

G O V E R N M E N T O F B E N G A L.

R E P O R T O F T H E P E N G A L J U T E

E N Q U I R Y C O M M I T T E E.

V o l u m e I I.

M a j o r i t y R e p o r t

M i n o r i t y R e p o r t

A p p e n d i c e s.

Dhananjayrao Gadgil Library



GIPE-PUNE-009988



Government of Bengal

**Report of the
Bengal Jute Enquiry Committee**

Volume I

Majority Report

Minority Reports

Appendices

**Superintendent, Government Printing,
Bengal Government Press, Alipore, Bengal**

1934

X9(J74).262 N3E

G4.1

9988

Published by the Superintendent, Government Printing
Bengal Government Press, Alipore, Bengal

Agents in India.

Messrs. S. K. Lahiri & Co., Printers and Booksellers, College Street, Calcutta;
Messrs. Thacker, Spink & Co., Calcutta.

Customers in the United Kingdom and the Continent of Europe
may obtain publications either direct from the High Commissioner's office
or through any book-seller.

TABLE OF CONTENTS.

	Page.
Note by the Chairman	v
I.—Majority Report.	
Introduction	1
Description of the Jute plant, its cultivation and extraction of fibre ..	3
Yield	<i>ibid</i>
Historical Survey	5
Regulation of Jute Cultivation	6
Alternative Crops	10
Jute Forecast	11
Marketing of Jute	12
Standards of quality—	
(a) Export Market	14
(b) Loose Jute Trade	15
Conditions of Export Business	18
Co-operative Societies	21
Regulated Markets	23
Weights and Measures	26
Futures	28
Propaganda	29
Proposed Jute Committee	30
Jute Substitutes and Research	39
Summary and Recommendations	40
Acknowledgment	44
Supplementary note by Mr. G. S. Dutt	45
Minute of Dissent by Dr. J. C. Sinha—	
(a) Standard for Kutcha bales	53
(b) Jute Futures Markets in Calcutta	55
(c) Note on the Jute Committee	59
II.—Minority Reports.	
INTRODUCTION.	
Reasons and circumstances leading to this report	63
Working of the Committee	65
CHAPTER I.	
Jute : A Survey of the Present Position—Agricultural	67
Characteristics of cultivation	72
Demand for Jute : Local Industrial Consumption and Export	<i>ibid</i>
The Jute Industry : A Historical Retrospect	74
Present Position of the Industry	78
Trade in Jute	82
Organisation of the trade in India	83
Recent developments	84
Causes, Nature and Extent of the Recent Fall in Price	85
Tables	91

CHAPTER II.

I

Regulation .. .. .	..	..	..	..	..
Methods of Regulation .. .. .	..	..	..	..	..
Arguments for and against Regulation .. .. .	..	..	..	..	..
Recommendations .. .. .	..	..	..	..	..

CHAPTER III.

The Jute Forecast
---------------------------	----	----	----	----	----

CHAPTER IV.

Marketing of Jute : Internal trade—Present organization of the market .. .. .	..	..	..	..	..
Cost of Movements .. .. .	..	..	..	..	..
Allowances .. .. .	..	..	..	..	..
Weights and Measures .. .. .	..	..	..	..	..
Standards of Quality .. .. .	..	..	..	..	..
Criticisms regarding Movement of Jute .. .. .	..	..	..	..	..
Remedies .. .. .	..	..	..	..	..
Co-operative Societies .. .. .	..	..	..	..	..
Regulated Markets .. .. .	..	..	..	..	..
Arrangements for Information .. .. .	..	..	..	..	..
Standardisation of Weights and Measures .. .. .	..	..	..	..	..
Standardisation of Quality and Grade .. .. .	..	..	..	..	..
Financing the Marketing of Jute .. .. .	..	..	..	..	..
Central Marketing Organisation .. .. .	..	..	..	..	..
Export Trade .. .. .	..	..	..	..	..
Futures Market .. .. .	..	..	..	..	..

CHAPTER V.

Jute Substitutes and Research
---------------------------------------	----	----	----	----	----

CHAPTER VI.

Jute Committee—					
Nature and scope .. .. .	..	..	..	..	..
Functions .. .. .	..	..	..	..	..
Constitution .. .. .	..	..	..	..	..
Finance .. .. .	..	..	..	..	..
Summary .. .. .	..	..	..	..	..

Note of Dissent by Dr. N. C. Sen Gupta, M.L.C.—

Introductory .. .. .	..	..	..	..	..
Regulations of Cultivation of Jute .. .. .	..	..	..	..	..
Co-operative Sale of Jute .. .. .	..	..	..	..	..

Report of Khan Bahadur M. Azizul Huque, M.L.C.—

	Page.
Average Yield	181
Cost of Production	182
Jute Price	184
Regulation and Legislation	187
Jute Committee	188
Allowances	189
Weights and Measures	190
Fatka Market	<i>ibid</i>
Standard for Kutcha Bales	<i>ibid</i>
Regulated Market	191
Regulation of Production in other Countries	<i>ibid</i>

III.—Appendices.

No.		
I.	Questionnaire	3
T-A.	Central Provinces Cotton Market Act, 1932	9
I-B.	History of the adoption of Universal Standards for American Cotton.	17
I-C.	Note on Proposed Jute Control Corporation	27
II.	Table and Graph of Observed and Adjusted Prices of Jute	33
III.	Cost of carrying out jute restriction : An attempt by the Director of Land Records, Bengal, to estimate the cost of the minimum staff required to carry out compulsory jute restriction in an average district	35
IV.	London Jute Association Arbitration Fees	39
V.	Duties on jute sackings and hessians : Memorandum showing the countries which, according to the latest information available in the Commercial Intelligence Department, have during recent years increased or imposed duties on jute sacking and hessians and the rates of such duties	41
VI.	Report of the Jute Futures Market Committee	47
VII.	Competition, Research and the Expansion of Markets for Jute Goods : Circular No. 64-D., dated the 5th June 1933, from the Indian Jute Mills Association, to all Members of the Association.. .. .	55
VIII.	The Indian Central Cotton Committee : Its Objects, Activities and Achievements	123
IX.	Formation of a Central Jute Committee : Letter No. 1419-1931, dated the 24th April 1931, from the Secretary, Bengal Chamber of Commerce, to the Secretary to the Government of Bengal, Commerce Department, with enclosures	131
X.	Proposed Central Jute Committee : Correspondence between the Secretary, Bengal Chamber of Commerce, and the Government of Bengal, Commerce Department, together with the views of the Indian Jute Mills Association	137
XI.	Variation of Purchasing Power : Note by Mr. D. P. Khaifan with tables indicating the relative variations of the purchasing power of the agriculturists and their dependants in Bengal from 1920-21 up to 1932-33	153
XII.	Restriction Schemes in other Countries	169

- XIII.** Legislation on standardisation of quality: Letter No. 1341-Com., dated 2nd March 1933, from the Joint Secretary to the Government of Bengal, Commerce and Marine Departments, to the Secretary to the Bengal Jute Enquiry Committee, with enclosures, on the subject of legislation to fix definite standards of quality for all dealings in jute
- XIV.** Regulated Cotton Markets—
- (a) D.-O. No. 1539, dated the 29th March 1933, from Mr. F. J. Plymen, Director of Agriculture, Central Province, Nagpur, to R. S. Finlow, Esq., C.I.E., Chairman, Jute Committee, Bengal
- D.-O. No. C/27, dated the 13th/15th April 1933, from Mr. F. J. Plymen, Director of Agriculture, Central Provinces, Nagpur, to R. S. Finlow, Esq., C.I.E., Chairman, Jute Committee, Bengal
- (b) Report on the Regulated Cotton Markets in the Central Provinces, by Mr. Tara Nath Roy, Inspector of Agricultural Schools, Department of Agriculture, Bengal, dated 5th June 1933
- (c) Letter No. 414-4824 of 1933, dated 25th April 1933, from the Director of Agriculture, Bombay Presidency, Poona, to the Secretary, Bengal Government Jute Enquiry Committee, Calcutta
- Letter No. 414 of 1933, dated the 15th May 1933, from the Director of Agriculture, Bombay Presidency, Poona, to the Secretary, Jute Enquiry Committee, Bengal
- XV.** The Bengal Jute Bill (II), 1930, as introduced in the Bengal Legislative Council by Dr. N. C. Sen Gupta, M.L.C.
- XVI.** Currency and Monetary Policy outside the scope of the enquiry: Letter No. 3967, dated the 29th July 1933, from the Secretary to the Government of Bengal, to the Secretary, Jute Enquiry Committee, communicating the decision of Government that questions of currency and monetary policy are outside the terms of reference of the Jute Enquiry Committee

Note by the Chairman

At the last meeting of the Bengal Jute Enquiry Committee, it was agreed that the Chairman should write a short note explaining the circumstances under which it was decided that two reports were necessary.

From the beginning, it was obvious that there were considerable differences of opinion in respect of the first three terms of reference to the Committee, but it was hoped that it would be possible to compose the differences sufficiently to bring the opinions within the compass of a single report. This hope seemed the more reasonable because there was some measure of agreement in regard to all three of the terms of reference in question. On further discussion, however, it became evident that the differences of opinion extended not only to the ultimate goal which the respective members had in view, but also to the method of presentation of the case.

Attempts to reconcile these conflicting attitudes having unfortunately failed, it was regretfully decided, after discussion, that the only course open was to write two separate reports, embodying the respective views of the two groups into which the members were divided.*

R. S. FINLOW.

8th August 1933.

*Subsequently Khan Bahadur M. Azizul Huque decided not to sign either the Majority or Minority Report but to write a separate Report of his own (*vide* page 179).

APPENDICES.

APPENDIX I.

Questionnaire.

N. B.—(a) Individuals and Associations are specially requested to note that they are only expected to reply to those questions covering subjects or matter with which they have practical experience or in which they have responsible interest.

(b) It is hoped that replies will be submitted not later than 15th March 1933.

Regulation—

- Q. 1.** Do you think the production of jute requires regulation?
- Q. 2.** *(a)* Do you think it possible to regulate the jute crop with reference to the expected demands of the market?
- (b)* What would be the main object and likely effect of such regulation? Would it be to raise, or to steady, prices of the raw fibre?
- Q. 3.** If you do not believe it is possible to regulate production please give reasons. Do the reasons against the possibility of regulation refer to present circumstances only, or do they imply that regulation would in no circumstances be feasible?
- Q. 4.** Do you know of any scheme of control of production, or export, of raw material, which has been successful in this or in any other country? In what respect is the case of jute similar or dissimilar?
- Q. 5.** What are the factors which in your opinion depress the price of jute? Is it a fact that prices have been poor only at times of financial or other crises, rather than that low prices are due to over-production?
- Q. 6.** If a jute regulation scheme were adopted, do you think there would be any danger of competition from substitute crops, either in India or in other countries? If such competition is likely, please explain how it would affect the jute industry in Bengal?
- Q. 7.** Do you consider that cultivators would voluntarily come under a scheme of regulation of the jute crop?
- Q. 8.** Is there any reason to believe that an attempt to regulate production on a voluntary basis would fail on the ground that any success achieved in one year would tend towards inducing increased sowings in the following year?
- Q. 9.** What are your views regarding regulation made compulsory by legislation? Have you any suggestions to offer regarding the outline of such legislation?

Q. 10. How would you propose to implement compulsory regulation? Would you desire to utilize any of the following:—

- (a) Union Boards, (b) Co-operative Societies, (c) Zamindars, (d) Any other agency?

Q. 11. If widespread evasion of jute regulation procedure is apprehended, do you think it could be checked if the purchase of jute were concentrated in a Jute Marketing Board which might be able to detect increase in total yield and therefore in total acreage?

Q. 12. In the event of regulation of jute cultivation being arranged for the province of Bengal, would it be necessary to secure the cooperation of Governments and organizations in Bihar and Assam?

Cultivation and production of jute—

Q. 13. In the case of a decrease in the area of jute, what alternative crops instead of jute would you suggest for low lands and high lands? What steps do you consider could be taken to encourage the raiyat to grow such alternative crops?

Q. 14. Do you consider Government, and other, propaganda during the last two sowing seasons has had any effect in keeping down the area of jute under cultivation? Should such propaganda be continued? If you consider such propaganda could be made more effective in any way, please make suggestions.

Q. 15. What do you consider is the normal cost of cultivation and yield per acre of jute, and of alternative crops respectively, in different parts of Bengal?

Q. 16. In view of present day conditions, what would you consider a fair price level for jute which would bring a reasonable return to the cultivator growing it?

Q. 17. What are, in your opinion, the chief factors which have brought about the fall in the prices of raw jute and of manufactured jute in Bengal.

Q. 18. Jute is meeting with competition from paper and other substitutes. Jute bags are also being displaced by the use of elevators and bulk shipment in transit. In view of these circumstances, and in order to enable manufacturers to meet this competition, do you agree that agricultural research and propaganda, to assist the grower in producing better jute, and to lower his cost of production, should continue unabated by the Department of Agriculture? If you consider the Department of Agriculture could be assisted in this work by other agencies please make suggestions.

Marketing—

Q. 19. Do you consider the present system of compiling and publishing the jute forecast satisfactory and beneficial from the point of view of (a) the growers, (b) balers and mill-owners, and (c) middlemen? If so, how? If not, why not? In the latter case what changes would you suggest?

Q. 20. Are the present forms and methods of grading and marketing jute in the mufassal satisfactory, from the point of view of (a) growers, (b) balers and mill-owners, (c) middlemen, and (d) the community generally?

Q. 21. Do you consider it feasible to establish organized markets for jute in the various districts similar to those which have been provided for cotton in the Central Provinces and Berar by the Central Provinces Cotton Market Act of 1932 (Appendix I-A)? What would be the approximate number of such markets in Bengal, and the area served by each of them? Would such markets be advantageous to the cultivators?

Q. 22. Is there any means, such as the formation of village co-operative societies, whereby the raiyat can be brought more closely into touch with the jute baler, thus eliminating the middlemen and middlemen's profits?

Q. 23. Explain in detail the work and method of the various middlemen, such as the *Faria* and the *Bepari*, both as merchants and as commission agents, giving their remuneration in all forms in which it may exist.

Q. 24. Do you think there is any relation between the low price the cultivator is getting for his jute and the multiplicity of the middlemen?

Q. 25. Are there any marketing customs which you consider detrimental to the raiyat? If so, how could these be abolished?

Q. 26. Do cultivators pledge or sell their crops before they are harvested? If so, how long before harvest are they pledged? What are the terms on which the crop is pledged?

Q. 27. From whom do cultivators borrow? Would it be correct to say that in the large majority of cases the creditors are also the ultimate buyers of the crops? If so, do you think that it in any way affects the price which the cultivator is able to obtain? Have you any suggestions to offer regarding the provision of better credit facilities to the grower?

Q. 28. Is it possible to bring the whole system of marketing jute into the hands of a co-operative organization? If so, describe on what basis the organization should be made and how it could be financed? Please frame your answer in the light of the experience gained from the working of the co-operative jute sale societies.

Q. 29. What are the terms on which jute is sold to Dundee, the Continent, Japan, and other countries?

Q. 30. Are there any fixed standards of quality on which business is done for export? Who fixes those standards? Do the standards vary from year to year? Where are arbitrations held? Who appoints the arbitrators? Please give your views regarding home guarantee and the invoicing back clauses.

Q. 31. What improvements would you suggest in the methods adopted at present in the export trade? Do you consider that it is

feasible to fix standards by legislation, under which a body of recognized standing would be set up to inspect all consignments of jute, and grant certificates, which would be authoritative and final in regard to the jute inspected?

Q. 32. Have you any scheme to suggest for improvements in the present methods of dealing in jute? Would a system of standards adopted on the lines of the American Cotton Standards Act of 1923 (Appendix I-B) be suitable for *pucca* bales in Bengal? Give details of any scheme you would suggest.

Q. 33. Are the various methods of marketing jute in Calcutta satisfactory? *e.g.* :—

Please explain the system at present prevailing in dealings in loose jute purchased by (a) jute balers, and (b) jute mills. Are there any fixed standards?

Q. 34. Is it a fact that standards or grades are sometimes changed, even in the middle of a season?

Q. 35. Do you advocate that fixed standards for loose jute should be fixed by legislation or otherwise? Please explain any objections which there may be to such a scheme.

Q. 36. What standards would you suggest and what authority do you think should supervise the working of the standards?

Q. 37. What is your opinion on Mr. McDougal's marketing scheme as published in the Report of the Central Banking Enquiry Committee (Appendix I-C)? If you advocate any other marketing scheme please state the lines on which it would work, particularly with regard to the financial aspect.

Q. 38. Do the growers of jute at present receive any market information? If so, in what form? If in your opinion the position is not satisfactory, can you suggest any practical method, by which growers, as well as merchants, and manufacturers, could be supplied with information regarding market conditions both here and abroad?

Q. 39. Would the same agency be able to supply information regarding stocks, complaints from buyers regarding quality, etc.? What type of market information would, in your opinion, be of most value to the grower?

Q. 40. Can you suggest how reliable information can be made to reach the grower rapidly? Do you think that wireless telegraphy with loud speakers at certain centres would be of assistance?

Q. 41. Do you consider it advisable or practicable to have a scheme by which, in the event of a possible slump in the market, jute could be purchased and held back from the market for the time being? If so, should this be done by Government or by private agency? Do you think that it would be helpful if Government announced its willingness to buy and stock jute at a minimum price fixed by it? If you agree that some such proposal should be given effect to, will you please estimate the probable cost of working the scheme and indicate how funds for the purpose could be provided?

Q. 42. Do you approve of the suggestion for carrying out market surveys for jute, and also for the appointment of special marketing officers, as recommended by the Royal Commission on Agriculture? If so, what functions would you suggest should be entrusted to the marketing officers, and what benefits would you expect from their surveys?

Jute Committee—

Q. 43. Do you think it necessary to create a Jute Committee for Bengal on the lines of the Central Jute Committee recommended by the Royal Commission on Agriculture?

Q. 44. What functions would you propose should be entrusted to such a Committee with reference to the cultivators, the traders and the mills? What should be the status of the Committee and how should its functions be co-related to the different interests involved, and to the Agriculture and other Departments of Government?

Q. 45. Could such a Committee function without the co-operation of other Provincial Governments, like those of Assam and Bihar and Orissa where also jute is grown? If not, how can the co-operation of those other governments be secured?

Q. 46. How should such a Committee be financed?

Competition from substitutes and research—

Q. 47. Can you give particulars, and, if possible, figures, showing how trade has been lost to the jute industry through competition from substitutes; also by the use of elevators and bulk shipment in the grain carrying trade? Is the loss likely to be permanent?

Q. 48. Have the substitutes in question captured the trade by reason of—

(a) better durability,

(b) cheapness, or

(c) stability in prices from year to year?

Q. 49. What are the comparative costs and conditions of production of these substitutes and jute? If the former enjoy any special advantages to-day, are these advantages likely to be permanent? Will the general competitive ability of such substitutes increase or decrease as time goes on, and why?

Q. 50. Have you any suggestions to put forward with a view to regaining the trade lost by reason of such competition?

Q. 51. Can you suggest other uses to which jute might economically be put?

Q. 52. Can you say if Calcutta mills are equipped to manufacture the goods which you have in mind?

Q. 53. In view of the losses which the jute trade is meeting as a result of competition, do you think a Research Department should be instituted without delay, to help manufacturers to overcome the

difficulties which might attend the making and marketing of new jute products, and the improvement of present methods of manufacture? If so, by whom should the Department be financed?

Q. 54. Do you think propaganda in other countries should be undertaken by the jute trade?

Q. 55. What form should this propaganda take?

Q. 56. Should special representatives be appointed in various countries who would keep the trade posted with statistics, etc., and explore other avenues for new business?

Q. 57. Who would finance this work?

Q. 58. How would the activities of such representatives be coordinated so as not to interfere with the present selling arrangements of Calcutta shippers?

APPENDIX I-A.

(*Vide* Questionnaire, Q. 21).

CENTRAL PROVINCES ACT NO. IX OF 1932.

THE CENTRAL PROVINCES COTTON MARKET ACT, 1932.

[Published in the "Central Provinces Gazette," dated the 12th November, 1932.]

TABLE OF CONTENTS.

Preamble.

SECTIONS.

1. Short title.
2. Extent.
3. Definitions.
4. Establishment of cotton market.
5. Market committee.
6. Power to make rules.
7. Bye-laws.
8. Sub-committee.
9. Contract how executed.
10. Cotton market fund.
11. Purposes for which fees collected by market committee may be expended.
12. No trade allowance permissible unless recognized by rules or bye-laws.
13. Market committee to be a body corporate.
14. Bar of suit in absence of notice.
15. Power to borrow.
16. Supersession of market committee.
17. No private market to be opened in or near places declared to be cotton markets.
18. Penalties.
19. Offences to be triable only by first class magistrate.
20. Disposal of fines and institution of prosecutions.

CENTRAL PROVINCES ACT NO. IX OF 1932.

THE CENTRAL PROVINCES COTTON MARKET ACT, 1932.

[Published in the "Central Provinces Gazette," dated
the 12th November, 1932.]

*An Act to provide for the establishment and better regulation
of cotton markets in the Central Provinces.*

WHEREAS it is expedient to provide for the establishment and better regulation of the recognized open markets for the purchase and sale of cotton in the Central Provinces ;

AND WHEREAS the previous sanction of the Governor-General required by sub-section (3) of section 80-A of the Government of India Act and the previous sanction of the Governor required by section 80-C of the said Act have been obtained for the passing of this Act ;

It is hereby enacted as follows :—

1. This Act may be called the Central Provinces Cotton Market Act, 1932. Short title.
2. This Act shall apply to the whole of the Central Provinces. Extent.
3. In this Act, unless there is anything repugnant in the subject or context,—
 - (i) " cotton " includes ginned as well as unginned cotton ; "Cotton."
 - (ii) " cotton market " means a market established under section 4 of this Act ; "Cotton market."
 - (iii) " grower of cotton " shall not include a dealer or broker in cotton, although such a person may grow cotton. If a question arises whether any person is a grower of cotton or not for the purpose of this Act, the decision of the Deputy Commissioner of the district in which the person permanently resides shall be final ; "Grower of cotton."
 - (iv) " prescribed " means prescribed by rules or bye-laws made under this Act. "Prescribed."
4. (1) The Local Government may, after consulting the district councils, local boards, municipalities, sanitation panchayats, notified area committees and village panchayats in the areas affected, or upon a representation made by them or by growers of cotton within such areas, by notification, declare that any place is a cotton market established under this Act. Establishment of cotton market.
(2) Every such notification shall define the limits of the cotton market so established and may for the purposes of this Act include within such limits such local area as the Local Government may prescribe.

**Market
Committee.**

5. For every market there shall be a market committee. The market committee shall be constituted as prescribed and shall consist of not less than ten and not more than sixteen members. Of these, not less than half shall be persons elected by cotton growers of such area as the Local Government may prescribe. One shall be elected by the district council or the local board of the district in which the market is situated in the manner prescribed, one by the municipality, notified area committee, village sanitation panchayat or village panchayat, whichever may be the local body within whose area of authority the market is situated, and the remainder shall be elected by the traders in the cotton market in such manner as may be prescribed.

**Power to make
rule.**

6. (1) The Local Government may, either generally or specifically for any cotton market or group of cotton markets, make rules consistent with this Act for the purpose of the management and regulation of such cotton markets under this Act.

(2) In particular and without prejudice to the generality of the foregoing power such rules may provide for or regulate—

- (i) the election of members of the market committee, the number of members to be elected by each of the bodies or groups of individuals referred to in section 5, and the manner of election, the preparation and revision of lists of voters from time to time, and the term of office of such members ;
- (ii) the qualifications and disqualifications of voters and the candidates for election ;
- (iii) the powers to be exercised and the duties to be performed by the market committee ;
- (iv) the election of the chairman and vice-chairman of such committee, their powers and term of office ;
- (v) the filling of casual vacancies in the office of members or in the office of chairman or vice-chairman of the market committee ;
- (vi) the management of the cotton market and the prescribing of fees by the market committee, and, subject to the provisions of this Act, the collection and disposal of such fees ;
- (vii) the issue by the market committee of licences to brokers, weighmen, measurers, surveyors and warehousemen and other persons using the cotton market and fixing the fees leviable by them, the form in which and the conditions under which such licences shall be issued, and the fees to be charged for such licences ;
- (viii) the place or places at which cotton shall be weighed or measured, and the kind and the description of the scales, weights and measures to be used at such place or places ;

- (ix) the periodical inspection, verification, correction, regulation and confiscation of scales, weights and measures in use in the cotton market ;
- (x) the trade allowances which may be made or received by any person in any transaction in a cotton market ;
- (xi) the preparation of plans and estimates for works proposed to be constructed partly or wholly at the expense of the market committee, and the grant of sanction to such plans and estimates ;
- (xii) the form in which the accounts of the market committee shall be kept, the manner in which they shall be audited and the time or times at which they shall be published ;
- (xiii) the preparation of an annual budget and its submission for sanction, and the reports and returns which shall be furnished, by the market committee ;
- (xiv) the disposal of any surplus or part of surplus funds of the market committee ;
- (xv) the time, place and manner in which a contract between buyer and seller is to be entered into and the money is to be paid to the seller ; and
- (xvi) generally, for the guidance of the market committee and for carrying out the purposes of the Act.

(3) Any such rule may, when necessary, provide that any contravention thereof or of any of the conditions of any licence issued thereunder shall be punishable, on conviction by a competent magistrate, with a fine which may extend to five hundred rupees.

(4) All rules made under this section shall be subject to the condition of previous publication. A copy of the draft of the proposed rules shall be laid on the table of the Central Provinces Legislative Council. The Local Government shall give the Council an opportunity of discussing them, and shall take into consideration any resolution concerning the same which may be passed by the Legislative Council before finally publishing them in the "Central Provinces Gazette."

7. (1) Subject to the rules made by the Local Government under the last preceding section, the market committee may, in respect of the cotton market under its management, make bye-laws for—

- (i) the regulation of the business,
- (ii) the conditions of trading,
- (iii) appointment and punishment of its officers and servants,
- (iv) payments of salaries, pensions, gratuities, and leave allowances to such officers and servants, and contributions by them, to any provident fund which may be established for the benefit of such officers and servants, and

(v) the delegation of powers, duties and functions of the sub-committee, if any, appointed under section 8;

and may provide that contravention thereof shall be punishable by a competent magistrate with a fine which may extend to fifty rupees.

(2) All bye-laws made under sub-section (1) shall be subject to the condition of previous publication and no bye-laws shall take effect until it has been confirmed by the Local Government.

Sub-committee.

8. The market committee may appoint from amongst its members a sub-committee for the performance of any of its duties or functions.

Contract how executed.

9. (1) Every contract entered into by the market committee shall be in writing and shall be signed on behalf of the market committee by the chairman and two other members of the market committee.

(2) No contract other than a contract executed as provided in sub-section (1) shall be binding on a market committee.

Cotton market fund.

10. All moneys received by a market committee shall be paid into a fund to be called "The Cotton Market Fund" and all expenditure incurred by the market committee under or for the purposes of this Act shall be defrayed out of the said fund; any surplus remaining after such expenditure has been met shall be expended as may be prescribed in the rules made in this behalf.

Purposes for which fees collected by market committee may be expended.

11. Subject to the provision of section 10, all fees collected by the market committee under this Act or the rules made thereunder shall be expended only on—

- (1) the maintenance and improvement of the cotton market;
- (2) the construction and repair of buildings which are necessary for the purposes of such market or for the health, convenience and safety of the persons using it;
- (3) the planting of trees, rearing them, making arrangements for providing water to the persons and cattle coming to the market, and like purposes;
- (4) the meeting of establishment charges, including payments and contribution towards provident fund, pension and gratuities of the officers and servants employed by the market committee;
- (5) the preparation and revision of voters' lists, and the election and by-elections of the cotton market committee;
- (6) with the previous sanction of the Local Government, any other purpose whereon the expenditure of the cotton market fund is in the public interest; and
- (7) the expenses incurred in auditing the accounts of the committee.

12. (1) No trade allowance, other than an allowance prescribed by rules or bye-laws made under this Act, shall be made or received by any person in any transaction in a cotton market established under this Act, and no civil court shall, in any suit or proceeding arising out of any transaction in any such cotton market, have regard to any trade allowance not so prescribed.

No trade allowance permissible unless recognised by rules or bye-laws.

(2) Any purchaser who makes deductions on account of *dharmadaya*, *gorakshana*, or similar other objects shall be liable on conviction to a fine which may extend to fifty rupees for each offence.

13. Every market committee shall be a body corporate and shall have perpetual succession and a common seal and may sue and be sued in its corporate name, and shall be competent to acquire and hold property, both movable and immovable, to lease, sell or otherwise transfer any such property which may have become vested in or been acquired by it, and to contract and to do all other things necessary for the purpose of this Act :

Market committee to be a body corporate.

Provided that no committee shall permanently transfer any immovable property except in pursuance of a resolution passed at a meeting by a majority of not less than two-thirds of the members of the committee.

14. (1) No suit shall be instituted against any market committee or any member, officer or servant thereof or any person acting under the direction of any such committee, member, officer or servant for anything done or purporting to be done under this Act, until the expiration of two months next after notice in writing, stating the cause of action, the name and place of abode of the intending plaintiff and the relief which he claims, has been, in the case of a committee, delivered or left at its office, and in the case of any such member, officer, servant or person as aforesaid, delivered to him or left at his office or usual place of abode, and the plaint shall contain a statement that such notice has been so delivered or left.

Bar of suit in absence of notice.

(2) Every such suit shall be dismissed unless it is instituted within six months from the date of the accrual of the alleged cause of action.

(3) Nothing in this section shall be deemed to apply to any suit instituted under section 54 of the Specific Relief Act, 1877.

of 1877.

15. (1) Every market committee may, with the previous sanction of the Local Government, raise the money required for carrying out the purposes of this Act on the security of any property vested in and belonging to such committee, and of any fees leviable by such committee under this Act.

Power to borrow.

(2) The conditions in which such money shall be raised and the time within which the same shall be repayable shall be subject to the previous sanction of the Local Government:

Supersession of market committee.

16. (1) If, in the opinion of the Local Government, a market committee is not competent to perform, or persistently makes default in the performance of, the duties imposed on it by or under this Act, or exceeds or abuses its powers, the Local Government may, after giving such committee an opportunity for explanation, by an order published in the "Central Provinces Gazette," declare such committee to be incompetent, or in default, or to have exceeded or abused its powers, as the case may be, and may supersede it.

(2) When a market committee has been superseded, all members of the committee shall, as from the date of the order, vacate their offices as members.

(3) When a market committee has been superseded, all property and rights vested in it shall, subject to all charges and liabilities affecting the same, vest in Government ;

Provided that, if no new committee is constituted for the cotton market under section 5, all property that shall remain after the satisfaction of all debts and liabilities of the superseded market committee shall vest in the local authority of the area in which the cotton market is situated for the purpose of any object of public utility in the said area.

No private market to be opened in or near places declared to be cotton markets.

17. Whenever the Local Government has, by a notification under section 4, declared any place to be a cotton market, no person shall, notwithstanding anything contained in any enactment for the time being in force, within the area of such cotton market or within a distance thereof, to be notified in the "Central Provinces Gazette" in this behalf in each case by the Local Government, set up, establish or continue or allow to be continued any other market for the purpose of the purchase and sale of cotton.

Explanation.—A person shall not be deemed to set up, establish or continue or allow to be continued a place as a market for the purpose of the purchase and sale of cotton if he sells his own cotton outside the premises set apart by the market committee for the purpose of purchase and sale of cotton.

Penalties.

18. Whoever, in contravention of this Act, sets up, establishes, continues or allows to be continued any market for the purpose of the purchase and sale of cotton, shall be punished, on conviction by a competent magistrate, with fine which may extend to five hundred rupees, and, in case of a continuing breach of the provision of section 17, with fine which may extend to one hundred rupees for each day after the first during which the breach continues.

Offences to be triable only by first class magistrate.

19. No offence under this Act or under any rule or bye-law made thereunder shall be triable by a magistrate other than a magistrate of the first class.

Disposal of fines and institution of prosecutions.

20. All fines and damages recovered from an offender shall be paid to the market committee. Prosecutions under this Act may be instituted by any person duly authorised in writing by the market committee in this behalf.

APPENDIX I-B.

History of the adoption of Universal Standards for American Cotton.

As far back as 1874 representatives of the various American Cotton Exchanges met in conference in Augusta, Ga., to consider the adoption of a uniform standard of classification of cotton for the United States. As a result of the recommendations then made, certain standards prepared by an Expert Committee were agreed upon, and all the American Exchanges took them up—then known as "Standard American Classifications"—during the next season. Their use, however, was only temporary. One by one the Exchanges abandoned them, until at last only the New York Cotton Exchange still made use of them after a few years. This Exchange continued to use these standards till it adopted, on 20th October 1914, the permissive official standards established by the Department of Agriculture in 1909.

Official help in cotton standardisation work may be said to have commenced definitely in May 1908 when, for the first time, the Act making appropriation to the Department of Agriculture "contained an item for the express purpose of enabling the Department of Agriculture to undertake systematic work in cotton standardisation and carried authority to establish an *official standard for the nine grades of white American cotton.*" The preparation of these standards was done by a Committee consisting of prominent men in the various branches of the cotton trade and experienced classifiers from important markets, and the Committee had at its disposal for this purpose cotton from various portions of the United States cotton belt, as well as copies of the standards of many of the cotton exchanges, both American and foreign. The standards established under this Act were purely permissive, their adoption and use having been wholly voluntary as there was no statute to make them obligatory upon any portion of the industry. "These official grades were, therefore, never formally promulgated, nor was any campaign undertaken to secure their adoption and use by the trade." The trade on the other hand, considered that the standards for the lower grades were "too full," and did not typify cotton of the eastern belt. In the circumstances these standards never came into general commercial use, and instead of replacing the different existing standards of classification they simply added one more to the numerous standards already in use.

Great diversity existed among the standards adopted by the various exchanges. At Liverpool there were three separate sets of standards for Upland, Gulf and Texas cottons, while in America standards of classification, basis grades, and differences between grades differed from market to market; and in some markets the standards were changed from year to year. "Thus a standard became a variable measure of quality and quotations based thereon were confusing and misleading."

Matters became worse when in June 1913 the American and European Cotton Exchanges prepared and recommended to the trade of

the world a new international standard, and later in May 1914 a meeting, at which nearly all the United States Exchanges were represented, passed a resolution requesting the Department of Agriculture to adopt the proposed international standards. This served as a real eye-opener, and made it quite clear to the Department that the permissive standards issued in 1909 could not be forced upon the industry, and that any new system of classification should replace entirely the 1909 grades.

Just at this time another effort was made by the United States Congress to comply with the long-standing demand for an attempt by it to remedy the abuses in some or all of the "futures" exchanges. The Cotton Futures Act of 18th August 1914 was the result. The Act imposed generally on all contracts for sale of cotton for future delivery a tax of 2 cents for each pound of cotton involved, and then exempted from the tax contracts that complied with either of two specific sets of conditions aimed to correct the evils of future dealing that existed. The first of these (section 5) provided for the use in all contracts of grades of the "Official Cotton Standards" of the United States promulgated by the Secretary of Agriculture under section 9 of the Act, and the second condition (section 10) required that the contract should specify all the material terms relating to the true description of the cotton involved. Thus section 9 of the Cotton Futures Act of 1914 made it practically compulsory on the cotton future exchanges in the United States to use only the official cotton standards in all transactions on and after February 18, 1915. The Act itself did not make it mandatory but the provision of exemption from the super-tax made it self-executing. Another important section was section 11 which imposed a similar tax on all orders from the United States for future contracts on foreign exchanges unless the form of contract prescribed in section 5 was used.

Under the Cotton Futures Act the Secretary of Agriculture was "authorised, from time to time, to establish and promulgate standards of cotton by which its quality or value may be judged or determined, including its grade, length of staple, strength of staple, colour, and such other qualities, properties and conditions as may be standardised in practical form." In the preparation of the standards for grade the objective of the Department was to prepare a standard which would be comprehensive, covering all white cotton of American growth, and suitable for adoption both in the United States exchanges and foreign exchanges. Hence the Department had to reject the so-called "International Standards" or "Liverpool-Upland Standards" for various reasons, the chief of which was that these standards were more or less tinged. In view, however, of the necessity of enlisting the co-operation of Liverpool and the European cotton exchanges to the use of a uniform standard, the Department sent representatives to these exchanges with copies of the standards to induce them to accept the Official Cotton Standards.

In November 1914 the American delegates went to Liverpool to confer with the Cotton Association there. The chief difficulty in arriving at an understanding appears to have been the fear of Liverpool that the move on the part of the United States was a deliberate attempt to oust her in due course from the supremacy she had held in the cotton trade of the world. The conditions put forward by the Liverpool Association for the acceptance of the Official Standards were

(1) that the United States Government should guarantee not to undertake to certificate or arbitrate shipments of cotton sold to Europe, (2) that Liverpool and the United States Government should submit standards to the other periodically and try to adjust disagreements or discrepancies by mutual concessions, (3) that the sole monopoly of preparing and selling standards in Europe must be granted to Liverpool, and (4) that orders from the United States for future contracts on foreign exchanges should be exempted from the tax. No agreement was reached between the parties on these points as the United States Government wanted (1) to keep the questions of standards and arbitrations entirely distinct, (2) to regard the types of standards kept in vacuum in Washington as representative of the true standards, (3) not to confer on Liverpool the exclusive right to prepare and sell duplicates of standards in Europe, and (4) not to interfere with the powers of the Congress in this respect. The discussions, however, helped to convince Liverpool that the one set of standards prepared by the United States Department of Agriculture was comprehensive enough to replace the separate Liverpool sets for Upland, Gulf and Texas cottons, and that Washington was agreeable to maintain the credit of Liverpool by letting the world know that the proposed standard was reached by agreement with Liverpool and to change the name of the standard into "Washington-Liverpool Standards."

In December the American delegates reached Bremen and conferred with representatives of the exchange there. The Bremen Exchange's demands, *viz.*, (1) that compressed cotton also should be used in the preparation of standards, (2) that bales representing the grades should be supplied to them for the preparation of copies, and (3) that the southern spot markets in the United States should adopt these standards, were easily met and a complete understanding of the situation was gained at the end of the Conference. At Havre in January 1915, there was less difficulty and the members present at the Conference stated that no criticism of the standards could be made. In the meanwhile on December 15, 1914, the Official Cotton Standards of the United States were established and promulgated by the Secretary for Agriculture, the nine grades being Good Ordinary, Strict Good Ordinary, Low Middling, Strict Low Middling, Middling, Strict Middling, Good Middling, Strict Good Middling and Middling Fair.

The determination of the standards was an equally difficult task. For several years previous the Department had been carrying on extensive investigations and surveys throughout the cotton-growing States. During these surveys the samples collected systematically at stated intervals from typical markets ran into several thousands, and showed the varying characteristics of the cotton produced. From the samples collected in each State a set of types was made showing each grade from Middling Fair to Good Ordinary. This collection clearly demonstrated the possibility and feasibility of making a single set of standards, consisting of 12 types each in the nine grade boxes representing the whole of white American cotton. To compare with this collection the Department also had in their possession copies of the proposed International Standards of the old Liverpool Standards, and of local standards from various markets in the South. It was with such abundant material and with the help of several expert classifiers of the New York and New Orleans Cotton Exchanges that the specialists of the Department eventually worked out the actual details of the standard. In addition the Department very carefully elaborated

an apparently foolproof system to ensure the complete reliability of the perpetuation of the standards, both in the original key-set and the copies. From the purchase of cotton intended for the preparation of the standards up to the disposal of the prepared sets every operation, and environmental conditions likely to affect such operations are carefully regulated and controlled to produce uniformity.

The position in early 1916 was that all the more important spot markets and exchanges in the United States had adopted the Official Cotton Standards, though none of the European exchanges nor Liverpool had done so. Hence, so far as the foreign exchanges were concerned the attempt on the part of the United States Government to force their Official Cotton Standards upon the foreign exchanges through the operation of section 11 of the Cotton Futures Act was not successful, and section 11 of the Act appears to have remained a dead letter for about two years. In August 1916, the Cotton Futures Act was therefore re-enacted, the most important amendment being the omission of section 11.

In the meanwhile, by an order of the Secretary of Agriculture, dated January 28, 1916, standards for colour in the various grades of American Upland cotton were also established as under:—

Good Middling Yellow Tinged.
 Strict Middling Yellow Tinged.
 Middling Yellow Tinged.
 Strict Low Middling Tinged.
 Low Middling Yellow Tinged.
 Good Middling Yellow Stained.
 Strict Middling Yellow Stained.
 Middling Yellow Stained.
 Good Middling Blue Stained.
 Strict Middling Blue Stained.
 Middling Blue Stained.

The re-enactment of the Act in August 1916, however, necessitated the re-establishment of the same standards for grade and colour on August 12, 1916.

No further attempt was made till 1921 to make the Official Cotton Standards of the United States universally adopted. In the meanwhile, the boll-weevil was well established in the whole of the cotton belt, and to save the cotton crop from the enormous ravages caused by this pest the methods and processes of cotton production had to be changed. With the hastening of the maturity of the crop, the average colour of lint became brighter, and the lint less stained as the crop could be harvested before rain and frost set in but, on the other hand, even high grade cotton without the spots caused by the larvae of the boll-weevil became rare. Hence, in spite of the express wish of the cotton trade of the world and the policy of the United States Department of Agriculture not to alter the standards at any time, it became necessary to adjust the standards to the crop, the nature of which had been so profoundly affected by the changed conditions of growth. At the same time, it was brought to light that the Official Cotton Standards which in 1915 were identical with those of Liverpool were not so in 1921, while the Liverpool standards had remained unchanged. It became evident, therefore, that the United States,

whose prosperity was intimately connected with the prosperity of her cotton production industry, had to devise means whereby her farmers could be freed from the domination of the foreign consuming markets, which failed to recognise the changed conditions under which cotton was grown in the United States.

On 1st June 1921 the Fulmer Bill, which later became the United States Cotton Standards Act of 1923, was introduced in the House of Representatives. The Bill did not have an easy passage in the American Legislature, having had to be twice introduced with minor changes. It finally received the assent of the President on March 4, 1923. In the meanwhile, by an order of the Secretary on July 26, 1922, the existing standards established under the United States Cotton Futures Act had been revised and became effective from August 1, 1923, and consequently under section 6 of the United States Cotton Standards Act these standards automatically became the standards for the purposes of this Act.

The provisions of this Act are for the most part permissive, but the most important section, *viz.*, section 2, is mandatory, and compels all transactions in grade in interstate and foreign commerce to be in accordance with the grades established under it. This law compels every merchant, shipper, buyer, and trader in the United States in every transaction, quotations of cotton for shipment, publication of prices, and in classification of all cotton in interstate and foreign commerce to use the official cotton standards of the United States only, provided the quality of the cotton involved is of, or within the range of, the official cotton standards of the United States. The other provisions of this Act have been designed chiefly to enforce the main provision referred to.

The main reason for such drastic action by the United States Congress is clearly stated by Mr. Wm. R. Meadows of the United States Department of Agriculture who, on March 24, 1923, when addressing the Texas Cotton Association at Dallas, said: "As a practical matter you, gentlemen, are shipping and have been shipping against standards with which you are not furnished copies. If you had purchased standards of the Liverpool Cotton Association, it would have cost you \$600 to get the complete set. When American cotton reaches the other side, it is arbitrated against an unknown standard before a board of men who represent the buyer and on which no American shipper has any American representative." He emphasised the dependence of the United States on her cotton exports for her prosperity and her international status and added "such a large part of our annual exports should not be shipped against standards with which American cotton shippers are not familiar and be arbitrated by any set of men who represent the buyer exclusively and on which final tribunal we are denied representation." In reply to this argument Liverpool interests retorted: "The Americans were dissatisfied with the arbitration of Liverpool and now they expect the whole world to be satisfied with the final word of Washington officials; in other words, the alleged defective system of Liverpool is grafted on to Washington without first consulting the buyers."

The effect of the United States Cotton Standards Act on the existing practices in the cotton trade was bound to be far-reaching. When the law came into effect bills of lading, warehouse certificates, shipping documents, insurance contracts, newspaper and private quotations

of cotton by grade, invoices and all other documents were required to be stated in accordance with the official cotton standards. If not, these documents had no legal status and were not enforceable in a court of law. Since about half the American crop is marketed in Liverpool and other European cotton exchanges, the passage of the Act presented problems of vital importance to the American export trade, and to foreign cotton exchanges. It was at once clear that if no workable basis was arrived at between the United States Government and the foreign exchanges on the question of standards which could be recognised and adopted by both parties, great hardship would be experienced by those dealing in American cotton. The Department of Agriculture was no less conscious of its responsibility in the matter. Early in 1923, therefore, Charles J. Bond, Agricultural Commissioner, United States of America, travelled through Europe and held meetings with the various Cotton Exchanges and with the International Cotton Federation, with the object of convincing the exchanges of the usefulness of common standards. A series of Conferences also took place in the United States during the months of April to July between the representatives of the Department of Agriculture, and delegates from representative producers, shippers and spinners' organisations in the United States. In the meanwhile a Conference of the European Cotton Exchanges was held at Liverpool in May 1923, and it was decided to send a delegation to America with a view to negotiating with the highest authorities in Washington, in order, if possible, to arrive at some working arrangement under the Act.

A Conference was therefore called at Washington on June 11, 1923, at which representatives from the leading cotton exchanges of Europe met representatives of the American cotton trade and officials of the Department of Agriculture. The European Exchanges at the Conference took exception to the official standards of the United States for length of staple, and to their relinquishment of the right of arbitrating in disputes arising out of shipments from the United States. As the representatives of the American trade present at the Conference agreed not to press the matter of arbitrations, the Department of Agriculture proposed that if the European Cotton Exchanges adopted the official cotton standards for grade and colour as universal standards the Secretary of Agriculture would take such action as was necessary to vest in the members of the boards of appeal of Liverpool, Manchester, Havre and Bremen Cotton Associations the authority to determine finally the true classification, as to grade and colour of cotton of American growth exported from the United States. This proposal was largely accepted in principle by the Conference, but later after a careful examination of the official standards the Liverpool Cotton Association pointed out that certain revisions were necessary in the standards for Good Middling, Strict Middling, Middling and Strict Low Middling so as to raise their grade slightly in order to be universally acceptable. This the Department of Agriculture agreed to do, and the boxes of standards as finally approved by all the representatives present were set aside and the Secretary of Agriculture forthwith promulgated them under the authority of the United States Cotton Standards Act as the Official Cotton Standards of the United States, henceforth known as "Universal Standards," effective August 1, 1924.

In this connection, it has to be emphasised that in spite of comprehensive and rigorous legislation it took no less than ten years for the United States Department of Agriculture to get the standards for

American cotton universally adopted, and then only after making considerable concessions to foreign interests. The terms on which the workable basis has been arrived at are embodied in an agreement to which the Department of Agriculture, the Cotton Associations at Liverpool, Manchester, Bremen, Rotterdam, Havre, Barcelona, Ghent and Milan and the Federation of Master Spinners' Associations, Ltd., are signatories. The main points in the agreement are (1) that during the time the agreement remains in force, the Department of Agriculture shall not revise or change the standards before such modifications have been considered at a meeting at which the Associations will be given an opportunity to attend. At such meetings the Associations have 50 votes and the Department 50 votes out of a total of 100 votes; and (2) that the Department of Agriculture shall authorize from time to time the members of the Committees of the respective Associations to exercise the powers of a board of examiners in matters of classification of cotton in dispute, and their award to be final.

In 1924 an agreement supplementary to the above was entered into between the same parties, the object being to provide for the presence of the signatories once every year (later changed to once every two years) at Washington at the expense of the Department of Agriculture to approve the copies of standards. No doubt the reason for this further safeguard was to establish and maintain confidence in the integrity, comparability and uniformity of copies of the original universal standards, as it was considered that in spite of the very elaborate arrangements and great precautions taken to preserve the character of the original key-set from the ravages of time, the physical appearance of the original samples constituting the universal standard might change in storage.

United States Cotton Standards Act.

(APPROVED MARCH 4, 1923, 42 STATUTES AT LARGE, PAGE 1517.)

An Act to establish and promote the use of the official cotton standards of the United States in interstate and foreign commerce; to prevent deception therein, and provide for the proper application of such standards; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that this Act shall be known by the short title of "United States Cotton Standards Act."

Section 2.—That it shall be unlawful (a) in or in connection with any transaction or shipment in commerce made after this Act shall become effective, or (b) in any publication of a price or quotation determined in or in connection with any transaction or shipment in commerce after this Act shall become effective, or (c) in any classification for the purposes of or in connection with a transaction or shipment in commerce after this Act shall become effective, for any person to indicate for any cotton a grade or other class which is of or within the official cotton standards of the United States then in effect under this Act by a name, description or designation, or any system of names, description or designation, not used in said standards: *Provided, that nothing herein shall prevent a transaction otherwise*

lawful by actual sample or on the basis of a private type which is used in good faith and not in evasion of or substitution for said standards.

Section 3.—That the Secretary of Agriculture may, upon presentation of satisfactory evidence of competency, issue to any person a license to grade or otherwise classify cotton and to certificate the grade or other class thereof in accordance with the official cotton standards of the United States. Any such license may be suspended or revoked by the Secretary of Agriculture whenever he is satisfied, after reasonable opportunity afforded to the licensee for a hearing, that such licensee is incompetent or has knowingly or carelessly classified cotton improperly, or has violated any provision of this Act or the regulations thereunder so far as the same may relate to him, or has used his license or allowed it to be used for any improper purpose. Pending investigation, the Secretary of Agriculture, whenever he deems necessary, may suspend a license temporarily without a hearing.

Section 4.—That any person who has custody of or a financial interest in any cotton may submit the same or samples thereof, drawn in accordance with the regulations of the Secretary of Agriculture, to such officer or officers of the Department of Agriculture, as may be designated for the purpose pursuant to the regulations of the Secretary of Agriculture for a determination of the true classification of such cotton or samples, including the comparison thereof, if requested, with types or other samples submitted for the purpose. The final Certificate of the Department of Agriculture showing such determination shall be binding on officers of the United States and shall be accepted in the Courts of the United States as *primâ facie* evidence of the true classification or comparison of such cotton or samples when involved in any transaction or shipment in commerce. The Secretary of Agriculture shall fix rules and regulations for submitting samples of cotton for classification providing that all samples shall be numbered so that no one interested in the transaction involved shall be known by any classifier engaged in the classification of such cotton samples.

Section 5.—That the Secretary of Agriculture may cause to be collected such charges as he may find to be reasonable for licenses issued to classifiers of cotton under section 3 and for determinations made under section 4 of this Act, and the amounts so collected shall be used by the Secretary of Agriculture in paying expenses of the Department of Agriculture connected therewith.

Section 6.—That the Secretary of Agriculture is authorized to establish from time to time standards for the classification of cotton by which its quality or value may be judged or determined for commercial purposes, which shall be known as the official cotton standards of the United States. Any such standard or change or replacement thereof shall become effective only on and after a date specified in the order of the Secretary of Agriculture establishing the same, which date shall be not less than one year after the date of such order: *Provided*, that the official cotton standards established, effective August 1, 1923, under the United States Cotton Futures Act shall be at the same time the official cotton standards for the purpose of this Act unless and until changed or replaced under this Act. Whenever any standard or change or replacement thereof shall become effective under this Act, it shall also, when so specified in the order of the Secretary of Agriculture, become effective for the purposes of the United States Cotton Futures Act and supersede any inconsistent

standard established under said Act. Whenever the official cotton standards of the United States established under this Act shall be represented by practical forms, the Department of Agriculture shall furnish copies thereof, upon request, to any person and the cost thereof, as determined by the Secretary of Agriculture, shall be paid by the person making the request. The Secretary of Agriculture may cause such copies to be certified under the seal of the Department of Agriculture and may attach such conditions to the purchase and use thereof, including provision for the inspection, condemnation, and exchange thereof by duly authorized representatives of the Department of Agriculture, as he may find to be necessary to the proper application of the official cotton standards of the United States. Any moneys received from or in connection with the sale of cotton purchased for the preparation of such copies and condemned as unsuitable for such use or with the sale of such copies may be expended for the purchase of other cotton for such use.

Section 7.—That in order to carry out the provisions of this Act, the Secretary of Agriculture is authorized to cause the inspection, including the sampling, of any cotton involved in any transaction or shipment in commerce, wherever such cotton may be found, or of any cotton with respect to which a determination of the true classification is requested under section 4 of this Act.

Section 8.—That it shall be unlawful for any person (a) with intent to deceive or defraud, to make, receive, use, or have in his possession any simulate or counterfeit practical form or copy of any standard or part thereof established under this Act; or (b) without the written authority of the Secretary of Agriculture, to make, alter, tamper with, or in any respect change any practical form or copy of any standard established under this Act; or (c) to display or use any such practical form or copy after the Secretary of Agriculture shall have caused it to be condemned.

Section 9.—That (a) any person who shall knowingly violate any provision of section 2 or 8 of this Act, or (b) any person licensed under this Act who, for the purposes of or in connection with any transaction or shipment in commerce, shall knowingly classify cotton improperly, or shall knowingly falsify or forge any certificate of classification, or shall accept money or other consideration, either directly or indirectly for any neglect or improper performance of duty as such licensee, or (c) any person who shall knowingly influence improperly or attempt to influence improperly any person licensed under this Act in the performance of his duties as such licensee relating to any transaction or shipment in commerce, or (d) any person who shall forcibly assault, resist, impede, or interfere with or influence improperly or attempt to influence improperly any person employed under this Act in the performance of his duties, shall, upon conviction thereof, be deemed guilty of a misdemeanor and shall be fined not exceeding \$1,000, or imprisoned not exceeding six months, or both, in the discretion of the Court.

Section 10.—That for the purposes of this Act the Secretary of Agriculture shall cause to be promulgated such regulations, may cause such investigations, tests, demonstrations and publication to be made, including the investigation and determination of some practical method whereby repeated and unnecessary sampling and classification of cotton

may be avoided, and may co-operate with any department or agency of the Government, any State, territory, district, or possession, or department, agency, or political subdivision thereof, or any person, as he shall find to be necessary.

Section 11.—That wherever used in this Act, (a) the word “person” imports the plural or the singular, as the case demands, and includes an individual, a partnership, a corporation, or two or more persons having a joint or common interest; (b) the word “commerce” means commerce between any State or the District of Columbia and any place outside thereof, or between points within the same State or the District of Columbia, but through any place outside thereof, or within the District of Columbia; and (c) the word “cotton” means cotton of any variety produced within the continental United States, including linters. When construing and enforcing the provisions of this Act, the act, omission, or failure of any agent, officer or other person acting for or employed by any person, within the scope of his employment or office, shall in every case be deemed also the act, omission, or failure of such person as well as that of such agent, officer, or other person.

Section 12.—That there are hereby authorised to be appropriated out of any moneys in the Treasury not otherwise appropriated, such sums as may be necessary for carrying out the provisions of this Act; and the Secretary of Agriculture is authorised, within the limits of such appropriations, to appoint, remove and fix the compensations of such officers and employees, not in conflict with existing law, and make such expenditures for rent outside the District of Columbia, printing, telegrams, telephones, law books, books of reference, periodicals, furniture, stationery, office equipment, travel, and other supplies and expenses as shall be necessary to the administration of this Act in the District of Columbia and elsewhere.

Section 13.—That if any provision of this Act or the application thereof to any person or circumstances is held invalid, the validity of the remainder of the Act and the application of such provision to other persons and circumstances shall not be affected thereby.

Section 14.—That this Act shall become effective on and after August 1, 1923.

APPENDIX I-C.

Note on Proposed Jute Control Corporation.

[BY MR. A. P. McDUGALL, C.B.E., CHAIRMAN AND MANAGING DIRECTOR OF MIDLAND MARTS, LIMITED, AND CHAIRMAN OF MIDLAND WOOL GROUPERS' LIMITED, FORMERLY PRESIDENT, CO-OPERATIVE FARMS TRADING SOCIETY IN SCOTLAND.]

