery exported from British India into Travancore. In other words, Travancore can purchase and import any amount of jaggery from this District, without paying any customs revenue whereas if we import jaggery from Travancore we have to pay a very high customs duty, and so we are confined to Tinnevely market alone. The result is, they purchase in both the markets British and Travancore but we can only do business in Tinnevely. We think this is most unfair and request the Tariff Board to recommend to the Government of Travancore for removal of all these customs barriers or to recommend to the Government of India to levy a customs duty on all jaggery imported into Travancore from British India.

15. We think we have clearly shown the position of the Palmyrah Sugar Industry in South India. The industry expects, the Government encouragement and help, especially because the Government have given so much encouragement to the cane industry. There is no comparison between the highly organised and huge cane industry and the palmyrah, but the Government can alleviate the distress of several thousand tappers and others, whose only source of subsistence is jaggery manufacture and at the present selling price of sugar, they are unable to get a suitable price for the jaggery and are running into debts. If such a state of affairs continue in the sugar market, we are clearly of opinion the jaggery manufacturers will be hard hit and the industry will be ruined for ever.

Enclosure No. 2.

Capital Account and Overhead Charges.

1. (a) Block capital for 1930-31 Rs. 4,50,000 including the distillery and other properties.

(b) Block capital for 1936-37 Rs. 5,00,000 including the distillery and other properties.

(c) Depreciation Rs. 1,00,000.

(d) Renewals Rs. 25,000.

2. (a) Lands Rs. 35,000.

(b) Buildings Rs. 2,35,000.

(c) Plant Rs. 2,65,000.

(d) Including with the above heads.

3. Reserve fund—Nil.

4. This is not a limited liability company, but owned by M.R.Ry. Al. Vr. St. Veerappa Chettiar Avl.

5. We have our funds and do not borrow.

6. No commission is paid to any individual employed in this factory. Annual amount of the head office expenses in this factory is Rs. 2,000.

Central Co-operative Bank, Darbhanga.

REPLIES TO QUESTIONNAIRES FOR MANUFACTURERS OF SUGAR BY THE OPEN PAN SYSTEM AND KHANDSARS.

1. We manufacture sugar from rab which we get by crushing cane. We get the cane crushed by crusher by the help of oil engine, juice is converted to rab and then is converted to sugar through centrifugals.

2. We purchase cane directly from our members and cultivators. We deal with growers directly and so do not pay any commission.

3. We are dealing with the growers for the last four years and the average price during the period is As. 4 per maund or Rs. 25 per hundred maunds of cane.

4. (a) Generally there had been a difference of anna one between the price of rate paid by vacuum pan factories and open pan factories, viz., if vacuum pan paid As. 5 per maund open paid As. 4 per maund though the Government rate was below for the open pan system.

(b) There is no systematic rate of gur but generally it is sold at Rs. 2 to Rs. 3 per maund.

5. (1) 60 maunds.

(2) 18 maunds.

(3) 15 maunds including 1st and 2nd sugar.

6. We manufacture khandsar sugar of two qualities called 1st and 2nd but there is very slight between the two. We started work in 1934 and it is the 4th season.

Year.	1st.	2nd.	Total.
1933-34	...	...	894
1934-35	875	103	978
1935-36	1,260	314	1,574
1936-37	1,676	490	2,166

7. Vide Form No. 1 of Question 80 of general questionnaire appended.*

* Not printed.

8. We generally sell in the local market of Darbhanga District. We directly sell the shop-keepers and gentlemen of the town.

Year.	Per md.
	Rs.
9. 1933-34	7
1934-35	8
1935-36	8 to 6
1936-37	6 to 5

10. (1) Yes.

(2) Yes to some extent by those who do like sugar prepared by using chemical mixture.

(3) By gentlemen and those who do not like chemical mixture used in Indian factory sugar.

11. Crushed sugar of Indian factories is replacing our sugar to a great extent.

12. It is on account of Indian factory of vacuum pan system alone that almost all the sugar mills of open pan system in the neighbourhood were closed down during the last 4 years and it cannot stand in competition with the vacuum pan factories sugar as the former have got cheap production.

13. It has an additional burden on the open pan factories when they cannot stand in competition with Indian factories which get more percentage of sugar than open pan system factories can have.

14. Open pan system factory cannot produce as much percentage of sugar as vacuum pan system. In extraction the open pan system gets about 60 maunds juice per 100 maunds of cane while vacuum pan factory gets about 80 per cent. Moreover it does not get good type of crusher to work efficiently and economically all season round to the full capacity of the mill and the quality of the sugar is inferior to that of vacuum pan system as it has not got improved method of clarifying materials for purifying sugar. Further in order to increase cottage industry like open pan system in its experimental stage it should be exempted from sugar duties and specially mill started in the interest of the members of the Co-operative Societies should received special favour by the Department of Industry and Agriculture by supervising the mill and by giving necessary instruction, protection in the shape of State Aid and help during the rainy season to improve quality and quantity of sugar to enforce cost cheaper cost of production and to devise means to make the best use of molasses in order to get better price of it to save the open pan system from loss and ruin.