In recent years attempts have been made to control the price of rubber, coffee and wheat by different methods. All have failed for reasons which are well known.

Jute is the only crop of any magnitude which, under existing conditions, lends itself to such a form of control as would ensure a stabilised price to the grower. Many Indian economists have pointed out that it is a monopoly and that therefore it should be possible to secure to the producer a paying price. If it is a monopoly to India, then this ought to be possible. There is reason to believe that it is. Attempts have already been made in Java to establish the crop there, and also in America and West Africa, but they have failed. It would be difficult to imagine a more suitable country than Java—the climate and soil in parts not dissimilar and cheap labour. In any case it is not grown in any other part of the world, though it has in the past been a paying crop of great value. There is, therefore, justification for believing that so far as the producer is concerned it is a monopoly crop, as long as the price is not raised unduly.

There is also some ground for suggesting that the manufactured article has to a considerable degree a monopoly. There are only two products in competition with it—hemp and paper. The former costs several times more and is too expensive to enter into competition with the ordinary jute product. Paper, up to the present, is only in competition with jute for cement bags, and the demand for jute would only be endangered if monopoly powers were used to raise the price unjustifiably beyond an economic figure. But it is no less possible that a well equipped research association could discover other purposes, as yet unknown, for which jute could be used.

It is possible with jute to regulate production. Further all exports can be cleared through two ports—Calcutta and Chittagong.

To enable control to be effective, it would be necessary to take the following steps—

A jute Corporation shall be established, with powers to fix prices for the raw material, to eliminate unnecessary costs of distribution, to control output and, if necessary, to undertake distribution and effect all payments. The capital of the Corporation shall be held by the Provincial Governments in jute growing areas in proportion to the average areas grown. The management shall be vested in a directorate

representing the various interests involved. The constitution of the Directorate shall be as follows:—

- (1) Overseas manufacturers—Two representatives for Europe. One representative for America.
- (2) Indian Jute Mills Association—Two representatives.
- (3) Calcutta Baled Jute Association—One representative.
- (4) Calcutta Jute Shippers Association—One representative.
- (5) Calcutta Jute Dealers Association—Two representatives.
- (6) Bengal Jute Association—One representative.
- (7) Directors of Agriculture to represent the cultivator. Five representatives.
- (8) Representative of Banking interests—One. Full executive powers shall be vested in the Directorate.

NOTE.—The interests of the producer will be fully safeguarded by the Government holding the entire capital of the Corporation and having the power to dissolve the Corporation in the event of monopoly powers being used adversely.

This is merely the outline of a scheme for stabilisation of price and control of production. If the producer and the business interest are ready and willing to contribute the Share Capital, then the Government share may be diminished as the other interests increase the Share Capital.

If the constitution of the Board is not suited to local conditions it may be examined and modified suitably.

Prices shall be fixed in advance in consultation with the various interests involved. Manufacturers and export balers (on behalf of their clients) shall be bound to purchase all their requirements through the Corporation at the stated price.

The Corporation shall be responsible for all surplus jute and shall withhold same from the market unless for purpose which shall not be in competition with the manufactured jute fabric.

Producers shall be formed into local associations, which shall be co-operative societies and subject to the rules and regulations of such. They shall be responsible for the collection and transport of supplies to local depots. The collecting associations shall also be responsible for distributing all payments to their members.

At each local depot the representative appointed by the local association shall take over the jute by weight from the members. It shall then be handed over by him to the *bepari*. Each lot to be moved and kept separate. The *bepari* shall be responsible for delivery to the central depot as taken over by him. Each individual parcel shall be reweighed and priced under the existing system. The final price to the grower shall then be determined and credited to his account.

Payment of 75 per cent of the price fixed by the Corporation shall be made to the association on delivery and weighing of the jute to the local depot. The balance shall be paid when taken over by the central depot purchasers after assortment.

Each association shall keep an exact record of output of all members and of the acreage of their holding. They shall employ a competent

manager. The records of the associations shall be regularly inspected by officials of the Corporation. The Corporation shall have powers to settle all disputes. The association shall limit or increase the output of each member *pro rata* according to the requirements of the Corporation.

Each consignment received by the association from its members shall be weighed and marked at the point of collection.

It would be advisable to use the existing channels of trade, as the agents of the Corporation on a commission basis. Agreements to be entered into for stated periods.

After the raw material is in store it is a matter of ordinary business routine to supply, by whatever channels are decided on, the requirements of manufacturers throughout the world. Existing storage capacity shall be made use of. It may be found necessary to erect extra accommodation for the handling of surplus jute. Manufacturers will have nothing to gain by refusing to take their year's supply, to the limit of their storage capacity, whenever the material can be despatched to them.

Manufacturers shall notify the Corporation of their requirements at the beginning of each season, and shall be bound to take the amount specified. The difficulty of financing the season's requirements by the Corporation would largely disappear. Jute at fixed prices would then be recognised as a safe security. The banks as at present could hold a lien on the goods. The banker and the manufacturer should therefore welcome the proposal of fixing prices, as it relieves them both of great uncertainty. Manufacturers, having been relieved of existing speculative risks in purchasing their raw material, would be in a position to devote all their energies to improving their technical and sales organisations and to reducing their costs of production. It is well known that the speculative risks of purchasing requirements of raw material are a distinct handicap to manufacturers. The retail price of the manufactured article would not be influenced to any appreciable extent by the difference of say four rupees per maund on the raw material.

It is not inconceivable that under proper organisation material reductions could not be made in the cost of distribution.

The yield of jute in Bengal in 1928-29 was 43,000,000 maunds and its value at 9 rupees was £29,000,000. In 1930 the average price was about Rs. 4/4/- landed Calcutta. It has been calculated that the cost of distribution is Rs. 2/8/- per maund apart from speculation and profits. One rupee per maund means £3,250,000. It is unnecessary at this stage to enter into further details with regard to the distributing organisation which should be set up. It is merely a matter of sound business organisation and efficient accounting. The magnitude of the control need not prejudice the proposal.

The greatest difficulty will be found in the control of the crop output, but it is by no means insuperable. The allocation can be based on the previous output of the ryot. Restriction is no hardship where land can be used for growing other crops. Where other crops cannot be grown on, it is calculated at 45 per cent. of the land, the ryot can leave a small proportion of his land fallow. A certain income from jute is of much greater value to him. Legislation would be necessary. Powers would be required even to the extent of refusing to allow any but recognised growers to cultivate the crop.

Surplus in any given year of 50 per cent. need be no serious handicap. A considerable carry over is indeed necessary and is doubtless the ordinary practice of the trade. Gladstone once said that "Faint heartedness was the master vice of the politician." If it can be proved that the economic difficulties are not insuperable, then the benefits of such a scheme to the Indian ryot, and perhaps to the world, are such that however great the administrative difficulties, it should be put in operation.

The existing methods of distribution are—

- (1) The Cultivator.
- (2) The *Faria* and *Bepari*.
- (3) Merchants (Marwaris and European).
- (4) Mills, balers and shippers.

There are only three grades—

- (1) Standard (1st quality).
- (2) Lightning (2nd quality).
- (3) Hearts (3rd quality).

The variation in price is approximately as follows—

- When 1st—Rs. 30 per bale.
 When 2nd—Rs. 27—Rs. 27/8 per bale.
 When 3rd—Rs. 23—Rs. 24 per bale.

The greatest difficulty in establishing a successful jute control will probably arise from the taking over of existing stocks apart from the growing crop of the ryot. The whole position must be very carefully investigated and a decision arrived at as to whether it would be sufficient to leave them for disposal through the ordinary channels of trade. If control is confined to the crop in the hands of the cultivator then there will be considerable speculation in the stocks held by the merchants and traders. If the present level of prices is taken at four rupees per maund, merchants would hold up the stocks against the price that is fixed for control. They would receive a gratuitous profit of—say Rs. 4/- per maund if the price was fixed at Rs. 8. This would result in many millions of pounds being made by the merchants without any risk to themselves. Moreover, the merchant in holding up the stocks for a rise would disorganise the demand through control.

It may, therefore, be necessary to take over existing stocks. It has been suggested that in order to overcome the difficulty of the manufacturer having made forward sales contracts—that he should be allowed a six months supply of jute. In the event of any manufacturer having any more jute in stock, the samples should be taken over by the Corporation. In the event of any manufacturer having less than a six months' supply in hand, he would be given the balance, at the price jute is taken over by the Corporation from the merchants. Manufacturers who refuse to hand over any quantity beyond a six months' supply would be informed that if they refuse to do so control prices would

be raised against them to the extent to one to two rupees per maund. A fair profit would be allowed to the merchants on the stocks in their hands, and all stocks would have to be declared.

It has been suggested that the *farias* and the *beparis* would withhold stocks of jute in their hands to hand over to the Corporation in the following year's crop at enhanced prices. It may be that a comparatively small percentage of jute could be manipulated in this way, but all traders will be licensed and the Corporation will have power to cancel the license of any merchant or trader who does not comply with the requirements of the Corporation. *Farias* and *beparis* must also declare their stocks. In the event of any *bepari* endeavouring to manipulate his supplies, his license would be withdrawn. The right to withdraw a license gives the Corporation great powers. It would mean that in future the *bepari* would be out of business. The stocks in the hands of the *bepari* which could not be traced would amount to a very small percentage of the whole. As the Corporation will make a considerable profit on jute taken over, the financial stability of the Corporation would not be effected by a comparatively small proportion of illicit stocks having to be taken over in the following year's crops. We are informed on good authority that old jute can be spotted with comparative ease, if so, *farias* and *beparis* will run great risks. They will probably find that it is not worth their while.

Payments to the cultivator will be made in the following way—Associations as we have already suggested will be established to which will be attached groups of villages. One cultivator from each village shall be appointed to the Committee of Management. A Secretary Manager shall be elected by them and shall be their paid servant. He shall be responsible for keeping all books and transacting all correspondence between the Corporation and the society; he shall be responsible for organising the collection of jute on given days. He shall also be responsible for supervising the area of jute grown according to the requirements of the Corporation. Each member of the Committee shall in his own village assist in arranging the allocation in the village.

When a crop is ready for delivery, the Corporation will fix three collecting days during the season for each association, the jute will be taken by the cultivators to the appointed depot. It shall be weighed in the presence of the Manager and at least one of his Committee and the *bepari* or *faria*, whose business it will be to convey the jute to a central depot. Each consignment as weighed will be labelled with the name of the grower. The weight shall be invoiced in the books in the ordinary way. A servant of the Corporation or preferably of the bank will attend each collection with cash in hand. As each lot of jute is weighed and taken delivery of, the grower shall receive a cash payment of 75 per cent. of the fixed price.

The *beparis* shall be responsible for delivering the jute as taken over by him to the central store. A responsible official of the Corporation shall then re-weigh each consignment and price it for quality according to trade custom. The remaining percentage due to the cultivator shall be paid to him on the next day of collection. At the end of the season any balance due to the cultivator for his last consignment shall be sent to the Committee of Management of his association for distribution amongst the members.

It has been suggested that this method is not possible in practice because of the magnitude of the task involved. We shall examine it in detail.

In the 1921 census the number of population supported by jute agriculture is given at 4.2 millions. For the purpose of calculation let us assume that $\frac{1}{4}$ of that number are cultivators; this gives us one million. Let us make a further assumption that there is an average of 20 cultivators in each village (the average number we are informed on good authority is considerably more) and that the average number of villages which could be formed into a jute collecting depot would be 20, we have therefore to deal with 50,000 villages and 2,500 selling associations. Allowing for 3 collections and 3 bank assistants at each collection to do the necessary book-keeping and effect payment, a staff of five or six hundred would be ample. I am informed on the best of authority that the banks could provide this staff with ease and that insurance of the money in transit could be effected at a rate of 3/32 per cent. a trifling charge.

Apart from all other considerations, any schemes that would enable the cultivator to handle the actual money which his produce realises, is deserving of the most serious consideration by all who are interested in his welfare. Credit Co-operative Societies might eventually take over the work of payment, but this would take some years; the actual collecting associations would be run as co-operative societies though formed compulsorily, but in the initial stages it would be advisable to pay over the monies direct to the cultivator as suggested.

APPENDIX II.

Table and Graph of Observed and Adjusted Prices of Jute (*vide* page 7 of the Report).

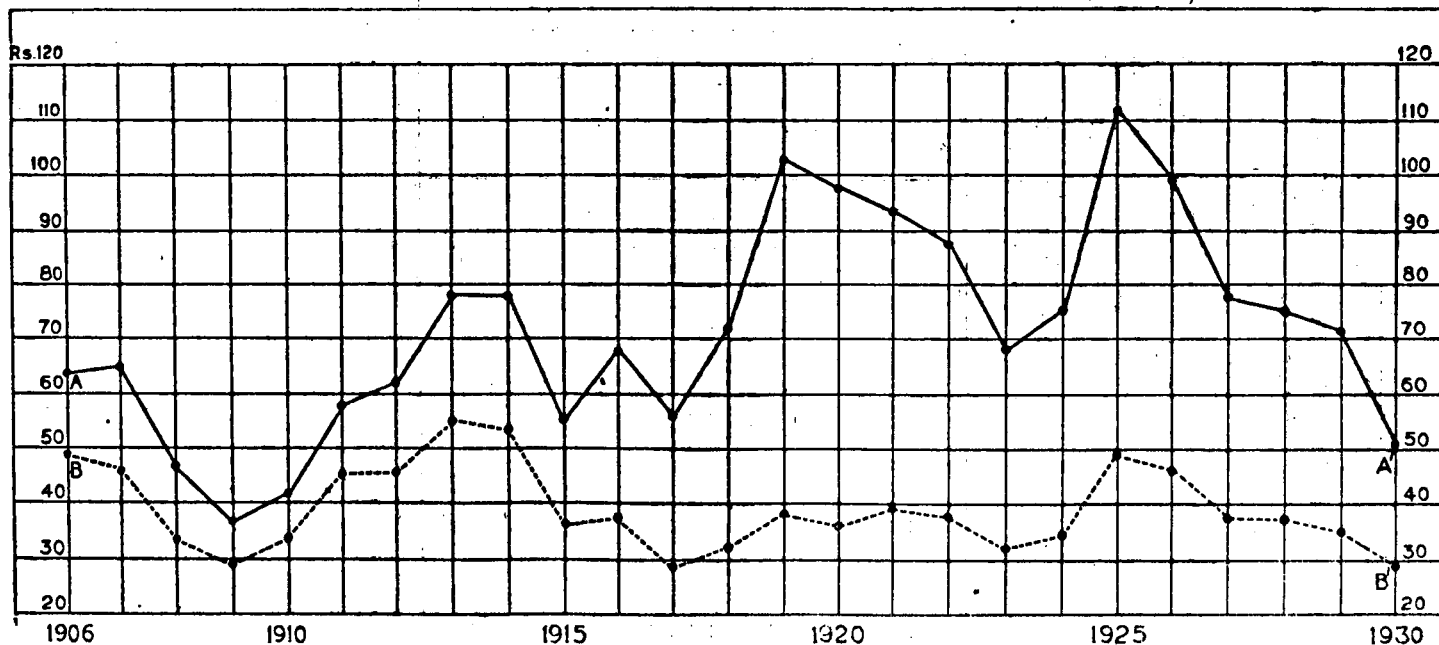
TABLE.

Year.	Average annual price of raw jute in Calcutta per bale of 400 lbs. in rupee, C.D.M. group before 1922 and "Reds" from that year.*	Adjusted price of jute (i.e., observed price in column 2 \times 100, divided by the general index number of prices† for the corresponding year).
1	2	3
1906	63.07	48.89
1907	64.86	47.34
1908	46.10	33.41
1909	36.11	29.12
1910	41.11	33.70
1911	57.81	44.81
1912	61.44	44.85
1913	77.95	54.51
1914	77.75	52.89
1915	54.35	35.76
1916	67.26	36.55
1917	55.75	28.44
1918	71.40	31.73
1919	102.20	37.03
1920	97.51	34.70
1921	93.56	39.64
1922	87.84	37.86
1923	68.36	31.80
1924	75.84	34.32
1925	111.61	49.17
1926	98.72	45.70
1927	76.38	37.81
1928	75.06	37.34
1929	71.25	35.10
1930	50.30	29.42

*These figures are taken from the table relating to Average Annual Wholesale Prices of Staple Commodities in India, of the Statistical Abstract for British India (Annual).

†The general index number of prices is taken from the "Index Number of Indian Prices and its addenda (quinquennial)."

Graph representing observed and Adjusted Prices of Jute.



A — A'—Observed price of jute in Calcutta per bale of 400 lbs. in rupees and decimals of a rupee, C. D. M. group before 1922 and 'Reds' from that year.

B — B'—Adjusted price of jute in Calcutta per bale of 400 lbs. in rupees and decimals of a rupee.

APPENDIX III.

(Vide page 8 of the Report.)

An attempt by the Director of Land Records, Bengal, to estimate the cost of the minimum staff required to carry out compulsory jute restriction in an average district.

The area under jute normally is not a large percentage of the total cropped area of any district as the figures in the table below will show. In Bankura, Birbhum and Chittagong there is no jute, or the quantity so small as to be negligible. In Burdwan the quantity is small but I believe very high class.

The proposal that a restriction on cultivation of jute should be imposed by legislation and the restriction enforced by an official staff will, in my opinion, be far more costly than any benefit accruing to the state.

Referring to the Revenue Secretary's note the procedure outlined consists of two parts. The first operation is to find out the percentage culturable area, (a) district by district, (b) subdivision by subdivision, (c) thana by thana, (d) village by village, and lastly (e) *khatian* by *khatian*. Further, it would be almost essential to fix this figure in terms of jute growing culturable area, for all the culturable area is not suited to the cultivation of jute. Unfortunately the settlement records do not show this and the figures which were obtained in the Khasra are not now available. It is, however, possible to find from the Milan Khasra and Juniswar statements of each district the area found under jute for (a), (b), (c) and possibly (d) above. It is therefore only the *khatian* figure that is not at all available.

The cost of preparing the *khatian* abstracts and preparing copies thereof for publication corresponds largely to the part cost of Attestation Janch. The cost of Attestation Janch is approximately Rs. 20 per square mile. That operation consists in checking of every entry, abstraction of statistics for rent and area and entry into certain forms. The abstraction of these figures would cost about half to two-thirds of the total or, say, Rs. 10 to Rs. 13 per square mile.

This operation once done would not need to be done every year but only minor corrections made somewhat similar to maintenance which could be done by the staff employed for the other part of the work.

The second part of the operation is the distribution of the allotment for the district between the subdivisions, thanas, villages and finally cultivators, and the issue of licenses; later on inspection to see that the license has not been exceeded.

Assuming that the allotment for a district is made by the Director of Agriculture on a basis of acres this must be divided between subdivisions and/or thanas by a responsible officer at headquarters. I do not think any special officer would be required for this; but the Collector could do this and general inspection in the course of his ordinary duties, and depute a responsible officer to make careful inspections to check dishonesty.

In subdivisions on the other hand I think a responsible officer not lower than Sub-Deputy Collector would be essential. Where area of the subdivision is small one between two would do. For each thana an executive subordinate, paid sufficient to place him beyond temptation, would be required. His duties would be the actual issue of licenses, distribution village by village and *khatian* by *khatian*. Examining his

duties, it would be necessary for him to calculate what area any individual should be allowed on the proportion of his holding to the whole area of the village. Presumably, applications would first be taken and only those applying would be allowed licenses. This would reduce the calculation to be made. Assuming that the jute officer (executive subordinate) is able to proportion out the area to be cultivated by each tenant who has applied it will be necessary for him to point out the area in the field, unless the tenant is able to understand and read the cadastral map. (A great many can). Applications would have to be put in by 1st October as the issue of licenses village by village would take at least two months and they must be issued before the middle of January when ploughing starts provided there is any rain. During February, March and April (and even into May in some areas which is the last month for sowing) it would be necessary for him to tour and see that other plots than those licensed had not been sown with jute. They would thus be employed not less than 9 months per annum. Allowing one month for gazetted holidays (Pujas and X'mas) and one month's leave earned per annum there would be one month left in which records, *fristis*, etc., would be made.

To return to the issue of licenses. In an average district of 3,000 square miles with 1,000 plots and 300 interests per square mile there are 30 thanas. The percentage of the cropped area under jute varies in different districts as the table placed below will show. The average jute growing district may be taken as having 12 per cent. of the cropped area under jute. In each thana of 100 square miles there would therefore be 12 per cent. of 100,000 plots under jute normally, or 12,000 plots. Assuming that the executive jute officer can visit 100 per day it will take him 120 days or 3 months. I have taken the figure at 100 as the standard outturn for a *bujharat kanungo* who has many entries and surveys to check but on the other hand moves consecutively from plot to plot while the jute officer could not do so. He would have to start on the issue of licenses not later than middle of October. He would have 15 days in which to allot the village areas and prepare his *khatian* distribution. He would require a staff of not less than 1 clerk on Rs. 30-35, one orderly on Rs. 12 and two peons, to send intimation to villages, on Rs. 13. Total monthly cost of staff per thana would therefore be—

	Rs.
Jute Executive Officer on fixed pay, including travelling allowance	200
Licence clerk	35
Two peons	26
Orderly	12
Total ..	273
For 30 thanas $30 \times \text{Rs. } 273 = \text{Rs. } 8,190$ per month ..	98,230 per annum.
Add the cost of 4 sub-deputy collectors one for each subdivision at Rs. 275 ($4 \times 12 \times 275$) ..	13,200
Travelling allowance at Rs. 100 for 5 months ($100 \times 5 \times 4$)	2,000
Total cost recurring per annum ..	1,13,430
<i>Add indirect charges—</i>	
Forms and stationery	1,000
Leave and pension at 25 per cent. approximate ..	25,000
Contingencies—House rent for officers ..	10,000
Grand Total ..	1,49,430
Initial cost of preparing abstracts	30,000

I consider these figures bed rock bottom.

The other point raised is one of the subject of literature on cost rates. The Settlement Manual gives a sample estimate, and in the department annual report cost rates for various branches of the work in settlement are given.

District.	Normal percentage of cropped area under jute.
Bakarganj	2.4
Bogra	12.4
Burdwan	0.8
Dacca	15.7
Dinajpur	5.5
Faridpur	14.8
Hooghly	12.0
Howrah	9.0
Jalpaiguri	11.6
Jessore	8.7
Khulna	2.2
Malda	3.0
Midnapore	0.6
Murshidabad	2.1
Mymensingh	15.9
Nadia	4.5
Noakhali	3.5
Pabna	12.2
Rajshahi	6.3
Rangpur	14.47
Tipperah	15.4
24-Parganas	6.1

APPENDIX IV.

(Vide page 19 of the Report.)

London Jute Association Arbitration Fees.

On the urgent representation of the Calcutta balers, the committee undertook the revision of the number of bales necessary for arbitration purposes and of the fees payable and the following schedule was agreed, subject to clause 14 (b) of the Contract Forms:—

		Quality.			Condition.		
		Bales to be examined.	Heads.	Fees.	Bales.	Fees.	
			£ s. d.			£ s. d.	
125 B/s. One number	..	3	60	3 3 0	5	3 3 0	
125 B/s. Assortment	..	4	80	3 3 0	6	3 3 0	
250 B/s. One number	..	5	100	4 4 0	7	4 4 0	
250 B/s. Assortment	..	6	120	5 5 0	8	5 5 0	
375 B/s. One number	..	6	120	5 15 6	8	5 15 6	
375 B/s. Assortment	..	8	160	6 16 6	10	6 16 6	
500 B/s. One number	..	8	160	7 7 0	12	7 7 0	
500 B/s. Assortment	..	10	200	8 8 0	14	8 8 0	
750 B/s. One number	..	10	200	9 9 0	14	9 9 0	
750 B/s. Assortment	..	12	240	10 10 0	16	10 10 0	
1,000 B/s. One number	..	12	240	12 12 0	16	12 12 0	
1,000 B/s. Assortment	..	14	280	13 13 0	20	13 13 0	

In claims for quality and condition the fees to be charged are those for quality *plus* 50 per cent.

The scale of charges was also carefully revised and it was agreed to reduce the Appeal Fee to £5 on quantities of 250 bales or less.

APPENDIX V.

(Vide page 83 of the Report.)

Memorandum showing the countries which, according to the latest information available in the Commercial Intelligence Department, have during recent years increased or imposed duties on jute sackings and hessians and the rates of such duties.

1. **Ceylon.**—Gunnies and gunny cloth which were formerly admitted free of duty were made liable to a duty of 10 per cent. *ad valorem* with effect from 6th February 1932.

2. **Federated Malay States.**—With effect from 11th November 1931 a duty of 10 per cent. *ad valorem* was imposed on all jute goods other than thread and gunnies, which were formerly admitted free of duty. Since the exemption from payment of duty has also been extended to yarns and waste.

3. **Gold Coast.**—Bags and sacks ordinarily imported for the packing and transport of West African produce were formerly exempt from payment of duty there being a duty of 10 per cent. *ad valorem* on other jute manufactures. This rate was subsequently raised first to 12½ per cent., later to 15 per cent. *ad valorem*. Again with effect from 1st March 1932 a duty of 2*d.* each was imposed on bags and sacks specified above and the rate of duty on other jute manufactures was further increased to 20 per cent. *ad valorem*. Further, a surtax of 5 per cent. of the rates is applicable to both the above categories from the same date.

4. **Anglo-Egyptian Sudan.**—Jute manufactures which were formerly assessable at 8 per cent. *ad valorem* now pay a duty of 10 per cent. *ad valorem* except on sacks which are still assessed at the old rate of 8 per cent. *ad valorem*.

5. **British Guiana.**—Jute manufactures except empty bags and sacks, which were admitted free of duty, were assessable at 16½ per cent. *ad valorem*. In January 1929 a duty of 2 per cent. *ad valorem* was, however, imposed on empty bags and sacks and certain packing materials imported for the purpose of packing or containing goods of local production.

6. **Fiji.**—Bags and sacks (over 2 bushels) and other jute manufactures were formerly assessable at 1 sh. per dozen and 15 per cent. *ad valorem*, respectively, but in 1931 the duties were changed as under:—

Bags and sacks, 2 bushels and under	... 20 per cent. <i>ad valorem</i> .
Bags and sacks, not otherwise enumerated	... Free
Other Jute manufactures	... 20 per cent. <i>ad valorem</i> .

7. **British Honduras.**—Formerly empty bags and sacks were admitted free of duty and other jute manufactures were liable to a duty of 5 per cent. *ad valorem*. In 1929 the duty on all classes of jute manufactures was raised to 10 per cent. *ad valorem* exemption

from payment of duty being granted in favour of only such empty bags and sacks as are to be re-exported filled with produce. In 1932 a surtax of 25 per cent. of the existing duty was imposed on jute manufactures.

8. **Trinidad.**—Prior to 29th November 1929 empty bags and sacks, and other jute manufactures were liable to a duty of $7\frac{1}{2}$ per cent. and 10 per cent. *ad valorem*, respectively, plus a surtax of $7\frac{1}{2}$ per cent. With effect from the said date the surtax was removed and bags used in packing the agricultural products of the Colony were placed on the free list. A surtax of 10 per cent. was again reimposed in 1930 on jute manufactures.

9. **Germany.**—Close-woven tissues of jute (unbleached and bleached) were previously assessable at 19 to 57 RM (according to warp and weft content) and 96 RM respectively per 100 kilos. With effect from 6th September 1932 these were made liable to duty at 30 to 70 RM and 120 RM, respectively, per 100 kilos.

10. **Netherlands.**—The duty on jute fabrics and bags which was formerly 5 per cent. *ad valorem* was raised to 6 per cent. *ad valorem* with effect from 29th January 1931. New sacks and other unused packing goods intended for re-export after having been filled in the Netherlands are, however, exempt from duty.

11. **Belgium.**—With effect from 27th March 1932 an additional duty of 15 per cent. *ad valorem* is being levied on tissues of jute and used cloth sacks for packing goods imported empty, the substantive rates of duty on these being 120 to 200 Fr. per 100 kilos (according to number of threads) and 5 per cent. *ad valorem*, respectively. The substantive duty on other kinds of cloth sacks for packing goods is the same as that of the fabric of which these are composed with an increase of 10 per cent.

12. **Italy.**—Unbleached plain tissues of jute which are assessable at 28·8 gold liras per 100 kilos have been made liable to an additional duty of 15 per cent. *ad valorem* with effect from 25th September 1931.

13. **Yugoslavia.**—With effect from 1st June 1932 the duty on jute tissues having in warp and weft in a square of 1 cm. side 18 threads or less and on sacks made of such tissues was raised from 25 and 32 to 28 and 35 gold dinars, respectively, for 100 kilos.

14. **Poland.**—Recently there has been no change in the Polish Tariff in regard to jute or burlap sacks and tissues of jute for sacking and packing purposes. But under the Decree, dated 21st December 1931, the import into Poland of jute yarns and tissues was prohibited during 1932 except the admission of a restricted quantity during January and February. It is not known if the operation of the Decree has been further extended. It is also reported that the Polish Government is considering the question of prohibiting the import, *inter alia*, of raw jute also with a view to encourage the production of flax and its subsequent manufacture into bags, sacks, etc. No definite information as to the final decision of the Government is yet available.

15. **Lithuania.**—The duty on jute sacks and coarse jute bagging and sacking cloth which was 0·30 litas per kilo was raised from 29th

March 1931 to 0·60 litas and from 11th June 1932 to 1·00 litas per kilo.

16. **Spain.**—A surtax of 10 per cent. of the duty was imposed, with effect from 28th December 1929, on plain or twilled fabrics and other jute fabrics, whether sewn or made up or not, which were till then assessable at rates varying approximately from 0·52 to 5·18 pesetas and 0·92 to 1·38 pesetas, respectively, per kilo. With effect, however, from 30th August 1930 jute sacks used to contain goods are exempt from the surtax.

17. **Portugal.**—An additional tax of 20 per cent. was imposed, with effect from 26th February 1932, on packing cloth and burlap, and on sacks and bales serving as packing for goods, if made of fabrics generally used for the purpose, which were till then assessable at 0·30 and 0·045 escudos, respectively, per kilo.

18. **Iraq.**—With effect from 9th November 1930 an additional duty of 1/10th of the duty was imposed on packing materials (including gunnies and hessian cloth) and jute textiles (including gunnies and hessians when not intended for packing) which were prior to that date assessable at 11 per cent. and 15 per cent., respectively.

19. **Java.**—Piecegoods and stuffs of jute were formerly assessable at 10 per cent. *ad valorem*. The duty was increased by 10 per cent. during 1931, by 20 per cent. during 1932, and by 50 per cent. from 15th June 1932 to 31st December 1933.

20. **Japan.**—Under Law No. 4, dated 15th June 1932, the duty on tissues of jute having in a square of 5 mm. side in warp and weft up to 20 threads, and on gunny bags (other than old which are free) which was 2·50 to 7·40 yen (according to number of threads) and 2·55 yen, respectively, per 100 kin was raised by 35 per cent.

21. **Egypt.**—Woven fabrics of jute, and jute bags (new or used and empty or full) were previously liable to a duty of 8 per cent. *ad valorem*. Jute bags containing certain specified fertilisers were, however, exempt from payment of duty. Under Decree of 12th May 1932 these were made liable to an additional duty of 1 per cent. *ad valorem*. Further, under Decree of 1st June 1932 these were made assessable at the specific rates of £E. 1·200 and £E. 0·250, respectively, per 100 kilos. The exemption in favour of jute bags containing fertilisers remains in force under the new Decree also.

22. **Columbia.**—Sacks and tissues for packing were formerly liable to a duty of pesos 0·20 per kilog *plus* various surcharges amounting to 17·81 per cent. of the basic customs duty. These rates were revised in 1931 grey jute cloth for packing and jute sacks for packing being made liable to a duty of 0·40 and 0·35 pesos, respectively, per kilo. The new duties are inclusive and replace the former surcharges.

23. **Chile.**—The duty on jute burlaps containing 8 threads or less in a square of 5 mm. side, and on jute bags for holding grain or other articles which was formerly 0·05 and 0·10 peso, respectively, per kilo was raised by 50 per cent. in accordance with a new Customs Law promulgated on 10th March 1933. It is also reported that these duties were to be further increased, with effect from 1st April 1933, to 0·80 and 1·00 pesos, respectively, per kilo. Duty-free import is, however, permitted when such materials are consigned to the Agrarian

or Mining Credit Bank and are necessary to supplement the national production. Sacks for the transport of nitrate for export are also exempted from the increased duties. It is understood that this step has been taken to encourage the cultivation of canamo (a local fibre) and the manufacture therefrom of fabrics as a substitute for jute manufactures.

24. **Peru.**—Prior to 1st January 1930 unbleached tissues and sack cloth of jute containing up to 10 threads in warp and weft in a square of 6 mm. side were assessable at 0.05 soles per kilo and new or used jute sacks for goods were admitted free of duty. With effect from the said date the duty on the former was raised to 0.10 soles per kilo and a fresh duty of 0.03 soles per kilo was imposed on the latter.

25. **Mexico.**—Formerly (1) unbleached coarse tissues of jute of any weave containing up to 32 threads in warp and weft in a square of 2 cm. side were assessable at rates varying from 12 to 20 centavos (according to weight) per kilo and (2) bags made of the above tissues were assessable at the same rates but were liable in addition to a surtax of 10 per cent. These duties were subsequently modified and in July 1928 the duty on (1) above was 0.24 to 0.40 centavos per kilo, and on (2) above was 0.27 to 0.45 centavos according to the weight of the original tissues, there being no surcharge. In 1931 these rates were further changed, unbleached, or bleached tissues (coarse) of jute of any texture having in warp and weft up to 16 yarns or threads per square cm. being made assessable at 0.45 to 0.80 centavos per kilo according to weight per square metre and sacks of jute cloth, bleached or unbleached, of the same specification as tissues above being made liable to duties varying from 0.50 centavos to 0.85 centavos per kilo according to weight per square metre.

It may be noted in this connection that along with the increase in import duties in 1928 certain local goods were, for the first time, subjected to higher customs duties when exported other than in bulk or in bags of native fibres. Sacks are considered as made of native fibres if they contain at least 40 per cent. of pita, ixtle, hanequen, palma or other fibres grown in Mexico. By the Decree of 23rd March 1929 an additional preference in the matter of export duty was given to articles packed in containers manufactured solely from native fibres, an intermediate rate being assigned to articles packed in containers made from at least 40 per cent. of native fibres.

(NOTE.—In the above statement only such rate or rates of duty have been given as apply to goods the produce or manufacture of British India.)

With reference to the previous note regarding proposals to replace imported containers by local products it is reported that by virtue of decree-law, No. 288 of the 26th July 1932, published in the "Diario Oficial" of the 12th August, the duty on sacks and sacking appearing under sections 419 and 300 of the Customs Tariff will be raised as from the 1st September 1933 to 1.80 peso per gross kilo instead of 0.10 peso and 0.05 peso per gross kilo to which articles in those sections are now subject. It will, however, be observed from the enclosed copy of a translation of the decree in question, that sacks and sacking consigned to the Agrarian and Mining Credit Banks are to enter duty free provided their importation is necessary to supplement national production. Sacks for transporting nitrate abroad are also to be exempt from duty since they cannot be manufactured in Chile.

2. With the object of further stimulating the development of a sack making industry in Chile, machinery used in the preparation of fibres or the manufacture of sacks is exempted from import duties for a period of 2 years. At the same time the President of the Republic is authorised to reduce or suppress the duty on textile fibres, and seeds of fibrous plants.

3. At present sack making in Chile, is, as previously explained, in an experimental stage and no sacks are yet manufactured on a commercial scale. One of the main obstacles in the way of the development of this new industry is the difficulty of finding the foreign exchange with which to purchase the necessary machinery and equipment. Messrs. Gibbs and Co. are endeavouring to float a company to manufacture sacks from canamo, but their negotiations are being held up by their inability to obtain some £30,000 to acquire plant from suitable British firms with whom they are in close touch. They hope, however, to solve this problem mainly by exporting Chilean products.

4. As regards the interest of the Sociedad Industrial de Los Andes, mentioned in the note under reference, in extending their activities to sack making. It is understood that they have made little progress owing to shortage of capital. It will be recollected that this concern recently acquired for experimental purposes a British loom for weaving sacks.

5. Unless, however, definite arrangements are made within the next few weeks for the purchase of the necessary plant, the full programme for the manufacture of sacks will have to be postponed for another year, since the canamo for the next harvest must be sown between the middle of September and the end of October. The extensions in the area sown with canamo necessary to supply the needs of the proposed industry will not, of course, be made unless the establishment of mills is definitely guaranteed.

CHILE.

Decree-Law No. 288 of 26th July 1932 increasing the import duties on sacks (published in the "Diario Oficial" of 12th August 1932).

(Translation.)

In view of previous dispositions and the studies carried out by the Department of Manufacturing Industries of the Ministry of Developments and by the Ministry of Agriculture, and in accordance with decree-law No. 127 of 4th July 1932, for stimulating production and:

Considering that article 2 of law No. 5092 of 18th March 1932 requires the employment, within a period of two years, of containers fabricated with national raw materials, and that it is necessary and desirable in the national interest to encourage forthwith the cultivation of canamo and to put into operation existing canamo spinning mills in order that they may be adapted to the manufacture of fabrics for containers the following decree-law has been resolved and dictated:—

Article 1.—Commencing from the 1st April 1933, sacks and sacking which are imported under sections 419 and 300 of the Customs Tariff

will pay one peso and eighty centavos, of sixpence per gross kilo, respectively.

Sacks imported for the purpose of transporting nitrate abroad will not be subject to the provisions of the above articles.

Article 2.—There will be exempt from the payment of import duties, the sacks and sacking indicated in Article 1 of the present decree-law provided they arrive consigned to the Agrarian Credit Bank or the Mining Credit Bank and up to the quantity necessary to meet, in conjunction with the national production, annual consumption requirements.

There will also remain exempt from duties, for a period of two years, the looms and machinery intended for the manufacture of sacks and sacking for containers; plant for preparing and harvesting textile fibres and spares and tools for those articles, always provided that they cannot be constructed in the country and whose construction the Ministry declares not desirable by supreme decree.

Article 3.—The President of the Republic is authorised to increase, lower or suppress import duties on textile fibres and seeds in a manner to be determined by the "reglamento" regarding the present decree-law.

Article 4.—The President of the Republic after receipt of advice from a Commission consisting of a representative of the Ministry of Development, who will preside, one of the Ministry of Agriculture, the manager of the Agrarian Credit Bank, and a representative of each sack factory which has at least an annual output capacity of four hundred thousand kilos of sacks and sacking, will fix periodically maximum and minimum prices for the sale of canamo seeds, of fibres, sacking and sacks intended for containers, in conformity with the type and qualities which the "reglamento" establishes.

Article 5.—The Director-General of Statistics shall, on the request of the Commission mentioned in the preceding article, demand from the farmers, manufacturers and traders, a verified declaration of the stocks at any given moment of the articles referred to in the present decree-law.

Article 6.—Infringements of the present decree-law will be penalised by fines of one hundred to three thousand pesos or by confiscation of the goods or both, all of which will be carried into effect judicially in accordance with the respective "reglamento."

Transitory Article.

(1) The Agrarian Credit Bank is authorised to import immediately two million five hundred thousand kilos of sacks and sacking to satisfy immediate consumption needs and is empowered to effect payment according to the dispositions established in decree-law No. 127 of 4th July 1932.

(2) Up to the 1st September 1933, the minimum and maximum prices of dressed canamo fibres are fixed respectively, at one hundred and one hundred and thirty pesos per metric quintal.

APPENDIX VI.**Jute Futures Market.**

(Vide pages 28 and 135 of the Report.)

BENGAL CHAMBER OF COMMERCE.

(*Jute Futures Market Committee.*)

ROYAL EXCHANGE,

Calcutta, 21st February 1933.

To the Committees of:—

- (1) Bengal Chamber of Commerce,
- (2) Bengal Jute Dealers Association,
- (3) Bengal Jute Growers Association,
- (4) Bengal National Chamber of Commerce,
- (5) Calcutta Baled Jute Association,
- (6) Calcutta Baled Jute Shippers Association,
- (7) Calcutta Jute Dealers Association,
- (8) Calcutta Jute Fabrics Shippers Association,
- (9) East India Jute Association, Ltd.
- (10) Gunny Trades Association,
- (11) Indian Chamber of Commerce,
- (12) Indian Jute Mills Association,
- (13) Jute Balers Association,
- (14) Jute Fabric Brokers Association,
- (15) Marwari Association.

Gentlemen,

At the informal conference held in the Royal Exchange, Calcutta, on 16th September 1932, and at which your Chamber/Association was represented, a discussion took place in connection with the existing Jute Futures Market, and a resolution was carried unanimously in the following terms:—

“That a Committee be set up forthwith to report (1) whether a Jute Futures Market is necessary in the interests of any branch of the trade, and, if not (2) whether steps should be taken to render any Futures Market illegal; or (3) to recommend an improved form of Jute Futures Market.”

In order to carry out the purposes of this resolution, the conference appointed a Committee of six from the representatives then present, namely, (1) Mr. H. P. Bagaria, (2) Mr. P. E. R. Hoerder, (3) Mr. D. J. Leckie, (4) Mr. H. A. Luke, (5) Mr. Lachmipat Singh Kuthari and

(6) Mr. N. R. Sarker, with power to elect their own Chairman. It was agreed that this Committee should report in due course to the Associated Bodies represented at the conference, with a view to a further conference being held to consider the Committee's recommendations. The approval of the preponderating majority of the representatives who attended the Conference was subsequently extended to the Committee to co-opt two additional members, at their discretion, and Messrs. G. Euthymopulo and D. P. Khaitan thus joined the Committee deliberations. At the first meeting of the Committee on the 30th September 1932, Mr. N. R. Sarker was unanimously appointed Chairman. Mr. H. A. Luke resigned his seat at the end of November on account of his departure for England on leave, and Mr. D. King was nominated by the Calcutta Jute Dealers Association to fill the vacancy.

We have met on seven occasions to consider the points arising out of the terms of reference made to us, and we now beg to submit the outcome of our deliberations as follows:—

(1) *Is a Jute Futures Market necessary in the interests of any branch of the trade.*—While recognising the fact that there still exists among us a difference of opinion as regards the necessity for a Jute Futures Market, we are nevertheless of the opinion that if effect is given to our proposals, which follow, for the modification of the constitution and functions of the East Indian Jute Association, Ltd., the present Jute Futures Market, so modified, may become a helpful link to the Jute Trade of Calcutta.

(2) *The question as to whether steps should be taken to render any Futures Market illegal* does not arise, having regard to the opinion expressed above in regard to the necessity for a Jute Futures Market.

(3) *Our recommendations for an improved form of Jute Futures Market* have now to be submitted, and we have pleasure in placing on record the fact that the recommendations which follow are unanimous.

(a) *The reformed Jute Futures Market—Constitution of the Governing Body.*—In considering this important question from all angles of vision, we have kept prominently before us the essential consideration that any scheme we may put forward must ensure that all sections of the Jute Trade have effective voice in the management of the market and the framing of bye-laws, in order to make certain that such bye-laws will not place any section of the trade at a disadvantage in its dealings. With this object in view, we have evolved a scheme, on the lines of the Bombay Cotton Futures Market, which we put forward as a constructive effort towards a solution of the difficulties connected with the present Jute Futures Market. Under this scheme all (1) Balers, (2) Shippers, (3) Loose Jute Dealers, (4) Mills, and (5) Brokers desirous of operating in futures would become members of the Association, comprising five electoral panels of these different sections of the trade. Each panel, irrespective of the numbers therein, would elect two representatives to serve on the Governing Body on which Jute Growers would also be represented by two nominees of the Bengal Jute Growers Association. The Governing Body would thus consist of twelve members who would be representative of the entire Jute Trade.

To give to the different sections of the Jute Trade sufficient time to study the working of the reformed Jute Futures Market, we suggest that, for a period of two years beginning from the 1st of May 1933 to the 30th of June 1935, the members of the Governing Body of the East India Jute Association, Ltd., instead of being elected by the members

of that Association, should be nominated by the different sectional organisations in the manner hereinafter mentioned:—

(1) <i>Balers</i> —One Baler to be nominated by the Calcutta Baled Jute Association	... (1)	} 2
One Baler to be nominated by the Jute Balers Association	... (1)	
(2) <i>Shippers</i> —To be nominated by the Baled Jute Shippers Association	...	2
(3) <i>Loose Jute Importers</i> —One to be nominated by the Calcutta Jute Dealers Association. One to be nominated by the Bengal Jute Dealers Association	...	2
(4) <i>Mills</i> —To be nominated by the Indian Jute Mills Association	...	2
(5) <i>Brokers</i> —To be nominated by the East India Jute Association, Ltd.	...	2
(6) <i>Growers</i> —To be recommended by the Bengal Jute Growers Association	...	2
	Total	12

If, as a result of two years working, the Trade is satisfied, the various interests concerned can join the East India Jute Association Ltd., as members: and, from the third year onwards, the Governing Body will be elected by the different panels in the membership of that Association, i.e., irrespective of the total number of members in a particular panel, each panel will be entitled to elect two directors; and the two representatives of the Growers will be nominated by the Bengal Jute Growers Association.

If however, the experience of the Trade is not satisfactory, it will always be open to the various interests represented, to withdraw their co-operation from the Jute Futures Market.

The decision of the Governing Body in all matters pertaining to changes in the Rules and Regulations of the Association, and also in the contract form, should be final.

(b) *Tribunal of Arbitration*.—We suggest that there should be an independent Tribunal of Arbitration on the panel of which there should be nominees of the Bengal, Bengal National and Indian Chambers of Commerce, to deal with paper Arbitrations, but that disputes as regards quality might be arbitrated upon by arbitrators appointed by each party. This suggested Tribunal and connected questions will require to be considered by the Governing Body, but, if so desired, the East India Jute Association, Ltd., could appoint a Registrar of the Tribunal who would select the arbitrators from the list of names on the arbitration panel.

(c) *Hedge Contracts*.—At present dealings in the East India Jute Association, Ltd., are made on the basis of the "Firsts" quality. The terms of the contract vary considerably from those of the contract of the Calcutta Baled Jute Association the most important differences being that, in cases where buyers do not elect to give shipping instructions, sellers have to tender a Pucca Delivery Order and have to hold that jute on account of the buyers for a certain period. As a result of this, the price for the East India Jute Association, Ltd., contract is invariably higher than that of "Ready First." Shippers cannot thus "hedge" in this market. We propose that the present contract of the

East India Jute Association, Ltd., should be replaced by an appropriate contract, more in conformity with the Calcutta Baled Jute Association contract, with considerable changes made in the latter to make it available for use as a "hedge" contract. The most important changes would be the provision of periodical payment of margins, the settlement of differences, and the deletion of the clause regarding cancellation of the contract under certain conditions. Trading may be done on the basis of "Firsts" as at present. We realise that it should be left to the discretion of the Governing Body to introduce emergency measures of a temporary nature for use in exceptional cases, and in times of emergency, such as "bull" and "bear" raids.

(d) *Delivery Periods as apart from the Settlement Periods.*—The business carried on at present in the East India Jute Association, Ltd., is for September, December, March and May shipments. We have considered whether there should be Delivery Periods of two or three months, and we suggest that the Governing Body might be recommended to give a trial to two monthly periods, i.e., six delivery periods within one year, with a view to judging by results whether any alteration is necessary.

(e) *Periodical payment of margins.*—Under existing arrangements it is the practice of the East India Jute Association, Ltd. to make weekly settlements. We have considered the desirability or otherwise of accepting this weekly arrangement, and we have decided to recommend that a trial should be made with fortnightly settlements, that is to say, a settlement every two weeks.

We suggest, in conclusion, that this report should be submitted, at the earliest opportunity, to the associated interests represented at the Conference held on 16th September 1932, with a view to a further Conference of these interests being held on Wednesday, 22nd March 1933 at 3 p.m. in the Royal Exchange, Calcutta. It would facilitate matters considerably, if those associated interests who have suggestions to put forward, would kindly submit their suggestions to the Secretary, Jute Futures Market Committee, at Royal Exchange, Calcutta, not later than Wednesday, 15th March 1933.

We are,

Gentlemen,

Yours faithfully,

NALINI R. SARKER, *Chairman.*

H. P. BAGARIA.

G. EUTHYMOPULO.

D. P. KHAITAN.

D. KING.

LACHMIPAT SINGH KUTHARI.

D. J. LECKIE.

A. C. DANIEL, *Assistant Secretary.*

Mr. P. E. R. Hoerder having left for England on leave on 16th February 1933 does not sign this report.

N. R. SARKER, *Chairman.*

JUTE FUTURES MARKET COMMITTEE.

(Replies to Circular No. 585, dated the 28th February 1933).

Jute Futures Market: Committee's Report.

(1) *Dated 6th March and 24th March from the Calcutta Jute Fabrics Shippers' Association.*—No comments to offer. Generally admitted by shippers that a futures market does not benefit legitimate trade.

(2) *Dated 11th March from the Bengal Chamber of Commerce.*—No comments to offer.

(3) *Dated 13th March from the Marwari Chamber of Commerce.*—It appears, however, that there is no reference in the Committee's Report to Associations dealing in 5 and 25 bales. Their terms of reference were wide enough to include such Associations and my Committee consider it desirable that the Committee should be asked to frame recommendations regarding these Associations also.

Under the recommendation of the Committee, the Growers are to be represented on the Governing Body of the reformed Jute Futures Market by two nominees of the Bengal Jute Growers' Association. This body however does not really represent the Growers and should not therefore have a place on the Governing Body. In the opinion of my Committee, the Director of Industries should be authorised to select two representatives for the Jute Growers.

The Committee recommend that there should be an independent Tribunal of Arbitration on the panel of which there should be nominees of the Bengal, Bengal National and Indian Chambers of Commerce. It is well-known that the Marwari community is very largely interested in the jute trade and this Association is the principal public body representing all the various interests of that community. It is therefore very necessary that there should be nominees of this Association also on the panel of the proposed Tribunal of Arbitration.

As regards the Committee's recommendation for introducing a system of fortnightly settlements in place of the present system of weekly settlements, my Committee are of opinion that the object being to check unrestricted trading, the system of periodical payment of margins should be abolished together.

(4) *Dated 14th March from the Jute Balers' Association.*—A very big majority of the members of my Association feel that the present operations in the East India Jute Association, Ltd., and the other Jute Fatka Markets are detrimental to the interest of the Jute Trade and the modifications suggested by the above Committee will make little change in the nature of such harmful operations.

(5) *Dated 14th March from the Indian Chamber of Commerce.*—The Committee of the Chamber are in general agreement with the recommendations made by the Jute Futures Market Committee and have no criticism to offer. They trust that these recommendations will meet with the unanimous approval of the Conference and be given effect to at an early date.

* * * * *

(6) *Dated 13th March from the East India Jute Association.*—I am directed to inform you that my Committee have considered the above

report and have no criticism to offer in connection therewith. They accept the suggestions made by the Committee.

* * * * *

(7) *Dated 15th March from the Jute Fabric Brokers' Association.*—No comments to offer.

(8) *Dated 15th March from the Bengal Jute Growers' Association.*—I beg to inform you that my Committee approve of the suggestions made in the report of the said Committee.

* * * * *

(9) *Dated 15th March from the Gunny Trades Association.*—I am directed to inform you that the Committee approve the report and have no criticism to offer on the subject.

* * * * *

(10) *Dated 20th March from the Calcutta Baled Jute Shippers' Association.*—The Committee have carefully considered the report in consultation with members of the Association, and they have discussed it in the light of the views which were expressed on their behalf at the meeting on 16th September. The Association was represented on that occasion by its then President, Mr. P. E. R. Hoerder, who pointed out that in a monopoly product such as jute a futures market was not only unnecessary but was harmful to the interests of the trade as an encouragement to over-trading and violent fluctuations under speculative influence. "Over a long period of years," he stated, "the only really healthy period which could be called to mind, as enabling the baling community to conduct a normal simultaneous export business at a profit, had been the interval which had elapsed between the suspension of the old futka market and the opening of the new futures market under the auspices of the East India Jute Association. The Calcutta Baled Jute Shippers' Association would welcome a return of similar conditions for a stipulated time as an experimental measure. It had every confidence that results would convince all sections of the trade of the benefits which would accrue from the abolition of fatka."

The Committee of the Association see no reason, as a result of their consideration of the report, to alter in any way the views expressed by Mr. Hoerder; and they regret that the Association cannot see its way to endorse the recommendations contained in the report, because in the opinion of the Association the scheme put forward would simply operate to strengthen considerably the constitution of the East India Jute Association without effectively curbing the speculative and other undesirable features connected with such a futures market for jute.

(11) *Dated 20th March from the Calcutta Baled Jute Association.*—Copies of the Report have meanwhile been issued to members of the Association, who met to consider the recommendations contained in it on Tuesday last, the 14th March, when a resolution in the following terms was adopted:—

"That this meeting is not in favour of recognising officially the futures market as at present constituted and does not desire to support the suggestions of the Jute Futures Market Committee."

The resolution represents the views of this Association with regard to the recommendations contained in the report of the Committee which was appointed as a result of the informal meeting held under the auspices of the Chamber on 16th September last.

* * * * *

(12) *Dated 27th March 1933 from the Bengal Jute Dealers' Association.*—In the special General Meeting of the members of this Association held on the 18th instant at the Board Room of the Jute Balers' Association after lengthy discussion the following resolution was adopted:—

“A very big majority of the members of the Bengal Jute Dealers' Association are of opinion that the recommendations of the Jute Futures Market Committee even if given effect to will not materially improve the nature of operations in the East India Jute Association, Limited, which are definitely detrimental to the interest of the Loose Jute Trade.”

* * * * *

(13) *Dated 27th March from Indian Jute Mills Association.*—As has been stated, the report and the recommendations contained in it have been carefully considered by the interests which this Association represents. The Association is of opinion that the recommendations contained in the report for an improved form of jute futures market will not to any material extent, or with any lasting effect, place a check on the speculative and other undesirable features attaching to the present futka market. The Committee regret therefore that in the circumstances this Association cannot see its way to endorse the recommendations which are now put forward.

(14) *Dated 25th March 1933 from the Bengal National Chamber of Commerce.*—The Committee of this Chamber have given their careful consideration to the issues raised and give their general approval to the decisions of the Futures Committee.

* * * * *

(15) *Dated 28th March 1933 from the Calcutta Jute Dealers' Association.*—I am directed to acknowledge the receipt of your letter, dated 28th February 1933, inviting an expression of this Association's views on the recommendations contained in the report issued by the Jute Futures Market Committee which was appointed as a result of the informal conference held under the auspices of the Chamber on 16th September 1932.

2. The report has been carefully considered by the Committee and I am to say that they regret they cannot see their way to endorse the recommendations contained in the report because, in their opinion, the scheme put forward would simply operate to strengthen considerably the constitution of the East India Jute Association without effectively

curbing the speculative and other undesirable features connected with such a Futures Market for jute.

Letter, dated Calcutta, the 21st March 1933, from the Marwari Jute Sellers' Association, to the Bengal Chamber of Commerce.

The attention of the members of our Association has been drawn to the contents of the above Report published in "Capital." We read therefrom that a few modifications in the existing operations in the East India Jute Association are recommended, the effect of which would be that this speculative market will be given the dominating position over the real trade. There is perhaps no two opinions among the *bona fide* businessmen engaged in the trade of jute from field to factory that the operation in the East India Jute Association has been working definitely against the interest of the ryots and the loose jute sellers in as much as they encourage the balers to sell pucca bales at Re. 1 to Rs. 2 below cost of production, which equally means loss to the ryot and the loose jute sellers.

We are therefore desired by our Association to convey to you the grievances which our members have and to request you to put forth our condemnation of such Fatka Markets in the ensuing conference to be held on the 22nd instant to consider the Report.

We do not know how our association was not invited to participate in the deliberation of the conference although it is working as old as 50 years at Phulbagan under Saheb Bazar and Ruthtolla section of the Eastern Bengal Railway.

Letter, dated Calcutta, the 21st March 1933, from the Hatkhola Banijya Hitaisini Sava, to the Bengal Chamber of Commerce.

It has come to the knowledge of my Association that a Committee was appointed by the representatives of a few Associations whose meeting was held under the auspices of your Chamber to report on the effect of the Jute Futures Markets on actual trade. It is a matter of great regret that our Association whose members represent the entire jute trade at Hatkhola was not invited to join the said conference. My Association has since learnt that the Committee so appointed has submitted a report we do not know whether evidence was taken by the Committee. In absence of this we beg to convey our views to you and to ask you to kindly put the same in the coming meeting on the 22nd inst.

My Association is strongly of opinion that the activities of the speculation markets in Calcutta are a great detriment to the real interest of the actual trade. My Association is further inclined to think that few Associations dealing in *bona fide* trade will take exception to it. It is only a class of speculators that are *bona fide* by these markets to the serious disadvantage of the whole trade from beginning to the end. My Association, therefore, request you to kindly take particular note of the view of the trade and not of the men connected in the Futka Markets and to take such steps that these injurious activities come to a stop as early as possible.

APPENDIX VII.

(*Vide* pages 33, 39 and 141 of the Report.)

Circular No. 64-D., dated Calcutta, the 5th June 1933.

From—D. C. Fairbairn, Esq., Assistant Secretary, Indian Jute Mills Association.

To—All Members of the Association.

Competition; Research; and the Expansion of Markets for Jute Goods.

I am directed to refer to circular No. 35-D., dated 18th March last on the subject of the growing competition which Calcutta jute goods have experienced during recent years from different sources. The circular explained that the Association Committee had decided to refer the question for examination to a special Sub-Committee consisting of Mr. H. H. Burn, M.L.C., Chairman, Mr. P. S. Macdonald, Mr. S. K. Scott, and Mr. W. A. M. Walker, together with two representatives of the Calcutta Jute Fabrics Shippers Association, namely, Mr. A. R. Ramsay and Mr. J. P. Anastasiadi. And in asking for the views of members generally, the circular pointed out that the investigation it was proposed to undertake would include within its scope all questions relating to competition from substitutes such as paper, cotton, flax, sisal and other fibres; competition from grain elevators and other sources; the possibilities of research and propaganda being undertaken to meet this competition; and an examination of the ways and means whereby the market for Calcutta jute goods could be expanded.

The Sub-Committee appointed for the purpose have carefully considered the question in all its aspects, on the basis of the information which has been available to them. The first point which has impressed itself upon the Sub-Committee is that the market for jute goods has been, and is being, definitely affected by competition; and they have arrived at the conclusion that unless effective measures are taken at an early date to retain the trade which the Industry now holds, to regain some of the markets which have been lost to substitutes, and to explore other avenues for new business, the jute mill industry of Bengal is faced with the prospect of a gradual but steady decrease in the use of the fabrics which it produces. Stress has on different occasions been laid on the decline which has set in, but at the risk of repeating what has already been emphasised by the Association during recent years, the Sub-Committee propose to bring together as briefly as possible the available information on the subject, so that the mills may be able to review the position in its true perspective. The Sub-Committee's investigation has fallen under three distinct heads, namely, (a) an examination of the competitive influences at work against the jute industry of Bengal; (b) a survey of the present methods of manufacture and the respects in which these fail to meet the demands and requirements of consuming markets; and (c) constructive proposals which they put forward for the consideration of the mills and which they believe will assist in meeting the decline in trade referred to above.

A. Competitive influences at work against the Industry.

The entry into the world's markets, on a commercial basis, of substitutes for jute goods is at the present time the principal cause of anxiety, and the basic reason for this is that jute has lost, for the time being at any rate, its principal recommendation, namely, its comparative cheapness. Other factors, such as the prevailing economic depression and the present international fiscal situation, throw their weight into the scales against jute. There is, for instance, the urgent need at the present time of many countries to balance their exports and imports: a number of countries which produce some of the competitive fibres to which reference is made below—or which manufacture paper—feel that they can achieve a reduction in imports by encouraging the production and use of these fibres and by lessening—or perhaps eliminating—the importation of jute and jute goods. The Sub-Committee's investigation of the subject leads them to the conclusion that even a return of more normal times will not necessarily result in restoring the trade to its former condition of prosperity, unless active measures are taken by the jute mill industry to improve the quality of its output in response to the demands of its consuming markets and to seek ways and means of fortifying itself against the inroads which have been made upon it by substitutes. The principal sources of competition at the present time are the following, and it is proposed to review each briefly, where possible amplifying the information given by means of the extracts from correspondence and other papers which form the appendices to this circular:—

(a) *Paper (see Appendix I).*—Competition from paper bags has affected the demand for jute goods principally in the United Kingdom, South Africa, Australia and America. Paper interests have, during recent years, carried out an extensive campaign in favour of the adoption of their goods at the expense of jute, and this has been responsible for a considerable loss of trade in jute bags, not only in the major industries, but also—and perhaps to a greater proportionate extent—in the retail trades which formerly used large quantities of small makes of jute bags for the marketing of their goods. But the principal loss to the Calcutta mills has undoubtedly been in respect of the cement trades of the United Kingdom, South Africa, America, Germany and Denmark. “..... We believe today” states a recent article on the subject “not less than 80 per cent. of the cement manufactured in Denmark is packed in paper sacks, whereas in England not less than 85 per cent. is packed in similar containers, and in America where cotton is so cheap 40 per cent. of cement is packed in paper sacks, about 50 per cent. in cotton bags and the remainder in steel drums or wooden casks.” The position in the United Kingdom is understood to be that, except for special requirements, the entire cement trade has in recent years turned from jute to paper containers. Similarly in South Africa, members of cement combines have agreed to use only paper bags in future and are erecting their own factories for the manufacture of paper containers locally. According to information which was supplied to the Association in May 1932 the annual consumption of bags by the cement trade of the Union of South Africa is in the vicinity of three millions. Since then—as recently as November last—a local Import House received information from a South African buyer to the effect that, when their existing stock of jute bags was exhausted, they intended to change over to paper, involving a heavy loss of business to this particular

Calcutta firm. A conservative estimate places the loss to the Jute Industry of Bengal involved in this change-over to paper in the United Kingdom and South Africa alone, at upwards of twenty million cement bags per annum.

It should be noted also that wide hessians have been displaced largely in the Australian dried fruit trade by a product known as "Sisal-kraft," which consists of two sheets of brown paper reinforced by sisal fibre and which at present competes with 72" hessian. It is quite probable that competition of this nature may extend to other fruit producing countries. Another recent development is with regard to a water-proof paper bag which has been placed on the market presenting special advantages to the agricultural industry. The Australian sugar trade is also looking towards the possibility of paper bags though it is understood that the price factor at the present time makes serious competition from this source unlikely. Additional information on these and other uses for paper is contained in the papers published in appendix I to which attention is invited.

(b) *Cotton (see Appendix II*)*.—A recent estimate states that cotton bags and bagging have displaced gunnies in America to the extent of anything up to ten per cent. Another estimate is that, whereas the consumption of bags in America was formerly 90 per cent. burlap and 10 per cent. cotton, the ratio to-day is nearer 70 per cent. burlap and 30 per cent. cotton; and the source of this information adds that even when conditions return to normal, it is not expected that gunnies will regain more than half of the trade now captured by cotton in America. The circumstances in which this change has taken place briefly are that the diminished demand for cotton has stimulated American cotton interests to take active steps to foster the adoption of cotton bags and bagging in preference to jute both internally and in foreign markets. The low price of cotton during recent times, its lightness and the consequent saving in freight, its greater strength and its more attractive appearance especially from the point of view of the retail trades, have contributed to the success of the campaign carried out in its favour. Jute goods in short—and this applies throughout, in the consideration of substitutes—have to a large extent lost their former advantage of comparative cheapness.

Further evidence on the increased use of cotton in America is contained in Appendix II to this circular, but it is appropriate to quote in detail here the following extracts from the sixth (1932) annual report of the Cotton Textile Institute Incorporated, New York:—

(1) With regard to cotton bags the report states:—

"The Institute has devoted special attention during the past year to extending the uses of cotton bags. The practicability of the 15-pound cotton bags for packaging potatoes is now well demonstrated. The use of cotton bags for potatoes, first introduced in Maine, has now extended

* Please see also the following articles published in the report issued by the Association in 1932 in connection with the Ottawa Conference, viz:—

- (i) Cotton Bags in the wholesale Grocery Trade.
- (ii) Cotton Bagging for cotton.
- (iii) Cotton Bags in the Fertiliser Industry.
- (iv) Cotton Bags and other containers in the wholesale Grocery Trade.
- (v) Use of cotton bags as containers of potatoes.
- (vi) Use of cotton bags and other containers in Flour Mills of United States of America—1931.

to Idaho, Minnesota, Michigan, New York State, Prince Edward Island and Canada, as well as to some of the sweet potato growing districts of the South. The country's largest grocery chain last year handled more than two million pecks of potatoes put up in cotton bags and already has purchased more than three million 15-pound bags for this year's use. In spite of various factors, including discriminatory freight rates, which have retarded the use of cotton bags for citrus fruits, progress has nevertheless been evident. One large chain store organization, after last year's trial success, has purchased 50,000 8-pound bags, as an initial order for part of its present season's requirements."

"In the case of cotton bags for the shipment of nuts there are several new customers of outstanding importance. The California Walnut Growers Association, reputed to be the world's largest shipper of nuts, and in control of 90 per cent. of the California nut acreage, has bought 75,000 100-pound bags and 400,000 4-pound bags, which will take care of more than 12 per cent. of this season's walnut crop. The adoption of cotton bags by this group follows their trial in 1931, on an experimental basis, and this is a typical result of the Institute's persistence in seeking new users and markets."

"The North Pacific Nut Growers Co-operative Association is further experimenting this year with cotton bags which have been furnished to its members. In 1931 a satisfactory reaction from their customers followed their use of the small cotton pockets on a limited scale. Likewise, the National Pecan Marketing Association is using cotton bags of various sizes to a greatly increased degree."

"The purchasing department of one of the largest factors in the New York Produce Market has requested the Institute's co-operation in the development of an open-mesh polished yarn bag for the put-up of onions in 50-pound units. Several bag manufacturers are collaborating in endeavours to produce a bag of this type at a competitive price on which quotations have been requested in lots of from 100,000 to 500,000 units."

"Consideration is being given at this time as to the proper course of action to be taken toward discouraging the re-use of cotton and other bags for the shipment of *flour and salt*. This practice is confined to the baking trade although a recent survey by the Cotton Marketing Division of the United States Department of Agriculture reveals that of all flour produced in 1931 only 13 per cent. was packed in second-hand containers of all kinds. Such bags were limited to the 98-pound, 110-pound and 140-pound sizes. New cotton bags of various sizes carried more than 60 per cent. of that year's production."

(2) Cotton baling for piece-goods is dealt with in the report as follows:—

"Freight tariffs now permit a much wider use of cotton fabrics for baling cotton piece-goods, yarns, and such garments as overalls, that are commonly shipped in bales. Initial steps were taken in the Southern Classification territory during the latter half of 1931. Similar action was later taken in other territories. Representatives of the Institute have appeared at hearings of the Standard Classification Committee and have presented arguments in favour of more liberal regulations. Effective September 20, 1932, freight classifications have been revised in favour of cotton baling materials in all freight classification territories. The Superintendent of the Eastern Steamship Company advises

that there has been a 12 per cent. to 15 per cent. increase in the cotton baling materials on shipments passing through his terminal since September 1, 1932. Similar favourable reports have come from railroad freight officials."

(c) *Grain Elevators: bulk handling.*—A considerable volume of information is available on this subject and this is set out in detail in Appendix III to this circular. The facts, as they appear from the papers contained in the appendix, are that elevators and bulk handling of grain at centres in Canada, the United States, Argentine and Australia, have been in use for a considerable time and have proved satisfactory from the point of view of the cost to those making use of the silos. Agitation in favour of the adoption of bulk handling is very insistent in the United States and even more so in Australia. Silos are already in extensive use in New South Wales and the further adoption of the system is likely. Bulk handling had also been the subject of a recent investigation in Victoria by a Committee of experts who have recommended the construction of terminal silos at 160 stations at a cost of over £2,000,000, capable of dealing with 12,180,000 bushels of wheat. A scheme of the same type, it is understood, has been formulated for Western Australia; and though it has failed for the time being to find the support of Government, private interests have been responsible for the erection of a large number of temporary silos in the Fremantle zone and are endeavouring to establish further bulk handling facilities in that area. Writing in this connection to a Calcutta House during March of this year, an Australian buyer remarks that, if this is carried through, practically half the Western Australia normal crop will be handled in bulk next season. Similarly, the Argentine Government have had under consideration a scheme involving expenditure to the extent of £22 million to provide, within five years, a chain of grain elevators. This scheme, it is understood, has failed for the present to find the requisite financial support, but the reports indicate the extent to which bulk handling is likely to develop when funds are available for the construction of the necessary plant, and the position cannot be ignored that the more general adoption of the system is certain as time goes on. The Australian position has been put concisely as follows:—

".....the urgent necessity for cutting down costs and cheapening production has seized upon Australia and they see in bulk handling a method of effecting this. Australia takes from Calcutta yearly some 150,000 bales of cornsacks for wheat and it is possible that the necessity for all these with the exception of a bare third will be eliminated."

(d) *Sisal (see Appendix IV).*—During 1932 information was supplied to the Association with regard to an attempt being made to replace the imports of jute bags into East Africa by the manufacture locally of sisal bags. Enquiries made at the time showed that both East African and Mexican raw sisal were on a competitive basis with *rara* jute as regards price; but the information then available was insufficient to enable the Association to arrive at an opinion as to the extent to which the woven material was likely to be successful in competing with jute manufactures. The general opinion at present is that, in the existing circumstances, sisal is unlikely to be a serious competitor against jute on account of its higher cost of production and manufacture—except in—the form of "Sisalkraft" to which reference is made above, and in the form of a substitute for jute

cuttings in the manufacture of cotton bagging in America. The possibilities of sisal should not, however, be under-estimated, as its freer use may affect Calcutta's trade in Liverpool twills to South Africa.

Further interesting information as to the ability of sisal to compete with jute is contained in appendix IV.

(e) *Hemp*.—A recent report indicates that the manufacture of sacks from hemp is increasing in the Philippine Islands, and a more serious feature of this movement is involved in the recent agitation for the imposition of a heavy tariff on jute and jute fabrics to assist the local hemp industry.

(f) *Flax*.—During 1932 the attention of members was drawn to a scheme for the manufacture of woolpacks from New Zealand flax, the intention of the promoters apparently being in the first place to endeavour to meet the requirements of New Zealand and thereafter to enter the Australian woolpack market in competition with jute goods. Information has also recently been received to the effect that the Government of Poland are considering the imposition of further restrictions on the import of raw jute into that country with the object of developing the flax industry.

(g) *Miscellaneous Fibres*.—Canamo in Chile, and Kendyr, Kenaf and Ramie in Russia may be mentioned as fibres whose development on a commercial basis may ultimately affect the market for jute goods. An interesting article in connection with these Russian fibres was published in the August 1931 issue of the Paper and Twine Journal and a copy of it is reproduced in appendix V to this circular for the information of members, together with an article entitled "Substitutes for Indian Jute" by F. I. Oakley reproduced from "Jute" 1931.

Four main reasons are adduced for the inroads which substitutes have made upon the jute industry. Of first importance are cheapness and stability of price, both of which are illustrated particularly in the case of paper bags which have kept at a comparatively steady price level, whereas jute bags have been subject to frequent and wide fluctuations. The other two reasons which may be advanced are (a) better durability, as in the cases of cotton and sisal, and (b) the desire of certain countries to utilise their internal resources wherever possible to the elimination of jute and jute fabrics. But whatever the causes, there is undoubtedly at the present time a wave of investigation to find something better than jute; something which is more suitable to the needs of individual consumers; something which is not subject to the disadvantages that apply in the case of jute. The situation may be eased by commodity prices returning to the relative proportions they held before the present period of depression, so placing jute in its former position of being the cheapest packing material in the world; but the question which the mills are asked to face is—Can they sit back and wait for this to occur? The improvement for which the mills look may not come; or it may be long delayed. At the moment, the mills are producing very far below their total capacity, and if ever the jute mill industry is to work anything approaching full time again and to prosper as it has in the past, the mills—it seems—must take active steps to retain their existing business and to seek new uses and

new outlets for their fabrics. This, as has been stated, is the conclusion at which the Sub-Committee have arrived as a result of their examination of the position as it now exists.

B. Methods of manufacture and expansion of markets.

The general attitude of the Calcutta mills towards the special needs and requirements of their consuming markets, and towards the complaints that have been received regarding their manufactures, is a factor which has a direct bearing on the ability of the trade to recover the ground which has been lost. Referring to this aspect of the position at the Annual General Meeting of the Association on 29th January 1932, Mr. D. J. Leckie, then Chairman of the Association, said:—

“There is another very important matter which I want to refer to. It concerns the quality of the goods produced by the Calcutta Mills. During the past few years there have been recurring complaints from various centres which import our products. Possibly as long as such complaints are couched in general terms instead of stating particular instances which can be traced, the tendency may be to look upon them as hardy annuals, but while it is as well to stress the fact that buyers have the remedy in their own hands either by adopting a system of “grouping,” or by submitting such cases to arbitration, nevertheless I take this opportunity of reminding members that the basis of our trade has always been price coupled with a good article of genuine average quality. If we do not treat complaints with the consideration they deserve, our customers may go elsewhere for their requirements, and I need hardly say our trade will suffer. It is no use treating a complaint made in general terms as the concern of the next party. Every mill in such case is implicated, and in the eyes of dissatisfied customers, every mill is suspect. I commend this to the serious attention of all members.”

This subject was also referred to by Mr. J. Sime at the last annual meeting of the Association on 24th January 1933, as follows:—

“The Committee take this opportunity to impress upon Mills that our goods are being more carefully examined than ever before—especially sacking goods for Australia and Java. The complaints generally centre round the shottling and condition of the cloth and bags on arrival. The Committee remind members that adequate steps should be taken to ensure a class of goods being delivered according to specification which will gratify all buyers and entirely prevent the recurrence of complaints regarding the quality and conditions of the goods supplied.”

General complaints.—The complaints received during recent years are readily classifiable under two broad heads—(a) those which are common to almost all makes of goods, and (b) those which relate to the particular disadvantages of jute bags and wrappers from the point of view of the individual industries which now make use of them. Under the first head come complaints with regard to inferiority of quality and manufacture generally; irregularity in size and shortages in length; variations from standard weight; joined cloth; shortages in bales; colour; and inferior sewing. A reference to the annual reports for recent years will show how numerous complaints on these and other grounds have been; and how it has been pointed out, from time to time, that the Customs requirements of Australia and South Africa

demand compliance with a prescribed standard if woolpacks and corn-sacks are to gain admittance into these countries.

Special complaints.—Under the second heading referred to above, are the complaints that have been received in increasing numbers recently, specifying the respects in which jute manufactures have been found to be unsuitable or unsatisfactory for the purposes to which they are applied in particular industries. The outstanding example of this is to be found in the wool trade.

Woolpacks.—For a number of years past the complaint has been made that damage is caused to the contents of woolpacks by small pieces of jute becoming mixed with the wool. These particles have to be removed by hand as their presence prevents the wool from taking on an even dye. The mills have been asked to experiment with improved bags so as to keep the fabric from shedding the particles of which complaint is made. A certain amount has been done in this direction, in the way of improved mangling, cropping and finishing, etc., but these endeavours have been of a sporadic nature and, so far as the Calcutta mills are concerned, no *organised* attempt has been made to evolve a bag which will meet the complaint and yet be available at a price which the consumer is willing and able to pay. As is known to members, experiments have been carried out by the Director of Research employed by the Wool Industries Research Association at Leeds. These took the form, in the first place, of an endeavour to find a suitable substitute for jute; later, an attempt to treat the fibre chemically; and more recently the treatment of the material in the “fabric” stage with rubber latex or cellulose. The outcome of these experiments—to which reference was last made in the Association’s report for 1932—are not yet known. Meanwhile, the “Yorkshire Evening News” reports as follows:—

“The problem which has faced the woollen industry ever since shipments of raw wool were made from Australia to Great Britain is expected to be solved through the efforts of a Swedish research worker at Leeds University. A discovery has been made which, it is hoped, will save the Industry thousands of pounds a year, now lost by wool becoming contaminated during transit.

Mr. K. P. Hellberg of Stockholm, who has been interested in the matter for 25 years, has produced from two months work at the University a new type of woolpack.

Woolpacks, used to contain the raw material for shipment, were first made of hemp, but later jute was substituted as being cheaper. This resulted in a serious defect, for vegetable fibres got into the wool. As such fibres will not dye, wool so contaminated is spoiled for many purposes, or must be specially treated at considerable expense.

Thus efforts have been made to produce a woolpack from a fabric which gives no vegetable contamination. Mr. Hellberg’s attempt has been based on a *paper fabric* which according to the University Authorities should meet all requirements of the wool shipper.”

Reports state that this new pack, which is made from twisted paper yarns, has survived the necessary tests and that arrangements are being made to place it on the market shortly. Whether the pack will be able to compete with jute from the point of view of cost remains to be seen. These reports are but a further indication of the direction in which investigation is proceeding, and they illustrate the necessity of steps being

taken by the Calcutta Mills to evolve, by scientific research or otherwise, a woolpack which will fully meet the requirements of Australian consumers, and thus prevent inroads being made upon this important market for Calcutta jute goods.

Egyptian cotton packs.—Precisely the same position arises in the case of sacks used for Egyptian cotton, owing to quantities of jute fibre becoming mixed with the cotton and causing frequent breakages in the course of spinning. The question was before the Association in 1928 and 1929 when it was suggested that the matter should be taken up by the mills with a view to improving the quality of the packs by some special treatment such as singeing or spraying with cellulose solution.

Jute wrappers for foodstuffs.—Another aspect which calls for attention is the extent to which jute wrappers intended for the carriage of foodstuffs can be improved. The manufacturing process involves the use of oils, dressing ingredients, etc., and in many cases the mixtures used set up a smell which, while not affecting the quality of the goods, renders them objectionable for the purposes for which they are intended. Instances of this were brought to the notice of members in 1931. One complaint, it will be recalled, related to a shipment of beef from New Zealand which was rejected at Glasgow on account of phenol taint: the other emanated from an American buyer who drew attention to the presence of a strong musty odour which rendered the material unfit for the manufacture of bags as containers of foodstuffs. The matter was investigated, but the mills concerned were unsuccessful in their attempt to ascertain what particular process, or what particular type of batching material, had been responsible for the smell complained of.

Sufficient, the Sub-Committee think, has been said to bring out the two points it is desired to establish, namely (a) that the mills must set themselves more seriously than they have in the past to improve the quality of their manufactures generally, and (b) that the time has arrived when the industry cannot afford to adopt a "take it or leave it" attitude towards the demands of consuming markets for a product more suitable to the ultimate use to which the finished article is applied. The complaints received in this latter connection call for investigation on scientific lines. The treatment of the fabric with rubber or other solutions to prevent the shedding of particles of jute and to render the cloth waterproof; the analysis of batching and dressing mixtures so as to avoid objectionable smells, chemical action weakening the material, mildew, discolouration, etc.; these are matters which must in the first place be dealt with in the laboratory before improvements can be tested out in practical working. For individual mills to experiment in this direction would doubtless prove expensive, but spread over the industry as a whole the cost would not be prohibitive of maintaining a department to deal with the problems of research and expansion of markets. Proposals in this connection are put forward for the consideration of the mills in Section C of this circular.

Expansion of markets.—The question of the possible expansion of markets for jute goods is one which has also engaged the attention of the Sub-Committee. The Calcutta mills already enter all markets on which there is a demand for jute goods on a large scale; and while the primary concern undoubtedly is to concentrate on developing and fostering these markets, the industry in its present condition cannot afford altogether to ignore the possibilities which exist of making use of other outlets for

its goods, however small these may be in relation to the trade as a whole. The majority of the Calcutta mills are not at the present time equipped to manufacture special makes such as linoleum hessian and intricately designed carpets; but progress in this and other directions is not impossible of achievement, and as an indication of the possibilities which exist, the attention of the mills is invited to the "Tree of Jute" which was recently published by the Dundee Chamber of Commerce and of which a copy is reproduced in Appendix VI to this circular. The diagram illustrates how largely jute is of service in everyday life, and it is a matter for consideration how far it would pay the Calcutta mills to branch out into lines such as curtains, furniture coverings, carpets, rugs, etc. The demand for cheap goods in this and other directions is world-wide and the mills, it is felt, should do their utmost to take advantage of this position. In this connection attention is invited to the articles reproduced from "Jute" 1931 and 1932, published in Appendix VII to this circular. Reference is made in one of these articles to the use of jute in road construction, which forms a potential market for hessian, and which, as members are aware, has been the subject of a recent experiment in Calcutta.

C. Research, statistics, information and representation abroad.

The Sub-Committee have considered how best the industry may take steps to deal with the problems which have been outlined briefly in the preceding sections of this report. There are two distinct types of problem involved. The first includes the marketing of the mills' output of goods, the finding of new outlets, the representation and adequate treatment of complaints, and the collection of statistics and information which would be of value to the industry in expanding its markets and keeping in touch with developments affecting its trade. The second covers the question of technological and scientific research designed to improve the quality of the mills' manufactures in response to the requirements and demands of individual consuming markets. The existence of these two problems suggests the need for the establishment by the industry of two departments, which for the present may be termed (a) the Information and Statistical Department and (b) the Experimental and Research Department. The Sub-Committee propose to indicate in skeleton form the functions they suggest should be undertaken by these two departments, the establishment of which they recommend for the earnest consideration of members.

(1) *The Information and Statistical Department, London Advisory Committee.*—It has been said that there is no industry in the world which knows so little about its business as the jute industry. Whatever the truth contained in this statement, the manufacturing side of the industry certainly lacks an organised system of following up the uses to which its products are ultimately applied, and it has so far made no endeavour either to keep in direct touch with consumers or to push the sale of its goods in competition with others. There is, for instance, no organised body in a centre such as London which the industry can consult direct on questions affecting its interests. There are in the United Kingdom many men who have spent a considerable part of their lives in the jute industry in Calcutta and whose continued interest in its welfare would make their services in an advisory capacity of great value to the mills. The Sub-Committee accordingly suggest the formation of a London Committee, whose functions would be purely advisory

and whose duties would comprise the collation of information which would help in retaining and expanding the business of the mills. This Advisory Committee would, of course, have no say in the determination of the working policy of the mills in India; it would exist as a purely advisory body which would, among its other duties, get into touch with manufacturers who had complaints to make or were considering the possibilities of developing new containers, with a view to ensuring the co-operation of the Indian jute mill industry in these respects.

Travelling agents abroad.—Functions of the same type would require to be performed in other parts of the world, for instance in the United States of America, Argentine, Canada, Australia, New Zealand, The Straits, and the Continent of Europe. For this purpose the Sub-Committee recommend the employment abroad of travelling Agents with an intimate knowledge of the trade. The duties of these Agents would be to collect reliable information regarding crops, the uses to which jute is put, the possibilities of finding new outlets for jute, and on any other subject having a bearing on the jute industry; they would keep in close touch with manufacturers in the matter of complaints, would assist manufacturers in obtaining the article best suited to their needs, and would generally provide the necessary link between the mills and their consumers. The agents would report regularly to the Information and Statistical Department of the Association, which would in turn collate and tabulate the information so supplied and would make it available for the benefit of the mills. Similar representation throughout India might be arranged with a view to stimulating the use of jute fabrics in this country.

(2) *The Experimental and Research Department.*—The functions of this department, which would be of an essentially practical and scientific nature, have already been indicated. Its duties would embrace the investigation of all processes of manufacture with a view to their improvement; the testing out of new ideas connected with the manufacture and treatment of the fabric to meet the requirements of particular consuming markets, on the basis of the data supplied by the Information and Statistical Department, or by the mills and shippers; and the adaptation of jute goods to new uses.

Finance.—The Sub-Committee commend these proposals to the careful consideration of members, because their examination of the position leads them to the conclusion that only by making a gradual but early start in the directions indicated can the industry hope to regain the markets it has lost or to keep pace with the rapidly developing competition with which it is now faced and with the increasingly specialised demands of its consumers. It remains for the Sub-Committee to deal briefly with the question of financing the scheme which they have outlined. The bulk of the funds required for the purpose would undoubtedly have to be supplied by the mills themselves, supplemented if possible by a grant from Government. In consideration of its size and importance, the industry, it is felt, must be prepared—as other industries have—to spend a considerable sum in keeping and developing its business along modern scientific lines. To meet the initial costs of an Information, Statistical and Research Department such as is proposed an annual contribution from the mills on a loom basis would be necessary. But the question of finance will require further careful consideration before any steps are taken towards putting the proposal into operation; for the

present the Sub-Committee have merely outlined in skeleton form the scheme which they have in mind.

With a view to ascertaining whether the mills generally are in agreement with the conclusions arrived at and the proposals set out above, I am instructed to request that members of the Association will be good enough to submit to the Committee any observations they may wish to put forward on the contents of this circular; and to state, in particular, whether they are in favour of further consideration being given to the proposed establishment of an Information, Statistical and Research Department on the lines proposed. Upon members' replies will depend the question of whether the Committee will proceed with the preparation of a more detailed scheme for the consideration of the mills. In this connection I am to refer to Chapter I of the Rules of the Association which includes among the objects for which the Association exists (a) to protect the members of the Association against competition; (b) to collect, classify and circulate statistics; (c) to encourage and finance technical developments in plant and machinery necessary for the manufacture of jute and jute products; (d) to encourage and finance the scientific exploration of new uses to which jute can be applied and the discovery of by-products; and (e) to open out new markets.

APPENDIX I.

PAPER.

*A new and Economical Means of Packing Cotton and other Piece-goods.
Paper Sacks and Special Waterproof Packing Papers.*

(Reproduced from the Indian Textile Journal dated 31st August 1932.)

During the course of the last ten years many uses have been found for paper and, in particular, Kraft paper. It was only six years ago that the Cement Industry in England began to take an interest in a new form of packing for cement. Till then cement was invariably packed either in jute bags or in cotton bags, but in January-June 1926 experiments were carried out with paper sacks, and during those six months 7 per cent. of the cement manufactured in England was put into paper sacks. During the three months, from July to September 1930, 73 per cent. of the cement manufactured in England was packed in paper sacks, both for internal use and for export purposes. These figures alone show the immense strides made in the Paper Sack Industry in England, as a suitable container for cement. In other countries, such as America, Germany and Denmark, similar strides have been made and, we believe, to-day no less than 80 per cent. of the cement manufactured in Denmark is packed in paper sacks, whereas in England no less than 85 per cent. is packed in similar containers, and in America where cotton is so cheap, 40 per cent. of cement is packed in paper sacks, about 50 per cent. in cotton bags and the remainder in steel drums or wooden casks. These figures, therefore, tend to prove at least one fact and that is, that, regardless of price, the paper sack as a suitable container for practically any type of material has at last

come into its own. Vast improvements have been made by all manufacturers of paper sacks, and to-day it is possible to obtain what is known as a "Multi-Ply Waterproof Kraft Paper Sack," consisting of 2, 3, 4, 5 or 6 plies of paper, which will contain 1 cwt. or more of material, and will be sufficiently strong to stand up against rough handling and long journeys.

There are many forms of multi-ply paper sacks on the market but, briefly, they can be divided into two classes, *i.e.*, the open mouthed sack and the valve-mouthed sack. These two types can again be subdivided into two classifications: (a) paper sacks sewn at top and bottom with jute, hemp or cotton stitching, and (b) paper sacks folded and stitched with wire and strengthened by special tropical glue. Of the above, the most suitable and the strongest form of paper sack is the valve-mouthed type and the wire-stitched and glued type, and when these two are embodied in one sack, the result is the best, strongest and most durable paper sack obtainable.

The difficulty in regard to the open-mouthed type paper sack is the closing of the mouth after the commodity has been filled. This, of course, can either be done by folding the top and stitching by hand or with a machine, or by "roseing" the mouth and tying with a wire tie, but neither is very satisfactory, and the valve-mouthed type will be found infinitely superior and considerably stronger. As against this, when using the valve-mouthed type of paper sack, it is, of course, essential to have a special filling machine, either operated automatically or by hand, and this in itself may tend to retard the popularity which these sacks undoubtedly deserve until manufacturers realise the necessity of introducing automatic packing machines in their Works. There are a number of automatic packing machines on the market which are capable of packing practically any form of material, and prices range from about Rs. 800 for the smallest type of hand-operated packing machine, to Rs. 8,000 for the entirely automatic rotary form of packing machine.

It would now be interesting to compare the many obvious advantages offered by using the paper sack as opposed to other forms of packing and they may be briefly summarized as follows—(1) The paper sack is neater and cleaner to handle. (2) Larger quantities can be handled by a chute with greater speed than when the jute sack is used. It can be emptied completely of all cement or other material as there are no interstices to hold the cement or other material. (4) No time is wasted in opening as with jute bags, the paper being simply ripped open with a knife. (5) It entirely eliminates all the trouble and expense of records for returned bags for purposes of credit. (6) The cement or other materials are more perfectly stored because of the greater damp-resisting qualities of paper as compared with the open textures of jute or cotton.

One of the most important points in favour of the paper sack is the fact that once the cement or other material has been filled into a valve-mounted paper sack, it cannot under any circumstances be tampered with or adulterated from the time that it leaves the Works to the time that it is opened by the recipient, because the only way of opening such a sack is to cut it open with a knife, whereas the jute bag or cotton bag can, and has been, carefully opened at the mouth and the contents taken out and adulterated and the bag re-tied and so done up that the recipient is unaware that the contents have been tampered with.

Apart from the advantages enumerated above, there is also a price advantage which cannot be overlooked by manufacturers. Paper sacks manufactured in England to-day to contain 1 cwt. of material, size 33×19½", made of the finest quality long fibre Canadian and Finnish Kraft Pulp in 5-ply paper, can be purchased in India at a price of Rs. 17 per 100 bags, f.o.r. Port of Entry. As against this, the price of a twill ore jute bag of similar size to hold 1 cwt. of material has never reached a lower figure than Rs. 17-12-0 per 100 bags, f.o.r. Calcutta, and this may be considered as a rockbottom price, and in fact is even lower than pre-war parity. With the jute market rising the price for this type of bag will undoubtedly find its own level at about Rs. 25 to Rs. 28 per 100 f.o.r. Calcutta, and at this figure the paper sack will show any manufacturer a decided saving. An argument in favour of jute bags may be that they can be used twice, but in order to do this, as had already been pointed out, careful records have to be kept not only by the manufacturer, but also by the customer and credit notes have to be issued on the return of such bags to the manufacturer and this entails added expense and extra staff and records, and moreover on receipt of such returned bags it is generally found that at least half the quantity is unuseable. By adopting paper sacks manufacturers can automatically eliminate the records which they have had to keep in the past and can economize in their clerical staff and be able to offer their commodities packed in paper sacks at a cheaper price which would compensate the customer for any possible credit which he might have obtained on the return of jute bags and would undoubtedly still show the manufacturer considerable saving in his packing charges.

There are other forms of paper sacks and other uses of Kraft paper. There is also the single and double ply waterproof Crepe Kraft sack which also goes through a special process and is impregnated with paraffin wax from about 10 per cent. to as much as 60 per cent. This form of paper is used for lining jute and cotton bags to render them waterproof and to protect the material from monsoon rains and changes in climatic conditions. There is also a Crepe Kraft Waterproof Paper which is sold in rolls of 100 yards in various widths from 36" to 45" and upwards, and this is used throughout the world for packing purposes, such as packing piecegoods and manufactured cotton goods, and besides being economical is also absolutely waterproof and is guaranteed to protect materials from any climatic conditions.

Extracts from letter dated March 1933 from London to Calcutta.

"During the War Germany made good progress in spinning Kraft paper. Afterwards, however, it all seemed to ease off. Now the development has commenced again and on the German frontier near Dantzig there is a mill with nearly 100 looms spinning Kraft paper in the wet state straight off an M. G. machine. The cylinder is wound round with wire at about one inch spaces which automatically breaks up the wet sheet and it is twisted straight away, afterwards going through various additional spinning processes. They claim that a bag made of spun paper is very much stronger than the ordinary sheet Kraft and comes nearer to a likely substitute for jute bags.

"In writing you yesterday on this subject I forgot to mention thatare in touch with the South African wool people and are making some experimental woolpacks in paper. As you know, the wool people

have for years past complained about loose jute threads getting into the wool."

Demi-official letter No. 50-T, dated Camp Simla, 13th May 1933, with enclosure from the Department of Commercial Intelligence and Statistics, India, to the Secretary, Indian Jute Mills Association.

I enclose herewith a communication received from the British Consulate-General, San Francisco, inviting my attention to an extract from the account of the Annual Meeting in Calcutta of the Indian Jute Mills Association which appeared in the "Capital" of the 26th January (page 142) regarding the use of paper bags as flour containers which may perhaps be of interest to your Association.

(Enclosures referred to above).

S. F. Trade No. 49 (C. 112).—One of the leading men in the local burlap bag business has called here in some perturbation to call my attention to the enclosed extract from the account of the annual meeting in Calcutta of the Indian Jute Mills Association which appeared in the "Capital", published in Calcutta on January 26th, 1933 (page 142).

2. He said that whatever the position may be in other parts of the United States, in California the fact is that paper containers already account for about 10 per cent. of the packaging of flour. It is true that at present paper is used almost entirely for the smaller packages but strong efforts are being made to produce a combination cotton and paper container for the larger packages and these efforts will probably be successful.

3. My informant is fearful from the tone of the enclosed extract that the jute millers in Calcutta, having for the moment solved their production problems, are settling down to await with pious confidence the rosy dawn of a new yesterday. When it is borne in mind that cement packaging on the Pacific Coast is now practically entirely done with paper; that the local sugar refineries are reconditioning sacks four and five times and returning them to the sugar producers instead of discarding them to the second hand trade: and that constant research is being carried on to improve cotton and paper containers, it will be realised that whatever form the revival in trade takes, there is little chance of a return to the status quo in the burlap trade here.

4. Amongst the handicaps under which burlap suffers in comparison with its competitors, my informant emphasised its relative unsuitability for taking and showing prominently trade marks and other imprints.

5. I assured him that there was little doubt that the Jute Mills Association kept themselves informed of developments and are bending every effort to the improvement of their goods.

(Sd) A. C. CHARLTON,

H. B. M. Consul-General.

Attachment to S. F. Trade No. 49, 24th March 1933.

“Apropos of the Ottawa Conference he (Mr. J. Sime, Chairman of the Association) said:—

“.....I must refer briefly to the Ottawa Conference and the splendid services of Mr. Rose. He had a good deal to put up with, as the Prince Rupert of our Association, for he does not suffer procrastination and its methods gladly. His reports to us are very clear and very valuable and give us information and inspire hope not generally found in official and trade reports. For instance, few of us knew that paper bags were useless as flour containers, and we were all glad to read the opinion of Mr. Stevens, the British Vice-Consul in New York on page 20 of Mr. Rose's report in which Mr. Stevens states that “The most significant fact is not the trend towards either cotton or paper bags but a serious reduction in the demand for bags in general. It is emphasised that with a revival in Trade as a whole, the consumption of burlap in the United States can hardly fail to show an increase though the extent of that increase may depend on factors which cannot yet be accurately foreseen.....”

APPENDIX II.

COTTON.

Memorandum regarding American attempts to supersede Jute Products by Cotton issued by the London Jute Association in June, 1928.

1. Whenever excessively large crops of cotton in the United States have produced an unprofitable market for the raw material the problem of absorbing the surplus has almost invariably brought up proposals for substituting cotton cloth for many of the purposes to which jute fabrics are normally devoted. The large imports of jute goods amounting to \$100,000,000 annually have naturally been the centre of attention from quarters where the disposal of the surplus cotton crop presents an economic question of great importance. A very large proportion of American imports of jute consists of burlap for bagging, and, curiously enough, this is mainly used in the baling of raw cotton. The “cotton bagging for cotton” controversy has arisen from time to time over a long period of years and has subsided regularly when the temporary emergency arising from a large crop passed. The heavy production of cotton in 1926 brought the question into prominence again and numerous schemes have been suggested whereby jute should be displaced by cotton.

2. Various attempts to stop the imports of jute goods by legislative measures were first made. A bill was introduced into the House of Representatives by Mr. Allgood on December 20th, 1926, to prohibit the importation of jute and jute products into the United States, but failed to secure enactment. This was followed by a bill introduced by Mr. Ransdell into the Senate on December 6th, 1927 to amend the Tariff Act so as to remove jute from the free list and heavily increase the duty on jute fabrics. This was referred to the Committee on

Finance and has not so far been acted upon. The embargo measure was resuscitated by Mr. Blanton on February 7th, 1928, when he introduced a bill into the House of Representatives completely prohibiting the entry of all jute and jute products into the United States. This bill was referred to the Committee on Agriculture and has not so far progressed beyond that stage. Attempts to stop imports of jute goods by legislative restrictions not having so far succeeded, the Department of Agriculture in conjunction with the Department of Commerce and the Cotton Textile Institute, have undertaken tests and studies to show, first of all the suitability of cotton for many purposes for which jute is now used, and secondly to discover new uses for cotton, which would considerably increase the consumption of this material. The reports upon these tests and studies are contained in the following publications of the United States Department of Agriculture, Washington D.C., U.S.A.

Cotton Bagging for Cotton.

Cotton bags in the wholesale grocery trade.

A partial list of uses of American raw cotton.

Farm uses for cotton and its products.

The results of the physical tests seem to indicate clearly that certain types of cotton bagging are more suitable coverings than jute, but the whole question hinges upon price. The analysis of prices of jute and cotton bagging contained in the first publication mentioned shows that only once in recent years has cotton bagging been lower in price than jute bagging. This was in 1926 when the demand for jute was strong and for cotton weak. Moreover, as bales of cotton are sold on the basis of gross weight the adoption of cotton bagging considerably reduces the weight of the bale, to the farmers' loss. In one specific test it was found that the difference in the weight of the bagging and ties on a bale covered with jute and one covered with light-weight cotton bagging amounted to seven pounds. This at twenty cents a pound brought the farmer \$1.40 a bale less for his cotton. To make the adoption of cotton baling profitable bales of cotton would have to be sold on the basis of net weight. The Department of Agriculture study sums up the problem by stating that although cotton bagging makes a very suitable covering for cotton bales its use appears to depend upon (a) the manufacture of a light weight cotton bagging *which can be sold in competition with jute bagging*, and (b) the sale of cotton on the basis of its net weight in the markets of the world.

3. As regards other types of bagging it is estimated that members of the American Wholesale Grocers Association use bags made of other material than cotton to the extent of 329,000,000 pounds annually. This would be equivalent to 787,000 bales of raw cotton. It does not follow that all this quantity of cotton would definitely be consumed if cotton bags were substituted for jute bagging, but members of the association think there is considerable scope for increased cotton consumption in this direction. The following remarks of one member, however, are significant:—

"Cotton bags can never be used successfully as containers for sugar, beans, potatoes, cabbage, or any other heavy commodity handled by wholesale grocers on account of the rapid changes in the market price of cotton. When cotton is cheap, we hardly get a cotton bag for sugars thick enough,

or with body and strength enough, to stand the strain of handling and shipping without bursting or tearing; when the price goes up the cotton bag is reduced in thickness and strength to such an extent it is unsatisfactory to try to handle sugars in cotton bags. When cotton advances in price either the weight of the cotton bags is reduced or the price is advanced to such an extent that the manufacturer is forced to use.....other containers."

4. The other two publications referred to deal with possible new uses for cotton; but from a study of all these documents an impression is gained that the market for Jute products in the United States is not immediately threatened by the various proposals put forward. A short crop and an increased world consumption of raw cotton would probably again send the jute controversy into obscurity.

Extract from letter dated 18th March 1933, from San Francisco.

Cotton Goods Competition.—In a recent issue of the "Capital" we notice that Mr. Sime of Messrs Andrew Yule & Co., in a speech at the annual meeting of the Jute Mills Association, we believe, stated that cotton goods were making no inroads in the customary burlap markets in the United States. As we recall it, this statement was a quotation from some British Consular report from New York. That condition may have been true at some distant time and the consular agent who made the report may have been justified in making it, but it is certainly not the true state of affairs to-day. Particularly during the past six months the use of cotton has made such serious inroads upon our markets that an executive of one bag factory here went so far as to say that where the factories normally handled about 60 per cent. Hessians and 40 per cent. Cotton during the past six months these figures might almost be reversed. While we consider that the technical condition of the primary market is probably better than that of any other textile industry, we do not think that the attitude of complacency should be encouraged among Jute Mills Association members. In the report from your own Mills Department a month or two ago, we felt that the tone was very optimistic and we must admit that there was some reason for this attitude. Nevertheless, we think it is a grave error on the part of Mill Managers, Owners, Managing Agents, in Calcutta to shut their eyes to the fact that the consumption of jute fabrics the world over has been greatly curtailed. In our part of the world flour and feed men, millers and the like, who were in the habit of using hessian bags for bran, mash, mill feed, and so forth, are now using cotton because it is cheaper, because it gives a better appearance, because it takes a brand better and because it has an equally ready second-hand market. We cannot urge too strongly the importance of keeping up the quality and colour in hessians. It is only in this way that we can hope to recover lost ground in these markets.

Letter dated 18th March 1933 to.....from San Francisco.

During the past period of months we have been keeping a fairly close check on our subsidiary company in the manufacture of their bags, with respect to the utilisation of Hessian cloth *versus* cotton cloth, and we are rather concerned to find figures increasing materially

for the latter goods. This is a subject of extreme importance to you and the mills generally.

Ordinarily the price in a large measure is the governing factor. As you know, cotton has been exceedingly cheap, and while there has been some strengthening during the past week, the advances anticipated have not materialised. Closing figures in New York yesterday for cotton spot were equivalent to about 6½ cents. There was a time when the requirements of our associates called for about 30 per cent. cotton 70 per cent. Hessians, but during the past six months particularly, the figures have been very much reversed, and their requirements for the cotton sheeting have advanced to almost 45 per cent. to 50 per cent. This as you can readily see is making serious inroads on the Hessian material.

Aside from the price differential the buyers are actually beginning to show a preference in many cases for the cotton bag, due to its lightness and the fact that it takes printing or branding very much better than the Hessian goods. There has been a tendency on the part of the trade in a sense to specialise in 5, 10, 25, 50 and 100 pound containers, which are cotton material bearing brands or designs of the producers or descriptive of the products, which are made up in various colours and which owing to their attractiveness are having a psychological effect upon the buyers in creating a desire for goods packed in that manner. We refer to the packing of such items as rice, flour, feed stuffs, sugar, salt and potatoes.

The main point of interest is for you to endeavour to keep quotations down as low as it is consistently possible to accomplish pending more of a material improvement in our cotton market here, as this will unquestionably in a sense automatically correct the situation.

Letter dated 18th March 1933, to.....from San Francisco.

From present indications it looks very much as though there will be very few additional purchases this season, due mainly to the fact that up to the present writing the California State Prison have only sold approximately 500,000 bags out of the prospective total production of 5,000,000.

During the past month we have had ample rains and we expect satisfactory crops, but the financial position of the farmers individually is such that purchases of bags will necessarily have to be postponed. The dealers are naturally not covering prospective requirements until they know a little later on just what the position of the farmers will be financially, and awaiting the time when more of the stock of bags at the prison will be disposed of.

As you know from previous correspondence the prison has made a definite price to the farmers of 5 cents which would necessitate our purchasing bags at equivalent of about 18/9 or 19/- at the most f.o.b. Calcutta. From last advice we received we understand the market is well over 20/-. Consequently with this difference prevalent it makes business absolutely impossible. Furthermore, for June/July contract business it would be necessary for us to have quantities aboard the April 8th sailing due San Francisco late May, and as the present future prospects are such that we hesitate purchasing any additional quantities for our own requirements, it looks very much as though business this season will be exceedingly small. There is, of course, always the hope that

conditions in the Pacific Northwest may improve, which territory calls for bags for a later position.

Extract from a letter received by a Calcutta Firm from San Francisco.

The advance in jute goods, because of the decline in the dollar, makes jute cloth now very materially higher than cotton, and unquestionably, there will be quite an increase in the substitution of cotton bags for jute bags; as a matter of fact, this had already reached large proportions, and even before the recent advance in the price of jute, cotton goods were cheaper than jute for many purposes; we ourselves, have sold many millions of cotton bags, for a purpose that we had previously supplied jute bags, and in one case we even cancelled quite a substantial number of jute bags and sold cotton bags instead.

It seems to us that the jute industry of India is not alive to the conditions—they are doing nothing to combat the active work of the cotton manufacturers and so long as the present conditions prevail as to the comparative prices you can expect a material decline in the use of jute burlap in this country. Not only that but paper bags are making quite an inroad but we think paper bags would affect the cotton bags more than the jute, although it will affect both to a certain extent. Just as an illustration as to the difference in price between cotton and jute, we will say that one number that is used quite extensively in this country, the burlap would cost us here $4\frac{1}{4}$ cents a yard; the cotton would cost us here about $3\frac{7}{8}$ cents per yard. Now the Pacific Coast, of course, is handicapped because they have to pay the freight from the cotton mill to the Coast, which is approximately $\frac{1}{4}$ cent a yard, and that does not apply to eastern bag manufacturers. To begin with we think the freights are higher to the Atlantic Coast than to the Pacific Coast, that would make the cost of their goods a little higher than here, but against that they save $\frac{1}{4}$ cent a year on the cost of their cotton goods, so you can see that that makes quite a material spread between the two, and when the propaganda in connection with cotton bags is taken into consideration why the effect is to greatly increase the use of cotton bags.

We believe on this Coast this year we will use approximately 6,000,000 cotton bags for one purpose alone where formerly a jute bag was used, and in addition to that the cotton bag is being used more and more for foods and things of that kind that formerly a burlap was used for. Many of the bag manufacturers in this country are, of course, neutral on this matter. They will sell what people want. We, however, are rather decided for burlap bags. Some of the eastern bag manufacturers own their own cotton mills and if the continued increase in the use of cotton bags continues, we think we will have to try to see if we cannot own a cotton mill.

APPENDIX III.

BULK HANDLING OF WHEAT.

Letter dated Melbourne, 24th March 1933, to a Calcutta Firm of Shippers.

The question of Bulk Handling in Victoria is much more before the Public's eye and it has now arrived at the stage where the report of a

Select Committee, comprised of three Cabinet Ministers, shows a majority in favour of adopting the scheme.

A defence meeting has been held and was attended by Wheat Shippers, Flour Millers, Jute Brokers, Jute Merchants, etc., and after lengthy discussion it was decided, at this stage, that any activity should be conducted by the Jute Trade. Others present were only concerned in so far as Bulk Handling affected their interests, but many view the scheme as the thin edge of a wedge to introduce compulsory pooling and in this event or any indications arising bearing on the possibility of compulsory pooling, Wheat Shippers, Flour Millers, etc., would actively support any action to combat Bulk Handling.

The Jute Trade appointed a Committee, the representatives being:—

- | | | |
|----------------------|----|---|
| R. Phillips, Esq. | .. | Calcutta Co., Pty., Ltd., (Hoare Miller's Agent). |
| L. E. Bridge, Esq. | .. | Jute Fabrics, Ltd., (Bird & Co.'s Agent). |
| W. J. McDonald, Esq. | .. | Harrisons, Ramsay Pty., Ltd. (Ralli Bros. Agent). |
| J. Bellair, Esq. | .. | Mitchell, Bellair & Lees (Senda & Co.'s Agent). |
| G. G. Crespin, Esq. | .. | Senior of G. G. Crespin & Co. |

The object of this Committee is to gather data and prepare propaganda for publication in the Press, also to be ready should the Bulk Handling question take a more serious aspect. In the event of this, it is possible that Calcutta Shippers, and through them the Calcutta Jute Mills, will be called upon for financial assistance, for it means as much to Calcutta as it does to the local agents here.

In the meantime, it has been suggested by one or two Members of Parliament associated with the Corn Exchange, that the question of Bulk Handling in a measure can be looked upon as "POLITICAL WINDOW DRESSING", but these Members consider it very important to form a Committee to be prepared to combat the measure when the matter is ready to be discussed in Parliament.

As this Meeting brought together the great proportion of those interested in the Jute Trade in Melbourne, the opportunity was taken to form a Jute Section of the Melbourne Corn Exchange. At present, there is a Jute Section of the Melbourne Chamber of Commerce, but this is more or less dormant, whereas the Corn Exchange is active, and a Jute Section, under its auspices, would be a live association—the suggestion was approved of and a temporary Committee, with the writer as Chairman, was formed to establish this section.

We believe that one of your representatives has a seat on the Committee of the Jute Fabrics Shippers Association, and it may be of interest for this Association to know of the movement regarding the Jute Section of the Melbourne Corn Exchange.

Copy of a letter dated 5th March from a member of the Association, to the Secretary, Calcutta Jute Fabrics Shippers Association.

"The position as we see it is this. The only State where bulk handling is carried on at present is in New South Wales, and there for several years now the system has been in operation.

In the South Western districts of that State silos had been completed at various points along the railways, and the wheat is received here prior to despatch to the terminal silos in Sydney. The silo capacity in the country has been increasing annually with the construction and completion of new silos. We are in a position to give you some figures, which may be of interest to you.

From the 1930 harvest 22,948,192 bushels of wheat were received at the country silos, and at the terminal silos, 695,668 bushels were received in bulk that had not previously been handled by silos, making a total of 23,643,860 bushels.

In the season prior to 1930, the amount received at the country silos was only 8,739,874 bushels but we must bear in mind that in this year the crop in the districts served by silos was, comparatively speaking, a failure. Although for the present there are no figures available for last season's crop, the Department in October of last year gave us the following figures as to the actual capacity of the silos at any one time.

Country	...	15,863,000	bushels
Terminal	...	6,750,000	„
<hr/>			
Making a total of	...	22,613,000	„

Of course, as wheat is continually being received and delivered, the actual capacity of the silos spread over a season is considerably in excess of the above figure. During the past season the silos received more support from the farmer than hitherto, and, in fact, if it had not been that the Railway Department was not able to supply the necessary rolling stock for bulk handling, a considerably larger quantity of grain would have been handled in bulk.

Now regarding the outlook for the future, it is largely a financial one. It is admitted from the farmer's point of view that bulk handling is to his advantage, and in time it must be utilised generally throughout Australia. The initial expense is naturally very heavy, and in these days we fail to see how Government are going to obtain the necessary finance to proceed with such a scheme. Apart from the cost of the building of the silos, it is necessary to provide special railway rolling stock, and it is not likely, judging by the state of the Railway finances, that they will be able to supply the necessary trucks at present.

The matter has received consideration of Western Australia and Victoria, and these States will probably be the next to adopt the system.

In summing up we would say that eventually we expect Australia to adopt bulk handling generally, but there certainly will be no sudden increase this coming season, and do not anticipate any new schemes will be attempted within the next two years. From information obtained from wheat shippers, the fact that most ports are not equipped specially to handle wheat in bulk, is not a factor of considerable importance in considering the proportion from an export point of view, provided, of course, the grain has not to be stored at destination."

Extract from the Australian press—8th January, 1932.

Federal Investigation of Local System.

THE EXPERIMENTAL bulk handling system introduced in the wheat belt of this State has aroused such keen interest that a Federal investigation of its merits is contemplated. South Australia has also shown a keen interest in the undertaking and the possibilities of its adoption and representatives from that State were enthusiastic to-day in praise of the system.

Considerable interest has been aroused by the announcement that the new Minister for Markets (Mr. Hawker) has ordered an investigation into the bulk handling of wheat in Western Australia. The object is to determine the prospects that exist for making wheat farmers in Australia independent of overseas jute markets.

It is Mr. Hawker's intention to send experts from the development branch to this State to report upon the experimental system here. It is said that in the event of a favourable report, early action will be taken to institute a similar system in South Australia and in other States to minimise the necessity of using bags. Protagonists of bulk handling assert that it will mean a big saving to growers.