Luxmi Sugar Mill, Rajshahi.

Letter dated the 12th June, 1937.

I beg to enclose herewith the replies to the questionnaire in duplicate, sent by the Director of Agriculture, Bengal.

REPLIES.

1. We manufacture sugar from rab. We crush the cane and prepare rab after boiling juice in open pans.

2. We obtain cane partly from growers and partly through brokers. We pay commission to brokers one pice per maund.

3. The average prices of cane from the beginning of our factory—

	As. P.	As. P.	
1932-33	4 0	1935-36	4 3
1933-34	4 0	1936-37	3 9
1934-35	4 6		

4. There is no variation in price of cane. We pay equal prices with the vacuum pan factories in our vicinity.

5. (1) About 60 maunds of juice extracted per 100 maunds of cane.

(2) About 20 maunds of rab manufactured from 100 maunds of juice.

(3) About 50 maunds of sugar extracted from 100 maunds of rab.

6. We manufacture two qualities of sugar. Out of 6 per cent. of sugar from 100 maunds of cane we get 4½ per cent. better quality and 1½ per cent. inferior quality.

7. The cost of manufacture is Rs. 2 per maund.

8. Northern Bengal is the chief market for supplying our sugar and we sell through brokers.

9. The price of sugar from 1932-33 to 1936-37 came down from Rs. 10 to Rs. 5-8.

10. Our sugar is preferable to gur but not preferable to Indian factory (vacuum pan factory) sugar.

12. The position of open pan factories and khandasars is gradually getting worse rapidly in competition with the vacuum pan factories.

13. Sugar Excise Duty of 1934 and the additional duty of 1937, have severely affected the open pan/khandasari mills as the price of sugar is coming down instead of rising.

14. We pay equal prices for cane with the vacuum pan factories in our vicinity. Our recovery of sugar is lower than that of vacuum pan factories, while the prices of our sugar are much lower than their prices, as the quality of our sugar is much inferior. Our cost of manufacture is also more than their cost, under these circumstances we have to close down our open pan factories in future if the Excise duty on us is not totally abolished.

Hossainabad Khandesari Sugar Mills, Jalpaiguri.

Letter No. 270, dated the 1st July, 1937.

With reference to the letter No. 8535-54, issued on 1st June, 1937, from the Director of Agriculture, Bengal, asking for the replies on the questionnaire issued by the Tariff Board, I have the honour to furnish you herewith the informations to the questionnaire with six copies in connection with our sugar mills and cane cultivation.

Enclosure.

1. Sugar manufactured from rab by means of centrifugal.
2. We have got our own cultivation. Juice obtained from cane with the help of cane crusher and rab from juice by boiling under open pan system.
3. Own cultivation.
4. (a) Here we have no vacuum pan factory and neither in vicinity also.
(b) We do not manufacture sugar purchasing gur from anywhere.
5. (i) The amount of juice extracted from 100 maunds of cane is 65 maunds.
(ii) The amount of rab from 100 maunds of juice is 14 maunds 8 seers.

- (iii) The amount of sugar from 100 maunds of rab is 34 maunds.
 6. Only one quality of sugar manufactured. The total output during the year 1935, 1936, 1937 is 1,372 maunds 5 seers.
 7. Cost of manufacture per maund of sugar is Rs. 7-2 with duty.
 8. Locally sold from factory.
 9. Price—

For the season—	Per md. Rs. A.
1935	8 8
1936	8 0
1937	6 8

10. (i) & (ii) No.
 11. The vacuum pan sugar is in large demand owing to its cheapness in the local market. So the open pan sugar has got comparatively a small demand. Hence we are gradually reducing the manufacture of our sugar.
 12. There is no open pan factory in our neighbourhood excepting ours; and the market is almost controlled by vacuum pan sugar.
 13. Duty of 1934 As. 10 per cwt. and 1937 Re. 1 per cwt.
 14. No profit is expected here in the present market by sugar under open pan system.

Sharkara Pratisthan, Ltd., Dinajpur.

(1) Letter dated the 22nd June, 1937.