The experimental system which has been in operation in W. A. for some little time and was introduced by Westralian Farmers, Ltd., and the Co-operative Wheat Pool of W. A. Plants have been established at five wheat belt sidings and results are reported to have gratified not only those sponsoring the scheme, but the growers themselves.

Premier's comments.—Commenting on the announcement of Mr. Hawker, the Premier (Sir James Mitchell) to-day said he was naturally pleased that the investigation was to be made. He understood that the system of bulk handling that was being tested in this State, was working satisfactorily whereas the price of cornsacks had been decidedly unsatisfactory up-to-date. Apparently the market had been on the short side, with the result that the price was almost prohibitive. However, it must be remembered that there was more than one side to the bulk handling question as applied to everything. He hoped that the experts of the development branch of the Ministry of Markets, who would be despatched to Western Australia, were possessed of a close knowledge of the question of handling in bulk.

The Premier remarked that if the system of bulk handling were applied to the State generally a vast sum of money would be required, and for its application throughout Australia the sum would be enormous, but if it were considered vital to the industry to have the scheme, the expenditure, of course, was unavoidable. By the establishment of the bulk handling scheme, the whole cost of cornsacks would not be saved, but it was a trade convenience, and possessed other attributes and its bearing on productive costs was undoubtedly of the greatest importance.

South Australian Interest.—An interesting report of their impressions of the experimental scheme established in the wheat belt was secured to-day from Mr. H. G. Hawkins, and Mr. E. A. Badcock, Chairman and General Manager, respectively, of the South Australian

Farmers' Co-operative Union. They are greatly impressed with the system, and visualised its adoption on a wide scale. It is also their confirmed opinion that its introduction will mean a substantial saving to the industry.

Messrs. Hawkins and Badcock arrived in Perth from Adelaide on Monday last, the visit being at the invitation of Westralian Farmers, Ltd., and the Co-operative Wheat Pool of W. A., and the object being to enable them to inspect the experimental bulk handling plants which have been established at five sidings in the Wyalcatchem district. They explained in the interview that for many years their organisation had been actively interested in bulk handling for South Australia, with the object of endeavouring to reduce the production costs of the wheatgrower.

They had made exhaustive inquiries regarding the Canadian and American system and had come to the definite conclusion that the methods in force in those countries were not suited to Australian conditions primarily because the cost of establishment would be prohibitive. New South Wales was the only State which had introduced bulk handling, and, there, about one-third of the crop passed through the silos, the balance being bagged. The system was based on the American plan, and consequently, from their point of view, was much too costly.

Cornsack costs burden.—The South Australian visitors pointed out that in a good season approximately £2,000,000 was required to be sent from Australia overseas in payment of cornsacks, and any scheme which could be evolved to keep this money in Australia, irrespective of whatever saving it might mean to growers, could be considered well worth while.

The experiments being carried out in this State they described as being on unorthodox lines. The scheme was really a system of collective bulk storing, instead of individual, the whole principle being entirely different from the American, where the elevator was taken to the wheat, instead of the wheat to the elevator. The storage accommodation consisted of huge bins, cheaply constructed of timber and iron, obviating the necessity of expensive concrete silos, and enabling the wheat to be held in the country until required for shipment or other purpose. In this way the necessity for costly terminal silos was counteracted.

Praise of system.—"We were greatly impressed with what we have seen," the visitors said, "and feel convinced that, out of the experiments a scheme will be evolved which will no doubt become universal in Australia. We congratulate Westralian Farmers, Ltd., and the Co-operative Wheat Pool on their commendable enterprise on behalf of the wheat producer. South Australia has always worked very closely with the State, and, as far as pool activities are concerned, we have a joint office in London for the sale and chartering of all our wheat to obviate competition, and we work amicably together in everything that will be of benefit to the primary producer."

Two States Co-operate.—From an economical standpoint the visitors are also confident of the local system giving complete satisfaction. They are satisfied that the saving to the grower will be considerable. They further declared that their organisation intended to co-operate with the authorities in this State on the question of having the scheme introduced in both States. They are strongly of the opinion that it is not a proposal for Government action, but must be undertaken and carried out by the

farmers themselves, ensuring their having absolute control of all operations.

If South Australia decided to introduce the scheme comparatively little time would be required to bring it into operation. It would be possible to give effect to it in time to cater for next season's harvest in certain parts of the State. South Australia was advantaged in that on her broad gauge railway system all rolling stock was new, and had been so constructed that it would easily be converted for the purposes of bulk wheat transport.

Mr. Hawker's interest.—Dealing specifically with Mr. Hawker's announcement of the proposed investigations, Messrs. Hawkins and Badcock said that early in December Mr. Walter Harper, Chairman of Directors of Westralian Farmers, Ltd., Mr. C. Judd, Manager of Victorian Wheat Corporation, and Mr. Badcock had waited on Mr. Mulvany, Secretary to the Minister for Markets.

Mr. Harper explained to him the steps which had been taken to establish the experimental system in Western Australia, and it was asked that the Department of Markets should send experts to the State to examine the scheme, while it was in operation. Mr. Mulvany pointed out that as the elections were in progress it would be impossible, until their conclusion, to proceed in the matter, but he would immediately bring the request before the new Minister, who happened to be Mr. Hawker, and the early decision to hold an inquiry was greatly appreciated.

Mr. Hawkins said that the selection of Mr. Hawker for the post of Minister for Markets had been received with considerable satisfaction in South Australia. He was a practical wheat farmer, and it was known that his sympathies were entirely with the producer. He was an open-minded man, and could be depended upon to give favourable consideration to any proposal calculated to lower the cost of production of the farmer, which was so necessary to day. Some method must be evolved to reduce production costs. Wheat was a cheap article, and must be handled cheaply.

Extract from the 'Advertiser', dated Adelaide, 14th January 1932.

Tests to be made here same as W. A. Scheme.

At a meeting of the board of the South Australian Farmers' Co-operative Union yesterday morning, it was decided to make tests of bulk handling of wheat at several stations in South Australia, so that the system, if practicable, might be put into operation next season.

Details of the scheme were put before the board by Messrs. H. G. Hawkins (chairman of directors), and E. A. Badcock (general manager), who returned from Western Australia on Tuesday. They visited Western Australia at the invitation of the Westralian Farmers, Ltd., to inspect the bulk handling depots, which have been installed at five country centres in the Wyalkatchem district. They are enthusiastic about the new system.

Unorthodox methods.—Messrs. Hawkins and Badcock explained that the scheme was an absolute departure from the orthodox, and was a bulk handling and storage proposition, providing for the collecting and cheap storage of wheat in the country. With the system in operation,

farmers would not be faced with the expense of conveying the wheat in cornsacks to the nearest station, and then sending it long distances to the seaport, or to a central station, where it would be stored in expensive silos.

A bulk handling depot consisted of galvanized iron and timber sheds, containing huge bins for the storage of the grain. The task of conveying the wheat into the bins was done by portable elevators run by economical 4 h.p. engines, capable of discharging one ton a minute. Some farmers had found it practicable to take the wheat to the bulk handling depot in bags, the mouths of which had not been sewn, and others had built large bins, made of wood, and lined with tin, on to their trucks. By using the last named method, the grain could be taken in bulk from the farm. Provision was made at the five centres in Western Australia for the handling of 500,000 bushels of wheat, but more than 1,300,000 bushels had been delivered already.

Owned by farmers.—"We are satisfied that a bulk handling scheme on the same lines as that operating in Western Australia could be introduced into this State," said Messrs. Hawkins and Badcock. "It would be efficient and economical, and show a very definite saving on the present system. Wheat is a cheap article, and must be handled cheaply. We consider that the rolling stock in South Australia, particularly on the broad gauge, is specially suitable for the transport of wheat in bulk. We concur with the view of the Western Australian farmers that it is essential that the systems should be owned and controlled by the farmers' organisations, and not by the Government."

Extract from the 'Advertiser', dated, Adelaide, 15th January 1932.

Experiment in the West.—Bulk handling of wheat—on the lines of the experiment being conducted on a commercial basis in the Wyalcatchem district—is, in the opinion of visiting representatives of the Victorian Wheatgrowers' Corporation, the beginning of the end of the bag system.

After having inspected the bulk handling sidings they expressed the view that the scheme would be a success, and that something on similar lines might be adopted by the other States.

The party comprised the Chairman of the Victorian Wheatgrowers' Corporation (Mr. A. J. King) and two Directors (Messrs. W. H. Pickering and H. D. Gibson) who had been invited to Western Australia by Westralian Farmers, Ltd., and the Co-operative Wheat Pool of Western Australia, which inaugurated the experimental bulk handling depots.

Saving to farmers.—The visitors considered that the scheme would mean a great saving to farmers. The present cost of cornsacks, for a 45,000,000 bushel harvest, they said, was £750,000. Having seen what was being done here, they thought it quite possible that immediate action would be taken in Victoria, where they had been getting estimates and all information necessary to move as soon as a decision was made.

At one siding a jarrah-walled bin has been erected, capable of holding 150,000 bushels. It has been filled, and a temporary bin is being used. Two 30 ft. portable elevators are being operated. The same elevator is used for loading railway trucks as for receiving, the delivery pipe being swung round over the truck. Some wheat is delivered to the elevators in open bags, and some in bulk in walled vehicles.

Depots to be ready for next season.—Although preliminary investigations will be started immediately, it is not definitely known when a scheme for the bulk handling of wheat will be put to a practical test in South Australia.

The Managing Director of the South Australian Farmers' Co-operative Union (Mr. H. G. Hawkins) said yesterday, however, that a number of bulk handling depots would be installed in good time for next seasons' harvest, but he could not say at which stations the scheme would operate. He pointed out that a necessary adjunct to each depot would be a weighbridge. There were comparatively few weighbridges at stations in this State, compared with Western Australia; therefore, the installation of bulk handling depots would of necessity be restricted for the present.

No loose grain would be exported from Western Australia this year, as the buyers had arranged with the millers to take all their bulk wheat. The millers had found that the handling of bulk wheat was both labour saving and economical, and had had very simple machinery put into their mills to deal with it. Next season, when the bulk handling of wheat was in operation here, local farmers would probably follow the example of Western Australian farmers and send all their bulk wheat to the mills.

New Minister's action.—Early in December the Chairman of Westralian Farmers, Limited (Mr. W. Harper), the Manager of the Victorian Wheat Corporation (Mr. C. Judd), and the General Manager of the Farmers' Union (Mr. E. A. Badcock) waited on the Secretary to the Minister of Markets (Mr. Mulvaney) with the request that an expert from the department be sent to Western Australia to make investigations into the bulk handling of wheat there, and to inspect the scheme in operation. Mr. Mulvaney replied that, owing to the elections, he could do nothing, and would have to wait until the new Minister of Markets was appointed. Farmers throughout Australia, and particularly in this State, had received with satisfaction the news that Mr. Hawker had been appointed to that position. He was a practical wheat farmer, and his sympathies were known to be entirely with the producer. He had shown his interest in the bulk handling scheme already by sending an expert to Western Australia to make investigations.

Saving on cornsacks.—Mr. Hawkins pointed out that, under the bulk handling system, comparatively few cornsacks were needed. In a good season, under the present conditions, it was necessary to send about £2,000,000 overseas for the payment of cornsacks, and any scheme evolved which could keep that money in Australia, irrespective of whatever saving it might mean to the farmer, could be considered well worth while.

BULK HANDLING WHEAT.

An opportune work.

Merits proved in New South Wales.

(No. 1.)

Delay in the provision of facilities for expeditious handling of the wheat harvest afford increasing ground for unfavourable comparisons

between Victoria and countries which have adopted the bulk-handling system. Such delay may prove ultimately worth while if it enables this State to profit by the mistakes of others, but bulk handling has passed its experimental stages, and its converts are growing rapidly. Possibly the low returns for wheat and the depressed condition of most primary industries have been factors influencing a postponement of such facilities, the merits of which have been abundantly proved by experience in New South Wales, Canada and the United States. But an increasing number of farmers are fully persuaded that a soundly-conceived bulk-handling system offers the prospect of substantial savings and economies beneficial both to their industry and to the whole State. In careful and scientific methods of cultivation Victorian growers have shown the way to greater productivity and national wealth, increasing the yield, in the Wimmera, for example, from nine to nineteen bushels per acre in a short span of years. It would be very rash to dogmatise about the future of wheat growing, and inferences drawn from the present unprecedented conditions may be discredited in a few years. The modern demand is for the utmost economies in producing, handling and transport methods, and from this standpoint the advantages of bulk handling have been established beyond dispute.

An exhaustive investigation of the bulk-handling system was made by a royal commission in 1925. Prior to that its advantages and economies had been very fully expounded in a series of articles in "The Age". The Royal Commission recommended for Victoria a scheme of country silos and seaboard terminals at an estimated approximate cost of £3,500,000. At that time, although ocean freights for bulk and bagged wheat were the same, there was a difference in market prices in favour of bagged wheat. To-day, shipping freights for bulk wheat are from 2/6 to 3/3 a ton less than those for bagged, equivalent to an advantage of nearly 1*d.* per bushel, while the difference in value between bulk and bagged wheat has tended to disappear with the installation of bulk-handling facilities in wheat-importing countries. More important still, owing to the fall in the cost of materials and labour, it is estimated that the scheme propounded in 1925 could be installed at a figure substantially below the sum then estimated.

Avoidable mistakes.

A special committee of the Victorian Chamber of Agriculture further investigated bulk handling last year, and made a detailed comparison of the respective costs per bushel for handling wheat under the two systems. Information was obtained from Riverina farmers patronising silos, from public bodies, including the management of the New South Wales bulk system, and from shippers, while designs and prepared estimates of costs were obtained from an engineer experienced in silo construction. After a careful examination of all factors involved, the committee found the bulk system showed an advantage of 3·5*d.* per bushel over the bagged system—a margin calculated to be more than sufficient to cover interest, sinking fund, depreciation and operation costs. The scheme recommended by the chamber comprises:—

One hundred and thirty-two country silos, having a total capacity of 13,000,000 bushels, varying in individual capacity from 50,000 to 250,000 bushels, according to the amount of wheat received at each silo station. Each silo would be equipped

with a weighbridge, and be able to receive and load out into trucks at the same time if necessary, at the rate of 60 tons an hour.

Two terminal silos, one at Williamstown and the other at Geelong, each having a capacity of 5,000,000 bushels, and capable of receiving and loading into ships at the rate of 1,000 tons an hour.

A new wharf at Geelong, with loading equipment on wharfs at Geelong and Williamstown.

Conversion of railway trucks to handle wheat in bulk.

This scheme, completely equipped and ready for delivering wheat into ships, was estimated to cost £2,350,000, provided the work be done by contract, and based on a firm tender, with penalties for nonfulfilment. The method of construction is of prime importance in view of the disastrous experience of the day labour system under nominal Government supervision, and the imperative need of avoiding excessive capital outlay, with correspondingly high interest and overhead charges, in the initial stages. Neglect of these precautions has been responsible for over-capitalisation of the New South Wales system, which at the outset was modelled on that of Canada, where scores of different types and grades of wheat are handled. Unnecessarily expensive silos and equipment were provided, and the cost of the New South Wales scheme was further swollen because the works were constructed during and immediately after the war, when materials and labour were at the peak. Some country storage, including two silos each of 600,000 bushels capacity, and others of 300,000 bushels, were in excess of requirements, and situated without proper regard to local needs, while there was considerable avoidable expenditure at the terminal elevator in Sydney. The management of the New South Wales system frankly admits all these shortcomings, but sees no reason why such expensive blundering should be repeated by other States adopting the bulk handling system now or in the future.

Increased demand for silos.

By isolating and enlarging upon such costly mistakes, an attempt has recently been made to discredit the whole system of bulk-handling wheat, and to imply that Victorian farmers and taxpayers would necessarily be involved in similar over-capitalisation if the system were adopted here. Such views ascribe to Victorians little capacity to profit by the mistakes of their neighbours, or to avoid the admitted pitfalls, in all community undertakings, of oversanguine estimates and expected advantages. All authorities emphasise that if bulk handling is to be adopted the system must be built, after competitive tenders, by a competent engineering group having the requisite resources and technical experience, while the placing and capacity of the country silos would require expert determination. Over £4,000,000 has been spent on the New South Wales scheme; better facilities could now be provided for half that sum.

Despite its financial overburden and errors of location and capacity of many country silos, the New South Wales system has proved popular among farmers; and there is an increasing demand for new silos, the

total number constructed having almost quadrupled since 1921-22, as follows:—

Season.	Country Silos.	Season.	Country Silos.
1921-22	... 28	1926-27	... 66
1922-23	... 54	1927-28	... 73
1923-24	... 58	1928-29	... 84
1924-25	... 61	1929-30	... 90
1925-26	... 62	1930-31	... 99

With sacks at 12/ a dozen—up to 15/ a dozen has been paid recently, and even 13/ for secondhand sacks—60,000,000 bags for handling say, 180,000,000 bushels, would involve an expenditure of £3,000,000. Indian hessian interests are seriously perturbed at the prospect of an extension of bulk handling, and a scheme being installed in the Argentine recently prompted a warning to the jute industry that its markets were contracting. The ravages of mice among stacked wheat at country stations in Victoria have necessitated a vast amount of rebagging, almost every sack in places being more or less damaged. Under a silo system, bags used in carting wheat from farms could be used four or five seasons, and need only be fastened with clips or skewers, thereby saving the cost of twine and sewing. Moreover, only about one-fifth the number of bags would be required with bulk facilities in comparison with the quantity used under the bag system.

Other aspects of the system will be discussed in a subsequent article.

BULK HANDLING WHEAT.

Savings to Farmers.

No. II.

Estimates that an expenditure of over £500,000 would be involved in converting railway trucks to handle bulk wheat were a weighty factor advanced against the scheme some years ago. The Railway department contended that the cost of adaptations of trucks ought to be chargeable to the capital cost of the bulk handling scheme. The conversion of some 1,500 trucks was reckoned to involve an expenditure of £40 per truck, while it was thought that 1,000 new trucks of twenty ton capacity would have to be built at a cost of £500 each. These calculations presented a formidable obstacle.

But since then fresh investigations have been made, and it has been found that available rolling stock could be adapted for bulk handling at a cost of under £10 per unit, while new trucks would not be required. About 9,000 steel trucks are capable of treatment on this basis, and their utility for other classes of merchandise would not be diminished in any way, thus effecting the required conversion at a total cost of under £100,000. Last year bulk grain was successfully hauled from Oaklands (Riverina) to Melbourne in trucks with tarpaulins placed inside the doors, and none of the wheat was lost. In view of the much lower estimates of costs for adaptation to bulk traffic, it might be less

difficult to persuade the department to consider as its own responsibility the provision of suitably-equipped rolling stock, in the same way as it provides special trucks or sheep and cattle.

Growers support scheme.

Wheat growers in New South Wales have carted their wheat as much as 28 miles to save the cost of bags and get their grain into a silo. Incomplete as it is, the system there has attracted up to half the whole harvest delivered to the railway. The manager of the New South Wales elevators (Mr. E. Harris) stated recently that earnings per bushel over five years were 2.75*d.*; working expenses, maintenance and management absorbed 1.25*d.*, leaving a surplus of 1.5*d.* on every bushel handled. As a concession to farmers during a difficult time, the silo charge for delivering wheat f.o.b. has this year been reduced from 2½*d.* to 2¼*d.* a bushel. Only during the last two years have the practical benefits of bulk handling been passed on to the growers, and bulk wheat now commands a penny a bushel advantage over bagged wheat. Actually bagged wheat sent from Victoria and other States is bulked in the hold of the vessel, and discharged in bulk into lighters. Buyers in the United Kingdom obtain for 4*d.* a bag which has cost the Australian grower 1/ to 1/3. American and Canadian wheat is sold in bulk to China and Japan, although if bagged the buyers will make a profit out of the bags by resale. In the present season 242,000 tons of bulk wheat has been shipped on 34 vessels from Sydney, and at least 40 per cent. of flour millers' requirements are supplied in bulk; this proportion steadily increasing. The terminal has loaded 7,965 tons of wheat into a steamer in seven hours.

An important advantage of the bulk system is the greater freedom it confers on farmers in the disposal of their wheat. Apart from the protection which silos afford from mice, weevil, rain, fire and other disabilities incidental to stacking, the farmer using the bulk handling system acquires greater independence in marketing his wheat to the best advantage. The practice of storing wheat, which virtually involves parting with it before it is sold, inevitably involves charges in stacking costs, dunnages, insurance and incidental risks. The aggregate cost under such heads would probably be equivalent to a substantial part of the interest on silo construction. A farmer delivering his wheat to a country silo receives a wheat warrant made out in his own name. These warrants are negotiable by endorsement, so that the owner, whose wheat is stored in safety, is free to dispose of his certificate in the open market to the highest bidder merchant, miller or shipper.

Large savings in bags.

Given a harvest of 50,000,000 bushels in Victoria, it is reckoned that with the provision of silos at stations where sufficient wheat is delivered, 75 per cent., of the total would pass through the bulk handling scheme. On this basis, a million dozen fewer bags would be required, representing a saving of some £500,000. If the silos handled an average of 30,000,000 bushels per annum, it has been calculated that the interest and sinking fund on capital would require 1.6*d.* per bushel handled. With operating and overhead costs at

.65d. per bushel, this would give an annual cost of 2.25d. per bushel, which, deducted from the 3.5d. per bushel estimated on a conservative basis to be the advantage which bulk handling has over the bagged system, represents a saving of 1.25d. per bushel to the farmer. The greater the amount of wheat handled, and the more frequently the silos are filled and emptied, the greater the saving to the farmer, apart from considerations of quick discharge, and the saving of time, effort and cost in sewing up bags in the field.

Experience in New South Wales and other wheat-growing countries has shown that it is preferable to erect small silos and fill them repeatedly during the season, rather than to have large silos at local stations filled only once. Both constructional and overhead costs are reduced by adopting the smaller often used unit. In recent years, 25 small silos of only 30,000 bushels capacity have been built in New South Wales, and in the past season these have been filled five times over. The 2/6 advantage in ocean freight in favour of bulk wheat represents 0½d. a bushel; twine and sewing 0½d., and bags at least 3d. This season, the New South Wales silos have handled 25,000,000 bushels, or half the total wheat crop, although the system is in operation at only a quarter of the country wheat stations. In Canada, the silo capacity has expanded from 83,000,000 bushels in 1910 to 395,000,000 bushels in 1930, the total number of elevators being 5787, including many operated by the pool. The Argentine has launched a programme of erecting 600 elevators throughout the grain belt, and control of the system and the handling of grain will be in the hands of a commission. A Canadian firm was last year awarded the tender for construction, and the project is being financed by an issue of 33 year 6 per cent. bonds, interest on which is guaranteed by the Argentine Government.

Apart from its value in making the Victorian wheat farmers better equipped to meet a keen economic rivalry for world markets, in which fine shades of producing and transport costs become highly important, the construction of a bulk handling system is widely approved at this juncture as a means of affording employment. Given a sound and careful layout, construction by contract, and efficient management, with a minimum of political or official interference, the work would qualify for the description "reproductive" in creating an income earning asset that justifies the expenditure of loan funds. It is reckoned that construction activities for the scheme proposed by the Chamber of Agriculture, the manufacture of equipment, and the supply and delivery of building materials, would employ about 2,500 men, and the whole undertaking would require from two to three years to complete. The value of the enterprise from this stand-point, at a time when thousands of skilled workers are available for every phase of factory production, transport and building, cannot be over emphasised.

Extracts from "The West Australian" dated 5th April 1933.

Bulk Handling: Plans for extension: New Company formed.

Plans for the extension of bulk handling facilities were announced yesterday by the general manager of Westralian Farmers, Ltd., (Mr. J. Thomson). A bulk handling company, to be known as

Co-operative Bulk Handling, Ltd., will be registered to-day and it is hoped to handle 11,500,000 bushels in the Fremantle zone next season.

Of all the remedies that had been suggested as a means of overcoming the economic difficulties of the wheat grower, bulk handling held out the greatest immediate hope, Mr. Thomson said. It could be achieved by the growers themselves, and apart from other savings, it would make an immediate cash return to them by reducing the number of cornsacks required.

The object of the company was solely to bring about a change from bag to bulk handling.

Recent letter from Sydney to Calcutta.

The State Government have just announced that they intend to go ahead with the construction of silos, and they have approved of a programme of construction in the country which includes areas that up to the present have not been served with this facility. The present programme of construction will extend for just over 2 years, so that no appreciable effect will be felt immediately.

The most interesting factor is the decision to build the bulk of these silos in the North and North Western districts, as it is to these areas that the market lately has looked for their main demand for Cornsacks.

The total storage of the new works will only be 3,210,000 bushels, but it is also proposed to arrange additional accommodation by way of terminal silos, but nothing definite has yet been decided in this regard, as the Government has two alternatives, either to extend the present accommodation of the Sydney silos or construct new ones at Newcastle. While the actual increase in capacity will only be small with the wheat moving freely between the country and the Terminal Silos, the actual capacity in handling will be considerably increased.

It may interest you to know that the returns of the New South Wales Government Grain Elevators for the current season up to the 9th February 1933 are—33,781,000 bushels received at Country Silos, 490,000 bushels at Terminal Silos from non-silo stations, making a total of 34,271,000 bushels. The final figure will show a considerable increase over any previous year, and this is accounted for by the more efficient transport between country and terminal elevators, and also a higher degree of efficiency generally throughout the services.

It is clearly stated by the Government that the present programme of construction in the Northern and North-Western, Western and South-Western districts is the nucleus of a programme that will ultimately cover the bulk of the Northern and North-Western Wheat areas.

The above information will no doubt be of interest to you and we confidently anticipate that when the results of the successful handling of the record wheat Crop in New South Wales this year are generally

known, that further attention will be paid to this question by other States.

BULK HANDLING OF WHEAT.

Basic principles defined. Competition with bag system.

Essential Deliveries, 80 per cent.

Melbourne, 9th March, 1933.

Interesting basic principles of successful bulk handling of wheat under Victorian conditions are defined in the report of experts now under consideration by the State Cabinet. It is made clear that, as bulk handling has to compete with and make headway against the firmly established bag system, unless the farmer using the silos can make a reasonably substantial net saving in his wheat-marketing costs, undoubtedly he will continue to adhere to the bag system. In that case, the bulk handling installation must prove a costly encumbrance to the State.

In their report the experts favour a project for silo storages at 160 railway stations, with a total capacity of 12,180,000 bushels, terminal accommodation having capacities of 2,750,000 at Williamstown and 1,500,000 bushels at Geelong; estimated capital cost £2,005,013; handling charges 2*d.* a bushel for country silos, and additional $\frac{1}{2}$ *d.* a bushel for terminals; estimated annual revenue £233,334; prospective annual profit after provision for interest and sinking fund £23,971.

With bulk handling, the experts state, the net saving in the farmers' costs amounts to approximately 2 $\frac{3}{4}$ *d.* a bushel, with bags at 9/- a dozen and wheat at 2/4 a bushel, and provided that the cost of handling the wheat from the country railway siding to the ship in bulk does not exceed the cost of that service in bags. It is estimated that handling charges would be 2*d.* a bushel for wheat passing through the country silos, with an additional $\frac{1}{2}$ *d.* a bushel for that portion of the wheat going through the terminals at Geelong or Williamstown. This is approximately the same as the cost of handling bagged wheat.

To provide a project for Victoria that would compete with the bag system the following basis data were adopted after consultation with the acting chief engineer for railways construction (Mr. F. W. Box).

1. An average wheat delivery per station of approximately 30,000 bushels taken over the last ten years, was accepted as the minimum quantity for which it is considered advisable to erect silos at stations.

2. The provision in country districts of silos of a size that would enable them to be filled approximately on an average twice each year, the number of fillings being limited by the capacity of the railways to provide adequate transport facilities for clearing the overflow from country silos as the wheat is brought in from the farms during the period of "peak" deliveries.

3. The fixing of the minimum capacity for country silos at 50,000 bushels as the capital cost of storage space per bushel increases

rapidly for the smaller installations. Considerations of construction economy also made it necessary to restrict the number of sizes to as few as possible. Upon the engineers' recommendation this was fixed at six.

4. The six silo sizes chosen and their allocation to railway station deliveries are as follows:—

	Storage capacity Bushels.	For stations where deliveries range between bushels.
A	... 50,000	90,000 to 150,000
B	... 80,000	150,000 to 225,000
C	... 110,000	225,000 to 300,000
D	... 150,000	300,000 to 390,000
E	... 200,000	390,000 to 480,000
F	... 250,000	480,000 and over.

To ensure the success of the bulk handling system it is considered essential that at least 80 per cent. of the wheat delivered to silo stations must pass through the silo system. This percentage is regarded as attainable because it has been realised with bulk handling in New South Wales. An analysis of railway statistics of wheat received at country stations during the last ten years shows that at 160 of these stations an average of approximately 90,000 bushels or more is delivered each year, and these stations are regarded as each receiving sufficient wheat to justify the installation of silos. Wheat production, however, is subject to very considerable fluctuation as is shown in this table of yearly fluctuations in railway receipts of wheat in Victoria:—

Year.	Bushels per annum.
1922-23	... 25,743,496
1923-24	... 31,076,979
1924-25	... 47,774,046
1925-26	... 22,580,343
1926-27	... 40,127,358
1927-28	... 20,723,916
1928-29	... 39,696,616
1929-30	... 17,039,517
1930-31	... 43,667,025
1931-32	... 47,859,100
Average ten years	... 33,628,396

As the project favoured by the experts provides for the erection of silos at 160 country centres, there would remain 270 wheat-receiving stations without bulk handling service. To meet their requirements,

Mr. Box has furnished plans and estimates of costs of suitable structures to enable farmers to load in bulk direct into trucks if they so desired.

Reprinted from "Melbourne Argus"—13th March 1933.

When due weight has been given to all the other arguments in favour of the bulk handling of wheat, the question of its cost to the farmer as compared with the older system of transport in bags remains the decisive factor. The community, which has neither vested interests in the present methods of handling wheat nor any special predilection for the bulk handling system, will be sympathetic towards any project likely to be of benefit to wheat growers. The costs of growing and marketing primary produce must come down if Australian economy is to be restored to a sound basis. A saving of two pence or three pence in the handling of a bushel of wheat may not appear to be a very substantial contribution to the problem of reduced costs; but it is important. Relief will come to the farmer from an aggregation of relatively small savings rather than from any dramatic rise in the market for his products. If bulk handling of wheat, therefore, can be proved beyond all reasonable doubt to be capable of paying for itself, and at the same time putting more money in the wheat-grower's pocket, the community will approve of the Government's initiation of the plan. Experts whose names inspire confidence have investigated six different proposals, and have recommended one as the most suitable. The project favoured is estimated to cost £2,005,013.

Presumably the experts have gone thoroughly into the financial aspect of the project from a strictly mathematical point of view. But they have not considered the political factors which are inseparable from an undertaking of this kind. It was no part of their task to do so. Other ambitious Government projects which appeared to be sound business enterprises on paper have proved disastrous. The experience of bulk handling in New South Wales has not been happy. Under the project recommended by the experts for Victoria a sum of more than £2,000,000 will be spent by the Government, which will have to recoup itself out of the charges levied upon wheat growers for the use of silos and other bulk handling facilities. The silos will be built upon railway land, and perhaps the Railways department will be charged with the responsibility of collecting the fees from wheat growers. Experience has shown that when a Government department has to recoup itself for services by charges upon private persons, adequate recompense is not always demanded, and not even the unpayable charges are paid punctiliously. A huge volume of bad debts is thus built up, and the revenue received proves hopelessly inadequate to pay the capital charges, which are added to the burdens of the tax payer. The charge for irrigation services in Victoria is a striking example of what happens when the Government accepts the role of financial backer of such an enterprise.

The fallacy that a Government always has plenty of money, and therefore has no occasion to be too exacting with debtors who are struggling, dies hard. This cannot be overlooked. The community will expect as the first essential of a bulk handling project that it shall be self-supporting in fact as well as in the calculations of experts. The Ministry, which is more fully apprised than are the experts of the political difficulties that make the difference between inviting theory and disastrous practice, no doubt will take all relevant

factors into account before coming to a decision. Apart from financial and political problems, there is much to be said in favour of bulk handling. Many important wheat-growing countries are turning to it, and Victoria must march with the times. It may be anticipated with confidence that Ministers—not only those closely identified with rural interests, but also those who feel bound to consider the general interests of the State—will approach the problem with a sincere desire to do what is best for the wheat growers themselves. In all discussions of bulk handling farmers have accepted the assumption that the project will be a charge upon the wheat-growing industry. That being so, it is in the interests of growers themselves that its beneficial character should be established beyond reasonable doubt before Parliament is asked to approve of it.

It would be a mistake for wheat-growers who hope for much from a bulk handling project to suppose that those who have expressed doubts of its soundness are irreconcilable opponents. During the long controversy which the project has evoked many interested opinions have been expressed on both sides. Those who favour bulk handling have frequently employed arguments which seemed to have no sounder basis than optimism. Those opposed to it have cited many facts and figures which appeared to an unprejudiced observer to be convincing. In these circumstances it was not unnatural that many sincere friends of the wheat-grower should hesitate to espouse a cause which seemed to be to the farmer's detriment instead of to his profit. The divergencies of opinion have been striking. When three members of the Argyle Cabinet were deputed to examine the bulk handling problem last year two Ministers reached the conclusion that bulk handling would result in a net gain of 3*d.* a bushel to the farmer, and the remaining Minister was as emphatic that the farmer would lose about 1½*d.* a bushel. In an attempt to arrive at the truth the Cabinet referred the question to the experts whose report was made public last week. After a painstaking investigation they have advised that bulk handling should result in a net saving to the farmer of approximately 2½*d.* a bushel. It is not clear whether they have made adequate allowance, or any allowance, for those departures from mathematical perfection which invariably mark the business relations of Governments with groups of the people. The responsibility now rests with the Cabinet of deciding whether the claims of progress, buttressed by the experts' report, outweigh political risks.

*Extract from a letter dated Melbourne, 23rd February 1933,
to a Calcutta firm of Shippers.*

New South Wales has a system in operation which, last year, handled double the quantity of any previous year. In view of this, the New South Wales Government has passed and made satisfactory financial arrangements for the immediate erection of thirty-eight extra silos. The Victorian Government is at present legislating for bulk handling and its decision is expected next week, and you can take it as a foregone conclusion that it will go through and the bulk handling system will be started in Victoria within three or four months.

Victoria having passed the necessary legislation, Western Australia will go ahead and do likewise.

As far as South Australia is concerned, very little has been done in this State with regard to this, but they must eventually follow the lead of the other States.

Bulk handling of grain in the Pacific Northwest.

*Summary.**

Though grain is now shipped in bulk from terminal points in Washington and Oregon, over 60 per cent. of the wheat crop of 1929 received at Columbia River and Puget Sound terminals arrived in sacks. This study sought to determine the relative economy of bulk and sack handling methods under prevailing conditions by assembling the experience of 316 growers and other available information.

Man-labour cost of combine operation was less under the bulk handling method than under the sack handling method. On an average the labour saving amounted to 1.6 cents per bushel in 1929. Sack handling usually requires one or two more men per crew. The bulk handling method requires less physical exertion so that boys of the family and men beyond their prime may do the work and save part of the out-of-pocket expense incurred if hired help were needed for the heavier work involved in sack handling.

Hauling grain in bulk is easier but not cheaper than hauling sacked grain. Comparable figures for short hauls in owned trucks were 2.84 cents per bushel for sacked grain and 3.02 cents per bushel for bulk grain. The advantage gained in case of loading and unloading is lost in most cases in the tending operation. Contract hauling cost somewhat more per unit per mile except for short hauls of sacked grain. Losses of grain were considered by growers who had used both methods to be greater in sack handling than in bulk harvesting. Significant delays were encountered in harvesting operations relatively more often by farmers harvesting with bulk equipment than by those harvesting with sack equipment and the average time lost by those reporting time lost was larger.

Four times as much labour is needed to load a 40-ton car with sacked grain as is needed to load bulk grain.

Cost of converting sack harvesting equipment to bulk handling ranged upward from \$150. A bulk tank is needed for the combine and a tight truck box instead of the flat platform used on the truck in hauling sacked wheat. Many ingenious means of surmounting local difficulties were found. Few growers who have shifted have actually discarded their sacking equipment. Adequate facilities for farm storage, where that is needed as part of the bulk handling programme, involve investment of about 20 cents or more per bushel of capacity. On the farms studied, farm storage of bulk grain cost more per bushel (4.24 cents in level land sections) than commercial storage (3.3 cents). Only 47 per cent. of those who were bulking their grain were equipped with stationary farm storage plants.

Cost of hauling bulk grain from combine to farm storage was nearly as great as the cost of hauling from combine to shipping point. Bulk handling saves the grower the cost of sacks, which in 1929

* Extracted from Technical Bulletin No. 287, February 1932, "Farm Management problems in shifting from Sack to Bulk Handling of Grain in the Pacific North-West"—by the United States Department of Agriculture, Washington, D. C., in collaboration with the Agricultural Experimental Station of Washington, Oregon and Idaho.

amounted to 3.22 cents per bushel and constituted the greatest dollar-and-cents saving. In 1930 sacks cost $2\frac{1}{2}$ cents less than in 1929, so the saving was smaller. Growers who use sacks more than once in a season by "cutting-in" their grain at the shipping point one or more times can reduce the net cost of sacks per bushel to a small figure. "Cutting-in" does not reduce the drudgery of harvest work, however, and sometimes causes congestion at the country elevator.

Wheat of more than 18 varieties in four classes was grown on the farms visited. If several classes are grown, more bins are needed in elevators to prevent mixing. The cost of elevator construction and operation increases with the number of bins provided. The varietal situation in its effect on bulk handling must be considered in each locality.

Lack of adequate storage and handling facilities for bulk grain at the country shipping point has been the greatest single factor retarding the adoption of bulk handling on the farm. Investments are necessarily heavier, but competition is such that rates charges at any station are about the same for bulk as for sacked grain. Turn-over is small (1.33 to 1.52 times capacity), a serious weakness in elevator operation. Some sack warehouses have been converted to handle bulk grain, with results suggestive of need for full consideration of all factors of the problem by those who contemplate such conversion.

Terminal storage facilities for bulk grain in Washington and Oregon had in 1930 a rated capacity of nearly 13,000,000 bushels. Receipts of wheat in 1927 were over six times this bulk capacity. Temporary shortages of bulk facilities have already been experienced.

An ultimate shift to bulk handling over much of the Pacific Northwest is desirable and may be expected, but the change should be made cautiously. Costly mistakes in selection of equipment, especially in the more hilly areas, are to be avoided, and care is needed to co-ordinate the movement so that bulk handling facilities at country shipping points and terminal markets shall keep pace with increasing volumes of bulk grain received from the farms.

APPENDIX IV.

Sisal.

Dated Calcutta, 5th April 1933.

Manufacture of sisal bags in Kenya.

From—A Member,

To—The Secretary, Calcutta Jute Fabrics Shippers Association.

Further to our letter of 15th July of last year, we give the following details we have received from our London House.

Introduction.

Following the samples submitted in May by the Packages Adviser a small consignment of 50 of these bags has been received, and further

trials have been carried out. In order to make this account complete, data already given will be included with the results of handling and transport tests now available.

Sisal and Jute.

Sisal yarn is spun from sisal grass which is grown in large quantities in Kenya.

The sisal fibre is usually several feet long, whilst jute fibre in a yarn will range from one inch to one foot in length.

Whilst jute is at the best a creamy white colour and usually a light brown, sisal is white.

Sisal fibre is very hard to the touch and a material woven with sisal yarn is stiff and somewhat like a straw material, whilst jute is fairly soft.

The strength of jute is lower than other textiles per unit weight and may be widely variable, whilst sisal has been found to be remarkably strong, and on an average, $2\frac{1}{2}$ to 3 times the strength of jute.

Sisal Bags.

Bags received were $26\frac{1}{2}'' \times 44''$ in size and equal in weight.

- (1) To a Liverpool Twill 40 ozs.
 (2) To an "A" Twill 42 ,,

The fabric was a plain weave with single warp and weft threads. Seams were sewn on two sides with sisal twine heracles stitch and the mouth was hemmed with sisa twine. Complete data are set out below.

	Original bag submitted by the Pkgs. Adviser.	Sample of 6 bags 22nd June.	Bulk sample 50 bags Liverpool Twill weight.	Bulk sample 12 bags "A" Twill weight.	"A" Twill for comparison.
Size	$26\frac{1}{2} \times 44$	28×44	27×44	27×44	$26\frac{1}{2} \times 44$
Weight (ozs.)	40.3	42.8	39.9	42.3	42.0
Threads/1"—warp	8.4	8.3	6.7	6.8	13.0
Threads/1"—weft	8.5	8.3	9.3	10.1	9.0
Yarn count lbs. per 14,400 yds.—					
Warp	27.1	28.3	26.8	27.6	19.5
Weft	35.9	36.4	36.4	33.4	31.5
Fabric strength lbs./in.—					
Warp	288	274	207	208	140
Weft	328	319	345	376	115
Ratio, strength/weight—					
Warp	1.27	1.17	1.16	1.11	0.56
Weft	1.08	1.06	1.10	1.12	0.40
Seam strength, lbs./in.—					
To pull	130	115	39	53	40
To break	145	177	186	207	80

The rotting action of fertilizers is no more marked than in the case of jute. Experiments at 106°C, with C.C.F. mixture No. 1 showed a deterioration in strength of 57 per cent. in sixteen hours, as compared with 50 per cent. in the case of jute.

Weave and salt-tightness.

It would appear from the strength of a sisal bag weighing 40 ozs. that a strong enough bag could be made with less weight of sisal.

It is understood, however, that at the moment it is not possible to spin a lighter yarn than 30 lbs. spindle, so that the weight could only be decreased by reducing the number of threads per inch. This would give a bag with too open a weave since, owing to the nature of sisal, such a bag would not be salt-tight.

It is, therefore, evident that the minimum weight of a sisal bag for a single unlined package is 40 ozs.

Branding.

Sisal bags branded very well and were smarter in appearance than a jute bag. Some modification in the consistency of the ink would be necessary since sisal is less absorbant than jute, and the surplus ink is liable to smudge the brand.

Experimental Shipment.

In order to examine the behaviour of sisal bags when in use, a consignment of twenty bags were sent by boat to London—off-loaded—examined—reloaded and returned to Billingham. A further consignment was sent by rail.

(a) *Condition on arrival*—An extract of the report received is given below:—

“They arrived in excellent condition and compare more than favourably in every respect with the ordinary twill packages.”

(a) *Salt Tightness*.—Every one of the packages was as near as possible salt tight. A minute trace of crystal was found on the surface of a few of the bags but was so small as to be negligible.

(b) *Suitability for Handling*.—The packages are compact and are comparatively easily handled, but owing to the fact that there is no slack, I would suggest that lugging at the bottom corners should be adopted, as at the present time they are a definite temptation to the use of hooks.

(c) *Resistance*.—The bags showed no sign of damage of any description and I gathered from the Type Tees Shipping Co., that no special treatment had been adopted. Certain of the bags were roughly handled, kicked, beaten and thrown about in the store without showing any signs whatever of breakage. It seems possible, however, that the loose surface fibre under friction for any extended period might possibly weaken the weave, but this is a matter which can only be ascertained by considerable experience. One factor was particularly noticeable and that was the strength of the bags at the seams and the sewn top. These bags resisted any attempts at tearing along the stitches much more satisfactorily than the standard twill or hessian.

(b) *Condition on Return.*—The packages on arrival back at Billingham were again examined.

(a) *General condition.*

- (1) The bags were somewhat dirty but brands were distinct.
- (2) All were in good condition and there was no sign of "seepage" through the fabric.
- (3) Seams and top sewing were perfect and there was no pulling or "seepage" of salt.

(b) *Lugs.*

- (4) The packages were stiff and handling would definitely be facilitated by two bottom lugs formed by sewing across the bottom corners of the bag.

(c) *Hook damage.*

- (5) There was no evidence of hook damage. A few tests carried out with a hook showed that although the sisal fabric could not be easily torn by hook handling, the hole formed when a hook was inserted did not close up and slight seepage at these places would be inevitable.

Sisal V Jute.

There is no doubt that a sisal bag is superior to a jute bag in certain respects, and from the point of view of strength a single sisal bag could be used to replace.

- (1) a single jute bag where handling is severe.
- (2) a double jute bag.
- (3) a returnable jute bag.

Naturally, price will govern the scope of the sisal bag, and since there is no indication at the moment what this may be, it is impossible to say how far its application may extend.

(a) *Replacing a single package.* Consider the first of the above possible uses. Our present single jute packages have proved entirely satisfactory in all the principal markets such as Spain, India, South Africa, Australia, Egypt, etc., and there would be no definite advantage in changing to a sisal bag unless its price was competitive with that of a jute package.

(b) *Replacing a double package.* The replacement of a double jute bag by a single sisal bag would be applicable for a price of sisal above that of jute.

(c) *Returnable package.* The sisal bag should make an excellent returnable package since its strength should ensure a larger number of journeys than a jute bag.

The only product packed in a returnable package is cement. For such a product a closer woven bag would be required, and here again the price should be not far above jute if the package is to prove economical.

(d) *Paper-lined bags.* A paper-lined jute bag has not proved an entirely satisfactory export package for either Nitrochalk to Egypt or

for Sulphate of Ammonia to Australia, in that it is easily damaged by hooks.

Owing to its greater strength, a paper-lined sisal bag should overcome this difficulty. Here again the price of sisal would not have to be much above that for jute, although there would be a wider margin in that a more open woven sisal bag could be used in this case.

This outlet for this type of bag is limited at the moment, but has considerable possibilities if a suitable package at a reasonable price can be produced.

This possible application should be investigated further and it is suggested that if satisfactory prices are quoted a small parcel of paper-lined sisal bags should be obtained for trial shipments.

Sisal and Jute Blending.

In the event of sisal proving too expensive to compete with jute, the possibility of blending sisal and jute fibre should not be overlooked. If it is possible to combine a cheap jute with sisal giving a strong yarn at a reasonable price, there should be a considerable outlet for sisal.

Summary.

The white yarn produced from sisal fibre has been shewn to be $2\frac{1}{2}$ to 3 times as strong as jute.

Bags made of this yarn make excellent fertilizer packages and will withstand a considerable amount of rough handling.

A branded sisal bag is smarter in appearance than a jute bag.

A sisal bag is much stiffer than a jute bag and more difficult to handle when filled; for this reason the attachment of bottom lugs would be necessary.

No price has been received for this type of bag and it is, therefore, only possible to indicate its possible uses depending upon its price relative to that of jute.

As a single package where rough handling is experienced sisal could replace jute only if the price of the former was competitive with that of jute, since the present jute packages are entirely satisfactory.

As a returnable package its use would be restricted to the transport of cement. This would be a limited development and its adoption is doubtful in that the sisal fabric is not suited for carrying a fine powder.

As a paper-lined bag there are definite possibilities in that the present paper-lined jute bag for export is liable to be damaged by hooks. In this case a lighter sisal bag could be used, but the price of sisal would not have to be far in excess of jute.

The blending of sisal and jute should offer greater possibilities than sisal alone, particularly if sisal proves too expensive to compete with jute.

Conclusion.

Bags made of sisal fibre are superior to jute bags in certain respects and would make excellent packages for our fertilizers, but there would not appear to be sufficient advantage in replacing jute by sisal unless the latter can be produced at a price competitive with that of jute.

The most promising lines of development, namely, the paper-lined sisal bag, and the blending of jute and sisal fibre, should justify further investigation.

APPENDIX V.

MISCELLANEOUS FIBRES.

Article taken from the Paper and Twine Journal of August 1931.

RUSSIA DEVELOPS SUBSTITUTE FOR JUTE.

Kendyr fibre to supplant jute for twine, rope and bags—May also be used in paper making.

Direct from Moscow, in the "Five-day Bulletin of Economic information" published by the U. S. S. R. Chamber of Commerce for Western Trade, comes the announcement that jute is to be excluded from the Soviet import list.

Thus "as the result of the scientific-research work of 'Novolub-trust' (the New Fibres Trust) a new method has been established which permits the mechanical separation of fibres from the stalks of different plants (excluding flax) without decortication. Moreover, a new technological process has also been introduced which permits cottonising such new fabrics as ramie, kendyr, etc., as well as flax and hemp. The necessary machines have already been prepared."

As a result of this achievement instructions have been given to organise during 1932 for the manufacture of cord, sack cloth, string, ropes, etc., from native raw materials. Two cottonizing plants are to be constructed during the current year and fifteen plants during 1932. The output program for 1932 has been fixed at 16,600 tons of cottonized manufacture and 50,000 tons during 1933.

The exclusion of jute means that India will lose a market for some 31,000 long tons of raw jute a year, which is more than 6 per cent. of her total crop and nearly 14 per cent. of her exports. This does not include such manufactures of jute as twist and yard, gunning (burlap) bags and cloth, rope, etc., as the Soviet may import, and which are probably excluded also.

Of the more than 1,500 known vegetable fibres only 15 have as yet attained commercial importance, so it is not surprising that every one in use is said to have a substitute nor to find the textile industries of the world engaged in serious efforts to discover the possibilities of extending their scope while exploring the commercial contingencies of the hundreds hitherto neglected.

Seeks Independence.—It is obviously the frankly and frequently expressed passion for industrial independence that has led the Soviet authorities to exploit intensively the most promising of the fibres indigenous to the vast territory of the country. Hence, at the beginning of 1930 it had been decided to increase the cultivation of kenaf for use as a substitute for jute, nearly all of which is grown in a single area in India. The plan, which now appears to be sufficiently advanced to

warrant the embargoing of jute was frankly designed with this end in view.

Kenaf grows luxuriantly in several districts of the Soviet Union. It has for some time been used as a workable jute substitute for sacks. For this purpose alone it is planned to use 3,500 tons this year. Meanwhile, arrangements are under way for planting 1,500,000 acres to kenaf next year.

It is interesting to recall in this connection that jute, now to be displaced, look well over a quarter of a century to impress its usefulness upon commerce, because it differed so much from other textile fibres that manufacturers hesitated to experiment with it. Few individual concerns have either the courage or sufficient spare capital to risk large sums in the invention of the new types of machinery usually required for the efficient manipulation of untried fibres.

Fibre little known.—By contrast, the *pocket nerve* of a nation of 160,000,000 people is not so frightened when the goal is emancipation from entire dependence upon foreign sources for a basic commodity.

Little has been disclosed as to the physical or chemical properties of Kendyr. On the other hand, it is well established that jute is the cheapest, and next to cotton, the most extensively used of all the conventional textile fibres; the yield per acre is large—between 1,200 and 1,400 pounds. It has remarkable adaptability for spinning although it is relatively weak compared with other bast fibres and rots easily, especially when exposed to alternate wetting and drying. Outside Russia, jute continues to be the world's principal wrapping and bagging material.

Kendyr is the fibre Russia is developing as a substitute for cotton. Soviet officials gave out in 1929 that "experiments with Kendyr had been carried on for a period of 50 years by a number of leading textile experts with very little practical results until the last few years." Between 1926 and 1929 the Kendyr Committee had been studying its cultivation, spinning and weaving technique, and designing machinery for separating the fibre from the stalk.

Plant is perennial.—The plant is hardy perennial found growing wild on large areas in Central Asia, in the Caucasus, and in the Lower Volga region. The yield is generally between 600 and 800 pounds of fibre an acre. Special efforts are being made this year to increase the area in cultivated Kendyr to 125,000 acres, while next year that area is to be trebled. Four State experiment stations of 250 acres each, were established last year and the cultivation of the fibre was also undertaken by a number of peasant households, under expert supervision.

Two factories for separating the fibre were in operation in 1929 and, at a special exhibition in Moscow the results of two years' experimentation with Kendyr, with all the processes of treatment from crude stalk to cottonization and samples of finished materials, cloth, etc., were shown. The fibre has also been found satisfactory for the manufacture of a high grade paper. Its tensile strength is placed at twice that of the average cotton fibre.

On March 1, 1931 "The New Cotton" Factory opened for the experimental manufacture of this cotton substitute. This even was followed by an announcement early in June that as the result of many new processes the time required for converting fibre into cotton or "cottonin" as it has been named, had been reduced from three weeks to fifteen

minutes and that twenty additional machines were on order whose total productive capacity would be 440 tons per day.

Cottonising processes have been experimented with in many lands. They involve division of the long bast fibres into their constituent shorter fibres to bring them within the range of manipulation on cotton mill machinery, the crux of their use on any extensive scale.

On the five continents many men mechanically inclined, and others with a chemical bent, have painstakingly examined the possibilities of bringing unused fibres into the legitimate textile family. Russia appears to be capitalising these efforts, discarding the impossible but taking the ones having merit and adding to them the results of the explorations of her own technologists. Nor, be it noted, is the bringing into practical use of the findings of the Soviet investigators advancing with the almost geological leisureliness of many industrial expeditions into the realm of new industrial materials and uses for them, which characterises the efforts of those hampered by lack of adequate financial backing.

SUBSTITUTES FOR INDIAN JUTE.

By F. I. OAKLEY.

(Reprinted from "Jute 1931").

If India's Jute supply ceased.—As long as the crops of Indian Jute continue in the neighbourhood of ten millions of bales, there will be little inclination to search for other sources of supply or to study fibres that might be used as substitutes. When, however, there comes a shortage, the question of raw material will become one of immense importance to the whole jute trade, producer and consumer alike. The total failure of a crop might bring on a crisis quickly, as might the shutting off of supplies through some political action not difficult to imagine. On the other hand, shortage might arise more slowly through a partial failure in a number of successive crops, or through the gradual decrease in the area devoted to jute cultivation.

Several manufacturing countries have foreseen the danger, and have from time to time made spasmodic efforts to free themselves from the Indian monopoly. British people have experimented in the growing of Jute (the real *Corchorus olitorius* and *C. capsularis*) in Egypt, Nigeria, Sierra Leone, South Africa, Burma, the West Indies; etc.; France has tried it in Tonkin, where the Delta of the Red River offers conditions very similar to those on the Brahmaputra, in South Soudan, in French Equatorial Africa, and in Algeria; Germany, before the War, in East Africa; Holland in several of her colonies; the United States in Louisiana, South Carolina, and others parts of the Mississippi River.

In nearly every case the cultivation was successful, but the want of experience in the preparation of the fibre, and particularly the difficulties in connection with the retting process, not the least of which was the contamination of the rivers and the consequent destruction of fish, has prevented the development of any regular source of supply outside of India and Assam. In some parts, where the cultivation has continued on a small scale, the natives no longer extract the fibre, but utilise the unretted ribbons of bast for the manufacture of mats.

But although the trials have in almost every case been abandoned, the information and experience gathered may yet prove of value whenever it becomes imperative to obtain other sources of supply. Considerable difficulty might be encountered, however, in obtaining the necessary seed to start fresh plantations on an extensive scale. In any case it will require strenuous efforts over many years before any appreciable relief can be found in case of a shortage in Indian supplies.

Flax and China Jute.—In the meantime spinners would be driven to find suitable substitutes, if such exist, for the various qualities of jute they now use. For those who spin the highest grades the only other fibres that will make a satisfactory yarn in fine sizes will be found in flax (*Linum usitatissimum*) and real hemp (*Cannabis sativa*), the latter of either Italian or Eastern European origin. For some years past Russia has spun large quantities of such fibres over jute machinery, thus avoiding the purchasing of foreign raw material in the form of jute.

It is not impossible for the huge quantity of flax fibre to be found in the straw now grown for seed only—millions of tons of which are now burnt annually in Brazil, The Argentine, Canada, and other countries—to be utilized by jute spinners.

For medium quality yarns quite a number of fibres can be found, though they will require some experimental work on the part of spinners before they will be successfully substituted for Bengal jute. Some changes in batching and softening will be necessary, and slight alterations in machinery, especially in the matter of speeds, must be expected to be necessary.

The first fibre to suggest itself is that known in commerce as China Jute. Needless to say, it is not a jute, being extracted from *Abutilon* plants of two varieties, *A. indicum* and *A. avicennae*. It is already known to many jute spinners, having been employed at various times in years of partial failure of the Indian crop. Very few have been successful in spinning it on jute machinery, though considerable progress has been made recently. There are two qualities on the market, the better, known as "Tientsin," which is white and very clean, but is sometimes lacking in strength. The lower quality, offered under the name of "Hankow", is green in colour, somewhat dirty, but is strong, and is usually considered more easy to spin than the Tientsin. The various shippers have their own private marks distinguishing their special qualities, though they vary but little. The fibre is from five to nine or ten feet in length, and is easily bleached and dyed, the natural lustre of the material being well retained. Some American and French writers have stated that it is superior to Indian jute, but spinners who have experience of both are not likely to hold such an opinion. It is at present employed chiefly in the cordage trade, for which it is undoubtedly more suited than it is for cloth. The plant is an annual, and is cultivated on a very large scale in China, where it is widely employed for ropes and twines. It is found in the wild state in the East Indies as well as in China, and its cultivation has been attempted in Mauritius, the United States, and in South Africa. It has been called American Jute by some writers.

Urena and Sida.—The fibre obtained from the *Urena* plants is also worth attention. They grow freely in India, Brazil, Martinique, and in West Africa. In Brazil, the variety *Urena lobata* has been utilized for many years in the making of coffee bags, the fibre being there known as "Arimina." One manufacturing concern is said to turn out several

thousand bags per day made from this fibre. It is said to have one great advantage over jute for this purpose in that it in no way affects the aroma of the coffee. The fibre runs from three to ten feet in length, the larger part being somewhat under four feet, and it is said to be not infrequently mixed with jute in India. Another variety, *Urena sinuata*, yields a similar fibre.

The plant, *Abelmoschus tetraphyllos*, yields a fibre so like that of *Urena* as to make it very difficult to distinguish between them.

Sida fibre is likely to prove a very acceptable substitute for jute. A French writer, Lecomte, states that it was cultivated in India at an earlier time than jute itself. There are several varieties to be found throughout Asia and Africa, and its cultivation has been attempted in the United States, where it is sometimes known as the Tea Plant, and in Australia, where it has been called Queensland Hemp. The natives of Central Africa call it Denje. The fibre is of about the same length as jute, and is of similar structure and chemical composition. It is somewhat finer and softer than jute, and more regular in colour and quality. It is, if well prepared, very white and lustrous. The variety cultivated in India is *Sida rhombifolia*, whilst in Australia it is *S. Bedfordiana*. The latter grows wild in Brazil, where it attains a height of nine to twelve feet. The ultimate fibre is somewhat shorter than that of jute, so that the strength when tested on the raw material is slightly deficient. A very little twist adds materially to its resistance, so that in yarn it is as strong as jute. *Sida* gives a smaller yield per acre than *Corchorus*, and for this reason is not so widely cultivated. On the other hand, it will grow in many places under conditions that are not suitable for jute.

Cheap Fibre substitutes.—Three varieties of *Triumfetta* have been suggested as the source of cheap fibre. They are *T. semitriloba*, *T. rhomboidea*, and *T. africana*. All are found growing in large quantities in Central Africa, very strong cords being made by natives of the Congo State from the unretted bast. Most of the varieties grow also in the tropical parts of Asia, but cultivation would be necessary to provide the fibre in sufficient quantity to be of interest to spinners.

Indian Hemps.—The fibres known commercially as Indian Hemps naturally suggest themselves as possible materials for jute machinery, and they are already known to most spinners. The principal plant, for none of them is a real hemp, is *Crotalaria juncea*, producing the fibre known as Sunn. There are several qualities on the market, depending for their distinctive characteristics on the methods of cultivation and preparation. Commercially they are grouped in two categories—the Sunn Hemps shipped from Calcutta and Chittagong, and the Madras Hemps, shipped from that port. These Madras Hemps are of a similar nature to the Sunns, though more carefully handled, the difference in quality being due to the fact that the stems are dried before retting, whereas the other Sunn hemps are placed in the retting water directly they are cut. The best known kinds of Sunn in their order of value are Bengal, Chittagong and Benares; those of Madras Hemps are Gopalpore, Warangal, Coconada and Palinara. The fibre runs from three to seven feet in length, and in the case of the Sunn Hemps is graded to quality under the marks No. 1, No. 2 and No. 3. These qualities are usually sold separately, though sometimes in an assortment averaging No. 2. The Madras Hemps are not assorted into qualities but are sold overhead.

Bombay Hemps, so called because they are shipped from that port, are grown over a wide area in Western India. The chief varieties are

Dewghuddy, Sewney, Itarse and Phillibit, all obtained from the plant *Hibiscus cannabinus*, and Jubblepore from the plant *Crotalaria tennifolia*. In length they vary from three to eight feet. The fibre is extracted mostly by retting in water, though occasionally the process is carried out by burying the stems in the wet mud on the river banks, resulting in a large quantity of dust in the dried fibre. Colour varies from light golden brown in the case of the Dewghuddy, to green and almost black in the Jubblepore and Phillibit. All these are graded to two qualities, "Fine" and "No. 1," usually sold separately. Occasionally they are given a rough combing, and are then offered as "Dressed Hemps," the tow taken off in the work being sold separately.

Other substitutes.—Madagascar might supply a fibre that is worth attention. It is the *Cryptostegia madagascariensis*, known also as Lombiri. The plant produces rubber as well as fibre. The latter, which is extracted by hand by the natives without any retting, is used by them for ropes, cords, fishing lines and nets, and also for fine cloth. It is about two feet in length and very white. A variety, *C. grandiflora*, is common in Central Africa.

Sparticum junceum, the Spanish broom, is a native of several Mediterranean countries, and has been utilized for the extraction of fibre for many centuries. The Romans, the Greeks, and the people of Carthage employed it for their sailcloth, nets, cordage, and bags. A certain amount of cultivation is found in Spain and Tuscany, the fibre being spun and woven into a coarse fabric for men's clothes, it being of almost everlasting wear and almost waterproof. The fibre, known as "Ginesta," is extracted by retting, the plants being heaped into a pile and kept wet till fermentation is produced. The operation is a very simple one, and if the demand existed, the supply could probably be greatly augmented. An attempt has recently been made to develop the industry on a large scale in Italy. The common broom, *Genista scorparia* also contains a fibre, but its extraction is much more difficult.

A plant growing very freely in Tanganyika, Uganda, the Congo, Abyssinia, and other parts of Africa, and said to be *Gomphocarpus semilunatus*, yields a fibre employed by the natives for fishing nets, as it is said to be very resisting to water. It attains two to three feet in length, and has been reported to be suitable for sailcloth and tent ducks, and a good substitute for jute. Some samples sent to Germany early in this century were said to be worth rather more than jute.

Abroma augusta is another plant capable of coming to the assistance of jute spinners in times of scarcity. It is found in India, China, the Philippines, Java, and Tonkin. It is cultivated on a small scale in India. It gives a very big yield to the acre, and the fibre is easily removed from the stem by retting. Watt has suggested that it might be used to replace silk, but it seems to be more suited to replace hemp and jute. Roxburgh thinks it astonishing that, seeing how easily it is cultivated, what a big yield it gives, and how easily the fibre is extracted, it has never attained the commercial importance it deserves. He is confident that *Abroma* would be far better suited for many purposes for which jute is now employed. The fibre is strong, very durable in water, soft, and white in colour. Watt states that even jute spinners admit that *Abroma* is of all the fibres the most capable of replacing or augmenting the supplies of the Bengal fibre.

Abutilon periplocoifolium is a native of tropical America, and is still found growing wild. It has been successfully cultivated in many parts, and has been declared to be one of the most promising of all the new

fibres. It is extremely easy to grow, wanting no attention after sowing. In 1890 some samples were sent to London from Trinidad, and were valued at about the price of good jute. The length of the fibre was from 11 to 12 feet, and was reported to be a good substitute for jute.

Roselle fibre, from the plant *Hibiscus sabdariffa* var. *altissima*, is a good substitute for the Bengal fibre. It has been tried as a catch crop on rubber plantations. The retting is done after the bast has been stripped from the stems. It is of about the same length of fibre as jute, and strongly resembles it in appearance.

Bolo-Bolo is extracted from the plant *Honckenya ficifolia*, growing in Nigeria. In 1888 samples were sent to Kew, and were declared to be decidedly superior to jute in many respects. The fibre was of good length, well cleaned, and strong. Experts are said to have estimated that it would fetch higher prices than jute owing to its superior strength and spinning quality. Nothing has since been heard of this fibre, but it would be worth further investigation.

Sparman fibre, the product of *Sparmannia africana*, is a perennial, and once planted will continue to yield enormous crops for many years, and as the cultivation is easy and simple, the cost is low. It has been produced in Victoria, Australia. The fibre is extracted by retting. It is very fine, white in colour, with a good lustre, and has great strength though somewhat brittle. It should be of use to spinners of the finer counts of jute yarns.

Spain has recently sent to Dundee a few bales of fibre, to which the name "Hilex" has been given, that appears to be from a plant of the *Hibiscus* family. It resembles jute in appearance, though it is rounder and more wiry, and it has been successfully mixed with the Bengal fibre in spinning.

APPENDIX VI.

A TREE OF JUTE.

(See chart).

APPENDIX VII.

JUTE RESEARCH.

(Reprinted from "Jute 1931").

The Necessity of Research.—The present condition of the jute trade is such that research into the position of markets, working methods, and the conditions under which jute is grown is highly essential. For many years now the jute industries have been content to plod along manufacturing their jute into the same articles year after year. At the present time the conditions under which jute is grown and manufactured are still the same as they were twenty years ago. For instance, there is still considerable difficulty in finding a liquid or powder which will bleach jute without destroying the tissues.

New uses for jute are badly needed, and the time has come when jute manufacturers can no longer pay the 60 per cent. dividends they used to pay, and they will have to work extremely hard in the future to pay any dividend at all. We are in a period of keen competition and

cannot afford to stand by and watch other industries replacing our products. Research, therefore, into every market in the world where jute goods are being sold, and where jute goods can be sold, is the only way to meet such competition. How do the other textile industries manage to maintain a fairly good production? In the first place, the wool, cotton, silk and flax institutions advertise their materials, new ideas in manufactured articles and how to use them, to the public. If the public were to be asked to write an article on "What is jute and what is it used for?" 90 per cent. would say that it is a textile used for making sacks and sacking.

It is high time, therefore, that the possibilities of jute for the purposes of clothing, book-binding, canvass-making, and the hundred and one other things in which jute can play a prominent part, should be thoroughly investigated and advertised.

The only trace so far of research in the jute trade is the work which for the past few years has been carried out by the Department of Agriculture in Bengal. This department has been experimenting since 1927 with a neutral ammonium sulphate for the purposes of manuring the ground on which jute is grown. Although the results during the first year were not quite what was expected, the experiments were further extended, and in 1928 some very remarkable results were shown on every type of soil used for the experiment, with the exception of red laterite soil, and the soil or loams of the river banks. It was found that on these soils the manure was washed away, whilst on Rajshahi soil, which is one of the few in Bengal with an extremely high percentage of lime-content, the experiments were most successful. The research on old seed will be reported on another page.

The above work shows that at last attempts are being made to produce a better quality fibre, and it is now time that the manufacturers and merchants did their share. This will only be achieved by studying the methods of manufacturing, selling, and advertising, which is bound to lead to the discovery of many new uses for jute.

Three Branches of Research.—Research work for the world's industries began quite recently. Until a few years ago this type of work for the benefit of particular branches of industry was carried on in only a small number of technical departments. Research institutes for the textile industry had already existed before the War, but they were of a purely scientific nature. After the War, however, an increasing number of such institutes was founded and supported by the industry itself, often with State aid. But these organizations have been neglecting *one*, possibly the most important, branch of research, namely, *commercial research*.

There are three main groups of research work in the manufacture of jute which must be developed independently of each other, but which yield useful results to *all* parts of the industry. They are the technical organization and commercial research groups.

COMMERCIAL RESEARCH.

(Reprinted from "Jute 1931".)

In the United States of America one finds exemplary commercial research carried on, particularly by individual firms. Americans seem to be specially inclined towards organizing research work in commerce. This is evidenced by the readiness of American firms to furnish desired

information. This fact, coupled with the splendid statistics available, makes it possible for research organizations to produce valuable work with the minimum amount of error.

The establishment by the State of the "Textile Foundation" for financing research in American textile industries, affords a suitable illustration of the incomparable organization of research in that country. Immediately after its opening the new institute will have at its disposal the sum of about five million dollars. This amount is in no way contributed by the State, but is mainly provided by the industry itself. The Committee of the "Foundation" consists of the Minister of Commerce and Agriculture and three other members possessing knowledge of textile manufacture, who are elected by the President.

Another example of the modern outlook of American industrialists is the faultlessly complete statistics of production which are compiled with astonishing rapidity. Thus figures and conclusions regarding all American industries and their production in 1929 were published in December, 1930, or at any rate were easily available for interested persons. While all European countries have a Census of Production taken at most once in four years, America has one every second year.

The cost of research does not play an important part in the industry; it is rather the attitude of certain individuals who decline to give most elementary information. If a professional organization in Europe were to arrange for a census to be taken among its members, some of them would probably think that they were giving away their trade secrets in divulging the number of spindles or looms in their mills. The fact is, however, that we, and anybody else who cares to apply simple logic and calculation, can obtain various information which may be really quite obvious, and is yet considered a secret by some industrialists.

In Europe there are far too many "conservative" firms, which term generally means that they are backward, distrustful and hostile to all progress in business. The firms which we have in mind can never forget that there have been better times, and maintain that the position now is so bad that an improvement is hardly possible. *But they never undertake to find out whether this is really the case and whether there could not be devised means for helping business to recover.* Progress which appears to all reasonable business men and producers an absolute necessity and a fundamental rule, is regarded by the backward part of the industry as "dashing" or "modern" in the extreme.

Research Results in 1930.—The past year was possibly the first in the history of the jute industry in which it became necessary to find new uses for jute and jute mills. The Director of Industries, Bengal, Mr. Weston, appealed to the jute world in the beginning of the year to find new openings for the fibre, as other industries were making enormous efforts to displace it. Anyone who is at all connected with the sale of jute products know well enough where the trouble lies, and how many markets have been lost during the last twenty years. It is true that until lately the decline in general consumption had not become apparent, for the following possible reasons:—

- (1) The rapid development of chemical industries, causing an enormous demand for bags.
- (2) The immense increase of world grain harvests, necessitating greater quantities of packing materials.

With the exception of the, naturally, often secret research work of individual firms, intensive research in 1930 was carried on by only two

firms, namely, the American concern, Bemis Bros., and by British Continental Press.

The Research Department of British Continental Press has instituted independent research work, the results of which have partly been published already in their monthly *Jute*, but on the other hand are still in their preparatory stage. Among the first results were the following:—

Bags for Dry Paints.—It was found that dye works prefer to ship their products in bags if the following conditions are complied with:— 1, Absolute watertightness; 2, the material must be closely woven and finished in such a way as to prevent the fibre from mixing with the pigment; 3, the bags must be cheaper than barrels or containers; and 4, they must be available in four or five sizes.

Jute Clothing.—It is possible to sell working clothes and overalls made of jute material. The best proof is in the suits worn by the Peons of South America, the trade in which provided good business years ago. Garden overalls and similar garments are also made of jute, and the market for these could surely be further developed.

Jute for Bookbinders.—Jute yarn is also used for the weaying of heavier bookbinding material. Bookbinders consider that jute fabrics can be very well used for this purpose, as many materials made of tow yarn with a mixture of other thread are already being employed.

Jute in Linoleum and Oilcloth.—World production of linoleum alone amounts to 200 mil. sq. metres per year. The oilcloth factories buy between 50,000 and 500,000 square metres per year, according to their output. There are 80 linoleum and 120 oilcloth factories in the world. The production of oilcloth requires fine, well-finished and shorn jute materials weighing 200—350 gr. per square metre.

Wool Packs.—The greatest disadvantage of jute packing is the impossibility of separating the jute fibres from the wool contents. The jute vegetable fibre is unpleasantly noticeable in the course of dyeing and bleaching wool. It is, therefore, attempted to evolve a smooth packing material, the fibres of which should adhere to its surface. A mixture with pitch or gum has been found practical for this purpose, but makes the material too heavy, and renders impossible the handling in the course of transport by means of cranes or iron hooks, as the hooks cannot get a proper hold of the slippery material.

JUTE CARPETS.

(Reprinted from "Jute 1931").

During the past two or three decades jute has been an increasingly important factor for the various branches of the textile industries. One great use to which it is put is that of floor coverings.

Whilst the Indian Jute Mills are engaged primarily in the manufacture of the coarser jute yarns for packing materials, the European mills spin jute yarn from the counts $\frac{1}{2}$ up to 12/1 in qualities C, Sc, S, SS, SSl, single or twisted. These are the yarns which are chiefly used in the making of jute carpets. In all jute carpets the thinner numbers

of the S or SS qualities are used for the warp, whilst the C or Sc qualities are used for the weft.

In addition to the smooth-faced all-jute carpets, there are manufactured from a special grade of jute the Smyrna reversible rugs and carpets. These are made on a large scale in Czecho-Slovakia and are known in the market as Bohemian carpets. India also produces all-jute carpets and rugs similar in appearance to the well-known Mirzapore type and short-pile varieties. During recent years, especially after the World War, the Czecho-Slovakian carpets have, on account of their popularity, been manufactured in large quantities. They are made in bright colours, woven into attractive designs which, for the most part, are excellent imitations of the real Persian carpet, though there is a growing tendency to favour more modern designs.

Their price has always been extremely low, and recently they have sold at the almost ridiculous price of 1/9 per square meter. Such a price, it is only natural, can scarcely cover the cost of production, let alone permit of a profit to the manufacturer. Owing to the complicated nature of, and the trouble involved in, making this kind of carpet, it is to be expected that only countries whose workers have a low standard of living can make it at competitive prices.

The all-jute Chenille Smyrna reversible rugs and carpets are manufactured in complete squares of various sizes, from 40 cms. up to 5 square meters. The poorer households have a great demand for these square carpets, using them even in place of tapestries. Thus, such households have a decorative and durable imitation of the real thing at a fraction of its price.

As to the uses of the article, it is to a great extent bought by the yard or meter for the purpose of runners.

But jute is not employed for the all-jute carpet only. An enormous quantity of jute yarn is used in most carpets of other materials. Woollen plush carpets, for example, often consist of about 33 per cent. of jute yarn, which is used instead of the filling material, or for the weft. Many experiments have been made in the printing of jute yarn for the warp of Persian and floral design carpets, with the object of making a jute plush carpet in the same way as woollen plush carpets are made. The cost of printing jute yarn, however, has so far been so high that the experiment has defeated its own object. None-the-less, the jute carpet which is at present procurable can, by means of a closer warp, give a greater density and a variety of beautiful multi-colour designs, the general effect being in fact improved by the natural sheen of the jute yarn.

The thinner numbers of jute yarn, *e.g.*, numbers 12, 14 and 20, are used for making substitutes for such furnishing fabrics as real cotton or wool tapestries and curtains. Soon after the War these were in great demand. The best kind of jute yarn for this purpose is one which is *mercerised*. It is a fact that jute substitutes are made in such attractive colours as cannot be obtained either in wool or in cotton fabrics.

There are to-day thousands of people earning their living by the manufacture of jute carpets. Some are employed in mills, whilst many of them still use hand looms in the home. Besides being used in the country of manufacture, jute carpets are exported on a large scale to every part of the world, especially to agricultural countries and those with warm climates, where they are found to be more hygienic than others.

LINOLEUM, OILCLOTH AND ARTIFICIAL LEATHER INDUSTRIES.

(Reprinted from "Jute 1931").

Large Customers of Jute Manufacture.—A good idea can be obtained of the tremendous growth and importance of the above branches of the jute industry if one considers that about 50,000 tons of jute materials per year are used as foundation for linoleum only.

In addition, the manufacture of oilcloth and similar products often requires jute foundation materials for the coarser qualities, and uses approximately 2,500 tons per year. It therefore seems that there are good prospects for jute manufacturers in cultivating this custom. There are in the world about 80 linoleum factories, and nearly 150 producers of oilcloth, artificial leather, leathercloth and similar products.

Linoleum.—The manufacture of linoleum requires large investments of capital, as its process takes a very long time to complete. Large stocks must, therefore, be carried, thus in addition necessitating bearing the risk of considerable price changes in the raw materials, *viz.*, jute and linseed oil. For this reason most of the European linoleum producers have united to form a cartel. Eight of the fifteen continental factories belong to a holding company, namely, the "Continental Linoleum-Union" of Zurich, and many of the non-members are in price agreement with this group.

In *Germany* there is first the Linoleumwerke A. G. with its factories in Delmenhorst, Bietigheim, and Maximiliansau. Then there is the Rheinischen Linoleumwerke, with its own jute weaving works, and lastly the Keffel A. G. of Leipzig. There is a member of the holding company in Switzerland, namely, the Linoleum A. G. of Gimbiasco, and in Sweden, namely, the Linoleum A. B. Forshaga of Goteborg. The latter is to a certain extent linked up with a factory in Norway. In Holland there are two producers, of whom one, Vogel van Calcar and Co., also manufacture oilcloth. In Belgium the S. A. Le Linoleum and the Fabrique de Linoleum et Toiles Cirées produce the right kind of linoleum. In Italy there are one large and two small factories. In France there are two branches of English firms, and also a fairly new undertaking, the S. A. Sarlino of Rheims, and Thollon, Dehaunay, Mantout et Foucault, of Paris. There is supposed to be a factory in Madrid, Spain, but no further information is available about it. In Austria the Wachstuch and Kunstlederfabrik have practically completed the construction of a linoleum factory, and the Continental Linoleum Trust have in competition to this arranged for production in the neighbourhood of Vienna. As regards Poland, ambition exists to build an exclusive linoleum factory, but up till now only the oilcloth factories there manufacture several products which can be regarded as linoleum.

In *Great Britain* two world firms, with overseas branches, are the most important ones, namely, the united works of Barry, Ostlere and Shepherd, Ltd., and Linoleum Manufacturing Co., Ltd., of Staines, which latter has an affiliated company in Canada. Furthermore, Michael Nairn and Co., Ltd., who are joined with the American firm, Congoleum, Ltd., have factories in Canada and Australia. We may also mention the New Shepley Linoleum Co., Ltd., and Jas. Williamson & Son, which are large and modern works. Besides these there are four more factories in Great Britain. As regards England, all the factories here belong

to the British Linoleum and Floor Cloth Manufacturing Association, although there is no pooling of financial resources.

In *America* there are seven companies producing jute-linoleum, and thirteen producing felt-linoleum. Considered as a country, the United States of America have the largest industry in the world.

In *Japan* two factories, belonging to one concern, produce sufficient linoleum to satisfy local demand and also export considerable quantities to *China*.

The competition for floor coverings has lately become more and more noticeable, and constitutes a great danger to linoleum. The rubber products are to be feared most because of their cheapness and the modern management of the industry, which has made possible a quicker spread of rubber floor coverings than is generally supposed. The disadvantages existing at present will either sooner or later be removed, or else the sales propaganda, already instituted, will be developed to such an extent that it will be easier to sell rubber than linoleum coverings. If the right steps are not taken soon in order to obliterate the competition of rubber and other similar products, such as Balatum, etc., the progress which the linoleum industry has made hitherto will be a matter of history.

Oilcloth and Artificial Leather.—The manufacture of these products is carried on in very many countries, and although mergers have lately taken place, such mergers are not characteristic as they certainly are in the linoleum industry. The United States of America are foremost in the production of these materials. They have nine large undertakings carrying on a colossal export business. Germany follows next and, particularly, has many artificial leather factories. France and Belgium have an extensive oilcloth production, and Italy, too, possesses a very modern producing equipment. In Czechoslovakia, three of the important undertakings have united in the "Vereinigte Wachstumfabriken A. G." In Hungary, two branches of foreign firms are working, and there are two independent firms in Poland. Australia has a very important works, exporting large quantities.

JUTE IN THE CORDAGE INDUSTRY.

(Reprinted from "Jute 1931").

Jute cannot be considered one of the most important fibres utilised by those practising the ancient art of rope and cordage-making, but there are many types of both rope and cord which can be successfully and usefully constructed from it.

Jute is a soft fibre, probably one of the least strong, and also probably the one least able to withstand the effects of salt water. This makes its use impossible for ropes for the shipping and fishing industries. These ropes, of course, comprise the great bulk of the heavier sizes in use, and are made from Hemp, Manila, and Sisal, chiefly Manila. The hard fibres, such as Manila, are infinitely stronger than jute, they are much longer, and their water-resisting power is much greater. Also, owing to its being deficient in tensile strength, jute cannot be utilised in the other large-sized ropes used for power transmission, drilling, and haulage purposes.

The future of jute in the rope and cordage industry entirely depends on its price as compared with other fibres. As has been pointed out, its strength is inferior to other fibres, and it will only be used in preference to these other and stronger fibres if ropes and cordage made

from it show sufficient inducement in price. Jute cannot successfully be mixed with these other fibres.

The uses of Jute for Cordage goods.—It is in the smaller sizes of rope, in cord, and in twine manufacture that jute finds its greatest scope.

Laid jute rope is largely used for the *cores of wire ropes*. For this purpose it is admirably suited, its deficiency in tensile strength is no handicap, and the smallness of the percentage of salt content inherent in the fibre itself is a great advantage, in that it has a much less damaging effect on steel by way of internal corrosion than many other fibres. These laid cores are used in all sizes from one-eighth inch circumference upwards, and where level spun yarn from good jute is used, circumference sizes rising by sixteenths can actually be guaranteed. Absolute levelness is of course essential in these rope cores, and practically all sizes of yarn from 6 lbs. to 120 lbs. are used in their construction.

A fair quantity of jute rope is also used in *agriculture* for such purposes as plough lines and cheap, tying rope. Jute twist is also used fairly largely as Hay Band, although much of this material is now made from Manila.

Jute Box Rope and Baling Cord, both finished and unfinished, are still largely used, on account of their relative cheapness as compared to other fibres. In the building and allied trades common ropes and twists made from heavy rope yarn are utilised for pipe packing and other purposes.

Although much progress has been made in the production of finished twines from fibres such as Palma, Sisal, Sumatra Manila, etc., polished jute twines still have a ready sale in practically all sizes. It must be admitted, however, that new types of machinery, and polishing processes, have made it possible to produce beautiful twines from these harder fibres, and the lowering of price levels has brought them into close competition with jute, which at one time was far and away the cheapest fibre obtainable for the purpose.

MORE JUTE YARNS FOR ROPE-MAKING.

(Reprinted from "Jute 1931").

Increased crops in most countries have given a new impetus to the manufactures of harvest binders made from jute. In other respects, too, it has been found during recent years that jute cordage is preferable to cordage made from other fibres, and the consumption of jute yarns for rope-making purposes has thus increased considerably. In the United States it rose 20 per cent. between 1927 and 1929, whilst in Germany it rose approximately 15 per cent. in 1928 alone.

On the whole 1930 proved a favourable year for the cordage mills, and the exceptionally high production figures of 1929 were nearly reached in most cases. Exports of some leading rope-making countries have even increased. Detailed statistics of the 1929 production are available only for the United States, and there the output of almost every article has been much larger when compared with 1927, the year of the last census. Binders of all kinds show a 7 per cent. increase to 177 million lbs. Jute binders rose to 47 million lbs., but ropes made from jute remained unchanged at 12½ million lbs.

As regards the future, it may safely be assumed that a constantly growing quantity of jute yarns will be sold to the cordage industries of

the world. Individual salesmanship in the case of these factories is, however, essential. Their number is much larger than is generally known. There are 200 mills in Germany, 120 in United States of America, and about 150 in Great Britain.

Seeing that nearly every country in the world possesses cordage factories, one can imagine how large the total number must be.

Jute spinners all over the world should therefore direct their attention to this potential market for yarns, and should make all efforts to avoid being beaten by the competition of other fibres.

WEBBINGS AND TAPES.

(Reprinted from "Jute 1931").

Jute yarn has a varied use in the weaving of webbings and tapes, also in combination with hemp, flax, and cotton yarns. It is mainly utilised in the manufacture of upholstery webbings and tape for lining cocoanut mats, also as filling warp for roller chains, and many other similar articles. There are only a few *large* works which produce such webbings, and these are mainly in Germany and United States of America. On the other hand, there are many medium-sized and small factories, and the manufacture of the most important article, namely, of upholstery webbings, which is comparatively simple, is carried on in almost all industrial countries. The German industry and, to a smaller extent, England, France and Belgium, do export trade as well. The production of jute webbings even in normal times nearly exceeded the demand, and in the present crisis over-production makes itself more strongly noticeable.

A considerable rise in the consumption of jute yarns for the making of webbings and tapes is very unlikely as the potential use for the yarn in this trade is very limited, and it can hardly be assumed that the industry will find new articles requiring the use of jute yarn in an increased degree. It is rather up to the spinners to find out, through personal understanding with the webbings makers, what yarns could be replaced by jute, and to propose the manufacture of such articles which would increase the demand for jute yarns.

JUTE RESEARCH.

Recent Achievements and Suggestions for the Future.

(Reprinted from "Jute 1932").

In our last issue, "Jute 1931," considerable space was devoted to Research in the Jute Industry. We do not wish to complain that our admonitions have fallen upon deaf ears, neither is it our desire to suggest that little, if anything, has been done to consolidate in this, the world's second largest textile industry.

The acute trade depression of 1931 still lingers with us in 1932 and it behoves everyone connected with our industry to press forward at every opportunity the real need for redoubled effort to improve and develop still further the jute industry.

The primitive conditions of actual jute planting make it difficult, if not impossible, to carry out improvements of any importance as far as

the jute fibre is concerned. Experiments are being continued by the Agricultural Department of the Indian Government and on an experimental farm of Imperial Chemical Industries, Ltd., and we hope to be able to publish concrete results at the time when our next Year Book will be issued. At this point we should also like to mention the results obtained with regard to jute seed and reported fully in "Jute 1931."

It is, therefore, obvious that research work in the jute industry must start from the point at which the raw material is received. In many countries there are research institutions which study the preparation of the fibre for spinning and weaving, but only in connection with flax, hemp and other fibres. For this reason—there exists no jute research institute proper—it is seldom possible to report progress made in these institutions with regard to jute alone. We are afraid the jute industry must be blamed for this state of affairs and for having so far failed to establish a special research centre for jute by the donation of funds for this purpose and for the endowment of Chairs and scholarships.

Whatever little co-operation there is in the industry has shown few results with regard to joint research work. But the sweep of modern trade necessities will not pass by the jute manufacturers. Those among them who will comply with the requirements of our time will succeed; those who will not or cannot, will be engulfed.

Only recently two of the largest merchanting houses decided to close down their jute departments. The reason for their decision was obvious. As they were firms of the highest financial standing, the difficulties encountered could not have been of a financial nature. The fact was that many of the most important customers of both firms who had formerly purchased enormous quantities of sacks and hessians had now ceased to buy; partly because trade has contracted altogether so that less packing material is required, and partly because jute goods have been replaced by others. Instead of being constantly on the look-out for new markets and instead of searching for new possibilities to supply improved packing material to their customers the jute goods firms mentioned were just sitting and "waiting for something to turn up."

In contrast to this suicidal resignation, we quote the example of German firms who opened two remarkable new markets for jute which had previously not existed. One of these firms, as will be found in the chapter "Special Jute Tissues," exhibited at an agricultural exhibition a portable grain silo made from jute. Thus it seems that at a time when the Argentinian Government has built and is still building further giant silos which will reduce the sale of grain sacks in the Argentine, it will become possible to sell a new article made of jute cloth in the shape of these portable jute silos.

Quite apart from the value of co-operative effort, particularly in the manufacturing and selling, more energy should be extended towards achieving departmental perfection. Here too an actual example will illustrate the new ways of the industry.

A recent acceptance of an invitation to visit a large modern jute mill brought to light how important is this question of departmental detail.

At first sight the batching house of to-day differed little from that of yesterday, but closer investigation brought to light the fact that infinite care was expended to ensure that fibres of a close family relationship were being mixed with due discrimination and their subsequent

treatment or softening showed that some manufacturers study the smallest detail of each process.

The old method of adding oil and water had been displaced by the emulsion system, the simplicity and efficacy of which was carefully explained in such detail that the lay mind had no difficulty in grasping the subtlety which chose an emulsifying agent calling for unskilled labour in use, a natural affinity for the fibre treated, great uniformity in application and economy in cost. This minute care was the more apparent when it was explained that there existed many agents capable of producing apparently good stable emulsions but which, due to chemical reactions or changes in climatic conditions, became actually injurious.

The head of this department produced samples to prove how the tensile strength of the yarn was altered when some member of the phenol family was used instead of a pure non-injurious soap, just sufficiently alkaline.

These and many other features impressed us with the fact that this great factory was very much alive to the requirements of modern times. It is this tendency which will ultimately restore confidence and establish prosperity.

SPECIALITY JUTE TISSUES.

Paper-lined Packings.

(Reprinted from "Jute 1932").

In considering the possibilities for the employment of speciality jute tissues, *i.e.*, tissues prepared by means of special finishing processes for some special purpose, chief consideration must be given to *paper-lined* jute cloth as being one of the most important.

Owing to the improvements which are constantly being made throughout the packing industry, such as tin boxes, casks and cardboard boxes, various kinds of wooden cases, paper sacks and the like, the manufacturer of jute-sacks and packing-materials was faced with the problem of having to bring out something new and better as an alternative to the loss of his market. In the search for improvements, demanded first and foremost by the chemical industry, the so-called duplexed or paper-lined jute sack was created.

By the use of this sack, filling materials which are finely milled, dusty, or sensitive to air and moisture (principally chemicals), and foodstuffs, are not only kept clean, but are protected against any kind of outside influence.

The expression "duplexing" means, accordingly, the covering of the raw fabric with an impregnating mass or with paper respectively. According to the ultimate purpose of the fabric or of the sack concerned, one can use thick or thin paper, a rubber-like bituminous or a glue-like mass. To begin with, let us consider the type of commodity that is being transported in such special sacks. Duplexed sacks are in the first place employed by the artificial fertiliser industry and very large quantities are being used for the transport of commodities which are very sensitive and hygroscopic, drawing humidity from the air, such as nitrate of lime, nitrocalcium, phosphates and kali-salts, and for the transport of natural Chile nitrate. In addition, the chemical industry

makes use of such sacks for the shipping of finely milled dyestuffs, tanning materials and yeast, expensive moulds, plaster of Paris, soot, chalk, cement and finely-milled precious ores and similar commodities.

With this type of sack it is not so much a question of freedom from smell, much greater importance being attached to its resistance to heat, cold and humidity. This is of especial importance with exports to the tropics. All duplexed sacks, however, used for the transport of food-stuffs, such as fine salt, sugar, flour, milled feeding-stuffs, or fabrics for the packing of tobacco leaf must be absolutely free of smell. Experiments made in the packing of coffee, tea and moulds in such material, have been very satisfactory. Recently we were informed that even asphalt has been transported in these sacks. It is a task for the industry which manufactures these special packing materials to carry out market research with regard to them and to find new openings. In this article we are only concerned with materials and methods used in the production of jute fabrics duplexed with paper or other substances.

The Coating Mixture.—For the manufacture of hard-wearing sacks for export purposes, tarpaulin or common twill is mostly employed. For inland transport, on the other hand, 10½ oz. hessian is generally used. These fabrics, in the principal width of 36 to 48 inches, are coated in the proofing machine on one side with a layer of molten pitch (100 to 300 grammes per sq. metre), an operation which is carried out by a rotary coating roll situated in the mixture trough. Any excess of coating mixture is removed by means of an adjustable stripping apparatus, which ensures at the same time a uniform distribution of the layer. The tissue, coated with the hot and still rather sticky substance runs on to the coating roll together with the stream of paper, and passing through a pair of heavy calendar rolls, is glued to the paper. If the strongest possible impregnation and a thick layer are required, both the tissue *and* the paper are coated in the way described. It must be noted that the mixture feed as well as the trough in the machine have to be constantly heated by steam, gas or electricity, in order to maintain the temperature and the mixture itself at a uniform level. The paper-lined tissue now leaves the proofing machine and passes over several pairs of rolls, and is then cut by another machine to the length required by sack manufacturers; or, in the case of packing cloth, is rolled up. The chemical composition of the coating mixture varies according to the purpose for which the sacks are required.

Sacks Free of Smell.—For the production of sacks free of smell, either a paste mixture must be employed, which, however, does not possess very strong powers of resistance to moisture, or a pure asphalt substance which loses its smell when dry. No great claim can, however, be made for such sacks, as far as their resistance to wear and tear and to atmospheric conditions are concerned.

Sacks for the Tropics.—Sacks for the transport of artificial fertilisers to the tropics must, on the one hand, withstand 100 centigrade of heat, even under pressure, as for instance under high piles of other sacks in the ship's hold, and, on the other hand, 8 to 10 centigrade of frost. In the former case the coating mixture must not force its way through either the tissue or the paper, and in the latter case it must not break. The composition of such mixtures which consists of oils, asphalt, sulphur-pitch or rubber-like products, is a jealously guarded secret of the individual factories. Great demands are made not only on the adhesive substance but also on the paper employed. Creped nitro-cellulose paper is mostly used, the crepe allowing more of the coating

mixture to be retained on the rough surface. Plain paper, however, is also used, as well as oil and asphalt papers, and, finally, paraffin paper. The creping of the paper has also the advantage of affording the paper lining a certain elasticity, so that when the sack is full the paper does not tear so readily. Two lengths of paper are often glued to the tissue with the same adhesive substance. The weight of the paper used is between 60 and 150 grammes per square meter.

The sacks are made up by means of single turned machined seams. A pair of so-called carrying flaps are often sewn on export sacks, so that they should not be taken up by hooks during loading or discharging of cargo. Sacks for the despatch of chalk, cement, or finely-ground sulphur are often fitted with the well-known Bates filling valve.

For the manufacture of paper-lined jute tissue required for packing only, such as for wrapping up machine parts for transport to the tropics, a light-weight, wide-meshed hessian is chosen for proofing.

In any discussion concerning the possibilities for paper-lined jute tissue, it must not be omitted to mention that experiments in the lining of jute tissue with a kind of tinfoil for special purposes, are being carried out.

Rubber-Proofed Jute Tissue—Latex and Jute.—These must also be considered. Special experiments in the rubber-proofing of jute are still in their early stages, and have not yet been entirely concluded. The main difficulty up to a short time ago was the high price of rubber, so that it did not pay to proof any, except the more expensive textiles, such as silk, cotton fabrics, and the like. A further drawback was the great risk of fire in connection with the dissolving of rubber in benzine or solutions containing benzine. Only after the fall in the price of rubber had made it possible to place the raw rubber milk (Latex of all kinds) as an extract on the European market and thereby to avoid expensive and dangerous solutions, have attempts to proof jute with rubber been taken up again.

The viscid rubber sap is mixed with water, and a small quantity of various chemicals is added for vulcanization, and loaded by means of filling materials, such as talcum, chalk, kaolin or soot. Large machine installations are not necessary, a small dyeing mill and a winged mixer being all the equipment necessary. The tissue is coated on the coating machine on one side or on both sides, according to requirements. If the tissue is given a fairly thick coating, a design can be impressed in the still rather soft rubber layer, directly before the vulcanization becomes completed by self-generation. The rubber solution can also be dyed, and this opens new prospects for rubber-proofed jute tissue for washable wall-coverings, etc., and after further experiment it should be possible to use them for military equipment, tents, folding boats, etc.

Brattice Cloth.—Before the war, when coal mining was not so modernized as now, most jute industrialists were familiar with brattice cloth which was manufactured from the raw jute tissue by special factories. Since then other kinds of material for ventilation purposes have caused its sales to drop considerably. For the manufacture of this material, 8 oz. hessian, in widths of 80 to 140 cm., is mostly employed; the length of the pieces is 10 metres. The raw jute tissue is made air tight by coating on both sides with tar and ground earth. These tissues then serve in the mine as air shafts to

conduct the fresh air into the mine and to carry off the exhausted air. Recently, in Holland, Germany and Great Britain, jute tissue has been impregnated with bituminous substances for this purpose, giving it the advantage of greater softness, durability and freedom from smell. Many factories manufacture non-inflammable cloth for special purposes in mines, by means of impregnation with a mixture of water glass and a filling material. Whilst on the subject of the use of jute tissues in mines, we must not forget,

Mine Screens of Jute.—For these also, 8 oz. hessian is mostly used, but in widths up to and over 2 metres. This jute tissue which in the warp shows soft, annealed metal wires, about $\frac{1}{2}$ mm. thick, spaced 5 to 10 cm., woven-in, is used for covering the cavities left by abandoned under-surface workings of coal mines. Recently, where the filling of these hollow spaces was done by machinery, such substitute-tissues were already being paper-lined, *i.e.*, proofed with paper, to prevent the dust from penetrating.

Jute Tissues in Agriculture.—Impregnated jute tissue for roofing and insulating purposes, as described elsewhere in this book, has already found both in Germany and America successful application as a protective covering for the soil in gardening. It will keep vegetable beds completely free of weeds. Further, the temperature of the soil under the roll of tissue remains fairly even day and night. The jute tissue tends to stimulate bacterial activity in the soil, thus advancing the planting stage, and prevents both desiccation and leaching.

The vegetables grow through holes cut in the tissue. Already a very handsome increase in returns from agricultural experiments arranged with such soil coverings has been obtained.

Grain Silos of Jute.—A further use for jute tissue was seen recently at an agricultural show where a portable grain silo made of jute cloth was shown. The advantage of such a silo is that after emptying it can be removed and takes up no space. Further, its prime cost is considerably lower than that of the usual tin silo, which, in addition, takes up a lot of room.

Successful experiments have also been made in Germany in the vineyards with the covering of young plants, the jute covers rolled over the young plants at night keeping off the injurious morning dews and hoar frosts from the tender shoots.

The special applications for jute tissue (for the most part new) shown here, make no claim to being complete. They show, however, the necessity and rightness of unrelaxed effort in seeking for, and creating, new selling possibilities for jute manufactures.

Roofing and Insulating Tissues.—These materials are used for a very wide variety of purposes. In the roofing of houses or railway waggons, etc., jute is fast replacing felt as an ingredient in the material, since soft felt boards which can absorb a great deal of the impregnating liquid succumb easily to the elements and draughts, and strong raw felt cannot absorb much of the impregnating liquid.

Jute Base Tissues.—For insulating bridges, dams, weirs, tunnels, etc., a strong resilient material which gives to pressure is required as a basis for the insulating mixture. Hence 40" hessians from 10 to 12 and even 16 oz. are employed. The product of this material serves ideally for all kinds of roofing, and, since it bends easily and can cover satisfactorily uneven points, surpasses that made of felt boards for large

tubes as well as for insulating bridge-roads, footpaths, terraces, round tanks, silos, etc.

Despite inclement weather, frost, heat, ground waters, acids, and a variety of other damaging factors, the material with its impregnating layer must remain intact for a number of years. Great care must therefore be exercised in the manufacture of the hessian, especially to avoid holes or weaving nests, otherwise there will not be the desired evenness in the finished product. Protrusion of weft yard ends over the weaving track, moreover, causes an untidy edge. Still more important, the tension on the edges of the fabric must be exactly equal, since a badly-pulled fabric will render the even application of the insulating mass impossible. Finally, the fabric should be calendered and made up on sticks into rolls which are as long as possible, in order to reduce seams to a minimum.

The daily output of a plant manufacturing these materials averages between 6,000 and 8,000 linear metres per day.

Other Base Tissues.—Lately a number of other materials have been experimented with, some of which are very successful.

For special purposes, for example, where an extremely heavy pressure has to be carried, various other kinds of tissue are manufactured. Some consist of two-ply rolls of tissue. Others have a layer of soft, wide-meshed wire cloth. A tissue combined with felt board is also being marketed. This consists of a length of roofing board combined with a roll of insulating tissue pressed together by means of the still hot coating mixture.

JUTE IN THE CABLE INDUSTRY.

Requirements for Yarn Quality.

(Reprinted from "Jute 1932").

Jute is one of the principal materials used in the manufacture of electric cables. In Great Britain alone, during 1931, this industry accounted for 15,000 tons, and its demand as a whole, throughout the world, runs to between 50,000 and 100,000 tons per year.

The employment of jute in cable manufacture is twofold: as a packing, *i.e.*, filling material, and as a protective covering. To understand how and why it is used, we shall describe briefly the construction of a power cable. A fuller description of cable manufacture was given in issues Nos. 38 to 42 of the journal "Jute".

A number of copper wires are stranded together to make the conductor. The size of the conductor is determined by the number and gauge of the copper wires. Paper is next wrapped round the conductor in the form of tapes until the required thickness is obtained. Most power cables are made up of more than one core; that is, two, three, or more paper-insulated conductors, as described, are twisted together or "laid up", as it is termed. It is here that jute fulfils its first function. In order to obtain a circular cross section, jute is used to fill the interstices between the cores. This is called "worming."

A further wrapping of paper is then applied round the "laid up" cable; this is called the "belt". The cable is next vacuum dried and

impregnated, usually with mineral oil. A lead sheath is then extruded round the cable, in order that the electrical insulating properties of the impregnated paper should be preserved.

Power cables are generally laid directly in the ground. The lead sheath is mechanically weak and is easily damaged, and since lead is also very liable to corrosion, the cable is covered with bitumen compound and armoured with galvanised steel wires in order to reduce the abovementioned dangers to a minimum. The wires form a continuous ring round the cable. Another method applies two steel tapes, each tape forming an open helix, the second tape covering the gaps between the turns of the first. In order that the armour itself should not damage the cable, a "bedding" of jute yarns or hessian strips is first applied over the lead sheath and well compounded with bitumen. This is repeated over the armour—called the "serving". In addition the jute in both cases acts as a retainer for the bitumen, which as already stated, is applied to prevent corrosion. This then is the second function of jute, namely as a *protective and absorbent covering*.

Telephone Cables.—It may have been noticed that the qualification "power" has been used in description. This was done to differentiate between power and telephone cables.

Telephone cables in Great Britain are nearly always drawn into earthenware ducts, in the lead covered state, that is, unarmoured. Also, as telephone cables are made up of a great number of small conductors, no jute is required as "worming". Jute therefore does not enter into the manufacture of telephone cables for home use.

Abroad, however, telephone cables are still laid directly in the ground and hence require armouring, which then necessitates the use of jute. Thus for export jute is generally used both on power and telephone cables.

Some notes on the jute used might be of interest here.

The use of Rove and Yarns.—For "worming" no special sizes are general, the only requirements being that a sufficient range is available to pack any ordinary interstice. The sizes used by cable-makers are determined mainly by what they have found suitable from experience. Anything between a 50 lb. jute roving and a $\frac{3}{4}$ inch rope is usual.

In the case of jute "bedding" and "serving" the thicknesses generally specified are those given by the British Engineering Standards Association. Where jute is used the specified thickness can be met by applying one or two layers. The sizes used vary between 50 lb. and 200 lb. jute roving or the equivalent jute yarn.

Application of Hessian.—When hessian is used the number of layers is usually specified: a 10-12 oz. hessian is quite general. Hessian gives better protection, makes a harder "bedding" and "serving", it also makes the cable stiffer and on the whole is appreciably more expensive to use. In addition to giving better protection, hessian is less liable to fraying, due to abrasion; and where special compounds, such as red lead are applied to the cable, hessian is the carrier.

Jute materials for use in cable manufacture must meet a number of requirements along the following lines. They should contain no injurious chemicals which corrode lead, mild steel or galvanised iron in the presence of moisture. The diameter, quality and twist must be as uniform as possible.

Moisture Contents and Tensile Strength.—A maximum moisture content is usually specified and anything in excess of it is deducted

from the weight. A value for this of about 15 per cent. is quite usual. Sometimes tensile strength corresponding to size, and elongation limits are also demanded. Tensile strength is not a manufacturing criterion of itself but included primarily to safeguard against unevenness. That is, one minimum strength would really cover all sizes of jute from a manufacturing standpoint.

Yardage limits are also usually included and vary between plus and minus 5—10 per cent.

Most cable-makers now call for their jute to be supplied wound on paper centres, dimensions of the spool being given. Where jute on a spool is made up of a number of lengths these lengths should be kept down to a minimum, especially when used for worming, as all knots then must be spliced before use.

Weave and Thickness of Hessian.—The requirements for hessian are fewer and deal more with the condition of the tissue, such as freedom from tears loose fibres and extraneous matter. The weave, thickness, and closeness to the weight basis are also important. Chemical requirements are the same as those for spins of jute.

Jute is sometimes applied as a braid; this is generally so when it acts as a protection for rubber insulated cables, though it is used also in this form occasionally on paper insulated cables.

The amount used in this manner is comparatively small.

JUTE IN FURNISHING AND UPHOLSTERY.

(Reprinted from "Jute 1932").

In these days jute is being supplanted by other materials in almost every trade. The chief reason for this is largely the lack of enterprise on the part of jute manufacturers. It is both necessary to watch the existing outlets for jute goods in order to retain the present volume of business—and to find new markets where jute goods can be used.

In the furnishing and upholstery trades, for instance, surprisingly large quantities of jute cloths are already used. Imagine, then, the enormous amount that could be used if the requirements of the furnishing trade were satisfied and jute used throughout. How much scope there would be for an enterprising firm!

The development of various trades calls for a similar development in the auxiliary industries. Unfortunately adaptability amongst jute manufacturers in particular is very slow. Admittedly new machinery is being invented and more modern factories are being built, but all this progress does not lead to more suitable materials for the varying requirements of jute goods buyers. With certain exceptions the same jute cloth is produced to-day as was made fifty years ago. In all other textile industries money is spent on producing new materials and new uses for existing materials, with the result that these industries are far more advanced than the jute manufacturers. It is not so much the expenditure of money that prevents manufacturers in the jute world from making more efforts with regard to research, but mainly the lack of interest which forms a great obstacle to the progress of the industry.

In the furnishing industry, for instance, the modern taste for simple bare furniture is displacing upholstered chairs, couches and divans. If this tendency continues the jute industry is likely to lose a very

large outlet for jute cloth. This will readily be admitted, if it is learned that from 4 to 7 sq. yds. of hessian is used in the upholstery of an easy-chair, much more for settees, divans, etc., and millions of such chairs are being turned out each year. If jute manufacturers will not devote their close attention to all demands that come from furniture manufacturers who try to improve the quality and hygiene of upholstered furniture and will simply wait until the order for hessian from this circle of customers comes along, then another market will be lost to the jute industry.

A very interesting field where jute yarns are used to a small extent, but which could provide a magnificent market for jute spinners, is the manufacture of furnishing fabrics of jute yarns. Why do not jute manufacturers produce more and better furnishing fabrics that will compete with cotton, rayon, wool and silk? Many upholsterers complain that jute furnishing fabrics do not drape well, and when used as curtains do not pull as straight as others do. Clearly this is a matter for the research departments of jute spinning mills and science could help them, we are sure, to produce a yarn that will compete effectively with other textiles. In the next few pages an expert deals with the manufacture of jute furnishing fabrics and it is advisable that every spinner and weaver of jute should study thoroughly what one of the leading experts has to say on the subject.

Jute in the Automobile Industry.—To illustrate the possibilities of jute cloth in upholstery we need only mention the motor-car and railway waggon industry. During the last hundred years transport by rail and road has increased to incredible figures, and it looks as though it will go on increasing unless its place is taken by air liners; but even then the seats will have to be upholstered in order to provide more comfort for passengers.

Each private motor car takes $3\frac{1}{2}$ yds. of 72 ins. wide hessian cloth and tarpaulin, so that about 7 sq. yds. of jute cloth are used for one car. The world's production of private motor cars amounts to between 3 and 5 million cars per year, and a single motor car manufacturer produces annually between 30,000 and 500,000 cars. Motor coaches which have lately come to the fore, require 50 to 100 square yards according to whether they are built with single or double decks.

A progressive Industry.—It is easy to see what enormous quantities of jute cloth are, or could be, travelling all over the world, but it does not follow that this will always continue to be so. Here too jute manufacturers must watch the motor-car industry and try to improve constantly the fabric which they sell for the upholstery of seats. The motor-car industry is more progressive than any other industry, and the difference if a better textile is used which might be expressed in money, is so small that *they will not hesitate to replace jute cloth should it be proved by any other textile industry that cotton, hemp or a similar cloth has greater advantages than jute.*

It is up to all jute manufacturers to co-operate and to find out what jute lacks in the qualities which are required in the furnishing and upholstery trades.

Furnishing Fabrics of Jute.—Jute is a very important factor in most branches of the textile industry. Apart from its use in the manufacture of carpets and sack cloth, jute yarn is also extensively employed in the production of furnishing-fabrics, wall coverings and curtains.

For decades jute materials and yarns have found application as a good substitute for expensive wool and cotton furnishing fabrics. The original method of manufacture was very primitive, the jute material being generally woven in linen weaving construction in widths of about 130 cm., and afterwards printed with handsome, coloured designs by means of machines or hand moulds. Such materials found preference as coverings for the cheaper makes of sofas and Ottomans, etc.

In the manufacture of these fabrics either a coarse count of jute yarn, *i.e.*, Nos. 5, 6, 7, or a twisted yarn mixed with cotton or wool, is used. Where cotton thread is employed, *e.g.*, flamé-colours, very fine effects are obtained. The weaving construction of modern designs is usually that of linen or crepe, preference being given to the latter. Furnishing fabrics in modern designs are used for covers for furniture as well as for decorative purposes. Jute furnishing fabrics in modern designs also find extensive application in house decoration as a substitute for wall-paper, and in the decoration of cabins of the average, not too luxurious, steamer.

Portieres and Curtains.—These fabrics are also used for the making of Portieres and curtains, the materials for this purpose being woven mostly plain and in one colour, although they are also made on the Jacquard machine in striking modern designs. For this production much finer counts are used, namely, Nos. 10—18/1. It should also be noted that in the manufacture of these fine jute counts, first-class raw material as well as special machines are necessary. These furnishing-fabrics are consequently of very good and durable quality.

A serious drawback to the still wider use of jute furnishing-fabrics, however, lies in the fact that dyed jute yarns are not fast. They will not, unfortunately, take fast dyes, as will cotton, and this difficulty has still to be overcome.

On the other hand, fine jute yarns have a very beautiful lustre after dyeing, which is a great advantage over other materials, as cotton, for example, which has to be specially mercerised in order to obtain such a sheen.

JUTE TISSUE IN ROAD CONSTRUCTION.

(Reprinted from "Jute 1932").

Experiments with the inclusion of wide 9 oz. hessian in road construction have already been going on in Germany for two years, specially in the South. The road, previously broken up and rough rolled, is first covered with a solution of asphalt or thin fluid tar, on which the lengths of jute, stuck one to another, are laid, and in the same way, spread with a hot coating substance. Fine-grained split and sand are then spread over, and the whole section is rolled. The purpose served by the jute tissue is that of a binding framework after the style of reinforced concrete, in order to prevent uneven surfacing and tearing up of the road. With a road constructed last year, for example, a substantial difference in relation to quality and purely external appearance between the section built with a layer of jute and the rest of the road is still to be observed.

APPENDIX VIII.*(Vide page 32 of the Report.)***The Indian Central Cotton Committee: Its Objects, Activities and Achievements.**

India is the second largest cotton growing country in the world. But in the past the quality of the cotton produced was not such as to enable the Indian product to hold its own in competition with foreign-grown cotton. To encourage the growth of improved varieties, to extend the area of cultivation and to stimulate and assist in every possible way the production, marketing and manufacture of Indian cotton, the Indian Central Cotton Committee was constituted by the Government of India in March 1921 by their resolution No. 404-22 (Department of Revenue and Agriculture). It was the outcome of recommendations made in 1919 by the Committee over which Sir (then Mr.) James MacKenna presided. After a short period of existence during which it had only an advisory status, the Committee was made an independent body. The Cotton Cess Act of 1923 provided the funds necessary to carry out its aims.

Functions.