1. We manufacture sugar directly from cane. The process of manufacture followed is the open pan boiling process. It is a departmental type of factory with Paterson Improved K. B. type machinery. The juice extracted from the canes is immediately boiled and made into rab which again is crystallised and allowed to set and harden for a day or two and after that put into the centrifugal machine from which after the separation of the molasses the white sugar is taken out.
2. We have made arrangements for obtaining the whole supply of canes from a local gentleman (Jotdar) who charges a fixed rate per maund (82½ lbs.) of cane. He is partly a grower and partly an intermediary.
3. In the season 1935-36 the first year of our work—he charged As. 5-3 per standard maund of cane delivered at site. In the last season, i.e., 1936-37 he has charged on an average As. 4-8 per maund.
4. (a) The price we have to pay for the canes is regulated by the price that the vacuum pan in our district pays for them. In fact with our best efforts we could not lower the price than the aforesaid As. 4-8 per maund as the supplier informed us that in the alternative he would send his canes to Setabganj Sugar Mills (vacuum pan factory) instead of to us.
 (b) The fall in the prices of local gur this season have to a certain extent brought down the price of cane but not to the desired (proportionate) level. But it has adversely affected the price of rab.
5. (i) On an average we got 63 maunds of juice per 100 maunds of canes during the season 1935-36 and 60 maunds of juice during 1936-37.
 (ii) The amount of rab manufactured from 100 maunds of juice has been on an average during both the seasons about 20 maunds.
 (iii) The amount of sugar (1st and 2nd combined) extracted from 100 maunds of rab has been on an average 53 maunds, i.e., 53 per cent. in both the seasons. But we did not manufacture 2nd sugar on an extensive scale, i.e., season 1936-37.
6. In the season 1935-36 we manufactured two qualities of sugar in the season 1936-37 we have manufactured mainly one quality of sugar as it

was thought advisable not to go in for 2nd sugar in view of the high excise duty imposed on sugar and the disproportionate low price of sugar. In the season 1935-36 the total output of 1st sugar was 796½ maunds that of 2nd sugar 241½ maunds and 106 maunds of 2nd rab was sold out as gur. During the season 1936-37 we have manufactured about 2,465 maunds of 1st sugar: over 300 maunds of fermented 1st rab about 118 maunds of 2nd sugar and 2,700 maunds of 2nd rab have been centrifuged and we have decided to sell this quantity as gur.

7. The season 1935-36 being the very first year of our work and the work having been started very late in the season no detailed costing could be made for this season; but for the season 1936-37 detailed cost of production was made out which is given below:—

*Nett cost of production of a maund of sugar—100 days crushing—being taken as the average season for this year and the average amount of canes crushed being 650 maunds daily.

	Rs.	A.	P.
Cost of canes at As. 4-8 per maund (15 maunds of canes to a maund of sugar, <i>i.e.</i> , the percentage of nett recovery of sugar is 6·67 per cent.)	4	6	0
Excise duty per maund	0	11	10
Bag	0	2	0
Wages of labour including the pay of permanent staff	0	10	6
Stores	0	1	0
Fuel oil, lubricating oil and grease and kerosine oil, etc.	0	5	0
Head Office expenses, audit fees, Directors' fees, travelling expenses, etc. (12 months expenses to be divided over the days of the season)	0	5	6
Depreciation on machinery, furniture, buildings and stores	0	4	9
Interest on Capital	0	8	0
Total	7	6	7

8. We supply sugar chiefly to Dinajpur market which is at a distance of 9 miles from our factory; and partly to Rangpur and Calcutta markets. We distribute our products through a selling agent on commission basis.

9. During the season 1935-36 the approximate average price we obtained for a maund of 1st sugar was Rs. 8-7 and Rs. 7 and that for 2nd sugar Rs. 7; in the season 1936-37 it has been Rs. 6-4 and Rs. 5-12 *ex-mill* delivery.

10. Our sugar is always preferred to gur and in some cases to Indian factory sugar. But our second sugar is not preferred to Indian factory sugar. The reason for the above preference is not known to us but we have noticed that the mofussil people of Bengal prefer our 1st sugar to that manufactured by Indian factories.

11. As yet we have not experienced any difficulty in disposing of the entire stock of our 1st sugar though some difficulty was experienced in disposing of the 2nd sugar but this latter was averted by our reducing the price for it.

12. In 1934 one open pan factory of fairly big size and equipped with the latest machinery had to be closed down due to competition as we have learnt, from factory sugar of a neighbouring mill. The situation of the

* Possible wastages in sugar and gur have been considered.

above factory was at Setabganj just beside the Setabganj Sugar Mills of Messrs. Soorajmull Nagarmull and it was owned by one Mr. Manick Lal Seal of Calcutta. No other case of such closing down has come to our knowledge.

13. The Sugar Excise Duty of 1934, and the addition imposed in 1937 have affected us adversely. Instead of a proportionate rise in the prices of sugar as was anticipated with the levying of the duty the market has since been gradually going down.