The chief functions of the Committee fall under three heads: (1) to advise the Central and Local Governments on all questions on cotton referred to it, and to suggest suitable measures for the improvement and development of the industry, (2) to finance and to direct research work on the problems connected with the improvement of Indian Cotton including investigations into the relationship between the cotton plant and its environment, the diseases and pests of cotton, and the lint qualities of the existing as well as newly evolved types, and (3) to finance schemes intended to bring into general agricultural practice the results of economic importance obtained from research.

The Committee has now been in existence for over a decade and during this period, by combining scientific research with practical progress, it has been responsible for valuable work in all these directions.

Work up to date.

The most important achievement of the Committee in promoting the interests of growers is the enforcement of the Cotton Transport Act in several areas thus maintaining standards of quality of cotton grown there and preventing adulteration with inferior types. The Act is now in operation in seven areas in Bombay. Its enforcement entails close co-operation between the Local Government and the Indian States in the areas concerned. It is in force in Madras in two areas, but the separation of the southern area as at present constituted into a Tinnevely and a Tiruppur-Cambodia area is a matter of considerable importance. Berar cotton is protected in the Central Provinces as also Indore cotton against Deshi-Mewadi. The Bani or Gaorani tract and part of the Raichur District in Hyderabad

State, and the Baroda, Rajpipla, Chhota Udepur and Sangli States are similarly protected.

Another measure in this direction is the Cotton Ginning and Pressing Factories Act which provides for the marking of bales so that adulteration and other malpractices can be easily traced to their origin. Similarly measures are now in force in the majority of cotton-growing Indian States.

The Committee has also urged the necessity of standardizing weights and measures so as to prevent growers from being defrauded when marketing their produce. A bill for the standardization of weights and measures in the Bombay Presidency has now become law, and there is a regulated open market in Khandesh. A bill for regulated markets which it was proposed to introduce in Madras has been postponed for the time being. In Hyderabad and Holkar States also, regulated markets have been established.

Investigations were undertaken with a view to finding out the staying power of the agriculturists and the reports have created almost as much interest as the Banking Enquiries. It is hoped that a solution will be found for the problem of providing the cultivator with cheap finance, simultaneously easing the burden of his indebtedness. Investigations were also made in Surat, Khandesh, the Central Provinces and Ajmer-Merwara in order to ascertain the effects of "pools" of ginning and pressing factories on prices realized by growers.

The Committee's programme includes propaganda work to advise the grower on suitable varieties of cotton. No attempt is made, however, to persuade him to use a superior variety unless it gives him a better monetary return than short-staple cotton. The Committee is also doing a good deal of work to popularize improved types of Indian Cotton both here and abroad. For this purpose the Committee keeps in close touch with such bodies as the Empire Cotton Growing Corporation, the British Cotton Industry Research Association, etc.

Technological Laboratory.

This Laboratory, which is installed at Matunga, is the first of its kind where not only fundamental research on the physical and chemical properties of cotton fibres is undertaken, but facilities are provided for testing new strains evolved by Cotton Breeders working under the Provincial Agricultural Departments. For this purpose the Laboratory, besides possessing a complete range of testing apparatus, is equipped with modern spinning plant, which enables the tests to be made on a comparative basis, as the prevailing conditions are definitely known and reproducible. In each case the mean fibre-length, fibre-length distribution and fibre-weight per inch of a new strain are determined and whenever the sample is available in a sufficiently large size it is spun into yarn, its waste losses and behaviour during spinning are noted and the strength, evenness and neppiness of its yarns are carefully ascertained. These tests are of the greatest importance to the cotton breeder, as they enable him to select those strains which will give the best spinning performance and thus prevent him from wasting time and energy on others which may ultimately be found unacceptable to the spinner. In the case of a

few selected cottons, known as Standard Indian Cottons, more detailed fibre tests are made. These include a determination of fibre-strength, maturity, rigidity, convolutions and ribbon-width, besides the fibre properties mentioned above. The results of these detailed tests are published annually in a Technological Bulletin.

Besides this work on agricultural samples, the Laboratory has been making itself useful to the trade by undertaking spinning tests on representative commercial types selected by the Standards Committee of the East India Cotton Association, and on early arrivals of the principal commercial varieties submitted through the Mill-owners' Associations of Bombay and Ahmedabad. These tests are made immediately on receipt of the samples and their results are published in 2-page Circulars which are widely distributed among the trade. Up-to-date 81 such Circulars have been issued from the Laboratory.

Recently the Laboratory has opened a Moisture Testing Section at the Cotton Exchange, Sewri, where numerous moisture tests have been made on samples drawn from trade bales. Simultaneously, an investigation has been carried out on the variation in the weight of cotton bales of different trade descriptions stored for 12 months in a Bombay godown. The primary object of these tests is to lay the foundation in a secure manner of a system of 'blind survey.'

An account of the different activities of the Laboratory was given in Chapter VI of "Cotton Improvement in India," but the manner in which the work of the Laboratory has increased since its inception may be judged from the fact that whereas in 1924-25 only 54 samples were spun, in 1931-32 no less than 323 samples were spun and in the eight years of its life as many as 1,481 samples have been spun, of which nearly 60 per cent. were supplied by the Agricultural Officers. Besides these, numerous small size samples have been tested for fibre-properties only.

In addition to these tests, a number of problems bearing upon the properties of cotton fibre and their inter-relationship and the processing of cotton have been successfully tackled at the Laboratory. A full account of these investigations and the principal conclusions derived from them is published in Technological Bulletins which have been divided for the sake of convenience into two series, A and B. Series A, which deals with problems relating to processing and spinning of cottons and spinning tests on important Indian growths of special interest to practical men, is published in India; while Series B, which is confined to a discussion of the more theoretical problems relating to the fundamental properties of cotton fibres, is published in the Journal of the Textile Institute, Manchester, England. In all 22 Bulletins in Series A and 14 Bulletins in Series B have been issued. Besides these, small leaflets, summarising the results of investigations which are of special interest to the trade, are issued from time to time.

The Laboratory is continually extending the scope of its testing and research activities and tackling fresh problems. Among the problems studied may be mentioned those of determination of causes of neppiness in cotton; the relationship between the feel and wax content of a cotton; improved methods of stapling a cotton; the combing of good quality Indian cotton; the effect of different settings

in the carding engine on the quality of yarn, the use of balanced and unbalanced drafts with mixings of Indian cottons, etc.

Institute of Plant Industry.

The Institute of Plant Industry at Indore was opened in 1924 to serve as a Central Research Institute for cotton—to conduct investigations of a fundamental character upon the botany, genetics and physiology of cotton and to study the agronomy of cotton on the black soils of Central India. In addition the constitution provided for assistance and advice being given on agricultural matters to a group of (at present twenty) States in Central India which contributed to the funds of the institute; later various States in Rajputana joined. In 1928 the Institute was registered as a Society under the Holkar State Societies Act.

The cotton research work done falls under three heads:—

1. *Fundamental problems.*—A botanical survey of Indian cottons including their root-systems and fibre characteristics is approaching completion. A comprehensive study of the influence of soil conditions on Indian and American cottons has been going on for several years and is now throwing light on the causes of stunted growth and disease and possibilities of preventive treatment. The influence of environmental conditions upon the lint has also been studied. Attempts are being made to produce changes in the type of existing cottons by exposing them to X-rays and radium emanations.

2. *Improvement of variety.*—Here the chief work has been the selection of an improved type of *Malvensis* cotton to suit the black soils of the Malwa Plateau; a number of such types are now undergoing yield tests. Progress has been made among types for well-irrigation in Malwa and for the low-lying areas in Central India as well as for Rajputana.

3. *Agronomy.*—Great attention has been paid to developing methods of eradicating weeds—particularly the notorious *kans* grass, to the prevention of soil erosion by monsoon rains, and, perhaps the most important success, the standardizing of a system for rapidly converting all kinds of farm wastes into a high quality organic manure without any capital outlay at small cost and without disturbing the established custom of using cowdung cakes as fuel. Progressive cultivators are now satisfied as to the merits of Indore compost, which gives them two or three times the manure they formerly had.

Side by side with research work, propaganda is carried on, mainly through the States' Agricultural Departments and also by holding annual Cultivators' Meetings at the Institute, training States' officers and cultivators in improved methods and, a recent development, attending at village *melas* with exhibits and a cinematograph display of agricultural films. Simple improved implements and pure seed are stocked and sold to cultivators from the supporting States.

Thus, within eight years, results of real practical value to the cultivator have been obtained and others are in sight.

Agricultural Research.

In pursuance of the policy of selecting and popularizing types of cotton suitable to the different tracts, several research schemes have

been started and valuable results have been obtained. In Madras, it was found that "*Cholam*" as a rotation crop reduced the yield while "*Cumbu*" gave better results, and the problem is being attacked in several ways. The study of the "stem borer" pest has been started and will be along two lines:—the incidence of the pest and the methods of combating it.

In Surat the high shedding of buds, flowers and bolls was found to be due to a deficiency of nitrogen. The Entomological Scheme is related to the Spotted Boll-worm and the results will shortly be published. A propaganda campaign, with the object of the destruction of the Spotted Boll-worm by means of clean-up and other methods has been started and demonstrations given in about 40 centres. In Dharwar, the study of wilt resulted in the breeding of a cross which resists wilt and gives good yield, and its seeds are being popularized in that area. The Khandesh Scheme has evolved the "*Banilla*" which gives, even after deterioration, far better returns for the grower than the old "*N. R.*" variety.

In the Central Provinces, the study of wilt-resistant strains has brought out "*Verum-262*" which gives high yield and spins 20s to 22s against 8s to 12s of ordinary Berar cotton. Two other strains have also been isolated. One of these is an early variety suitable for the northern and plateau districts. The other is a late variety which ought to thrive in the eastern area.

The Entomological Scheme in the United Provinces, which was started in 1923, entailed studies in Pink Boll-worm. One important finding of these studies was that if the seed was heated to about 140°F., the larvæ could not be carried over. It has been suggested that all ginning factories should be equipped with the necessary apparatus. It is estimated that if this moth can be exterminated, the growers would reap an enhanced crop of four *maunds* or Rs. 30 an acre, and in addition, would obtain a better price owing to the improved quality due to the absence of stain.

In the Punjab, the enormous damage done to cotton is held by some to be due to climatic conditions, while others put it down to the Cotton White Fly; it may be due to both. The severe attack of "*Jassids*" made it necessary to reject a strain of "American" which was otherwise very suitable. New strains are now under investigation. The Entomological Scheme studying the Pink Boll-worm has shown that if the seed is heated in the sun during April and May in a thin layer the larvæ are not carried over. The "*White Fly*" is another serious pest and research work on its incidence, effect, spread and control is being undertaken.

In the Hyderabad State, work began at Parbhani in 1929 for the study of "*Gaorani*" or "*Bani*" cotton. It is a poor yielder though it is the best indigenous variety, and attempts are being made to obtain better types by selection and crossing.

The Gang Canal Scheme in Bikaner for selection and crossing of Indian and American types, the Burma Scheme for improved agronomy and the Baroda Scheme for study of "Root rot" should also be mentioned.

Seed Extension Schemes.

The importance of financing schemes for wide distribution of improved varieties has been recognized and seed distribution schemes

are in progress in several areas. Thus improved *Cambodia* in Madras, *Jayawant* and other improved types in Bombay and Hyderabad State, better quality "*Verum-262*" in the Central Provinces and Berar; 1027 A.L.F. in the Surat tract of Gujerat and Banilla in Khandesh are being distributed. New schemes in other areas have also been sanctioned. So far the best work has been in Surat, Dharwar and Berar. The total area under these improved seeds is still only about a million acres out of the present total area of about 24 millions for all India. There is thus a good deal of work to be done in this line.

Research Workers.

The Committee has had to train its own staff of technical experts and has created a corps of workers, now about 121. Research scholarships are given to distinguished graduates for two years or more and fifty have been awarded, of which six are current. Twenty-eight of those trained have either been taken on the Committee's staff or have been absorbed by Provincial and State Agricultural Departments.

Cotton Cess Act.

This Act was passed in 1923 to provide funds for the Committee's work. The cess is levied at the rate of two annas per bale of 400 pounds avoirdupois or six pies per 100 pounds of unbaled cotton. During the first three years it was collected at double these rates. It is levied on all cotton exported from India whether by sea or land and on all cotton consumed by the mills in British India, which are required to furnish monthly returns to the Collectors of the districts, except in Bombay Presidency where they are furnished to the Collector of Customs, Bombay.

It was estimated that the cess would yield Rs. 8 lakhs per annum at first and Rs. 4 lakhs afterwards. The position as at 31st March 1932 shows that it has raised over Rs. 13½ lakhs in the first three years and an average of Rs. 6½ lakhs in subsequent years. The total receipts of the Committee up to that date were Rs. 90,52,361 of which the cess amounted to Rs. 80,28,628. The expenses were Rs. 11,95,707 for Administration, Rs. 1,68,561 for Seed Distribution and Extension Schemes, Rs. 15,85,634 for Technological Research, Rs. 1,94,743 for Research Studentships and Rs. 27,52,228 for Agricultural Research, making a total of Rs. 59,92,542 or an average of about Rs. 7 lakhs a year. The balance of Rs. 30,59,819, with the exception of small amounts in cash, is held in Government of India Securities and Municipal Bonds.

Fumigation of American Cotton.

The havoc to the cotton crop caused by the Boll-weevil in America and the Red Boll-worm in Africa, and the risk to which the growers in this country stood exposed by the introduction of these pests through free importation of cotton and cotton seed, were matters of great concern to the Committee. At its instance, adequate protection has since been afforded to the cotton-growing industry of India. Import of all foreign *kapas* is now entirely prohibited, and foreign cotton seed can be imported only through the Port of Bombay by

authorised officers, for experimental purposes, in quantities not exceeding 1 cwt. and then only after careful entomological examination at Bombay and fumigation, if this is found to be necessary. Import of American cotton has also been restricted to the single port of Bombay, and only after proper fumigation.

Successful Results.

In the best interests of cotton development and to improve the conditions of the cotton grower, it is advisable that there be co-ordination of the technological and agronomical work of the Committee.

It will be seen from this brief résumé of the Committee's activities, that it is carrying out this work very successfully. It must be borne in mind that agricultural work must not be hurried. The work will receive a great set-back if the grower, who is the ultimate judge of its value, should find that in practice new varieties and methods are ill-suited to his needs. The best way would be to make certain of successful results before substituting new varieties or methods of cultivation for existing varieties and methods. It may be pointed out in this connection that the British Ministry of Agriculture took about fourteen years to reach a decision to introduce a new variety of wheat. The Indian Central Cotton Committee has a good record of its work to prove that it is successfully carrying out the objects for which it was founded. The Committee expects Indian cotton growers, traders and those engaged in the marketing and manufacture of cotton products to give it every encouragement and help to build a great industry on a sound practical basis. The results will prove beneficial to agriculturists and manufacturers alike, for the Indian cotton industry will be in a position to hold its own against world competition.

APPENDIX IX.

No. 1419-1931, dated Calcutta, the 24th April 1931.

From—The Secretary, Bengal Chamber of Commerce,
To—The Secretary to the Government of Bengal, Commerce Department.

Formation of a Central Jute Committee.

In continuation of my letter No. 724, dated the 28th February 1931, I am now directed to submit the views of the Chamber on the proposals contained in letter No. 89-A, dated 17th January 1931, from the Government of India, Department of Education, Health and Lands, to the Government of Bengal, Agriculture and Industries Department, on the subject of the formation of a Central Jute Committee. I am to express regret that it has not been possible to reply by the date mentioned in your letter No. 990/97-Com., dated 18th February, but it has been necessary to consult the Jute Associations connected with the Chamber, and an earlier reply has not been possible.

2. The Government of India explain that they have decided to undertake legislation forthwith for the creation of a Central Jute Committee. They refer to the recommendation of the Royal Commission on Agriculture in India that such a Committee should be established "which would watch over the interests of all branches of the trade from the field to the factory," and they explain that they are satisfied from the context that the Royal Commission did not intend that the Committee should be given any powers of interference with the organisation of the jute trade. The Chamber notes this view with satisfaction, for it is impossible to ignore that considerable apprehension is felt by important interests in the trade lest there should be some such interference on the part of the Committee. As was explained in paragraph 5 of letter No. 558, dated 24th February 1930, from the Chamber to the Government of Bengal, Commerce Department, it was felt that the functions which the Committee is designed to perform are either already being performed by the different organisations connected with the trade, or can be performed by these. This feeling still exists, and the Chamber thinks it necessary to emphasise, what they stated in the letter referred to, (a) that there must be no question of interference, by the Central Jute Committee, with functions which properly belong to the trade itself and (b) that no additional burden will be imposed on the trade in respect of the provision of the necessary finance. When communicating their views to you on the proposal a year ago, the Chamber made their acceptance of the scheme conditional on the strict observance of these stipulations; and, as stated, they adhere to this opinion.

3. With regard to the first of the conditions, the Chamber notes that the Government of India recognise that "such questions as jute grading, jute futures and the like are primarily matters for the trade, and if the Central Jute Committee considered that action in respect of them were needed in the interests of the jute growers it would be for them to convince the trade of its desirability." It is known to the Government of Bengal that there is pronounced difference of opinion in the different branches of the jute trade in Calcutta both as to the prescription of official jute standards, and as to the influence of jute-futures operations. There is a futures market in baled jute, and its effects are widely regarded with serious apprehension; the extension of its operations would be deplored, and the Chamber

would like to feel assured as to the test which will be applied to determine whether the Central Jute Committee has or has not succeeded in "convincing the trade" as to the desirability of any measure of reform. The functions indicated for the Committee include such subjects as banking and transport facilities and transport routes and the improvement of marketing, including research into marketing and the study of market organisation. These subjects so obviously come within the province of existing trade organisations that it will not be difficult to appreciate the apprehension which exists. In these circumstances, the Chamber is of opinion that provision should be made, either in the contemplated Act or in the rules under it, that no decision of the Committee with regard to the exercise of its functions shall be effective unless such decision is supported by each of the commercial bodies represented on it; such a provision would give the needed protection against any attempt to interfere, through the Committee, and without the concurrence of trading interests generally, with the normal course of trading operations.

4. It has been said above that the Chamber adheres to the view previously expressed by them, that there must be no question of imposing an additional burden on the trade in respect of the provision of the necessary finance. When putting forward the proposals in their letter of 27th June 1929, the Government of India explained that, if the various interests concerned agreed to the imposition of a cess to finance the Committee, they were prepared to reduce the export duties on raw and manufactured jute to a corresponding extent. Specific mention of this undertaking is not made by the Government of India in their letter of 17th January 1931, but the Chamber assumes that it will be implemented. For themselves, they are strongly of opinion, however, that in view of the difficult financial position, further action in connection with the proposals should be suspended for the present; and that the return of normal financial condition should be awaited before the scheme is proceeded with. Its introduction will impose a burden on the central revenues at a time of severe financial stringency, when efforts to avoid new obligations are being made in every possible direction. It cannot be denied that there is strong difference of opinion as to the necessity for the Central Jute Committee; and although the Chamber has expressed willingness to accept the scheme, subject to the stipulations which they have made, they feel that this is a liability that may well be avoided for the time being. They have observed that the Government of India, in the Department of Education, Health and Lands, have decided, because of the financial stringency, to postpone for the present the establishment of an Advisory Board for the Forest Research Institute, Dehra Dun, and the Chamber is of opinion that the establishment of the Central Jute Committee should similarly be postponed indefinitely. They strongly commend this suggestion to the consideration of the Government of India.

5. Subject to what has been stated above, the Chamber will now give their views on the further matters dealt with by the Government of India in their letter of 17th January 1931. These are as follows:—

- (a) The suitability of the Indian Lac Cess Act as a model;
- (b) The personnel of the Committee; and
- (c) The method of financing the Committee.

With regard to the first of these matters, the Chamber is disposed to agree that, speaking generally, the Indian Lac Cess Act, 1930, with

the necessary changes, would form a more suitable model than the Indian Cotton Cess Act. They observe that the Government of India do not consider it necessary to include a provision, such as is contained in the Lac Cess Act, to the effect that the rate of cess may be reduced on the recommendation of the Cess Committee. The Chamber does not agree with this point of view, and they would prefer to see a provision included, similar to the condition in section 3 of the Indian Lac Cess Act. A further point in regard to which the Chamber does not agree with the Government of India is that dealt with in paragraph 6 of Government's letter. Reference is made, in this paragraph, to the provision in the Lac Cess Act that a nominated member should vacate office if he ceases to reside in British India. For reasons which they explain, the Government of India consider that this is a matter which should be dealt with by rules rather than by a provision in the Act. The Chamber would prefer to see a provision included in the Act that any member of the Committee proceeding out of India shall be deemed to have vacated his seat; it seems to them that a definite provision to this effect is desirable, as it will ensure that the Committee is maintained at full strength.

6. With regard to the question of the personnel of the Committee, the Chamber has noted the proposals now put forward by the Government of India. In their letter to you of 24th February 1930 the Chamber expressed the opinion that the number of members of the Committee should not exceed eighteen, and they are of opinion that the number now suggested by the Government of India, namely twenty-two, is excessive. The following table shows the representation as proposed respectively by the Chamber last year and by the Government of India :—

	The Chamber's proposal, February 1930.	The Government of India's proposal, January 1931.
<i>Representatives of the Government of India</i> ..	1	4
<i>Representatives of the agricultural departments—</i>		
(a) Bengal	1	2
(b) Bihar and Orissa	1	1
(c) Assam	1	1
<i>Growers' representatives—</i>		
(a) Bengal	1*	2†
(b) Bihar and Orissa	1*	1†
(c) Assam	1*	1†
<i>Commercial representatives—</i>		
(a) Calcutta	11	8
(b) Bihar and Orissa .. .. .	..	1†
(c) Assam .. .. .	..	1†

Provision is also made, in the Government's proposals, for such additional representatives as the Government of India may appoint.

7. Even supposing that no additional members are so appointed, the position will be, under the Government of India's proposals that no

* The Chamber suggested that these should be the three Provincial Registrars of Co operative Societies.

† Nominated by the Local Government.

fewer than fourteen members out of twenty-two will be either Government officials or nominated, a proportion which seems to the Chamber to be much higher than is necessary. Apart from this they consider that the representation which it is proposed to give to Bihar and Orissa and Assam as compared with Bengal is out of all proportion to the interest of these provinces in the industry. Excluding the Government of India representatives, there will be twelve representatives of Bengal and six representatives of Bihar and Orissa and Assam. That is to say, these two provinces combined are to be given half of the representation of Bengal, although taken together—on the basis only of area in acres or outturn in bales—they represent less than one-seventh of the area and outturn of Bengal. As is stated above, the Chamber considers that the Government of India's proposal provides a Committee which is too large, and in their opinion, if it is to be of a workable size, the number should be reduced; this reduction can, and should, be effected in the representation of Bihar and Orissa and Assam, whose proportion of members should bear a truer relation to their relative importance in the industry. The Chamber sees no necessity for "commercial representatives", other than growers, from these provinces, and they suggest that in alternate Committees one member should represent the two provincial Agricultural Departments, and one member the interests of growers in the two provinces: this might be arranged so that when the representative of the Departments is from Bihar and Orissa, the representative of growers is from Assam, and *vice versa*. The adoption of this suggestion would reduce the size of the Committee from twenty-two to eighteen.

8. The Chamber desires, further, to represent that there is no necessity, in a Committee of this kind for four representatives of the Government of India. The functions which the Committee will perform, and the crop with which it will be concerned, are purely local to Bengal, Bihar and Orissa, and Assam, and the Chamber feels that the interests of the Government of India in the matter will be quite adequately served by two instead of four, representatives. On the other hand, it is considered that the interests represented by the Chamber are not given the representation which their relative importance and extent merit, and they are of opinion that they should be allowed to nominate six representatives; that is to say, two more than provided for in the Government of India's proposals. The Committee would then be constituted as follows:—

A.—To be nominated by Government.

1. The Vice-Chairman of the Imperial Council of Agricultural Research, *Chairman*.
2. One other representative of the Government of India.
- 3, 4 & 5. Representatives of the provincial Agricultural Departments (two representing Bengal).
- 6, 7 & 8. Representatives of growers (two representing Bengal).

B.—To be nominated by trade interests.

- 9 to 12. Representatives of the Bengal Chamber of Commerce.
- 13 & 14. Representatives of the Indian Jute Mills Association.
- 15 & 16. Representatives of the Bengal National Chamber of Commerce.
- 17 & 18. Representatives of the Indian Chamber of Commerce.

The Chamber considers that this representation will provide a Committee more fairly balanced in accordance with the importance of the interests represented.

9. It remains to refer to the financial proposals. The original scheme provided for the imposition of a cess on all raw jute produced in India, either exported from a Customs port or consumed within a mill in British India. The Chamber recommended the expediency of following the analogy of the existing export duties and basing the cess on exports of raw and manufactured jute, and this plan has been adopted. The rates proposed are one anna a bale on raw jute exported, five annas a ton on sacking, and eight annas a ton on hessians. The Chamber is prepared to accept these figures, subject, of course, to the understanding of which mention has already been made, that a corresponding reduction is made in the export duties.

10. Finally, I am instructed to repeat that in the considered opinion of the Chamber the present time is most unsuitable for inaugurating the scheme for a Central Jute Committee, and to urge, in these circumstances, that a return to normal financial conditions should be awaited before any further action in the matter is taken. The Chamber very strongly recommends this course to the Government of India.

APPENDIX X.

(*Vide* pages 31 and 150 of the Report.)

No. 720, dated Calcutta, the 28th February 1931.

From—The Secretary, Bengal Chamber of Commerce,

To—The Secretary, Indian Jute Mills Association.

Proposed Central Jute Committee.

In continuation of previous correspondence on the above subject I am now directed to send you the accompanying copies of the letter noted below and of its accompaniments, and to invite an expression of the views of your Association on the proposals explained in these. It will be observed that the Government of Bengal ask for an early reply:—

Letter No. 990-97-Com., dated 18th February 1931 from the Government of Bengal, Commerce and Marine Departments to the Chamber.

2. For reference there is also sent herewith a copy of the Chamber's letter to the Government of Bengal, Commerce Department, No. 558, dated 24th February 1930.

No. 990-97-Com., dated the 18th February 1931.

From—The Government of Bengal, Commerce Department,

To—The Bengal Chamber of Commerce.

I am directed to forward for information, the accompanying copy of a letter from the Government of India, Department of Education, Health Lands, No. 89-A., dated 17th January 1931 and its enclosure, on the above subject, and to request that you will be so good as to favour this Government with the opinion of your Chamber on the proposals contained therein.

2. As the Government of India have asked for an early reply it is particularly requested that the Government of Bengal may be favoured with your reply by the 14th March 1931.

No. 89-A., dated New Delhi, the 17th January 1931.

From—The Secretary to the Government of India, Department of Education, Health and Lands,

To—The Secretary to the Government of Bengal, Agriculture and Industries Department.

Formation of a Central Jute Committee.

With reference to the correspondence ending with your telegram No. 784-T.—A.I., dated the 17th October 1930, I am directed to say that

the Government of India have decided to undertake legislation forthwith for the creation of a Central Jute Committee. They are of opinion, after further consideration, that the Indian Lac Cess Act (XXIV of 1930), a copy of which is attached, is a more suitable model for such legislation than the Indian Cotton Cess Act. Before referring in detail to the modifications which would be required in that Act to adapt it to the purposes of the Central Jute Committee, I am to offer the following observations regarding the functions of the Committee, its personnel and the manner in which it would be financed.

2. *The functions of the Committee.*—In paragraph 65 of their Report, the Royal Commission on Agriculture in India recommended the formation of a Central Jute Committee “which would watch over the interests of all branches of the trade from the field to the factory.” It is clear from the remainder of the paragraph referred to that the Committee meant by this that the Central Jute Committee should have the same functions in regard to jute as the Indian Central Cotton Committee should have in regard to cotton and not that it should combine the functions which the Indian Central Cotton Committee and the East India Cotton Association exercise for the cotton industry. They did not intend that it should be given any powers of interference with the organisation of the jute trade. Such questions as jute grading, jute futures and the like are primarily matters of the trade and if the Central Jute Committee considered that action in respect of them were needed in the interests of the jute growers it would be for them to convince the trade of its desirability. In accordance with this view, the Government of India propose that the functions of the Committee should be confined to agricultural, technological and economic research, the improvement of crop forecasting and statistics, the production testing and distribution of improved seeds enquiries and recommendations relating to banking and transport facilities and transport routes and the improvement of marketing. The section of the new Act corresponding to section 12 (2) of the Indian Cotton Cess Act and section 6 (2) of the Indian Lac Cess Act would, therefore, read as follows:—

“Subject to such conditions as may be prescribed, the said proceeds and any other monies received by the Committee shall be applied to meeting the expenses of the Committee and for promoting agricultural, technological and economic research, the production, testing and distribution of improved seed, the improvement of statistics and the dissemination of information in the interests of the jute industry in India.”

“Economic research” would include research into marketing, the study of market organisation and the dissemination of marketing information. The balance of opinion is against the inclusion of vegetable fibres other than jute in the scope of the Committee’s activities and the Government of India accept this view.

3. *The personnel of the Committee.*—It is desirable that the membership of the Committee should be as small as is compatible with the efficient discharge of its functions and the Government of India are provisionally of opinion that it should be constituted as shown below:—

Representatives of the Government of India.—

1. The Vice-Chairman of the Imperial Council of Agricultural Research—(*President*).

2. Agricultural Expert, Imperial Council of Agricultural Research—*(ex-officio)*.
3. Director-General of Commercial Intelligence and Statistics—*(ex-officio)*.
4. A representative of the Co-operative movement to be nominated by the Government of India.

Representatives of the Agricultural Departments.—

- 5 & 6. Two representatives of the Bengal Agricultural Department.
7. One representative of the Bihar and Orissa Agricultural Department.
8. One representative of the Assam Agricultural Department.

Growers' representatives.—

- 9 & 10. Two representatives of the jute growers nominated by the Government of Bengal.
11. One representative of the jute growers nominated by the Government of Bihar and Orissa.
12. One representative of the jute growers nominated by the Government of Assam.

Commercial representatives.—

13. One representative of the jute trade nominated by the Government of Bihar and Orissa.
14. One representative of the jute trade nominated by the Government of Assam.

Representatives of the jute trade in Calcutta.—

- 15 & 16. Two representatives nominated by the Jute Mills Association.
- 17 & 18. Two representatives nominated by the Bengal Chamber of Commerce.
- 19 & 20. Two representatives nominated by the Bengal National Chamber of Commerce.
- 21 & 22. Two representatives nominated by the Indian Chamber of Commerce.

Such additional representatives as the Government of India may appoint.

The Government of India consider that a Committee thus constituted should be sufficiently representative of the various interests.

concerned. Their reason for confining representation of the numerous commercial bodies, connected with the jute trade to representatives of the Chambers of Commerce and the India Jute Mills Association is that they understand that these bodies are either affiliated to or work in close co-operation with the one or other of the Chamber of Commerce.

4. *The method of financing the Committee.*—In this Department's letter No. 1069-Agri., dated the 27th June 1929, it was stated that it was proposed to levy a cess of one anna per bale on raw jute produced in India and either exported from any customs port to any port outside British India or consumed in any mill in British India. In view of the opposition of the trade to the imposition of a cess on manufactured jute consumed in this country and of the administrative and other difficulties which the levy of such a cess would involve, the Government of India have decided that the cess should be levied only on exports and that the rate should be one anna per bale on raw jute, five annas per ton on sacking and eight annas per ton on hessians. On the basis of recent averages, a cess at this rate would produce an income of rather more than Rs. 5 lakhs per annum, the amount suggested by the Royal Commission on Agriculture, but in present conditions, this figure will probably not be reached for some time to come.

5. As regards the other modifications in the Indian Lac Cess Act, other than that already mentioned, which would be required, I am to point out that section 3 of that Act contains a provision by which the Governor-General in Council, on the recommendation of the Indian Lac Cess Committee, may reduce the cess. There is no corresponding provision in the Indian Cotton Cess Act and the Government of India do not consider it necessary to include such a provision in the proposed legislation. It is, in their opinion, preferable in the case of the jute industry, as in that of the cotton industry, that any alteration in the rate of the cess should be made by an amendment of the Act.

6. Section 4 (4) of the Indian Lac Cess Act contains a provision that a nominated member should vacate office if he ceases to reside in British India. The experience of the Indian Central Cotton Committee has shown that, whilst a substitute member is usually required to take the place of a member temporarily absent from India, it is sometimes convenient to allow an absent member to retain his seat on the Committee, especially if he is undertaking any work for the Committee in England. In these circumstances, the Government of India are of opinion that this is a matter which should be dealt with by rules rather than by a provision in the Act.

7. Sections 8 (2) (f), (h), (m) and (q) of the Indian Lac Cess Act will also require modification as no counterpart of the Lac Research Institute will exist and the Forest Departments will not be concerned with the work of the Central Jute Committee.

8. The Government of India would be glad to be favoured with any criticisms which the local Government, after consultation with the commercial and other bodies interested in the matter, may have to offer. I am to request that these may be submitted at a very early date as the Government of India are anxious to proceed with the proposed legislation with the least possible delay.

(Enclosure.)

ACT No. XXIV OF 1930.

[PASSED BY THE INDIAN LEGISLATURE.]

(Received the assent of the Governor-General on 25th July, 1930.)

An Act to provide for the creation of a fund for the improvement and development of the cultivation, manufacture and marketing of Indian lac.

Whereas it is expedient to provide for the creation of a fund to be expended by a Committee specially constituted in this behalf for the improvement and development of the cultivation, manufacture and marketing of Indian lac;

It is hereby enacted as follows:—

1. **Short title, extent and commencement.**—(1) This Act may be called the Indian Lac Cess Act, 1930.

(2) It extends to the whole of British India, except Aden.

(3) It shall come into force on such date as the Governor-General-in-Council may, by notification in the *Gazette of India* appoint.

2. **Definitions.**—In this Act (VIII of 1878)—

(a) "Collector" means a Customs-collector as defined in clause (c) of section 3 of the Sea Customs Act, 1878;

(b) "Committee" means the Indian Lac Cess Committee constituted under section 4;

(c) "lac" includes any form of manufactured or unmanufactured lac other than refuse lac;

(d) "lac cess" means the customs duty imposed by section 3.

3. **Imposition of lac cess.**—There shall be levied and collected on all lac and refuse lac produced in India and exported from any customs-port to any port beyond the limits of British India or to Aden a cess at the rate of four annas per maund in the case of lac, and two annas per maund in the case of refuse lac, or at such lower rate as the Governor-General-in-Council may, on the recommendation of the Committee, by notification in the *Gazette of India*, prescribe.

4. **Constitution of the Indian Lac Cess Committee.**—(1) The Governor General in Council shall constitute a Committee consisting of the following members to receive and expend the proceeds of the cess:—

(i) the Vice-Chairman of the Imperial Council of Agricultural Research, *ex-officio*;

(ii) the Inspector-General of Forests, *ex-officio*;

- (iii) the Forests Entomologist, Dehra Dun, *ex-officio*;
- (iv) the Imperial Entomologist, *ex-officio*;
- (v) the Conservator of Forests, Bihar and Orissa, *ex-officio*;
- (vi) the Inspector-General of Forests, *ex-officio*;
- (vii) the Director of the Lac Research Institute, Nankum, *ex-officio*;
- (viii) three persons representing the shellac manufacturing industry, one to be nominated by the Bengal Chamber of Commerce, one by the Calcutta Shellac Brokers' Association and one by the Shellac Traders' Association, Mirzapur;
- (ix) one representative of the shellac export trade nominated by the Bengal Chamber of Commerce;
- (x) one representative of the brokers of lac and shellac in Calcutta nominated by the Calcutta Shellac Brokers' Association;
- (xi) five persons representing the lac cultivators' interests in Bengal, Bihar and Orissa, the United Provinces, the Central Provinces and Assam, one to be nominated by each of the Local Governments of those provinces.

Provided that, if, within the period prescribed in this behalf, or, in the case of first nominations under this Act, within a reasonable time, any authority or body fails to make any nomination which it is entitled to make under this section, the Governor-General-in-Council may himself nominate a member to fill the vacancy.

(2) The Vice-Chairman of the Imperial Council of the Agricultural Research shall be *ex-officio* President of the Committee.

(3) The Secretary of the Committee shall be a person, not being a member of the Committee appointed by the Governor-General-in-Council.

(4) Where a nominated member dies, resigns, ceases to reside in British India or becomes incapable of acting, the Governor-General in Council may, on the recommendation of the authority or body which would have been entitled to make the nomination if it had been a first nomination under sub-section (1), or where such recommendation is not made within the prescribed period, then on his own initiative, nominate a person to fill the vacancy.

(5) No act done by the Committee shall be questioned on the ground merely of the existence of any vacancy in, or any defect in the constitution of, the Committee.

5. Incorporation of the Committee.—The Committee so constituted shall be a body corporate by the name of the Indian Lac Cess Committee having perpetual succession and a common seal, with power to acquire and hold property both moveable and immoveable and to contract, and shall by the said name sue and be sued.

6. **Application of the lac cess.**—(1) At the close of each month or as soon thereafter as may be convenient, the Collector shall pay the proceeds of the lac cess, after deducting the expenses of collection (if any), to the Committee.

(2) The said proceeds and any other monies received by the Committee shall be applied to meeting the expenses of the Committee and the cost of such measures as it may, subject to the control of the Governor-General-in-Council, decide to undertake for the improvement and development of methods of cultivation, manufacture and marketing of Indian lac.

7. **Dissolution of the Committee.**—The Governor-General-in-Council may by notification in the *Gazette of India* declare that, with effect from such date as may be specified in the notification, the Committee shall be dissolved, and on the making of such declaration all funds and other property vested in the Committee shall vest in His Majesty and this Act shall be deemed to have been repealed.

8. **Power of Governor-General-in-Council to make rules.**—(1) The Governor-General-in-Council may, after consulting the Committee and after previous publication, make rules to carry out the purposes of this Act.

(2) In particular, and without prejudice to the generality of the foregoing power, such rules may—

- (a) prescribe the time within which nominations shall be made under section 4;
- (b) prescribe the term of office of the members of the Committee;
- (c) prescribe the circumstances in which and the authority by which any member may be removed;
- (d) provide for the holding of a minimum number of meetings of the Committee during any year;
- (e) provide for the maintenance by the Committee of a record of all business transacted and submission of copies of such records to the Governor-General-in-Council;
- (f) define the powers of the Committee and of the Director of the Lac Research Institute and of the Secretary to the Committee to enter into contracts which shall be binding on the Committee and the manner in which such contracts shall be executed;
- (g) regulate the travelling allowances of members of the Committee and their remuneration if any;
- (h) define the powers of the Committee and of the Director of the Lac Research Institute and of the Secretary to the Committee in respect of the appointment, promotion and dismissal of officers and servants of the Committee and in respect of the creation and abolition of appointments of such officers or servants;
- (i) regulate the grant of pay and leave to officers and servants of the Committee, and the payment of leave allowances to such

officers and servants, and the remuneration to be paid to any persons appointed to act for any officer or servant to whom leave is granted;

- (j) regulate the payment of pensions, gratuities, compassionate allowances and travelling allowances to officers and servants of the Committee;
- (k) provide for the establishment and maintenance of a provident fund for the officers and servants of the Committee, and for the deduction of subscriptions to such provident fund from the pay and allowances of such officers and servants, other than Government servants whose services have been lent or transferred to the Committee;
- (l) regulate the preparation of budget estimates of the annual receipts and expenditure of the Committee and of supplementary estimates of expenditure not included in the budget estimates, and the manner in which such estimates shall be sanctioned and published;
- (m) define the powers of the Committee, the Standing Executive Sub-Committee (if any), the President of the Committee, the Director of the Lac Research Institute and the Secretary to the Committee, respectively, in regard to the expenditure of the funds of the Committee, whether provision has or has not been made in the budget estimates or by reappropriation for such expenditure, and in regard to the reappropriation of estimated savings in the budget estimates of expenditure;
- (n) regulate the maintenance of accounts of the receipts and expenditure of the Committee and provide for the audit and publication of such accounts;
- (o) prescribe the manner in which payments are to be made by or on behalf of the Committee and the officers by whom orders for making deposits or investments or disposal of the funds of the Committee shall be signed;
- (p) determine the custody in which the current account of the Committee shall be kept, and the bank or banks at which surplus monies at the credit of the Committee may be deposited at interest, and the conditions on which such monies may be otherwise invested;
- (q) prescribe the preparation of a statement showing the sums allotted to the provincial Departments of Forests or of Agriculture or to institutions or authorities not under the direct control of the Committee for expenditure on schemes relating to the cultivation, manufacture or marketing of lac, the actual expenditure incurred, the outstanding liabilities, if any and the disposal of unexpended balances at the end of the year; and
- (r) regulate the assessment, levy and payment of the lac cess.

9. **Power of the Committee to make rules.**—The Committee may, with the previous sanction of the Governor-General-in-Council, make

rules consistent with this Act and with the rules made under section 8 to provide for all or any of the following matters, namely:—

- (a) the appointment of a Standing Executive Sub-Committee and the delegation thereto of any powers exercisable under this Act by the Committee;
- (b) the method of appointment, removal and replacement and the term of office of members of the Standing Executive Sub-Committee, and the filling of vacancies therein;
- (c) the appointment of the dates, times and places for meetings of the Committee and the Standing Executive Sub-Committee, and the regulation of the procedure to be observed at such meetings;
- (d) the determination of the circumstances in which security may be demanded from officers and servants of the Committee, and the amount and nature of such security in each case;
- (e) the determination of the times at which, and the circumstances in which, payments may be made out of the provident fund and the conditions on which payments shall relieve the fund from further liability;
- (f) The contribution to be paid from the funds of the Committee to the provident fund;
- (g) generally, all matters incidental to the provident fund and the investment thereof;
- (h) the defining of the powers and duties of the Secretary of the Committee.

10. **Publication of rules.**—All rules made under section 8 or section 9 shall be published in the *Gazette of India*.

11. **Repeal.**—The Indian Lac Cess Act, 1921 (XIV of 1921), is hereby repealed.

12. **Dissolution of the Indian Lac Association for Research.**—Notwithstanding anything contained in the Societies Registration Act, 1860 (XXI of 1860), the Indian Lac Association for Research is hereby dissolved, and all monies and properties vested in it are hereby transferred to the Committee, subject to the payment of any outstanding claims incurred by the said Association under the Indian Lac Cess Act, 1921 (XIV of 1921).

No. 558 dated Calcutta, the 24th February 1930.

From—The Secretary, Bengal Chamber of Commerce,

To—The Secretary to the Government of Bengal, Commerce Department.

I have the honour to invite a reference to the correspondence resting with my letter No. 375—1930, dated 6th February 1930, on the subject of the proposed establishment of a Central Jute Committee, and to communicate to you the views of the Chamber with regard to the proposal and the various points arising in connection with it.

2. The proposal has its origin in the recommendation of the Royal Commission on Agriculture in India that a Central Jute Committee should be established on the lines of the Indian Central Cotton Committee. They considered that it was necessary to face the danger that an artificial product might be discovered and placed on the market at a price which would enable it to replace jute; and, in view of this opinion, they further considered that every effort should be made to improve quality, outturn and methods of manufacture and to maintain the relative cheapness of jute as compared with other fibres. It was for this reason that they recommended the formation of a Central Jute Committee "which would watch over the interests of all branches of the trade from the field to the factory." And they suggested that it should be financed by an annual grant of Rs. 5 lakhs from Central Revenues.

3. The Government of India have accepted the recommendation, but they point out that the method of financing the Committee which was proposed by the Royal Commission is open to certain objections, and that it would be preferable that the Committee, if formed, should be financed from its own statutory funds on the analogy of the Indian Central Cotton Committee. They suggest that an adequate fund could be provided by a cess of one anna a bale on all raw jute produced in India and either exported from any Customs port to any port outside British India or consumed in any mill in British India—a basis which would, on present production figures, produce about Rs. 6 lakhs per annum. Government go on to say that if the various interests concerned agreed to the imposition of a cess bringing in an income of not less than Rs. 5 lakhs per annum, they are prepared to reduce the export duties on raw and manufactured jute to the extent of Rs. 5 lakhs annually, subject to the passing of the necessary legislation by the Central Legislature establishing a Central Jute Committee with its own statutory fund. The Government of India, Department of Education, Health and Lands, letter No. 1069-Agri., dated the 27th June 1929, to the Government of Bengal, Agriculture and Industries Department, deals with certain other points arising in connection with the proposal, such as the Chairmanship and personnel of the proposed Committee, the modifications in the Indian Cotton Cess Act which may be considered desirable to adapt it to the case of jute, and the feasibility of the Committee dealing also with other vegetable fibres, such as hemp.

4. The proposal, and the various points arising in connection with it, have been carefully considered by the Chamber in consultation with jute interests, and in communicating their views I am directed to express regret that the submission of these has been delayed; but, as was explained in my letter to you No. 3906 of 22nd November last, some difficulty was experienced, in the early stages, in formulating an expression of views in the absence of more precise information as to how the proposed Committee would work and as to what its functions would be. Representatives of the Chamber and of the jute interests were however greatly assisted in their examination of the question by an informal discussion which they had on the subject some little time ago with Mr. B. C. Burt, Agricultural Expert of the Imperial Council of Agricultural Research, and the matter has since been further considered in the light of the information that was then obtained.

5. It may be said at once that there has been a certain amount of doubt, on the part of those interested, as to the necessity of a Central Jute Committee on the lines suggested, the feeling being that the functions which it is designed to perform are either already being performed

by the different organisations connected with the trade, or can be performed by these. The Chamber would not wish it to be thought, however, that they are in any doubt as to the desirability of promoting further crop research and improving statistical methods, particularly in connection with the jute forecast: but they are very definitely of the opinion that there must be no question of the Central Jute Committee undertaking functions which properly relate to ordinary commercial and trading practice. Perhaps the wording of the Royal Commission's recommendation has led to some misunderstanding in this respect, but it would be idle to ignore the fact that trade interests are a little alarmed at the possibility of a Central Jute Committee interposing itself to watch over the interests "of all branches of the trade from the field to the factory"; and the jute interests for which the Chamber speaks wish to make it clear that in accepting the proposal they do so on the understanding (a) that there will be no question of interference by the Committee, with functions which properly belong to the trade itself and (b) that no additional burden will be imposed on the trade in respect of the provision of the necessary finance.

6. The Chamber has given careful thought to the proposed method of financing the Committee, namely, by the imposition of a cess of one anna per bale on all raw jute produced in India, either exported from any Customs port or consumed in any mill within British India. The intention is that the cess should be on such a basis as will provide approximately Rs. 5 lakhs per annum, corresponding reductions being made in the existing export duties on raw and manufactured jute. The Chamber accepts the general principle of a cess, as proposed, but they desire to recommend a modification of some importance. The existing export duty is levied on exports of raw jute and of manufactured jute, and it is collected simply and inexpensively by the Customs. The Chamber is strongly of opinion that the cess should be the same in character, that is to say, that it should be collected in respect of both raw and manufactured jute at the time of export, the export duty in each case being reduced by an approximately corresponding figure. It is true that such an arrangement would leave untouched the small percentage of the mills' production which is consumed in India, but this is negligible in relation to the total figures, and in respect of a calculation such as that which is now under consideration. It is recognised that the cotton cess is collected on raw cotton exported, or consumed in the Indian mills, but the percentage of the production in the Indian mills which is consumed in India is, in the case of the jute industry, so much smaller than it is in the case of the cotton industry, that there is no real parallel between the two. Apart from this consideration, the collection of a cess on the mill consumption would necessitate the employment of a large and costly staff, and the conduct of elaborate investigations, all of which can be avoided if the collection is made through the Customs: and, further, the imposition of the cess in respect of jute consumed by mills "in British India" would exclude a mill situated in the French territory of Chandernagore.

7. There will be no difficulty in making the necessary adjustments with reference to the export duty. On the average of the five years from 1924-25 to 1928-29 the duty aggregated Rs. 404 lakhs annually, so that all that is required is to make an overhead reduction in the export duty of an amount approximating to between 1 and 1.5 per cent., and to impose a cess corresponding to the amount of the reduction. For the

five years to the end of June 1929 the exports averaged, per annum, as follows:—

Raw jute, other than cuttings	...	3,800,000 bales.
Raw jute, cuttings	...	250,000 bales.
Manufactured jute, sacking	...	445,000 tons.
Manufactured jute, hessian, etc.	...	405,000 tons.

The export duty on raw jute other than cuttings is at the rate of Rs. 4-8 per bale and on cuttings at the rate of Rs. 1-4 per bale and in the case of each of these the Chamber would suggest that the cess should be maintained at the rate proposed by the Government of India, that is to say, one anna per bale. The duty in the case of manufactured jute is at the rate of Rs. 20 per ton in the case of sacking and at the rate of Rs. 32 per ton in the case of hessian goods: the Chamber would suggest that the cess might be at the rate of four annas per ton in the case of sacking and at the rate of five annas per ton in the case of hessians, the export duty being reduced to Rs. 19-12 in the case of sacking and to Rs. 31-11 in the case of hessians. The position would then, on the basis of the above figures, be as follows:—

Raw jute other than cuttings.

Number of bales.	Export duty at Rs. 4-7.	Cess at one anna.	Total Rs. 4-8.
3,800,000	Rs. 1,68,62,500	Rs. 2,37,500	Rs. 1,71,00,000

Raw jute, cuttings.

Number of bales.	Export duty at Rs. 1-3.	Cess at one anna.	Total Rs. 1-4.
250,000	Rs. 2,96,875	Rs. 15,625	Rs. 3,12,500

Manufactured jute, sacking.

Number of tons.	Export duty at Rs. 19-12.	Cess at four annas.	Total Rs. 20.
445,000	Rs. 87,89,000	Rs. 1,11,000	Rs. 89,00,000

Manufactured jute, hessian.

Number of tons.	Export duty at Rs. 31-11.	Cess at five annas.	Total Rs. 32.
405,000	Rs. 1,28,33,500	Rs. 1,26,500	Rs. 1,29,60,000

This adjustment would, therefore, produce about Rs. 4,90,625, or say the Rs. 5 lakhs suggested as the amount to be raised by the cess. The reduction of the export duty would, of course, be made so as to be effective as from the date of the introduction of the cess.

8. The next question for consideration is the personnel of the Central Jute Committee, and the Chamber suggests that the number of

members should not exceed, say, eighteen. Their view is that the following personnel would be suitable:—

- (a) The Vice-Chairman of the Council of Agricultural Research,
Chairman.
- (b) Three provincial Directors of Agriculture, *i.e.*, of Bengal, Bihar and Orissa, and Assam.
- (c) Three representatives of the interests of growers: the Chamber has had some difficulty in regard to the method of choosing these and considers that they might be the three provincial Registrars of Co-operative Societies: the Registrars are closely in touch with, and are qualified to represent, the growers.
- (d) Two representatives of the Indian Jute Mills Association.
- (e) Two representatives of the Calcutta Baled Jute Association.
- (f) One representative of the Calcutta Baled Jute Shippers Association.
- (g) Two representatives of the Calcutta Jute Dealers Association.
- (h) Two representatives of the Bengal National Chamber of Commerce.
- (i) Two representatives of the Indian Chamber of Commerce, Calcutta.

9. The Chamber is invited to make suggestions regarding modifications in the Indian Coton Cess Act, to adapt it to the case of jute. They have not examined the Act in very great detail because, if their suggestion regarding the method of raising the cess is accepted, much of the Act will not be applicable. But they desire to offer two criticisms of the Act as a model for the proposed legislation for the Central Jute Committee. The first of these relates to section 10, which gives power to the Collector of the District, or other officer empowered by the Local Government, to inspect a mill, to examine its working records, sale records and accounts, and to take copies of or extracts from, such records and accounts for the purpose of testing the accuracy of the mills' return. The provision might be necessary enough if there were to be a cess on mill consumption but it would require the organisation of an elaborate and expensive staff and it would introduce enquiries of an inquisitorial nature which should most certainly be avoided; and, as has been shown, it can very well be avoided by the adoption of the suggestion which the Chamber has put forward for the modification of the Government of India's proposals. The second criticism which it is desired to offer is that the contemplated legislation should provide powers to the Committee so as to allow the funds raised from the cess to be expended, if so decided, on such matters as the improvement of the jute forecasts, the production and distribution of improved jute seed, and the collection of jute crop statistics.

10. Reference is made by the Government of India to a suggestion that the Central Jute Committee should deal with other vegetable fibres, more specially with hemp, and opinion is invited as to the feasibility of this proposal. I am directed to explain that the Chamber has no very strong views on the point, but it would be understood that none of the funds derived from the jute cess would be expended on any fibre other

than jute: that is to say, if the Central Jute Committee were to deal with hemp the funds devoted to that fibre would have to be raised separately and none of the jute cess would be diverted for any purpose other than in connection with jute. This view is of course supported by the recommendation of the Royal Commission on Agriculture that any trade which feels that its interests demand such a step should organise itself on the lines of the Indian Central Cotton Committee, provided it is willing to tax itself for the purpose.

11. I am, finally, instructed to suggest that it would be advantageous if, after the Government of India have framed their preliminary conclusion in the matter, jute interests were given an opportunity of considering these before the contemplated Bill is introduced. For, as has been stated above, some difficulty was experienced in the earlier stages of the discussion in formulating an expression of views on account of the vagueness that was felt to exist as to the functions of the Central Jute Committee. The doubt that for this reason prevailed still exists to some extent, and the Committee feel that they cannot commit the Chamber too far in the absence of a clearer understanding on such an important question. They desire to repeat, and to emphasise, that acceptance of the proposal is on the definite stipulation that there will be no question of interference, by the Central Jute Committee, with functions which properly belong to the trade itself.

No. 363-D., dated Calcutta, 19th March 1931.

From—The Secretary, Indian Jute Mills Association,
To—The Secretary, Bengal Chamber of Commerce.

Proposed Central Jute Committee.

I am directed by the Committee to acknowledge the receipt of your letter No. 720, dated 28th February 1931, with which you forwarded, for an expression of the views of this Association on the proposals outlined therein, copy of a letter dated 18th February 1931, from the Government of Bengal, Commerce Department, enclosing copy of a letter dated 17th January from the Government of India, Department of Education, Health and Lands, on the subject of the formation of a Central Jute Committee.

2. The Committee have examined the Government of India's letter, and the copy of the Indian Lac Cess Act, 1930 which accompanied it, and they note that it has been decided to utilise that measure as a model for the legislation to be undertaken for the creation of a Central Jute Committee, subject to the modifications mentioned in the letter. There are one or two points in that letter to which the Committee desire to offer certain criticisms and comments.

3. In paragraph 2 of their letter, the Government of India outline the functions of the proposed Central Jute Committee, and, in doing so, they express the understanding that it was not the intention of the Royal Commission on Agriculture in India that the Central Jute Committee should be given any powers of interference with the organisation of the Jute Trade. This understanding is, to the members of this Association, the crux of the whole question; but one is apt to view with suspicion the passages which follow that statement of policy inasmuch

as "economic research" is to be held to include "research into marketing, the study of market organisation and the dissemination of marketing information." With so many and varied interests represented on the proposed Committee, the policy ultimately adopted may possibly be safeguarded, but we know the tendency of the speculative element and the sinister influence which an officially recognised "futures" market is likely to have. In the closing sentence of paragraph 5 of their letter dated 24th February 1930 to the Government of Bengal, Commerce Department, the attitude of the Chamber towards any action tending to usurp the functions which properly belong to the trade itself, was clearly defined in these words:—

"The jute interests for which the Chamber speaks wish to make it clear that in accepting the proposal they do so on the understanding (a) that there will be no question of interference, by the Committee, with functions which properly belong to the trade and (b) that no additional burden will be imposed on the trade in respect of the provision of the necessary finance."

and the mills in the membership of this Association desire to associate themselves wholeheartedly with these sentiments.

4. The method of financing the Committee, as proposed in paragraph 4 of the Government of India's letter should, in the opinion of this Association, be altered to conform to the suggestions put forward in paragraph 7 of the Chamber's letter dated 24th February 1930 to the Government of Bengal. It is also apparent to the Committee that the clauses of the Indian Lac Cess Act, 1930 will need very careful scrutiny if the intention is to model the jute cess measure on similar lines, as the Lac Cess Act provides for the employment of Executive Officers, permanent establishment and research work, far in excess of what will be wanted normally for jute. Moreover, it should be carefully noted that an ambitious scheme will cost more than the fund can afford if the imagination of "Executive Officers" is allowed full play.

5. It seems to the Committee of this Association that the first essential is a definitely clear interpretation of the lines on which the Central Jute Committee are to work, and that until these lines are clearly laid down and definitely understood by all concerned, the Government of India's proposals should not be given the unqualified support of the Chamber. Once it is made abundantly clear that the functions of the Central Jute Committee are to be strictly confined to research work and kindred matters, the members of this Association will be prepared to give constructive proposals towards that end their fullest consideration.

APPENDIX X I.

Variation of Purchasing Power.

A note by Mr. D. P. Khaitan.

(Vide page 69 of the Report).

Explanatory remarks.

The enclosed tables attempt to indicate the relative variations of the purchasing power of the agriculturists and their dependants in Bengal from 1920-21 up to 1932-33. The calculations are based on the following reasoning:—

First of all the estimated quantity consumed by the agriculturists and their dependants has been deducted from the total of food grains grown. *Secondly*, the value at harvest price has been calculated of all money crops and the value of surplus food grains has been added to the total value of money crops respectively deducted in years of deficit. *Thirdly*, the monetary liabilities of the agriculturists have been estimated (land rent, cess and interest payable to the money lender). *Finally*, the sum total of liabilities has been deducted from the sum total of the money value of the crops. 3 per cent. and 2 per cent. has been deducted for seeds for food grains and other crops respectively.

In the following lines detailed remarks are given item by item and also the sources of information indicated:—“Total food grains grown” comprise rice, wheat, barley, maize, gram, jiwari, bajra, and “other food grains and pulses.” Source: “Area and yield of principal crops in India.” Yield of “other food grains and pulses” is estimated at 1/3 ton per acre. “Deduction for seeds”—3 per cent. for food grains and 2 per cent. for the money crops.

The quantity of food grains consumed by the agricultural population has been based on an estimate made for the years 1927-28—1929-30 according to which the average consumption of food grains in India was lbs. 1·18 per head per day. The agricultural population (workers plus dependants) has been taken as 77·3 per cent. of the total population according to the figure contained in the Bengal Census for 1921. (The Census of 1931 does not indicate the corresponding percentage). The population has been estimated to grow in the same proportion from year to year.

Yield and harvest price of linseed, rape, mustard, sesamum, Jute, cotton and tobacco has been taken from the “Area and yield of principal crops in India” and the “Agricultural Statistics of India, Volume 1.”

The remaining crops have been estimated on the basis of the “Area” as indicated in the “Agricultural Statistics of India, Volume 1.” The details are as follows:—

Other oil seeds—yield 1/7 ton per acre, price is taken on the basis of the other oil seeds.

Other Fibres—Yield 1/2 ton per acre, price is taken to be same as Jute.

Tobacco—In the years in which the yield has not been published in the “Area and yield, etc.” the average crops for the years 1925-26 to 1930-31, *i.e.*, 111,000 tons has been taken.

Fruits and vegetables—It has been assumed that the agricultural class consumes about 2/3 of the crops and that accordingly 1/3 remains for sale. The valuation has been made according to Shah and Khambatta’s Wealth and Taxable Capacity of India, Page 128 (Rs. 250 to 150 per acre decreasing the value by Rs. 10 per year from 1920/21 to 1930-31, and taking Rs. 150 also for the years 1931-32 and 1932-33).

Condiments and spices—A rough estimate based on Shah and Khambatta (Page 130) and decreasing the value from Rs. 3 crores to Rs. 2 crores proportionately from the years 1920-21 to 1930-31, 1931-32 and 1932-33 same as 1930-31.

Miscellaneous food crops and non-food crops—Yield 1/3 ton per acre, price same as rice. The yield and prices for the last years has been taken from the “Season and crops report of Bengal” for 1930-31 and 1931-32 whereas for 1932-33 from the crops forecasts published in the Indian Trade Journal. The prices for the last year have been estimated according to the index numbers published in the Indian Trade Journal as compared to the last published harvest prices.

The enclosed tables have been made out more or less according to one and the same method for all the 13 years and accordingly the variations of the “Free purchasing power of the agriculturist” may be regarded, as relatively correct.

“The monetary liabilities” consist of (1) land rent and cess taken from the Reports of the Revenue Department, Bengal, and (2) the interest payable to the *Mahajans*. Assuming that the figure stated by the Report of the Bengal Banking Enquiry Committee for agricultural indebtedness is correct (*i.e.* 100 crores of rupees), the further assumption has been made that about 12½ per cent. of interest is on the average realised.

The last item indicates the deficit in sugar production (with the exception of 1932-33 when a surplus was achieved), based on an average consumption of lbs. 26 per head per year. This estimate has been arrived at calculating the average all-India consumption for the years 1927-28, 1928-29 and 1929-30.

		1920-21.		Tons.
Total food grains grown	8,706,000
Less 3 per cent. for seeds	261,000
				<hr/>
				8,445,000
Less 1·18 lbs. per head per day for an agricultural population of 36,100,000 (i.e. 77·3 per cent. of 46,702,000)	6,931,000
				<hr/>
Surplus food grains				1,514,000

Harvest value of marketable crops.

				Per m. l.	Crores
				Rs. A.	of
					Rupees.
1. Linseed	..	..	16,000 Tons at	8 0	0·35
2. Rape and Mustards	..	..	153,000 Tons at	8 8	3·58
3. Sesamum	..	..	34,000 Tons at	10 9	0·99
4. Other Oil seeds	..	..	4,000 Tons at	8 0	0·09
5. Jute	..	..	5,247,000 bales at	6 0	15·74
6. Cotton	..	..	21,000 bales at	26 4	0·28
7. Other fibres	..	..	39,000 Tons at	6 0	0·64
8. Tobacco (average)	..	..	111,000 Tons at	12 8	3·81
9. Fruits and vegetables	..	..	.. Estimated at	..	5·50
10. Condiments and Spices	..	..	.. Estimated at	..	3·00
11. Miscellaneous food crops	..	}	.. Estimated at	..	2·60
12. Miscellaneous non-food crops	..				
					<hr/>
					36·58
Less 2 per cent. for seeds				..	..
					<hr/>
					35·86
Plus surplus food grains 1,514,000 tons at Rs. 6·8 per maund				..	..
					<hr/>
					62·96
Less liabilities				..	..
					<hr/>
					26·81
					<hr/>
Free purchasing power				..	36·15
					<hr/>
		Tons.			
Gur purchased	..	..	355,000	Land Rent	13·58
Required by agriculturists	..	..	420,000	Cess	·73
				Interest	12·50
					<hr/>
Deficit				..	65,000
					<hr/>
					26·81

1921-22.

Total food grains grown	9,701,000
Less 3 per cent. for seeds	291,000
	<hr/>
	9,410,000
Less 1·18 lbs. per head per day for an agricultural population of 36,364,000 (i.e., 77·3 per cent. of 47,043,000)	6,981,000
	<hr/>
	1,429,000
	<hr/>

Harvest value of marketable crops.

		Per m.d.	Crores
		Rs. A.	of
			Rupees.
1. Linseed	16,000 Tons at	8 4	0·36
2. Rape and mustard	148,000 Tons at	8 12	3·55
3. Sesamum	34,000 Tons at	9 2	0·83
4. Other oilseeds	4,000 Tons at	8 4	0·09
5. Jute	3,595,000 Bales at	6 0	10·79
6. Cotton	15,000 Bales at	30 0	0·23
7. Other fibres	40,000 Tons at	6 0	0·66
8. Tobacco (average)	111,000 Tons at	16 11	5·11
9. Fruits and vegetables .. .. .	.. .. . Estimated at ..		5·37
10. Condiments and spices .. .. .	.. .. . Estimated at ..		2·90
11. Miscellaneous food crops .. .. .	.. } .. Estimated at ..		2·21
12. Miscellaneous non-food crops }		
			<hr/>
			32·10
	Less 2 per cent. for seeds		·64
			<hr/>
			31·46
	Plus surplus food grains 1,429,000 tons at Rs. 6 per maund		23·58
			<hr/>
			55·04
Less liabilities			27·30
			<hr/>
	Free purchasing power		27·74
			<hr/>
		Tons.	
Gur produced	339,000	Land Rent	14·05
Required by agriculturists	422,000	Cess ..	·75
		Interest	12·50
Deficit	83,000		<hr/>
			27·30
			<hr/>

1922-23.

					Tons.
Total food grains grown	..	..	..	..	9,472,000
Less 3 per cent. for seeds	..	..	..	..	284,000
					<hr/> 9,188,000
Deduct 1.18 lbs. per head for an agricultural population of 36,627,000					7,032,000
(77.3 per cent. of 47,384,000)	..	..	..	..	<hr/>2,156,000

Harvest value of marketable crops.

					Per md.	Crores
					Rs. a.	of
						Rupees.
1. Linseed	..	..	20,000	Tons at	8 5	0.46
2. Rape, mustard	..	..	129,000	Tons at	8 0	2.84
3. Sesamum	..	..	24,000	Tons at	10 15	0.72
4. Other oilseeds	..	..	3,000	Tons at	8 0	0.06
5. Jute	..	..	4,746,000	Bales at	10 0	23.73
6. Cotton	..	..	17,000	Bales at	33 6	0.28
7. Other fibres	..	..	38,000	Tons at	10 0	1.05
8. Tobacco (average)	..	..	111,000	Tons at	13 8	4.12
9. Fruits and vegetables	..	..	..	Estimated at	..	5.06
10. Condiments and spices	..	..	..	Estimated at	..	2.80
11. Miscellaneous food crops	..	..	..	} .. Estimated at	..	2.11
12. Miscellaneous non-food crops	..	..	..
						<hr/> 43.23
Less 2 per cent. for seeds	..	..	..	..	..	.86
						<hr/> 42.37
Plus surplus food grains 2,156,000 tons at Rs. 5.8 per maund	..	..	..	..	..	32.56
						<hr/> 74.93
Less liabilities	..	..	..	..	..	27.41
						<hr/> 47.52
Free purchasing power					..	<hr/> 47.52
						<hr/>
					Tons.	
Gur purchased	..	..	312,000	Land Rent		14.14
Required by agriculturists	..	..	425,000	Cess		.77
						<hr/> 12.50
Deficit	..	..	113,000	Interest		27.41
						<hr/> 27.41

1923-24.

				Tons.
Total food grains grown	..	..	..	7,899,000
Deduct 3 per cent. for seeds	..	..	..	237,000
				<hr/> 7,662,000
Deduct 1·18 lbs. per head per day for an agricultural population of 36,891,000 (77·3 per cent. of 47,725,000)	..	..	..	7,084,000
				<hr/> Surplus food grains 578,000

Harvest value of marketable crops.

				Per md.	Crores of Rupees.
				Rs. A.	
1. Linseed	..	..	17,000 Tons at	8 0	0·37
2. Rape and mustard	..	..	118,000 Tons at	8 4	2·68
3. Sesamum	..	..	25,000 Tons at	11 4	0·77
4. Other oilseeds	..	..	4,000 Tons at	8 0	0·09
5. Jute	..	..	7,463,000 Bales at	9 0	33·58
6. Cotton	..	..	21,000 Bales at	32 8	0·34
7. Other fibres	..	..	38,000 Tons at	9 0	0·94
8. Tobacco (average)	..	..	111,000 Tons at	15 13	4·81
9. Fruits and vegetables	..	..	.. Estimated at	..	4·70
10. Condiments and spices	..	..	.... Estimated at	..	2·70
11. Miscellaneous food crops	..	..	.. } Estimated at	..	1·82
12. Miscellaneous non-food crops	..	..	.. }	..	..
					<hr/> 52·80
Less 2 per cent. for seeds				..	1·05
					<hr/> 51·75
Plus surplus food grains 578,000 tons at Rs. 5·4 per maund				..	8·32
					<hr/> 60·07
Less liabilities	..	..	..	..	27·97
					<hr/> Free purchasing power .. 32·10
				Tons.	
Gur produced	..	..	317,000	Land Rent	14·68
Required by Agriculturists	..	..	428,000	Cess	0·79
				Interest	12·50
Deficit	..	..	111,000		<hr/> 27·97

1924-25.

		Tons.
Total food grains grown	.. .. .	8,091,000
	Less 3 per cent. for seeds	243,000
		7,848,000
Less 1·18 lbs. per head per day for an agricultural population of 37,152,000 (i.e., 77·3 per cent. of 48,066,000)	.. .. .	7,132,000
		716,000

Harvest value of marketable crops.

					Per md. Rs. A.	Crores of Rupees.
1. Linseed	.. .. .	19,000	Tons at	8 0	0·42
2. Rape and mustard	.. .. .	122,000	Tons at	8 11	2·92
3. Sesamum	.. .. .	24,000	Tons at	9 7	0·62
4. Other oilseeds	.. .. .	4,000	Tons at	8 0	0·08
5. Jute	.. .. .	7,667,000	Bales at	12 0	42·99
6. Cotton	.. .. .	24,000	Bales at	40 0	0·48
7. Other Fibres	.. .. .	37,000	Tons at	12 0	1·22
8. Tobacco (average)	.. .. .	112,000	Tons at	15 0	4·58
9. Fruits and vegetables	.. .. .	..	Estimated at	..	4·47
10. Condiments and spices	.. .. .	..	Estimated at	..	2·60
11. Miscellaneous food crops	.. .. .	..	..	..	2·31
12. Miscellaneous non-food crops	.. .. .	..	..	..	2·31
					62·69	
	Less 2 per cent. for seeds	..	..	..	1·25
					61·44	
Plus surplus food grains 716,000 tons at Rs. 6·7 per maund	.. .. .	..	..	..	12·67
					74·11	
	Less liabilities	..	..	..	28·05
					46·06	
					Tons.	
Gur produced	.. .. .	310,000	Land Rent	14·75	
Required by Agriculturists	.. .. .	432,000	Cess	0·80	
					Interest	
Deficit	.. .. .	122,000	..	12·50	
					28·05	

1925-26.

Total food grains grown .. .. .	..	..	..	..	Tons.	8,654,000
				Less 3 per cent. for seeds	..	259,000
						<hr/> 8,395,000
Less 1·18 lbs. per head per day for an agricultural population of 37,413,000 (i.e., 77·3 per cent. of 48,400,000)	..	..	..	..	..	7,183,000
				Surplus food grains	..	<hr/> 1,212,000

Harvest value of marketable crops.

				Per md.	Crores
				Rs. A.	of
					Rupees.
1. Linseed .. .. .	..	..	18,000 Tons at	8 0	0·40
2. Rape and mustard .. .. .	..	..	84,000 Tons at	9 8	2·19
3. Sesamum .. .. .	..	..	25,000 Tons at	10 0	0·69
4. Other oilseeds .. .. .	..	..	5,000 Tons at	8 0	0·11
5. Jute .. .. .	..	..	7,951,000 Bales at	18 13	74·73
6. Cotton .. .. .	..	..	26,000 Bales at	42 8	0·55
7. Other Fibres .. .. .	..	..	37,000 Tons at	18 13	1·91
8. Tobacco .. .. .	..	..	89,000 Tons at	16 0	3·91
9. Fruits and vegetables .. .. .	..	..	.. Estimated at	..	4·68
10. Condiments and spices .. .. .	..	..	.. Estimated at	..	2·50
11. Miscellaneous food crops .. .. .	..	..	.. } Estimated at	..	2·36
12. Miscellaneous non-food crops .. .. .	..	..	.. }
					<hr/> 94·03
			Less 2 per cent. for seeds	..	1·88
					<hr/> 92·15
Plus surplus food grains 1,212,000 tons at Rs. 7 per maund	..	..	..	..	23·27
					<hr/> 115·42
			Less Liabilities	..	28·13
					<hr/> 87·29
					<hr/>
			Tons.		
Gur produce .. .. .	..	..	345,000	Land Rent	14·80
Required by Agriculturists .. .. .	..	..	435,000	Cess	·83
				Interest	12·50
Deficit .. .. .	..	..	90,000		<hr/> 28·13

1926-27.

		Tons.
Total food grains grown	.. .. .	7,754,000
	<i>Less 3 per cent. for seeds</i>	.. 223,000
		<hr/> 7,531,000
<i>Less 1.18 lbs. per head, per day, for an agricultural population of 37,682,000</i>	.. .. .	7,234,000
		<hr/> 7,234,000
	Surplus food grains	.. 297,000
		<hr/> 297,000

Harvest value of marketable crops.

		Per md.	Crores
		Rs. A.	of
		Rupees.	
1. Linseed	.. .. . 20,000 Tons at	7 13	0.43
2. Rape and mustard	.. .. . 132,000 Tons at	9 0	3.26
3. Sesamum	.. .. . 27,000 Tons at	10 9	0.78
4. Other oilseeds	.. .. . 4,000 Tons at	7 13	0.08
5. Jute	.. .. . 10,652,000 Bales at	8 4	43.67
6. Cotton	.. .. . 25,000 Bales at	40 0	0.50
7. Other fibres	.. .. . 36,000 Tons at	8 4	0.81
8. Tobacco	.. .. . 91,000 Tons at	14 8	3.63
9. Fruits and vegetables	.. .. . .. Estimated at	..	4.42
10. Condiments and spices	.. .. . .. Estimated at	..	2.40
11. Miscellaneous food crops	.. .. . } .. Estimated at	..	2.35
12. Miscellaneous non-food crops	.. .. . }	..	2.35
			<hr/> 62.33
	<i>Less 2 per cent. for seeds</i>	..	1.25
			<hr/> 61.08
Plus surplus food grains 297,000 tons at Rs. 7.3 per maund	.. .. .	..	5.68
			<hr/> 66.76
	<i>Less liabilities</i>	..	28.02
			<hr/> 38.74
	Free purchasing power	..	38.74
			<hr/> 38.74
	Tons.		
Gur produced	.. .. . 315,000	Land Rent	14.70
Required by Agriculturists	.. .. . 437,000	Cess	.82
		Interest	12.50
			<hr/> 28.02
Deficit	.. .. . 122,000		<hr/> 28.02

1927-28.

	Tons.
Total food grains grown	6,845,000
Less 3 per cent. for seeds ..	205,000
	6,640,000
Less 1.18 lbs. per head, per day, for an agricultural population of 37,945,000 (i.e., 77.3 per cent. of 49,089,000)	7,285,000
Deficit	645,000

Harvest value of marketable crops.

		Per md.	Crores of Rupees.
		Rs. A.	
1. Linseed	13,000 Tons at	7 8	0.26
2. Rape and mustard	116,000 Tons at	9 0	2.87
3. Sesamum	25,000 Tons at	8 13	0.60
4. Other oilseeds	4,000 Tons at	7 8	0.08
5. Jute	9,004,000 Bales at	8 4	36.92
6. Cotton	20,000 Bales at	39 12	0.40
7. Other fibres	35,000 Tons at	8 4	0.79
8. Tobacco	120,000 Tons at	17 4	5.69
9. Fruits and vegetables .. .. .	.. .. . Estimated at ..		4.08
10. Condiments and spices .. .. .	.. .. . Estimated at ..		2.30
11. Miscellaneous food crops } ..		
12. Miscellaneous non-food crops .. .. .	.. .. . } ..		2.47
			56.46
	Less 2 per cent. for seeds ..		1.13
			55.33
Less deficit in food grains 645,000 tons at Rs. 7.8 per maund			13.29
			42.04
	Less liabilities		28.54
			13.50
	Tons.		
Gur produced	336,000	Land Rent	15.19
Required by Agriculturists	440,000	Cess	.85
		Interest	12.50
Deficit	104,000		28.54

1928-29.

	Tons.
Total food grains grown	10,108,000
Less 3 per cent. for seeds ..	303,000
	9,805,000
Less 1.18 lbs. per head, per day, for an agricultural population of 38,209,000 (i.e., 77.3 per cent. of 49,430,000)	7,336,000
	2,469,000

Harvest value of marketable crops.

		Per md. Rs. A.	Crores of Rupees.
1. Linseed	19,000 Tons at	8 0	0.42
2. Rape and mustard	123,000 Tons at	8 12	2.94
3. Sesamum	23,000 Tons at	8 0	0.51
4. Other oilseeds	5,000 Tons at	8 0	0.11
5. Jute	8,519,000 Bales at	9 0	38.33
6. Cotton	18,000 Bales at	33 0	0.29
7. Other fibres	34,000 Tons at	9 0	0.84
8. Tobacco	122,000 Tons at	20 0	6.71
9. Fruits and vegetables .. .. .	.. .. . Estimated at ..		3.99
10. Condiments and spices .. .. .	.. .. . Estimated at ..		2.20
11. Miscellaneous food crops .. .. .	.. .. .	
12. Miscellaneous non-food crops .. .. .	.. .. . Estimated at ..		2.21
			58.55
	Less 2 per cent. for seeds ..		1.17
			57.38
Plus surplus food grains 2,469,000 Tons at Rs. 6-10 per maund			44.69
			102.07
Less liabilities			28.30
			73.77
	Free purchasing power Tons		
Gur produced	316,000	Land Rent	14.96
Required by Agriculturists	443,000	Cess	.84
		Interest	12.50
Deficit	127,000		28.30

1929-30,

	Tons.
Total food grains grown	8,638,000
Less 3 per cent. for seeds ..	259,000
	8,379,000
Less 1·18 lbs. per head, per day, for an agricultural population of 38,472,000 (i.e., 77·3 per cent. of 49,771,000)	7,386,000
	993,000

Harvest value of marketable crops.

		Per md. Rs. A.	Crores of Rupees.
1. Linseed	19,000 Tons at	7 0	0·36
2. Rape and mustard	134,000 Tons at	8 5	3·05
3. Sesamum	26,000 Tons at	7 0	0·50
4. Other oilseeds	5,000 Tons at	7 0	0·09
5. Jute	9,190,000 Bales at	8 0	36·76
6. Cotton	21,000 Bales at	32 0	0·34
7. Other fibres	31,000 Tons at	8 0	0·68
8. Tobacco	124,000 Tons at	16 8	5·62
9. Fruits and vegetables .. .. .	.. .. . Estimated at ..		3·72
10. Condiments and spices .. .. .	.. .. . Estimated at ..		2·10
11. Miscellaneous food crops .. .. .	.. .. .	
12. Miscellaneous non food crops .. .. .	.. .. .	
			55·49
	Less 2 per cent. for seeds ..		1·12
			54·37
Plus surplus food grains 993,000 tons at Rs. 6 per maund			16·38
			70·75
Less liabilities			28·50
			42·25
			15·15
Gur produced	Tons. 320,000	Land Rent	
Required by Agriculturists	446,000	Cess	·85
	126,000	Interest	12·50
			28·50

1930-31.

				Tons.
Total food grains grown	..	..	..	9,680,000
			Less 3 per cent. for seeds	290,000
				<hr/> 9,390,000
Less 1-18 lbs. per head per day for an agricultural population of 38,736,000 (i.e., 77.3 per cent. of 50,112,000)	..	..	..	7,437,000
				<hr/> Surplus food grains 1,953,000

Harvest value of marketable crops.

				Per md. Rs. A.	Crores of Rupees
1. Linseed	..	..	19,000 Tons at	5 4	0.27
2. Rape, and mustard	..	..	139,000 Tons at	5 4	2.01
3. Sesamum	..	..	26,000 Tons at	6 0	0.43
4. Other oilseeds	..	..	7,000 Tons at	5 4	0.10
5. Jute	..	..	9,886,000 Bales at	3 9	17.60
6. Cotton	..	..	19,000 Bales at	22 8	0.21
7. Other fibres	..	..	33,000 Tons at	3 9	0.31
8. Tobacco	..	..	120,000 Tons at	10 0	3.30
9. Fruits and vegetables	..	..	.. Estimated at	..	3.73
10. Condiments and spices	..	..	.. Estimated at	..	2.00
11. Miscellaneous food crops	..	..	.. } Estimated at	..	1.23
12. Miscellaneous non-food crops	..	..	.. }	..	..
					<hr/> 31.19
				Less 2 per cent. for seeds	0.62
					<hr/> 30.57
Plus surplus food grains 1,953,000 Tons at Rs. 4 per maund	..	..	..		21.48
					<hr/> 52.05
Less liabilities	..	..	..		29.38
				Free purchasing power	<hr/> 22.67
				Tons.	
Gur produced	..	..	348,000	Land Rent	15.99
Required by Agriculturists	..	..	450,000	Cess	0.89
				Interest	12.50
Deficit	..	..	102,000		<hr/> 29.38

1931-32.

		Tons.
Total food grains grown		9,915,000
	Less 3 per cent. for seeds	297,000
		9,618,000
Less 1.18 lbs. per head per day for an agricultural population of 39,001,000 (i.e., 77.3 per cent. of 50,453,000)		7,488,000
	Surplus food grains	2,130,000

Harvest value of marketable crops.

		Per md.	Crores of
		Rs. A.	Rupees.
1. Linseed	(*)		0.24
2. Rape, and mustard	(*)		1.76
3. Sesamum	(*)		0.49
4. Other oilseeds	6,000 Tons at	3 7	0.06
5. Jute	(*)		10.29
6. Cotton	(*)		0.07
7. Other fibres	31,000 Tons at	2 12	0.23
8. Tobacco (average)	111,000 Tons at	8 0 (est.)	2.67
9. Fruits and vegetables .. .. .	.. .. . Estimated at		3.85
10. Condiments and spices .. .. .	.. .. . Estimated at		2.00
11. Miscellaneous food crops .. .. .	.. .. .		1.00
12. Miscellaneous non-food crops .. .. .	.. .. .		1.00
			22.66
	Less 2 per cent. for seeds		0.45
			22.21
Plus surplus food grains 2,130,000 tons at Rs. 3.5 per maund			19.38
			41.59
	Less liabilities		28.30
			13.29
			13.29
	Tons.		
Gur produced	373,000	Estimate	
		Land Rent	15.00
Required by Agriculturists	453,000	Cess	.80
		Interest	12.50
Deficit	80,000		28.30

(*) See "Review of certain main items of foreign trade during the calendar year 1932, page 9."

1932-33.

		Tons.
Total food grains		9,739,000
	Less 3 per cent. for seeds	292,000
		9,447,000
Less 1.18 lbs. per head per day for an agricultural population of 39,263,000 (77.3 per cent. of 50,794,000)		7,538,000
	Surplus food grains ..	1,909,000

Harvest value of marketable crops.

		Per md. Rs. A.	Crores of Rupees.
1. Linseed	20,000 Tons at	3 0	0.16
2. Rape and mustard	139,000 Tons at	3 0	1.15
3. Sesamum	36,000 Tons at	3 8	0.34
4. Other oilseeds	6,000 Tons at	3 0	0.04
5. Jute	(*)		8.62
6. Cotton	21,000 Bales at	19 0	0.20
7. Other fibres	31,000 Tons at	2 2	0.18
8. Tobacco (average)	111,000 Tons at	7 0	2.13
9. Fruits and vegetables .. .. .	.. .. . Estimated at	..	3.85
10. Condiments and spices .. .. .	.. .. . Estimated at	..	2.00
11. Miscellaneous food crops .. .. .	.. .. . } Estimated at	..	0.79
12. Miscellaneous non-food crops .. .. .	.. .. . }		19.46
	Less 2 per cent. for seeds	..	.39
			19.07
Plus surplus food grains 1,909,000 tons at Rs. 2-10 per maund .. .. .		..	13.64
			32.71
	Less liabilities .. .. .	..	28.30
			4.41
	Free purchasing power	..	4.41
	Tons.		
Gur produced	554,000	Estimate.	
		Land Rent	15.00
Required by Agriculturists	456,000	Cess	0.80
		Interest	12.50.
Surplus.	98,000		28.30

(*) Taken from "Review of certain main items of foreign trade during the calendar year 1932, page 9."

Summary.

Year.	I	II	III	IV	V	VI
	Value of marketable crops.	Monetary liabilities.	Free purchasing power.	Value of jute crops in Bengal at harvest prices. Crores of rupees.	Percentage of the value of the jute crops to the total value of marketable crops.	Percentage of the value of jute crops to the free purchasing power.
					Per cent.	Per cent.
1920-21 ..	62.96	26.81	36.15	15.74	25	43
1921-22 ..	55.04	27.30	27.74	10.79	19	38
1922-23 ..	74.93	27.41	47.52	23.73	31	49
1923-24 ..	60.07	27.97	32.10	33.58	56	104
1924-25 ..	74.11	28.05	46.06	42.99	58	93
1925-26 ..	115.42	28.13	87.29	74.73	64	85
1926-27 ..	66.76	28.02	38.74	43.67	65	112
1927-28 ..	42.04	28.54	13.50	36.92	87	273
1928-29 ..	102.07	28.30	73.77	38.33	37	51
1929-30 ..	70.75	28.50	42.25	36.76	51	86
Average ..	72.415	27.90	44.51	35.724	49	80
1930-31 ..	52.05	29.38	22.67	17.60	33	77
1931-32 ..	41.59	28.30	13.29	10.29	24	77
1932-33 ..	32.71	28.30	4.41	8.62	26	195

APPENDIX XII.

(Vide Chapter II of the Minority Report.)

Restriction schemes in other countries.

Sugar.

The cause of the over-production.—Serious indications of over-production became visible after 1923. The reason was that every country was at this time trying to make itself as independent of sugar imports as possible, while countries whose sugar production was already sufficient for domestic needs wanted further to expand their market at a time when the quantity of sugar needed by importing countries was diminishing.

The various sugar-producing areas.—The United States, Hawaii, Porto Rico, the Phillipines and Cuba form one group, which admits only very little sugar from outside. The British Empire is gradually growing independent of foreign importation, except that the Indies import annually about 1,200,000 tons, principally from Java, and the mother country requires about 1,950,000 tons.

Japan is self-supporting and imports only for re-exporting purposes. The European continent taken as a whole, can supply its own needs and has very little to spare of its own production for exporting elsewhere.

The extent of the market.—Apart from these there are left only China, Chile, North Africa, Egypt, and a few other countries as outlets for sugar. If we include these markets the world's combined import requirements can be estimated at 4,100,000 tons (1929-30). Now, Java, Cuba, San Domingo and Peru supplied a total of 4,815,000 tons for export, thus having 700,000 tons to spare.

Cuba's efforts for restriction of output.—Cuba, one of the largest sugar exporting countries, was the first to observe and feel the over-production. In 1925 the price of Cuban sugar was forced down to 2 cents C. I. F., New York, when the Cuban producers attempted to clear their unsold stocks. After the disposal of the stocks, however, there was a favourable reaction but when the new crop was available in the early spring of 1926, the price again collapsed. Cuba made serious attempts at restriction of output in 1926 and the subsequent years mainly as a result of which the New York, C. I. F. price averaged over 2·5 cents during 1926 and 3·31 cents at the end of the year. To prevent accumulations from further increasing the Cuban Government in 1926 ordered a general reduction of each factory's crop by 10 per cent.

In 1926-27.—The 1927 crop was also restricted still more drastically to 4·5 million tons and these circumstances, together with the effect of bad weather on the European and Javanese sugar crops, brought down the world's production considerably to about 1 million tons less than in 1925-26. Since, however, the root causes which had brought about the surplus production were not affected and consumption did not materially increase, the equilibrium between production and consumption was again upset, and surplus stocks accumulated in various producing centres with the result that prices did not average quite 3 cents.

The Tarafa Commission and its negotiations regarding restriction.—So the Cuban Government sent a Commission headed by Mr. Tarafa, to European and Javanese sugar producers with a view to inducing them to restrict their crops. But although after lengthy negotiations the European delegates promised to restrict their production, nothing came out of the promise.

The Commission comes up against a brick wall in Holland.—The Javanese interests, controlled by Holland, made it quite clear to Tarafa that they did not feel the pressure of the ruling prices to be so severe as to warrant any consideration of restriction measures, especially as the 30 per cent. higher yield of their new cane was so greatly reducing their costs.

A new disturbing influence: cane of new variety (produced by hybridization).—This, by the way, was a new disturbing influence on the sugar industry. In Java especially but also on other parts of the world, this new variety of cane alone caused an increase of 20 to 25 per cent. in the yield of sugar per acre.

The Economic Committee of the League intervenes without much result.—In the year 1928-29 the full unrestricted crop came to market and the total sugar production of the world was over 2 million tons more than in 1927-28, the price steadily declining to an average of 1.75 cents. C. I. F. New York for June, 1929, Cuba sugar producers its Government as also the American interests were seriously perturbed at this precipitous fall in prices. Further, there was the alarming prospect of an enhancement in the United States sugar tariff, then due for revision. But private negotiations having failed to produce a remedy, the Economic Committee of the League of Nations took up the matter.

The Committee on cause of over-production.—They found in their investigation that "the difficulties have been accentuated by the measures taken in many countries to stimulate the production of sugar without consideration of the effects of their unco-ordinated action on the world situation." But the Economic Committee's pleadings for joint co-ordinated action went practically unheeded. The result was rather meagre considering the great amount of preparatory work done by a large number of experts and economists.

Another Conference at Cuban Government's initiation and why it failed.—In July 1929 a new Cuban delegation tried to come to an agreement with delegates from German, Czecho-Slovakian, Polish, Hungarian and Belgian sugar industries and a scheme for compulsory co-operative marketing was established. But the minimum export quotas which they mutually conceded so far exceeded any idea of restriction that the scheme was never put into effect. Moreover, predominance of personal elements, inexperience of persons operating the scheme and absence of requisite finance, all combined to prevent the scheme from being any success. To add to this in 1930 came a distinct falling off in consumption. A world-wide economic and financial crisis had set in, decreasing earnings, causing millions to lose employment and occasioning a heavy falling-off in the consumption of every article generally, and of sugar in particular. In the great Russian republics, for instance, sugar consumption continued to be based on a system of extremely low rations, lower indeed than that experienced by many belligerent countries even in the worst period of the food control during the War.

Price reaches lowest point.—The cumulative effects of the world trade depression on consumption, and the unwillingness of merchants and speculators to carry stocks, were responsible for a huge accumulation and during the year 1930 we notice a continuous fall in prices, the lowest point of 0.94 cent. per pound being reached in September. Only a very few producers can make any profit at the price and urgent appeals were directed to the Government for assistance in the form of subsidies, intensified protection by means of duties, prohibition of imports and such like measures.

The Chandbourne Plan (Ratified and named the "Brussels Convention of 1931").—A new scheme was at this stage drawn up called, after the name of its promoter, the Chandbourne Plan. The plan was ratified at Brussels in 1931. The gist of the plan is (a) Cuba, Java, and the European exporting countries would segregate their unsold stocks (altogether about 3 million tons) at the end of the year; (b) the maximum export quota allotted to each would be fixed for a five year period and during the period the reduced supply of new sugar would allow the segregated old stocks to find an outlet. If the quantities are reasonably apportioned and strictly adhered to, all the old stock, it was estimated, would be liquidated at the end of the five years' period and no new stocks will have accumulated; (c) Chandbourne further promised that the American producers would not increase their production beyond the present quantity.

The Chandbourne scheme promises to be successful if the terms of the convention are loyally carried out. The failure of the previous schemes of restriction had not been due so much to any defect in the principle itself as to the lapse from the terms of agreement, financial weakness or inefficient controlling of the policy. There was further difficulty in making the schemes a success inasmuch as sugar was no monopoly of Cuba and the competition was not only between Cuba and other countries, but also between low cost American owned mills and high-cost Cuban owned mills. Although some may advocate *laissez faire* in these circumstances it cannot be denied that restriction of production is the only right form of control where no stock-holding scheme may be large enough to keep the market free from the excess of supply.

Rubber.

History of restriction.

After the rubber boom (in 1910) when the price touched 12s. 9d. and averaged 8s. 9d. for the whole of 1910, capital was poured into the plantation industry. The only proved areas suitable for rubber planting were under the British flag and London was the centre directing the development of the new industry. The year 1910 was the turning point in many respects. The rising price level of the previous ten years was replaced by a downward trend. In 1917-18 the local prices of rubber in the East fell owing to the scarcity of shipping, although there was a good demand in America and other countries. With the Armistice, shipping was released and there was violent fluctuation in prices and considerable improvement in the situation. In 1918 the Rubber Protection Commission was appointed in Malaya with Sir George Maxwell as president. This commission drafted a scheme for Malaya and the Netherlands East Indies, but after the Armistice the scheme was abandoned. Within less than two years from then,

the Rubber industry had to face the worst slump which was partly due to general trade depression in 1920 but was largely due to improved manufactures of tyres. The new cord tyres replaced the old fabric tyres, and although it required more rubber to manufacture the cord tyres, the consumption of rubber did not materially increase as these tyres were much more durable than fabric tyres. In the summer of 1920, following the collapse of the post-war boom in America, prices touched as low as 10 *d.* The Rubber Growers' Association promptly called upon its members to restrict their output by 25 per cent. for one year from November 1. The effects on prices of this restriction were less than what were anticipated because (1) manufacturers found themselves with large forward commitments of crude rubber at prices ranging from 2*s.* 6*d.* to 3*s.* per lb. and (2) because native plantings had increased supply which intensified the fall in prices. Then on October 24, 1920, the Colonial Secretary appointed the now famous Stevenson Committee by way of a belated reply to the Rubber Growers' Association's request for compulsory restriction as the Association found that owing to multiplicity and diversity of the nationality of producers, neither an immediate curtailment of shipments nor an effective voluntary scheme of restriction of output was possible. In 1921 the stocks of crude rubber were abnormally heavy and the situation in Malaya and Ceylon was fast heading to a crisis. The United Kingdom Government at first refused any State action, but when the revenues were dwindling, the unemployment figures were tremendously increasing, and, as a matter of fact a huge American combine was formed with a capital of £50,000,000 to buy estates at knockout prices, the Government could not but make definite attempts to avert the dangerous situation, as much in their own interests as in the interests of the rubber planters.

The Stevenson Committee put forward two schemes. The first was similar to the scheme of the F. M. S. Protection Commission of 1918. The second scheme was Lord Stevenson's own proposal for a restriction of exports by the imposition of a graduated, scale of export duties rising to prohibitive rates if exports exceeded the amount fixed under the scheme and varying with the percentage of standard production to be assessed annually for each estate by committee in the East. The percentage of the "Standard production" which each estate could export on paying the minimum export duty during any quarter was to be determined by the average price of "standard quality, smoked sheet" in the London market during the previous quarter. The initial percentage was fixed at 60 which meant that for the first quarter in which the scheme was in operation, each state was allowed to export, at the minimum rate of duty, 60 per cent. of its "standard production." This percentage would be automatically regulated on a fixed basis according to the prevailing price of rubber. The percentage rose up to 65 during the third quarter of operation of the scheme and after some variations came down to 50 at the end of 1924, inducing severe shortage of rubber in 1925 when there was a sudden increase in the demand for rubber. The scheme was then modified fixing the percentage of the standard production at 60, whatever the price might be.

The Stevenson Scheme was meant to bring to the producers a price which would permit the estates to be maintained in good order and keep the industry going on with a moderate profit. Although the Dutch planters refused to come under the scheme, the British Estates in the Dutch East Indies, representing 25 to 30 per cent of the local output,

as also the growers in Sarawak, Borneo and Southern India voluntarily agreed to observe the restriction plan if it were compulsorily applied in Ceylon and Malaya. The American manufacturing interests did not welcome the Restriction Scheme, but all the time they were urging for the stability of prices. They could have indeed done a great deal towards the stabilisation of prices at a comparatively low level, had they regulated their buying policy according to the provisions of the scheme. But instead, they suddenly contracted their buyings, expecting evidently that the Stevenson Scheme was not going to be put in force. In November 1922, when the scheme came into operation, they were short of rubber—as a result of which the price was pushed up by the speculators for a time after which it came down again in the last half of 1924. In 1925 the new low pressure tyre was considerably in demand and as these tyres required more rubber, the consumption of rubber increased with the result that price went up until in 1926 exports at full standard production was permitted.

But what appeared to be blessing to the producers as also to the manufacturers was, in fact, a curse, for the violent price fluctuations of 1925 were mainly responsible for the crisis that followed. American tyre manufacturers, apprehending a shortage in supply, were buying forward in 1926 round about 4s. a lb. but the price dropped to 1s. 9d. about six months later which meant an enormous loss to them. The current demand for tyres also considerably came down and the manufacturers ceased to buy rubber as they had already heavy stocks. When price dropped so low as 1s. 9d., the scheme was recast (in 1926) but it failed to achieve its purpose owing to several factors, such as the economy propaganda in the United States, manufacture of cheaper tyres from reclaimed rubber, larger use of low pressure tyres which did not contain more rubber than the old high-pressure tyres. The rubber industry is having a very bad time since then and the little relief that the manufacturers had in 1928 and 1929 from the increased replacement demand of the low pressure tyres, was but temporary. In November, 1928, the price of rubber in the London market fell to 8.52 pence a lb. and all schemes of export control were abandoned that year. It is, however, to be noted that not a little responsibility for this tremendous fall in prices lies with the Dutch East Indies producers who went on their way in increasing their individual production without paying any heed to the crisis that was threatening the industry.

Cause of failure of the scheme.

The history of rubber restriction by Great Britain will show that the failure of the schemes was due to circumstances peculiar to the industry itself and cannot be advanced as an argument against artificial control of all raw material supplies:—

(1) Difficulties arising from the existence of a number of interests, and a number of sources of supply. Britain might be restricting her production in British Malay and Ceylon. But the Dutch or the native growers would not necessarily follow suit. On the contrary, it has been found that almost in every year of the Restriction these latter came out with increased outputs.

(2) Difficulties arising from the antagonistic interests of the growers and the manufacturers. The Rubber manufacturers of United

States of America were up in arms from the very outset. They were too loud in their proclamations of an inevitable rubber shortage, so much so that the Congress instituted a survey regarding the anticipated rubber shortage. And later President Hoover began a campaign for rubber economy—with the result that in 1924 United States of America used 76,000 tons of reclaimed rubber as an economy measure and this campaign certainly had some share in reducing American annual absorption of crude rubber by 25,000 tons.

(3) Smuggled production and exports went on a considerable scale.

(4) Restriction of output was made difficult and complicated owing to the existence of previously accumulated stock whose actual quantity could not always be properly gauged.

These are among the chief difficulties due to which the restriction scheme could not give much of stability during the years of its existence and these were the difficulties for which it was ultimately abandoned. But a *laissez faire* policy for that reason, does not command itself.

Resurrection of artificial control inevitable.—Competent observers who have watched the developments in recent years “feel some real confidence in prophesying a resurrection of artificial control, perhaps at no distant date. Neither producers nor consumers can contemplate with equanimity an indefinite continuance of such instability as has characterised the rubber industry up to the present time,” and further experiments, they think, will inevitably be made in conscious control before we can feel satisfied of the superiority of the unconscious control of *laissez faire*.

Copper.

Producing and consuming areas.—In 1929 about 75 per cent. of world's output of copper came from United States of America or from the mines in Latin America. Other producing areas are Belgian Congo and Canada.

Principal copper-consuming countries are the United States of America, Germany, Great Britain and France.

Few important raw materials have in the last three quarters of a century witnessed a greater number of revolutionary changes in their sources of supply, their methods of recovery, and their uses, than copper. It is principally used in the production and distribution of electrical energy, a use which was unknown to the world even 60 years ago.

Attempts to control copper prices.—During the last 60 years—four major attempts have been made to control price of copper, three of these being of American origin and the fourth being the famous Secretan Syndicate, engineered primarily by French interests.

The Secretan Syndicate.—Secretan Syndicate which came into being in 1887, made agreements with the largest of the American producers to sell all their out-put to it at stated prices (about 17 cents a pound). It is to be noted that the Syndicate did not attempt to regulate production at the source. In the following year the consumption declined, and scrap copper (as distinguished from virgin copper) began to come on the market in increasing quantities. The year 1889 was not far

advanced before the Syndicate found itself in possession of more copper than it could continue to hold.

Attempt by "United Metals."—In the same year an attempt was made by what was called the "United metals" which announced its intentions of bestowing on manufacturers the blessing of a stabilised price for copper and as a matter of fact, succeeded in 1900 in raising price above 19 cents a pound. But the price was not to be permanent. Output rose in the United States of America, Mexico, Canada and elsewhere, while buyers restricted purchases and scrap copper again began to come on the market, and what was worst of all, a market, recession in German copper consuming businesses set in.

Copper Exporters, Copper Institute, 1926-27.—In 1926 Copper Exporters Inc. formed an organisation which comprised most of the important American producers and refiners, including their Latin American subsidiaries, and certain foreign producers, notably Canadian mines and Katanga, and certain West European interest. The object of the organisation was to control the sale and price of copper to European consumers (which indirectly would considerably benefit American consumers as well).

In 1927 was formed the Copper Institute, for collection and dissemination among its members of statistics of copper production, consumption and sales. Armed with these facts, "Copper Exporters Inc." could exert such control as had never before been possible in the copper industry.

Due mainly to the efforts of the "Copper Exporters Inc." between June 1927 and April 1929, price of copper was raised from 12½ cents to 24 cents a pound and was then stabilised at 18 cents, where it remained just 52 weeks. In April 1930, stabilisation was ended and the price was allowed to drop from 18 cents to 12½ cents in three weeks, and in the 17 months following the end of stabilisation, "Copper Exporters Inc." has changed its official price 54 times.

It is significant to note that the curtailment of output which took place in 1930, was not universal but was arranged only between American Mines and their Latin subsidiaries. According to the American Bureau of Statistics there was a decline in world production of over 375,000 tons in 1929-30. But the good influence which this shortage in output was likely to exercise was neutralised by the output in the Eastern Hemisphere which produced more copper than ever before in its history. The recent story of failure fits almost perfectly into the framework of the facts of the earlier episode like the failure of the Secretan Syndicate in which case the existence of too many sources of supply baffled the attempts of any successful control. There was too much African and Canadian copper ready to take the place of any American copper that would not come on the market. The story of failure in case of copper is not very different from that in the case of other raw materials the sources of supply of which were too widely distributed over the world to be effectively controlled by any scheme of restriction.

Wheat.

Cause of low prices.—Heavy supplies, in excess of ordinary requirements, are responsible for the fall in prices. Production has been so large and so wide-spread that prices are likely to rule low for several

years. The fall of values has been made more acute by return of Russia as a large exporter.

Explanation of decline in wheat values would be incomplete without reference to very important increase in European rye production, rye being to some extent substitutable for wheat.

Schemes for combating low prices.—(1) United States of America voted a big sum of money to stabilise prices and help farmers hold for a rise.

(2) *Canadian Provincial Governments* guarantee bank advances to the Pool.

(3) *Germany* had in operation for many months a system of import permits against exports.

(4) *France* facilitated exports by so-called refund of import duty.

[(3) and (4) in practice gave a bounty on exports.]

(5) Import duties were greatly increased in many countries, and to make the duties really effective the quota system was devised and extended.

The working of the schemes.—Government schemes to help cereal growers, as a whole, have failed except where nature has helped by giving a crop below the country's consumptive requirements. And no exporting country has yet devised a satisfactory scheme for keeping home prices high whilst selling abroad at a lower international price.

Of the scheme adopted by European countries the German scheme had to be modified as the drain on the national treasury was too great. The French scheme taxed Frenchmen in order to send cheap wheat to foreign consumers, which was subsequently needed at home.

Almost all growers seem to be in favour of the Quota System—because it compels the millers to mill a certain quantity of their wheat week by week. Millers, however, are naturally free traders as regards wheat, because they need the best and cheapest raw material in order to furnish really good flour to customers.

Quota System, it has been found, would not work well without a high tariff.

Coffee.

Broadly speaking artificial control of coffee has now been exercised continuously for thirty years. After various temporary experiments the Government of Sao Paulo and the producers of the State agreed to the establishment of the control on a permanent basis in 1924. The history of what Brazilians call "Coffee defence," i.e., measures adopted for the neutralisation of the influence of the crop variations on the short period prices received by the producer—as distinct from "valorisation" i.e., prevention of a temporary fall in price which would, if it occurred, be balanced by a temporary rise later really begins in 1921. Of course a valorisation of project was started in 1870, but it proved a failure. The first well planned valorisation scheme, the basic principle of which was the establishment of an artificial equilibrium between supply and demand through the withdrawal of the surplus supply from the market, was started in 1906 to meet an excessive expansion of capacity (coupled with a precipitous fall in price) and rendered absolutely critical by the prospect of a huge bumper crop. The

Government of Sao Paulo was greatly perturbed by the alarming situation, and to secure for the planters a price that would at least keep the coffee industry going, decided to buy up the next crop at a little above the market price and to store it up till there was a rise in price. The Federal Government, however, when called upon refused to do its part on the financial side of the project. It was, therefore, that the Sao Paulo Government was compelled to look for outside help and in the course of next two years raised a loan in the foreign markets. The Government also entered into a contract with a syndicate of coffee merchants in Europe and United States of America headed by Hermann Sieleken. According to the terms of this contract the Syndicate were to advance 80 per cent of the funds required to buy 2 million bags of coffee at a fixed price of 7 cents per lb. with the proviso that Government were to withdraw from the market so long as the price would be higher than 7 cents, but would make good the difference when the price would fall below 7 cents. It seemed at first that the situation would be saved by this arrangement. But the next crop was abnormally heavy, the price came down to 6 cents and although the Government, under the terms of the Agreement bought off 7 million bags in addition to their quota of 2 million bags, the price showed no sign of a rise. The Government soon ran short of finance and the scheme had consequently to be abandoned. In 1908, a new plan known as the Sieloken plan, was adopted, under which the Government was authorised to raise a loan from a syndicate of foreign bankers to be utilised in paying off the previous loan and for the purpose of the current and future requirements. Planting of new coffee trees were legally prohibited, quantity of the export was fixed for the next two years and the Government agreed to purchase 10 million bags on its own account and to hold it off till a rise in prices would be visible. The control of the Government's purchase was vested in an International Committee with power to issue bonds. As a result of this arrangement, there was a big advance in prices which steadily increased, and the scheme was eventually dropped.

The second valorisation scheme of which the principles were generally the same as before was taken up in the second half of 1917 when actual and prospective supplies were so heavy relative to the demand that the price began to fall rapidly even from an existing sub-normal level. This time, however, the Federal Government agreed to issue paper money as loan to the Sao Paulo Government and the scheme met with an enormous success.

The third valorisation which was also carried to a successful conclusion, was primarily the outcome of the reaction of the post-war slump in the United States and the worldwide deflation in prices. The situation was quite different this time, as the scheme was now meant not to meet difficulties arising from a bumper crop or any excess of capacity but to arrest the terrific fall in price. With the concerted efforts of Sao Paulo and the Federal Governments the process of valorisation had been successfully accomplished this time also and by February 1924, the huge purchase of coffee was liquidated. The situation, so far as Brazil was concerned, became distinctly easier and there was also a marketable increase in consumption. The study and fair price which were received by the producers in Sao Paulo under the valorisation schemes encouraged plantations in other countries. This was a cause for some uneasiness to the Brazil Government which depended on coffee for meeting 70 per cent of its foreign obligations and to ensure continued protection of coffee there was established in 1925. The Institute for

the permanent Defence of coffee, which would regulate the amount of coffee entering Santos each day, any surplus to market requirements being stored in special Government warehouses thus reducing the strain which the regularisation of the supplies were likely to place upon the planters. The funds required for financing the scheme were raised by foreign loans, and tax on every bag leaving the producing centre was imposed, the proceeds being set apart for the liquidation of the loan. During 1923 and 1924 this regulation of entries and the disposal of accumulated stocks were conducted conjointly, so that the market was at no time over-supplied either by the liquidation of stocks or by the surplus of crop. Meanwhile a change had taken place in the political situation and as a result of prolonged discussions and negotiations the task of "Defence of the Coffee" was handed over to the Government of Sao Paulo.

During the two year 1925-26, the Sao Paulo Coffee Institute controlled the situation by (i) the regulation of Santos entries and by (ii) market intervention. But during these years the supplies were short of the demand, and the maintenance of prices at a relatively high level was more due to natural economic factors than to artificial control though the latter was responsible to a large extent for the curtailment of heavy fluctuations in prices. But in 1927 there was a bumper crop, the none too happy prospect of a huge carry-over persuaded the coffee producing states to join with Sao Paulo to meet the situation by adopting measures of control. It was arranged that distribution of coffee would be regulated by placing maximum stocks at Santos, Rio de Janeiro and three minor coffee ports and the quota of new entries for new port in any month was to be determined by reference to quantities actually shipped during the previous month. Surplus stocks were to be retained in the warehouse in the interior and advances to be made on them to growers through the Banco de Estado Paulo. The measure, so far as it went, was good, but in absence of adequate finance the price was obstinately falling till at last provision of additional supplies of money from London helped to tide over the crisis.

Lack of finance causes failure.—The relief was temporary and the situation again began to darken. The superficially satisfactory and hopeful appearance of affairs in the early part of 1928 was completely destroyed by the next bumper crop and a crash actually came in 1929, when the Institute and the Banco de Estado Paulo ran short of funds for discounting the bills of lading and foreign assistance was not forthcoming as on previous occasions. The crash was not merely a market break, precipitated by the enemies of coffee Defence, as some would think it to be.

Failure not an argument against control.—Failure of the Coffee Defence Scheme is too often advanced as an argument against all sorts of artificial control of raw materials. This, however, is not the correct view. The causes of the failure should always be examined with reference to the existing circumstances.

Causes of failure.—In the first place adequate attention was not paid to regulate production the factor which was mainly responsible for the success of the earlier valorisation schemes. Besides the influence of the Defence Scheme in raising prices above the average level which would have ordinarily obtained, was greatly overestimated. The producers did not see that the higher prices were more or less due to natural economic factors and that the defence scheme was only performing the

primary function of averaging out variations. It must also be pointed out that too much attention was paid during the latter years to artificially raise the prices, which was responsible for larger new plantings.

The control of the scheme was not free from political influence. Corrupt practices of different kinds were prevalent in the Santos market as also in the regulating warehouses.

In the third place, the financing of current crop when it was despatched to the regulating warehouses was done in a very high scale, and it was this high financing which put a large cash in the pockets of the producers and strained the credit resources of the country and compelled to resort to larger foreign borrowings. Excessive financing was also responsible for extensive new plantings by the producers whose popular idea was that consumers would pay the costs involved in the defence scheme, and was believed that prices would be permanently maintained at a profitable level instead of dropping periodically. The institute also did not take any step to prohibit new plantings at the early stage and when it did so, it was too late. A study of the situation suggests unmistakably *that a control scheme must provide for the direct regulation of the additions to capacity, and to be really successful, the artificial control must completely replace the laissez faire.* The failure of the Coffee Defence is, therefore, no reflection on the principle of control itself but is due to certain defects in carrying out the scheme.

Another reason for the failure was that the Government of State of Sao Paulo used the "Defence" for political purposes and kept up the pretence that all was well in spite of the danger ahead. It is, therefore, advisable that in artificial control schemes Government should not have the upper hand as sooner or later economic considerations will be subordinated to political expediency.

Increased production in other countries.—Another factor responsible for break down of the defence scheme was the increased production in other countries under the stimulus of high prices. The large increase in the production of mild coffees must have had its reaction on the demand of Brazilian coffees, which would have been greater had there been no such increase.

Brazil coffee not a monopoly.—Thus Brazil had no monopoly of the trade, and the Institute should have taken steps to suppress the growing competition from the mild countries by enduring a period of low prices with a view to maintain her monopolistic position. This she did not do and the mild countries were enabled to deal her a serious blow. Although Brazil is undoubtedly the cheapest producer of coffee, it is of no avail to her, for the world now prefers the mild coffee produced by her competitors. Even though improvement is possible in the quality of coffee produced by Brazil any large consumption cannot be expected as long as the mild favour will not be imparted to the Brazilian coffee by synthetic process or otherwise. The artificial control scheme had every chance of being successful, if the Brazilian coffee was really a monopoly in the same sense as the jute trade of Bengal is.