14. The difficulties in the way of the success of the open pan industry are manifold both internal and external. About difficulties we may say that we cannot produce good crystals like those of vacuum factory sugar and that with all the improvements devised so far some traces of molasses can still be detected in our sugar. Moreover, the keeping quality of the open pan sugar is inferior to that of the vacuum pan sugar, *i.e.*, it absorbs moisture more quickly than the latter resulting in the deterioration of quality with the advent of the monsoon and as such we have been obliged to sell it quickly before the approach of the monsoon even at a lesser price. The comparatively low percentage of recovery of sugar in the open pan system is another factor that stands in the way of its success in the face of competition from vacuum pan factories. The external difficulties are also many, *e.g.*, the imposition of the excise duty, the absence of any laws for fixing, the price and regulating the cultivation of canes. In Bengal there is another further difficulty which is not known in Bihar or in the United Provinces, *viz.*, short duration of the season. The Co. 213 variety, the prevalent variety in this province, matures and ripens from the middle of January and begins to invert in the 2nd week of April. If the duration of the season could be prolonged the output have been greater and necessarily the cost of establishment and for the matter of that the cost of production would have been much less.

In the view of the above difficulties we beg to submit the following suggestions which we hope would receive adequate consideration:—

As the open pan factory is particularly suitable for the people of this province where capital is proverbially shy and big capital is seldom forthcoming it deserves patronage at the hands of the Government in order that it may thrive and give some relief to the question of unemployment. We therefore suggest that a sort of protection be granted to this industry by abolishing the Excise duty that has been imposed on it. We further suggest that the price of canes be fixed at As. 2-6 per maund delivered at site for we have seen from experience that at the present low market price of sugar it is impossible to make any profit by paying a higher price for canes.

As from the statistics it appears that the present production of sugar from Indian factories is in excess of India's need for consumption we beg to suggest that proper arrangements be made for the export of Indian sugar to other countries which step is most likely to raise the price of sugar from its present low level.

For prolonging the duration of the sugar season the Department of Agriculture are of late making some efforts by introducing "early" varieties and "late" varieties which mature during December and January and those which mature during April and May. But the organisation has not been widespread and we believe it will take at least three seasons before which we can reap the benefit of their efforts.

(2) Letter No. 760/Er./2, dated the 26th June, 1937.

Referring to our replies to the questionnaire for manufacture of sugar by the open pan system and khandsars. Kindly make the undernoted correction in the typed copies in the following paragraphs.

Paragraph 6 should read as:—In the season 1935-36 we manufactured two qualities of sugar; in the season 1936-37 we have manufactured mainly

one quality of sugar as it was thought advisable not to go in for 2nd sugar in view of the high excise duty imposed on sugar and the disproportionate low price of sugar. In the season 1935-36 the total output of 1st sugar was 796½ maunds and that of second sugar 241½ maunds and 106 maunds of 2nd rab was sold out as gur. During the season 1936-37 we have manufactured about 246.5 maunds of 1st sugar and about 118 maunds of 2nd sugar and over 300 maunds of fermented 1st rab and over 2,700 maunds of 2nd rab have not been centrifuged and we have decided to sell this quantity as gur.

*Paragraph 7 should read as:—*The season 1935-36 being the very 1st year of our work and the work having been started very late in the season no detailed cost of production was made out but a previous costing was made for the season 1936-37 which is given below.

*Paragraph 9 should read as follows:—*During the season 1935-36 the approximate average price we obtained for a maund of 1st sugar was Rs. 8-7 and that for 2nd sugar Rs. 7; in the season 1936-37 it has been Rs. 6-4 and Rs. 5-12 respectively *ex-mill* delivery.

(3) *Letter No. 850|Er.|3, dated the 20th September, 1937.*

Referring to the statement that I made before the Honourable Members of the Board on the 18th instant I beg to submit the further following details regarding the prevalent cost of cultivation of sugarcane per bigha (¼ acre) on the lands in the neighbourhood of our factory site at Biral in the District of Dinajpur.*

The estimated yield per bigha 150 to 200 maunds. Further, I beg to make another point clear about which, as I thought some ambiguity remained, regarding the percentage of recovery of sugar, as we obtained it, calculated on the weight of cane. The details are given as under:—

On 100 maunds of cane we extracted about 60 maunds of juice on an average and as we have already submitted in our reply of the 23rd June, to the questionnaire the percentage of rab (gur) recovered from juice is approximately 20. So in the present case we obtained 20 per cent. of 60, *i.e.*, about 12 maunds of rab on 100 maunds of cane; and as we have already submitted that 53 per cent. of sugar can be recovered from this rab the nett percentage of recovery of sugar on the weight of cane comes to 53 per cent. of 12, *i.e.*, 6.36.

I hope I have made myself sufficiently clear and shall feel obliged by your explaining the above to the honourable members if they so require it.

Regarding the question of imposing the Excise duty on the basis of the number and size of the centrifugals in the factory I beg to submit that if the taxation is to remain at all it should be charged on the present basis, *i.e.*, on the issue per cwt. of sugar from the factory.

* Not printed.