APPENDIX XIII.**Legislation on Standardisation of Quality.***(Vide page 123 of the Report).*

No. 1341-Com., dated Calcutta, the 2nd March 1933.

From—R. N. Gilchrist, Esq., M.A., I.E.S., Joint Secretary, to the
Government of Bengal, Commerce and Marine Departments,
To—The Secretary to the Bengal Jute Enquiry Committee.

In 1929, the local Government was addressed on the subject of legislation to fix definite standards of quality for all dealings in jute. The opinions of the various commercial bodies were obtained on the proposal, but as the Government of India had under consideration at the time a proposal for the formation of a Central Jute Committee, further consideration of the proposal by the local Government was held in abeyance. The formation of the Central Jute Committee has not yet materialised; meanwhile the Indian Chamber of Commerce in their letter No. P.A. 41/31, dated the 25th July 1932, revived the proposal that the local Government should legislate to standardise the quality for all dealings in jute. In view, however, of the action being taken in connection with the Resolution carried in the Bengal Legislative Council on the 1st February 1932 for the appointment of a committee to examine the economic depression in Bengal, it was considered that the proposal of the Chamber was one which might suitably be investigated by the committee the appointment of which was in contemplation.

The terms of reference of the Bengal Jute Enquiry Committee include the investigation of the jute problem in all its aspects and as the proposal of the Indian Chamber is regarded as falling within the scope of the second term of reference, I am to forward the Chamber's letter, dated the 25th July 1932, with the request that the proposal may be duly considered by your Committee.

Copies of the opinions and the original proposal of Mr. Khaitan submitted in 1929, as detailed below, are also enclosed for the information of the committee:—

- (1) Letter, dated 28th January 1929, from Mr. D. P. Khaitan.
- (2) Letter No. LL-32, dated 22nd April 1929, from the Bengal National Chamber of Commerce.
- (3) Letter No. 1570-1929, dated 25th April 1929, from the Bengal Chamber of Commerce.
- (4) Letter No. PA-14/29, dated 24th April 1929, from the Indian Chamber of Commerce.
- (5) Letter No. 36-1929, dated 30th April 1929, from the Marwari Association.

No. P.A. 41/31, dated Calcutta, the 25th July 1932.

From—The Secretary, Indian Chamber of Commerce,
To—The Secretary to the Government of Bengal, Commerce Department.

I am directed by the Committee of the Indian Chamber of Commerce, Calcutta, to invite your very careful attention to a very important

question, viz., of the absence of definite standards of quality for dealings in jute, which has been engaging the attention of the jute trade for the last several years. My Committee do not propose to explain here as to how in the absence of definitions the buyers are able to manipulate the standards in such a way as to bring about an imperceptible fall in the price of jute by making the sellers deliver superior quality of jute against contracts for inferior quality. A reference to the speeches delivered at the annual meetings of the Federation of Indian Chambers of Commerce and Industry, the evidence of the Indian Chamber of Commerce, Calcutta, before the Bengal Provincial Banking Enquiry Committee and the correspondence exchanged between the Bengal Jute Dealers Association and the Indian Jute Mills Association over the question will give all the necessary information.

In the year 1928 the Bengal Jute Dealers Association carried on a strong agitation for the establishment of definite standards of quality, but owing to the opposition of a section of the Indian Jute Mills Association the desired reform could not be introduced. The Federation of Indian Chambers of Commerce in their meeting held in December 1928 recommended to the Government that the proposed Central Committee for jute should amongst other things try to promote legislation for the fixation of permanent standards of quality for all dealings in jute. In its next annual meeting the Federation passed the following resolution:—

“In the opinion of the Federation the absence of definite standards of quality for dealings in jute is very harmful to the interests of the cultivators and to the large body of merchants engaged in the jute trade. The Federation therefore requests the Government of India to take early steps to bring about the establishment of a Jute Grading Board on the lines of the Philippine Grading Board for hemp.”

A meeting of the various jute interests, namely, importers, balers, shippers and brokers was held on the 25th of January 1929, which was presided over by Mr. D. P. Khaitan. The meeting passed the following resolution:—

“That the Government of Bengal should introduce legislation at the earliest possible opportunity to fix definite standards of quality for all dealings in jute as has been done by the United States of America Government by passing the Cotton Standards Act.”

The Government of Bengal submitted this proposal to the various commercial associations in Calcutta for their opinion. The result of that reference was not made known to the jute trade, but so far as the Indian commercial opinion was concerned it was very strongly in favour of having some legislation for the establishment of jute standards.

The Bengal Provincial Banking Enquiry Committee who went into this question has said “that owing to the loss suffered by the cultivators the standards should be made definite by some special legislation on the lines of the American Cotton Standards Act.”

The Central Banking Enquiry Committee discussing the question of fixation of jute standards also observed “in view, however, of the great importance to the producer the standards should be fixed as early as

possible and we further recommend that the local Governments concerned should take prompt steps for the fixation of proper standards of jute."

As a result of the agitation carried on by the Bengal Jute Dealers Association, the pressure of public opinion and at the recommendation of the Bengal Chamber of Commerce, the Indian Jute Mills Association on the 22nd of June 1929 issued a circular No. 64 D according to which the marks for all future seasons whatever the quality of the season were to be 1's, 2's, 3's, 4's and 'Rejections' and that 'Rejections' was to be the lowest mark. The Jute Mills Association have not adhered to this circular of theirs, with the result that standards have continued to change as before and the sellers of jute are in the same disadvantageous position in which they were before the circular was issued. Even during the season 1929-30 a new grade called Low Rejections was invented. In the season 1930-31 another grade called X.L.R.'s was introduced. As a result of these two new grades 'Rejections' which according to the circular referred to above was to be the lowest mark has now become the highest mark. In the season 1931-32 there was very little business for the grade "Rejections" and almost all dealings have been carried on under the grades L.R.'s and X.L.R.'s.

Unfortunately in India, European and Indian commercial interests do not co-operate with each other even when their interests are common. The attitude of the Calcutta Jute Dealers Association towards the question of standards is a case in point. In the year 1928 when the Bengal Jute Dealers Association which represents the Indian sellers took up a very strong attitude over this question, the European sellers though they themselves keenly felt the want of clear definitions for all grades refused to co-operate with the Indian merchants. But now the European merchants and brokers who are generally reluctant to say anything against the Jute Mills have been compelled to adopt a very strong attitude as they have lost large sums of money during the last two years partly due to variation in the quality of standards. A joint meeting of the Calcutta Jute Dealers Association and the Bengal Jute Dealers Association was recently held and it was unanimously resolved that no contracts should be made with the jute mills except on warp and weft guarantees. We understand that the mills refuse to buy on the new terms and are keeping out of the market to force the sellers to sell to them on the "Standard of the Mark" basis which has been condemned by even some of the mills as a very unfair basis of dealing.

The indifference of the Government of Bengal towards this question is to be regretted. They have failed to consider the representations made to them by the united commercial opinion of India and the recommendations of both the Provincial and Central Banking Enquiry Committees.

The Philippine Islands Government have passed an Act under which they have set up a Hemp Classification Board and no hemp can leave the shores of those islands without being classified by that Board and the foreign buyers are compelled to accept that classification. The United States of America have passed a Cotton Standards Act whereby they have made it a penal offence for any subject of the States to deal in cotton except on the standards by that Act.

My Committee hope that the Government of Bengal will give the matter their serious consideration and introduce legislation at the earliest possible opportunity to remove the present iniquitous basis of trading between the buyers and sellers of jute.

Letter, dated Calcutta, 28th January 1929.

From—D. P. Khaitan, Esq.,

To—The Secretary to the Government of Bengal, Commerce Department.

A meeting attended by representatives of the various jute interests, namely, Importers, Balers, Shippers and Brokers, was held at the rooms of the Indian Chamber of Commerce, 135, Canning Street, on the 25th instant presided over by me.

I beg to give below a copy of the resolution unanimously passed at the meeting for favour of consideration and action by the Government.

Resolution.

“That the Government of Bengal should introduce legislation at the earliest possible opportunity to fix definite standards of quality for all dealings in jute as has been done by the United States of America Government by passing the Cotton Standards Act.”

In forwarding this resolution, I would like to draw your attention to the fact that this question is of a very great importance to all jute merchants. In the absence of definite standards of quality the sellers are always at a loss to know as to what they are expected to tender against their contracts. The quality of jute to be tendered against the various grades under which all jute transactions at present are carried on, varies not only in the different seasons but in any one particular season too there are frequent changes. I am sure you will agree with me when I say that a measure of value which is liable to frequent changes, is not a desirable thing in the interest of any trade.

I am also sending herewith a copy of the Act passed by the American Senate in the year 1923 and which is known as the United States Cotton Standards Act. You will see therefrom that it is a criminal offence there to buy or sell any cotton except on standards fixed by that act.

There is no reason why the Government of Bengal should not also pass a similar Act to protect the interests of the cultivators and the jute traders.

SERVICE AND REGULATORY ANNOUNCEMENTS.

APPENDIX.

United States Cotton Standards Act.*

Excerpt from the Act approved February 10, 1925, making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1926, and for other purposes. (Public No. 390, 68th Congress.)

To enable the Secretary of Agriculture to carry into effect the provisions of the United States Cotton Features Act, as amended March 4, 1919, and to carry into effect the provisions of the United States Cotton Standards Act, approved March 4, 1923, including all expenses

* See Appendix IB, page 23.

necessary for the purchase of equipment and supplies; for travel, for the employment of persons in the city of Washington and elsewhere, and for all other expenses, including rent outside of the District of Columbia, that may be necessary in executing the provisions of these Acts, including such means as may be necessary for effectuating agreements heretofore or hereafter made with cotton associations, cotton exchanges and other cotton organisations in foreign countries for the adoption, use and observance of universal standards of cotton classification, for the arbitration or settlement of disputes with respect thereto, and for the preparation, distribution, inspection, and protection of the practical forms or copies thereof under such agreements.

No. LL-32, dated Calcutta, the 22nd April 1929.

From—The Honorary Secretary, Bengal National Chamber of Commerce,

To—The Secretary to the Government of Bengal, Commerce and Marine Departments.

I have the honour to acknowledge receipt of your letter No. 1320-27 Com., dated the 19th February 1929, forwarding the enclosures noted below and inviting opinion of the Chamber on the necessity for the proposed legislation for fixing standards of quality of jute:—

- (1) Copy of a letter addressed to the Government of Bengal by Mr. D. P. Khaitan, dated the 29th January 1929.
- (2) Copy of the American Cotton Standards Act of 1923.

The Committee of the Chamber have given the proposal their most anxious consideration and generally approve of the principle underlying the same. The various standards which serve as the basis of transactions are almost an essential need for the modern era when markets are being daily widened and are assuming an international character through improved methods of organisation. In the opinion of the Committee there can hardly be any objection to the principle of standardisation as it seeks no more than to check unfair dealings in commercial transactions. It is now an accepted principle of Economics that the fluctuation in the value of money is undesirable in so far as it unsettles the normal conditions of trade by either giving it an artificial stimulus or by acting as an impediment to its healthy growth. It is on this ground that the inflation or deflation of currency, when either is artificial and is not designed to maintain the level of prices, is viewed with grave concern by particular sections of the trading community. Such manipulation of currency must be regarded as most objectionable as it hoodwinks the public by tampering with the value of their money-holding when they have not the least knowledge of the fact and are still relying on the money unit as the standard of value. If that is so in the case of money it is no less imperative that the qualities of commodities should be standardised for it is easy to see that an unsteadiness in respect of the latter has the same effect as a fluctuation in the value of currency. In fact the two are identical phenomena relating to price which is an equation between

money and commodity, only that they have reference to the opposite sides of the equation.

The Committee of the Chamber are, however, aware of the fact that it is not expedient to multiply the number of standards indefinitely and that sometimes reliance has to be placed on the prevalent customs of the market and even on individual integrity. But so far as jute in Bengal is concerned the Committee are emphatically of opinion that it does not come under the category of ordinary goods and that it deserves special consideration on more than one ground. Jute constitutes the most important commercial product of the province and the interests involved in the fibre directly or indirectly affect almost the whole population of Bengal. There perhaps it is the one article in which the dealers are divided into various camps of conflicting interests and of remarkably unequal strength. On the one extreme are these poor, ignorant and isolated cultivators and on the other the closely knit group of the powerful non-Indian shipping houses whose monopoly of information regarding the world market and immense financial resources and the consequent staying capacity put them on a vantage ground. The combination of these two circumstances alone is sufficient to establish the need for such a legislation as will guarantee the *bona fides* of all dealings in jute, as least so far as the quality of supply is concerned. It has been brought to the notice of the Committee by some members of the Chamber that the quality of jute to be tendered against contracts of sales under specified grades varies in different seasons, and that even in one particular season such changes of quality are not altogether unknown. The Committee of the Chamber understand that these changes give the suppliers almost a surprise and that they invariably entail a loss on them by requiring them to deliver a better quality than had been originally contracted for. The loss incidental to such arbitrary changes has its natural repercussions on the whole jute trade and it is sought to be shifted backward over to the minor intermediate vendors till at last it reaches the cultivator. The Committee of the Chamber condemn such manœuvres and accord their support to the proposal which seeks to ensure fixity of qualities by an Act of legislature.

No. 1570—1929, dated Calcutta, the 25th April 1929.

From—The Secretary, Bengal Chamber of Commerce,

To—The Secretary to the Government of Bengal, Commerce Department.

I have the honour to acknowledge the receipt of your letter No. 1320-27 Com., dated the 19th February 1929, forwarding copies of a letter, dated 28th January, from Mr. D. P. Khaitan and of its enclosure, and inviting the views of the associations specified by you and the views of the Chamber, regarding the proposal for legislation to fix standards of quality of jute.

2. In reply, I am directed to inform you that the papers forwarded with your letter were sent to the associations for consideration, and I

am to send you, for the information of the Government of Bengal, copies of the following letters received from these:—

- (a) Letter, dated 15th March, from the Indian Jute Mills Association.
- (b) Letter, dated 27th March, from the Calcutta Jute Dealers' Association.
- (c) Letter, dated 28th March, from the Calcutta Baled Jute Shippers' Association.
- (d) Letter, dated 9th April, from the Calcutta Baled Jute Association.

It will be observed that the associations are all opposed to the suggestion that legislation should be introduced for the purpose of fixing standards of quality, and I am directed to add that the Committee of the Chamber are in agreement with this view.

Proposed Legislation for fixing standards of quality of jute.

Letter No. 138 D., dated the 15th March 1929, from the Indian Jute Mills Association to the Bengal Chamber.

I am directed to acknowledge the receipt of your letter No. 892, dated 4th March 1929, in which, at the request of the Government of Bengal, you invite an expression of this association's views in regard to the necessity for fixing standards of quality of jute by legislation on the lines of the United States Cotton Standards Act of 1923.

2. The Committee have carefully considered the accompaniments to the Government of Bengal's letter to you No. 1320-27 Com., dated 19th February 1929, a copy of which you forwarded, and they have noted the terms of the resolution—out of which the suggestion for legislation arises—passed at a meeting of certain jute interests held in the rooms of the Indian Chamber of Commerce on 25th January 1929. They direct me to say that the Indian Jute Mills Association would be strongly opposed to any legislation such as is recommended in the resolution on the grounds (a) that, bearing in mind present and established custom, legislation is unnecessary, (b) that in any case it would be impracticable, hampering to the trade and would involve unforeseen difficulties and hardships and (c) that, unless in exceptional circumstances or where it is the outcome of a unanimous desire on the part of the trade as a whole—and this condition applies forcibly to the proposal at present under consideration—Government interference with the internal organisation of an industry is to be deprecated. The Committee therefore trust that the Chamber, in replying to the Government of Bengal, will see fit to offer strong opposition to any suggestion that legislation should be introduced for the purpose of fixing standards of quality of jute.

Letter No. 45 L.J., dated the 27th March 1929, from the Calcutta Jute Dealers' Association to the Bengal Chamber.

I am directed to acknowledge the receipt of your letter No. 895, dated 4th March 1929, enclosing copy of a letter No. 1320-27 Com.,

dated 19th February, and its accompaniments from the Government of Bengal, Commerce Department. You ask for an expression of the opinion of this association on the proposal contained in the accompaniments to the Government of Bengal's letter on the question of the necessity for legislation for fixing standards of quality of jute.

2. My Committee are strongly in favour of standards of quality being fixed, but they deprecate the idea of Government introducing any legislation on the subject. They consider that the matter of fixing standards of quality is one for arrangement between buyers and sellers and, in this connection, I am to say that for some years past this association has been endeavouring to get mills to set some definite standards on which sellers could work. It was previously the custom of the trade to stipulate in all contracts that the jute to be delivered would contain a certain percentage of sacking warp but, towards the end of 1920, a difference of opinion arose between sellers and the mills as to what the different percentages should be. Every effort was made to arrive at some satisfactory working arrangement but as the sellers' ideas were not acceptable to the Mills, the percentage guarantees were abolished and it has since been the custom to sell on the standard of the mark. Negotiations are still being carried on with a view to definite standards of quality being laid down, and my Committee consider it would be far more satisfactory for standards to be fixed by the trade than for Government to introduce any legislation.

Letter No. 17 B. J. S., dated the 28th March 1929, from the Calcutta Baled Jute Shippers Association to the Bengal Chamber.

I am instructed by the Committee of the Calcutta Baled Jute Shippers' Association to acknowledge receipt of your letter No. 892, dated 4th March 1929, in which you invite an expression of the opinion of this association on the question of the necessity for legislation for fixing standards of quality of jute such as is proposed in the accompaniments to the Government of Bengal's letter to you No. 1320-27 Com., dated 19th February 1929, a copy of which you forwarded.

2. The Committee have carefully considered these accompaniments from which it appears that the present proposals for legislation arise out of the terms of a resolution passed at a meeting of a certain section of jute interests held at the Indian Chamber of Commerce on 25th January 1929 and presided over by Mr. D. P. Khaitan. They direct me to inform you that the Calcutta Baled Jute Shippers' Association are not impressed by the recommendations set forth in the resolution and they would strongly object to any legislation having for its object the arbitrary fixing of standards of quality for all dealings in jute in India.

3. From the point of view of a Pucca Baler and Shipper any official intervention aiming at the standardisation of jute grades would be unpractical and inefficacious, the regulation of standards being a matter which can only be suitably and practically determined by the various trade interests concerned, having due regard to the circumstances involved.

4. Loose jute is automatically classified into a number of selections or grades. These are designated by respective names and descriptions which vary season by season and also from time to time during any

one season. This variation is the result of competitive trade activity and cannot be controlled, in practice, by official intervention.

5. Exports of jute overseas, which aggregated nearly 50 lacs of bales last season, constitute an important section of the trade whose interests would be emphatically endangered by any interference with existing standards which have been fixed as between Overseas Consumers and Balers in India. Public Marks have been satisfactorily dealt in for an extended period of years during which little variation has occurred, and a section of the Export Trade is engaged in the baling of Private Marks to meet the requirements of certain defined markets.

6. The United States Cotton Standards Act provides for an appeal to Washington for arbitration awards held in any foreign country, a clause which would be entirely opposed to custom and impracticable as regards the jute export trade.

7. In conclusion I am to say that the Committee trust that the Bengal Chamber of Commerce in replying to the Government of Bengal will strongly object to the introduction of legislation for the purpose of fixing standards of quality of jute.

Letter No. 532 T., dated the 9th April 1929, from the Calcutta Baled Jute Association to the Benagl Chamber.

I am instructed by the Committee of the Calcutta Baled Jute Association to acknowledge receipt of your letter No. 893, dated 4th March 1929, in which you invite an expression of opinion from this association on the question of the necessity for legislation for fixing standards of quality of jute such as is proposed in the accompaniments to the Government of Bengal's letter to you No. 1320-27 Com., dated 19th February 1929, a copy of which you forwarded.

In reply I am directed to inform you that the Committee of the association have carefully considered these proposals.

The suggestions presumably have no reference to Pucca Bales which constitute the basis of the Export Trade. The various grades involved originally came into existence as suitably and practically serving the requirements of both suppliers and consumers and have operated satisfactorily and smoothly over an extended number of years. In the opinion of this association any attempted interference with existing standards as regards pucca baled jute is to be deprecated, and in any case could not be brought about unless in agreement with the Overseas Consumers.

As regards loose jute the association consider that standardisation influencing regularity of assortment is a desirable object but that this object can only be practically attained by co-operation and agreement between the associations representing the various interests of the trade.

In conclusion I am to add that the Committee are very definitely of the opinion that the establishment of standards is a question which must be left entirely to the trade to determine and that any attempt at

Government legislation introducing official intervention should be emphatically opposed.

Letter No. P.A. 14/29, dated Calcutta, the 24th April 1929.

From—The Secretary, Indian Chamber of Commerce, Calcutta,

To—The Secretary to the Government of Bengal, Commerce Department.

I am directed by the Committee of the Indian Chamber of Commerce, Calcutta, to acknowledge receipt of your letter No. 1320-27 Com., dated Calcutta, the 19th February 1929, inviting the opinion of this Chamber as well as the East India Jute Association on the necessity of the proposed legislation for fixing standards of quality of jute, and to send to you hereby the views of my Chamber, the East India Jute Association and three other commercial bodies interested in the subject.

2. My Committee have very carefully considered the proposal and they are of the opinion that the present practice under which the quality of jute to be tendered against the grades, on the basis of which sales for forward delivery are made, is nowhere defined, is greatly prejudicial to the interests of jute merchants and cultivators.

3. During the last few years there have been very frequent changes in the names of the grades and the quality to be tendered against each grade. Even during a particular season the quality to be tendered against a grade has varied considerably. A standard of measure liable to such frequent appreciations is harmful to the interests of the sellers. As a result of such appreciations the merchants engaged in the import of jute trade have to suffer heavy unexpected losses. During the course of the last few years the merchants engaged in the jute import trade have suffered very heavily, and many of them have been forced to go out of business entirely. The cultivators too, owing to this change in standards are made to realise a lower price for their jute.

4. As an instance of these changes, my Committee wish to point out that during a greater part of the season 1928-29 the grade known as "Rejections" was practically the top grade and the best jute was tendered against sales made on that basis. For the season 1929-30 it is proposed by the Indian Jute Mills Association that the grade "Rejections" be made the lowest quality. The object of this change is to bring about an appreciation of the standards during the middle of the season so that sellers may be forced to deliver jute far superior to the quality originally intended to be delivered. In the course of a year or two "Rejections" will again become the top mark unless something is done to fix the standards once for all.

5. My Committee also invited the opinion of the Bengal Jute Dealers' Association, the Hatkhola Banijya Hitashini Sabha, Jute Balers' Association and the East India Jute Association. These Associations represent respectively the Indian Importers of jute for local consumption, Importers of jute for export, balers of jute for export, and general traders and commission agents dealing in jute. A copy of the reply received from each of them is appended hereto.

Out of the total imports of jute into Calcutta, more than 60 per cent. is imported by the members of the Bengal Jute Dealers' Association and the Hatkhola Banijya Hitashini Sabha. The members of the Jute

Balers' Association purchase and bale nearly 75 per cent. of the total of the jute exported from India. It will therefore be seen that these Associations have a very wide stake in the jute trade and the opinions expressed by them deserve to be very seriously considered.

All these Associations not only deplore the present system whereby merchants have to face unexpected losses but strongly advocate the fixing of standards by legislation.

6. My Committee suggest that the Government should, as a preliminary step to introducing legislation, set up a Committee representing the various sections of the trade to study the question thoroughly and to make suggestions for the introduction of legislation best suited to the particular conditions prevailing in this province.

Copy of a letter, dated the 6th April 1929, from the Secretary, East India Jute Association, Limited, to the Secretary, Indian Chamber of Commerce, Calcutta.

With reference to your letter No. P.A. 14/29, dated the 19th of March 1929, forwarding copy of a letter No. 1320-28 Com., dated the 19th February 1929, from the Government of Bengal, together with its enclosures, regarding the necessity for the proposed legislation for fixing standards of quality of jute, I am directed to reply as follows.

(1) In the opinion of my Board the enactment of a Jute Standards Act on the lines of American Cotton Standards Act is highly desirable in the interests of the jute trade of this province and would prove of great benefit to cultivators, dealers and balers.

So far as the baled jute section of the trade is concerned my Board suggest that the system of Home Guarantees under which a baler who makes sales of jute to the shippers is bound by the award of the London Jute Association regarding the quality of his goods should be done away with. So far as the shippers and balers are concerned, the quality of the goods should be decided in Calcutta itself. The shipper has an opportunity to inspect the goods and there is no reason why should the baler be bound for a number of months by the award of arbitrators in whose selection he has no voice at all. In order to safeguard the interests of the shippers of jute from Calcutta, it is necessary that they should have some representation in the Arbitration Boards set up by the various Associations in foreign countries which buy Indian jute. The American shippers of cotton have equal representation within foreign buyers on the Supreme Boards of Arbitration which have been set up in the countries which buy American cotton. The Government of Bengal should also bring about the existence of such Boards so that it may not be possible for the foreign consumers to unnecessarily run down the quality of jute produced by this province.

(2) As regards the loose jute section of the trade, my Board consider that the fixing of Standards of Quality is of paramount importance from the point of view of both dealers and cultivators. The absence of any defined standards is a very serious handicap for sellers who have absolutely no means of knowing at the time they are making their sales of jute to the local mills, as to whether the jute that they intend to deliver against their sales will not be declared very much below the

so-called "Standard of the Mark" which forms the sole basis for the guidance of the arbitrators is a case of quality dispute, particularly more so, when the arbitrators themselves also admittedly do not know as to what the term "Standard of the Mark" exactly means.

In the absence of any Yield Guarantees, the grades under which sales are at present made to the local mills can only be termed "Protean" in character and are the cause of very great confusion in trade, as an inevitable result of which both the jute merchants and the cultivators ultimately suffer. These grades are liable to constant changes and more often than not they are altered even during one and the same season. Obviously such a state of affairs is nothing short of an anomaly, a parallel of which it would be very difficult to find in any other commercial country of the world.

My Board therefore strongly support the proposal for legislation regarding the fixing of Standards of Quality for dealings in jute. It is needless to emphasise that the Committee which may be formed as a result of such legislation, to fix Standards of Quality should be of a thoroughly representative character and should be composed with a view to the proper safeguarding of the interests of both buyers and sellers alike.

Copy of a letter, dated the 5th April 1929, from the Honorary Secretary, Bengal Jute Dealers Association, Calcutta, to the Secretary, Indian Chamber of Commerce, Calcutta.

I am directed to acknowledge receipt of your letter, dated 19th March, forwarding a communication from the Government of Bengal regarding the proposed legislation for fixing standards of quality of jute.

This Association had occasion to carry on a lengthy correspondence last year with the various Associations concerned in the jute trade regarding the question of jute standards, and it was found at the time that a major portion of the trades was agreeable to fix definitions of the various grades under which jute transactions are at present carried on. As many as 63 per cent. of the members of the Indian Jute Mills Association, the Jute Balers' Association which represents the export of jute trade, were agreeable to buy on what are known as guarantee terms. The Calcutta Jute Dealers' Association representing European sellers also supported the proposal of this Association which represents Indian sellers of jute. Owing however, to the definite opposition of 37 per cent. of the members of the Indian Jute Mills Association, a reform in the jute trade which was desired by the entire trade with the exception of the 37 per cent. of the members of the Indian Jute Mills Association, could not be introduced. The Committee therefore think that unless the Government of Bengal takes some measures to bring about the establishment of Standards of Quality as has been done by the Government of the United States of America, there is no chance of the trade by itself coming to some common understanding. My Committee have learnt that the view that the Government should not interfere in a question of the custom of the trade has been expressed by a certain section of the trade. My Committee would like to point

out that the whole trade and commerce of the world is regulated and very closely affected by the various legislative measures enacted from time to time by the legislature of the world. Even in India, the cotton and securities markets of Bombay are governed by the Acts of the Legislative Council of Bombay. The Committee think that when there is absolutely no chance of the different sections of the trade coming to some common understanding it is the duty of the Government to see that the interests of the trade as a whole are not adversely affected by the action of a powerful minority.

If all transactions in a commodity were carried on on the basis of a temple or if all goods were sold for ready delivery when the buyer would have an opportunity to see the goods for himself then the question of Standards of Quality would not come in at all, but where transactions for forward delivery are entered into, it is necessary that some grades of quality be fixed so that both the buyers and sellers may know what quality of goods they are going to get and give delivery of.

In the case of jute, practically all the sales of jute made to the local mills are made for forward deliveries. These sales of jute are made on the basis of various grades which are known or which have been known as 1's, 2's, 3's, 4's, R.'s, T.R.'s, B.T.R.'s, and H.J.R.'s and so on. The quality of jute to be tendered against each grade is nowhere defined and is subject to constant fluctuations and interpretations according to the whim and fancy of the buyers. In case of a dispute regarding the quality of jute tendered against a particular grade, there is no test provided for by which the quality could be decided to the satisfaction of both buyers and sellers. The result is that the quality to be tendered against each grade varies not only in the different seasons but in any particular season too there are frequent changes.

Up to a few years back, there used to be a sort of definition for the different grades. This definition was known as "Yield Guarantees." The Yield Guarantees in plain language meant that the jute tendered against a particular grade was guaranteed to yield on spinning a certain percentage of either hessian or sacking warp or weft. This definition was embodied in all contracts.

These definitions have, however, been done away with by the Jute Mills Association during the course of the few years. A description known as the "Standard of the Mark" which is very vague has been substituted in place of the "Yield Guarantees."

It may be interesting to mention here what even European jute importers think about the present arrangement.

In their letter, dated the 18th October 1926, addressed to the Indian Jute Mills Association regarding the question of Jute Markets and Standards they said "The system of giving a guarantee for each mark was in force up to within a year or two and this Committee would propose that a return might be made *to that system which appears to be more satisfactory arrangement to all parties than the present one.*"

A good deal of confusion prevails in the trade owing to these constant changes. The sellers are never able to know as to what they are expected to give against their contracts. They make sales of lakhs and lakhs of bales on a certain understanding and by the time of delivery they find that the grade which they had contracted to deliver has appreciated very much with the result that they have to pay a very heavy allowance or deliver jute far superior to the quality originally agreed upon thereby suffering heavy loss without any change in the market. No

seller under such circumstances can ever hope to make profit. During the last two seasons only, the importers have been put to the loss of crores of rupees by such appreciations of standards.

In case of a dispute between a buyer and seller regarding the quality of a particular lot, there is no basis on which the arbitrations proceed. The only basis described in the contract is what is known as the "Standard of the Mark," which means that the quality of jute to be tendered against each grade will vary according to the standard set up by each individual seller.

Regarding this basis of arbitration Mr. C. A. Wild, of Messrs. Anderson Wright & Co., speaking at a meeting of the Indian Jute Mills Association held on January 21, 1927, said that he did not think that the "Standard of the Mark" was a clear enough basis as if they bought on this standard and if the matter ever went to court it would be very difficult to prove that standard. He felt that it would benefit the trade in general if everybody agreed to buy their requirements on a common basis so that their contracts represented actually what they bought. The Association would particularly draw the attention of the Government of Bengal to these words. They go to show that the present contracts do not represent what is actually bought by the buyers and that there is a hidden gain to one party. As regards arbitration, the sellers have no voice in it. The buyers or their brokers are the only people who are members of the Bengal Chamber and thus entitled to arbitrate in such disputes.

These frequent changes operate detrimentally to the interests of not only the middlemen but the worst sufferers are the cultivators. By means of manipulation of standards, the buyers are able to bring a hidden fall in the price of jute.

Divested of technical names suppose the jute grades are known as 1, 2, and 3 and that the price for them is Rs. 12, Rs. 11, and Rs. 10 per maund respectively. The mills after buying a little jute stop all of a sudden buying No. 1. In the absence of any business for No. 1, the sellers will naturally begin delivering in No. 2, all the jute that they used to tender in No. 1 though they get a lower price for No. 2. The mills after some time stop buying No. 2 and commence buying another grade known as No. 4. The result is that all that was being tendered in No. 1 and No. 2 begins being tendered in No. 3 which means that the jute which sold at Rs. 12 per maund begins to sell at Rs. 10. It is only as a result of such frequent appreciation that a quality known as H. J. R. which is inferior to even Rejections is at present the top quality in the loose jute trade.

We will now give concrete instances of this sort of manipulation by the jute mills. In the season 1925-26 the grades 4's, R.'s and T.R.'s were in force (The 1's, 2's, and 3's had already vanished in the way explained above). A lower grade called B. T. R. was invented later on in the same season which meant Bad Terrible Rejections. The Jute Mills Association saw that the graders had reached their lowest point; they could not possibly go below Bad Terrible Rejections. They therefore in Mussolini fashion decided that for the season 1926-27 the grades will be changed. They wanted to change the name so that they could play their favourite game of appreciating the standards.

By their letter, dated the 20th January 1927, they informed the Calcutta Jute Dealers' Association as under:—

“Regarding the arrangement of jute marks for next year it will be noted by your Association that for the next season the marks at present in force will go up to two grades instead of one as previously agreed between your Association and this Association.”

No reason is assigned for this change. The will of the Jute Mills Association is law in the loose jute trade.

For the season 1928-29 the grades Rejections, H.J.R.'s and T.R.'s were in force during the major portion of the season. The Jute Mills Association owing to the reasons stated above wants once more to change the grades, and in reply to a letter written by this Association asking them to fix definite standards of quality they have suggested that the grade Rejections which was the top mark in the season 1928-29 should become the lowest mark for the season 1930. The idea underlying these frequent changes of grades is to bring about a hidden fall in the price of jute as has been stated before.

This state of affairs, wherein the Standards of Quality are liable to frequent changes at the will of buyers and sellers is not a desirable thing at all from any point of view. The sad plight of the sellers of jute can be better understood by an analogy. Suppose a cloth merchant contracts to sell a 100 yards of cloth at a certain price. In calculating his profit or loss on the deal, the cloth merchant takes into consideration the fact that he shall have to deliver 36 inches of cloth for every yard sold by him. If by the time the delivery is completed, the length of the yard is all of a sudden changed to 40 inches, we can understand the difficulty of the seller and the consequent loss to him by this transaction.

My Committee suggest that the Government should by legislation fix certain grades to be in use permanently. To decide the quality of jute tendered against each particular grade a Board consisting of representatives of buyers, sellers and brokers should be constituted which should in the beginning of every season fix the type or sample of the quality which should be considered as a fair tender against all sales of jute made on the basis of the grades. The Directors of the East Indian Cotton Association in Bombay have appointed a Type Committee which in the beginning of every season selects samples from the average quality of the crop of that year, and these samples are sealed and kept in the office of the East Indian Cotton Association, Limited, for purposes of comparison in case of disputes between buyers and sellers regarding the quality of cotton delivered against a particular grade.

Copy of a letter, dated the 1st April 1929, from the Secretary, Hatkhola Baniya Hitashini Sava, to the Secretary, Indian Chamber of Commerce, Calcutta.

In reply to your letter, dated the 19th March, I am directed by our Sava to forward its opinion on the necessity of legislation for fixing the

Standards of Quality of jute. Our Sava urges the necessity of immediate legislation for fixing a definite Standard of Quality for all transactions in jute under the basis of hessian, warp, weft, and cuttings and their various combinations as prevailed in the market before the total abolition of the same. This abolition of definite Standard of Quality of jute rendered the jute trade precarious—it has unsettled what was once settled thereby leading to gradual ruin of those Indians who are interested in jute trade directly or indirectly—it has affected the chain of cultivators and middlemen alike in all links just before and close to millowners, shippers and balers who enter into contract for purchase of the stuff with the former. Want of definite standard or measure of jute has unsettled the indigenous jute trade. Cultivators are being ruined by fluctuation of market rate and so also are those Indians who enter into contract for sale of jute with the millowners, shippers and balers who *de facto* control the jute trade according to their best interest without having regard to the interest of producers and Indian merchants aforesaid—thus the condition of the jute trade is conveyed into a kind of gambling which must at once be stopped by legislation. So our Sava having regard to the interest of Indian cultivators and merchants on the one hand and millowners, shippers and balers on the other hand, asks your Chamber to take effective steps by means of introduction of legislation for fixing a definite Standard of Quality of jute in all dealings in jute, so that all sections of the jute interest may prosper harmoniously and one may not be fed fat at the expense of the other.

Our Sava regrets that it could not for untoward circumstances forward its opinion on or before the 31st March.

Thanking you for your kind reference.

Copy of a letter, dated the 28th March 1929, from the Secretary, The Jute Balers Association, to the Secretary, Indian Chamber of Commerce, Calcutta.

I am directed by my Committee to acknowledge the receipt of your letter No. P.A. 14/29, dated the 19th March 1929, and to inform you that they are in favour of fixing the Standards of Quality of jute by legislation and they suggest that a Conference of the different interests of the jute trade be held to discuss and settle provisions of the proposed Act.

No. 36—1929, dated Calcutta, the 30th April 1929.

From—The Honorary Secretary, the Marwari Association,
To—The Deputy Secretary to the Government of Bengal, Commerce and Marine Departments.

I am directed by the Committee of the Marwari Association to acknowledge the receipt of your letter No. 1320-27-Com., dated the 19th

February 1929, together with its enclosures, asking for an expression of opinion of this association on the necessity for the proposed legislation for fixing standards of quality of jute.

Transactions in jute are carried on under various grades, but the quality of jute meant by those grades varies not only in different seasons but frequently in one and the same season also. The result is that sellers can never be certain as to the quality of jute to be tendered against the grades sold by them and it happens, not infrequently, that at the time of giving delivery they find that the quality of the grades has appreciated considerably and the jute delivered by them is no longer considered to be up to the mark. It puts the sellers to heavy and ruinous loss. As it is all due to there being no definite standards of quality and not to any fault on the part of the sellers, it is only just and reasonable that a law should be passed to fix definite standards of quality so as to make frequent and arbitrary changes in the standards of quality impossible and to give the sellers the protection which they deserve.

For reasons stated above my Committee support the proposal for legislation but having regard to the fact that conditions in America and in this country are not similar, they do not desire to express any opinion just now as to how far legislation on the lines of the American Cotton Standards Act will meet the requirements of the situation in this country. In their opinion, Government should undertake legislation with a view to protect the interests of the jute traders and consult the opinion of those concerned when the Bill has been framed.

APPENDIX XIV (a).**Regulated Cotton Markets.****Office of the Director of Agriculture, C. P.**

D.-O. No. 1539.

Nagpur,

The 29th March 1933.

My dear Finlow,

Your D.-O. No. 366 J.C., of the 16th March. I am sending you a report of an Investigation into the Finance and Marketing of Cultivator's Cotton in Berar instituted by the Indian Central Cotton Committee, which will give you all the details you require. I also append a copy of the recently amended rules under the Berar Cotton and Grain Markets Law of 1897 which were altered to give the grower a fairer deal when disposing of his produce.

Coming now to the specific questions asked by you—

(1) No private market is permitted in an area in which a regulated market has been proclaimed.

(2) The area served by each regulated market varies according to the tract. In Berar there are 31 regulated markets and they deal with the crop of the whole area, roughly 800,000 bales. There is no obligation on the grower in any area to go to the nearest market. He can and does go to the one where the best prices are to be obtained.

(3) The cultivator sells his crop wherever he likes and a fair amount is sold in the villages to itinerant merchants but in Berar, on the whole the growers prefer to sell in the markets where they get a squarer deal than in the villages.

Your questions Nos. 3, 4, 5 and 6 are answered fully in the two enclosures sent with this letter and need not be answered here.

The chief advantage of a regulated market is that all deductions, etc., are regulated, the grower is represented on the Market Committee and can therefore look after his own interests and the price fixed for his produce cannot be altered without going before a Disputes Committee. The Royal Commission on Agriculture simply recommended the adoption of the Berar type of market by other provinces and with the amended rules that have been introduced recently in Berar the grower now gets a fairer price for his produce than he did before.

Will you kindly return the papers sent herewith as we are short of copies?

Yours sincerely,

F. J. Plymen.

To R. S. Finlow, Esq., C.I.E.,

Chairman, Jute Enquiry Committee, Bengal.

D.-O. No. C/27.

Pachmahi,

The 13th/15th April 1933.

My dear Finlow,

Your D.-O. of the 4th instant has reached me here and your telegrams have been answered by my head office. Ritchie has largely

dealt with this correspondence as his long connection with the Indian Central Cotton Committee has given him a good insight into the question. I am afraid the report on "An investigation into the finance and marketing of cultivators' cotton in Berar" is not always too clear, but in my office wire of the 4th of April it was explained that "open" markets are regulated markets. The great feature of the "open" market is the "open" declaration of prices, i.e., prices are not fixed by secret signs. You will, I think, have realised that the revised rules for Berar markets were published after much consideration and some time after the investigation, published in 1927 by the Indian Central Cotton Committee, had been carried out. You will see in the summary, paragraph 1, on page 19 of the report referred to above, that cultivators were in favour of open markets, provided that the rate for their cotton was fixed in the market itself and not in the ginnery factory compound after delivery has been made to the purchaser.

2. As stated in my letter No. 1539, of the 29th of March, there are only 31 regulated markets in Berar, which deal with the whole crop of that area, and you will understand that a great deal of the cotton produced by the small grower must be sold to a petty trader and not brought on the market by the grower himself. I am inclined to think the same thing would happen in the case of your jute growers who are in small way of business only.

3. Taken all round, I think the markets are run fairly well and that irregularities and the victimatization of small men are less than they were, although for some years to come the theory of marketing control in Berar will be considerably better than the actual practice.

4. I am afraid no one from my department is likely to be in Calcutta for an indefinite period, but if you have a good assistant you could send him to Nagpur, he could interview some of our staff with a fairly wide experience of the Berar markets and get any more facts and information which might be useful to you.

Yours sincerely,

F. J. Plymen.

To R. S. Finlow, Esq., C.I.E.,

Chairman, Jute Enquiry Committee.

APPENDIX XIV (b).

**Report on the Regulated Cotton Markets in the Central Provinces by
Mr. Tara Nath Roy, Inspector of Agricultural Schools, Department
of Agriculture, Bengal, dated 5th June 1933.**

On the 24th of May 1933, I was ordered by the Director of Agriculture, Bengal, to proceed to the Central Provinces to obtain certain informations regarding Regulated Cotton Markets as required by Mr. R. S. Finlow, Chairman of the Jute Enquiry Committee. I received my instructions from Mr. Finlow on the 25th of May and left Calcutta for Nagpur the same day. I arrived Nagpur on the 26th and met the following officers of the Agricultural Department with whom I discussed the questions asked by Mr. Finlow and obtained relevant publications on the subject and made out a programme of my work:—

- (1) Mr. R. H. Hill, Deputy Director of Agriculture.
- (2) His Assistant, Mr. N. S. Gangakhedkar, who has considerable experience of the cotton market of Nagpur which, however, is not regulated.
- (3) Mr. E. B. Mahta, Economic Botanist in charge of cotton breeding and Secretary, Provincial Cotton Committee.

And

- (4) His two assistants, Messrs. S. C. Roy and S. S. Panday.

I was advised to go to Amraoti first and see Mr. S. G. Mutkekar, Deputy Director of Agriculture, W. C., who has perhaps the largest amount of experience about the regulated cotton markets. From Amraoti I was to proceed to Akola and see Mr. J. S. Gurjar, who was Mr. Mutkekar's Assistant. On my way back I was to see the Nagpur market.

I left Nagpur on the 28th and arrived at Amraoti the same evening. On the morning of the 29th I was met by Mr. Mutkekar and his assistant, Mr. Gurjar and taken to the Amraoti Regulated Cotton market. Here I had an opportunity to meet the Daroga of the market, the adatyas, brokers, buyers, sellers and the growers and see how the day's price is fixed and published, how the bidding is done and later on in one of the ginning mill how the cotton is weighed. I discussed with all of them the questions asked by Mr. Finlow. Later we saw the ginning factory of Edulji and Ganes Das and the new automatic ginning and baling factory of Messrs. Volkart Bros.

In the afternoon I met Mr. Mutkekar in his office where after consulting his records he gave the following replies to Mr. Finlow's questions.

Q. 1.—It is difficult to answer the question as investigations exactly on the line have not been done. In a regulated market the growers get better prices on account of competition amongst a larger number of

buyers. Against this advantage, however, we have to pit the transit charges which are as follow:—

			Rs.	A.
5 miles	...	...	1	0
10 miles	...	...	1	8
15 miles	...	...	2	0
20 miles	...	...	2	0

Also the deductions made on account of fees to the adatyas and weighmen, which come up to Re. 1-9 per cart.

Q. 2.—Small growers who have less than a cartload do not come to the regulated markets. Those who have more than a cartload to sell have been known to have travelled up to 50 miles. The average distance may be taken as 15 miles.

There are a number of considerations which the growers take into account before deciding whether they will sell their cotton in the village or in the regulated market. The following are some which keep him away:—

- (1) If a grower owes money to an adatyā, as he very often does, he would sometimes sell his cotton at the village simply to avoid meeting the adatyā.
- (2) When in urgent need of money he will sell at the village.
- (3) If the quantity is less than a cart load, he will sell at the village.

The following are some of the considerations which prompt him to come to the regulated markets:—

- (1) Some markets have a good reputation and growers will sometimes prefer it to nearer ones.
- (2) The prevailing ginning charges in the locality are sometimes the deciding factors. Wherever the number of ginning factories is small the ginners are able to combine and keep the ginning charges high. Where their number is great, competition keeps down the ginning charges. For instance the ginning charges just now at Amraoti are about Rs. 3 which is very low and the low ginning charges are an inducement for many to sell cotton there.
- (3) Better prices are usually obtainable in markets where there are large number of buyers.

Q. 3.—The regulation of any market would have a tendency to ensure better prices to the growers, but if we have to make a choice in the selection of the markets, we had better start them where prices are low. It is of course necessary first to ascertain why prices are low there. It is not advisable to start regulated markets in places where there is none in existence.

Q. 4.—In spite of the market laws, open bidding is not practised except in two places. It is said that open bidding is not possible in

markets where very large number of carts come for sale. In Wun Kelapur in the District of Yotemal open bidding has been recently introduced. The buyers there get daily quotations from their representatives in Bombay. There is in consequence a real competition amongst buyers and these two markets are reported to be doing very well.

It is true that adatyas and brokers look more to the interest of the buyers than to that of the growers and that in some cases the market laws have legalized malpractices. The market laws, however, have been altered lately by including a majority of the representative of the growers, and it is expected that this would have a salutary effect in making the adatyas look more to the interest of the growers.

Q. 5.—When an existing market is regulated there is practically no expense. The constituents of the market apply to the Deputy Commissioner for a regulated market. The Deputy Commissioner institutes an enquiry and if satisfied that the market is fit for regulation, the market is declared regulated by a Gazette notification. Fees are levied on each cart of cotton coming to the market, usually at the rate of one anna per cart and license fees are annually realised from the adatyas, brokers and weighmen. These fees go to pay the staff and the balance left over is reserved for market improvements. Below are given some of the details that would enable one to form a rough idea as to total cost of running a big market like one at Amraoti.

The Amraoti cotton market was started in 1885 when Government gave a grant of Rs. 4,618 for acquiring the land, 592 yard × 581 yard. In 1890 a new office was built at a cost of about Rs. 2,500, measuring 32' × 35'. At present the market possesses the following building:—

- (1) Market Office 32' × 35', cost Rs. 2,500.
- (2) Exchange 40' × 50'.
- (3) Dalal Hall.
- (4) Godown, accommodating 2,000 bales of cotton.
- (5) Shed for cartmen.
- (6) Five water troughs.
- (7) Well with mot.
- (8) Latrines.
- (9) Masonry wall enclosing the yard.

The following are the staff:—

	Rs.
(1) One Daroga, one clerk, two temporary clerks, five clerks for six months, and peons ...	... 3,620
(2) Watchmen, ten ...	... 924
(3) Conservancy men, one Daffadar and four sweepers ...	... 712
(4) Gardeners, two ...	... 288
(5) Fire engineman ...	... 192
(6) Engine driver and watchman ...	... 480
(7) Motman and Overseers' allowance ...	... 252

I left Amraoti at 6 p.m. for Akola accompanied by Mr. Gurjar, and arrived there at 9 p.m.

On the morning of the 30th we visited the Akola cotton market. The market was regulated in 1882. The yard measures 2,220 sq. yards and is enclosed by an iron railing.

The buildings are as follows:—

- (1) Main Office, a two storied building, 34' x 34'.
- (2) Ticket Office 16' x 16'.
- (3) Merchants' shed 15' x 29'.
- (4) Quarters for Assistant Daroga.
- (5) Quarters for the Gardener.
- (6) Two wells with pump.
- (7) Two feeding troughs.
- (8) Latrines.

The following are the staff:—

- (1) One Daroga, pay Rs. 40—3—100.
- (2) One clerk, pay Rs. 30.
- (3) Temporary clerks, pay Rs. 25.
- (4) Jamadar, pay Rs. 20.
- (5) Watchmen, pay Rs. 15.
- (6) Eleven temporary peons for four months, pay Rs. 15.
- (7) Gardener, pay Rs. 12.

The budget is as follows:—

	Rs.
(1) Establishment	... 1,193
(2) Temporary establishment	... 1,904
(3) Office contingencies	... 204
(4) Passes contingencies	... 147
(5) Conservancy	... 500
(6) Road watering	... 1,000
(7) Lighting	... 951
(8) Contribution to Municipality	... 1,521
(9) Planting trees	... 72
(10) Furniture	... 118
(11) Road repairs	... 1,300
(12) Building repairs	... 457
(13) Culvert repairs	... 39
(14) Other repairs	... 1,000
(15) Gutters	... 105
(16) Deposit	... 290
(17) Allowances	... 318

Income.—

(1) Cess on carts	about 5,000
(2) License fees	... 6,000
(3) Miscellaneous	... 600

Eighty to hundred thousands of carts are sold annually in the Akola market whereas hundred to hundred and twenty thousands are sold at Amraoti.

The market committee at Akola consists of the following:—

	No.
(1) Representatives of growers	4
(2) Traders	4
(3) Municipality	1
(4) District council	1

The above has been the constitution since 1930.

The area served by this market is about 10 miles all round.

There are at Akola 25 ginning factories and two spinning and weaving mills.

The surplus passed to the Municipality, to whom the market belongs, averages Rs. 7,000 annually.

In the afternoon I visited the Akola Farm which is situated about six miles from the town, with Mr. Gurjar and his assistant. My object was not only to see the farm but also to meet some actual growers in the vicinity. Two such we met. According to them the rates offered by the *faria* to the growers in the villages are not much below the rates prevailing at the markets. The growers keep themselves fairly well posted about the prevailing market rates and therefore, the growers do not usually part with the cotton unless similar rates are offered. Usually stone weights are used by the *farias* and the growers cannot check them. They think that the *faria* usually makes his profit by using heavier weights. At the regulated markets the weights are checked, though complaints about manipulations have not completely disappeared. Any way the growers feel more assured of the correctness of the weighments at the regulated markets.

I consulted the Daroga, adatyas, brokers, buyers, sellers and members of the market committee including some representatives of the growers at the Akola market. They were all of opinion that the regulated markets were an improvement over the non-regulated, though all agreed that the laws were far from perfect yet. Some of the laws are unworkable and require modifications. According to a representative of the growers, the benefit accruing to the growers from the regulated markets may be estimated at a rupee per cart.

I left Akola on the 31st and arrived at Nagpur at 9 a.m. I met the Nagpur officers again and had a further discussion on the subject. Messrs. Hill and Ganga Khedkar very kindly took me to the Nagpur cotton market which is yet non-regulated. Here there is no market committee, no licensed adatyas or weighmen. The market staff consists of the following:—

- (1) Inspector, pay Rs. 55.
- (2) Mohorer, pay Rs. 25—30.
- (3) Chaprasi, four, pay Rs. 15 each.
- (4) Sweeper, two, pay Rs. 12 each.
- (5) Sweeper, temporary, two, pay Rs. 12 each.

A market cess of rupee one is charged per cart but there are no other charges to pay by the growers. The carts are auctioned at the market

and sent away to the buyers who include representative of big firms like Rallies and Volkarts. Very fair prices are said to be realised here on account of the competition. The Market Inspector's decision is final and there is no appeal from his decision.

I left Nagpur the same day and reached Calcutta on the morning of the 2nd of June. I met Mr. Finlow the same day, at his office and also the next morning at the U. S. Club.

I may now briefly summarise the facts about the regulated markets:—

(1) The Berar Cotton and Grain Markets Law, as per Government of India Notification No. 1727-1-B, dated Simla, the 6th of May, 1897, would show that the object was to give relief to the growers against the malpractices then prevailing. As the publication is out of print I cannot enclose a copy.

(2) A perusal of the speech (copy enclosed) by the Hon'ble Rao Bahadur N. K. Kelkar, Minister for Local Self-Government, addressed to the members of the C. P. Board of Agriculture on August 9, 1923, would show to what depth of infamy the regulated markets degenerated in spite of the laws.

(3) A perusal of the Indian Cotton Committee report on the marketing of cultivators' cotton in Berar (copy enclosed), pages 7 and 82-87 would give one a very good idea as to how the markets functioned as late as 1927, what the malpractices still were and how the existence of the law on the statute was no bar against its misuse and abuse, how vested interests can twist laws to legalise malpractices.

(4) The proceedings of the joint meeting of the C. P. Board of Agriculture and the Provincial Cotton Committee held in August, 1929, and C. P. Government Notification, dated Nagpur, the 20th of January 1931 (copy enclosed), would show that the C. P. Government have not given up the regulated markets as bad jobs, in spite of the failure of the previous attempts and have reformed them.

(5) Opinion seems to be unanimous that the present regulated markets are an improvement over the non-regulated ones.

(6) It is not possible, however, to evaluate the benefit that accrues to the growers from the sale of cotton at the regulated markets.

(7) The good reputation of a market is its greatest asset which again depends on the morale of the executive.

(8) The growers themselves come in for good portion of the blame for the establishment of malpractices. The practice of deductions at the time of weighing on the score of quality undoubtedly arose out of wilful adulteration by the growers.

If we look at the regulated markets, not from the stand point of the grower or of the dealer, but from the stand point of the grower, dealer and the consumer, we shall find that the greatest contributions that those regulated markets have done, are statistical. The records kept are excellent.

APPENDIX XIV (c)

Regulated Cotton Markets in the Bombay Presidency.

No. 414/4824 of 1933, dated Poona, the 25th April 1933.

From—The Director of Agriculture, Bombay Presidency,

To—The Secretary, Bengal Government Jute Enquiry Committee.

Cotton Market, Dhulia.

In continuation of paragraph 3 of this office endorsement No. 414 of 19th April 1933 on the above subject, I have the honour to forward herewith a note on the regulated Cotton Market, Dhulia, and the benefits to the cotton cultivators, as promised therein.

Regulated Cotton Market at Dhulia.

Benefits to Cotton Growers.

In the regulated cotton market of Dhulia, the rates of each individual cotton carts are now made known to the owner, who formerly had no knowledge of such rates as the bargains between the agent who acted for him and the one who negotiated for the purchaser were in former times made under cover and were not declared to the owner of the cotton carts. There are now no unauthorised deductions or trade allowances, the contents of the carts being actually weighed and accounted for. Previous to the regulated market, there was no control over the weights and cotton weighing less than a maund or fractions of a maund was not weighed and was unaccounted for. Disputes that arose at the time of weighment are now referred to the Market Superintendent or to the Disputes Sub-Committee whose decision has been considered to be final. The disputes thus settled during the two years of the regulated market are as follows:—

Year.	Disputes settled by the Superin- tendent.	Disputes settled by the dispute Sub-Committee.
1930-31	167	8
1931-32	609	19

This is a great service rendered to the cotton grower and he gets a squarer deal than before. Formerly, the grower was entirely at the mercy of the agent who acted for him or of the buyer who had his own vested interests to serve.

Deductions for religious and charitable purposes which fell on the cultivator but against which he had no effective means of protest are now disallowed and the grower who had to pay formerly Rs. 1-12 to Rs. 2 per cart has now to spend Rs. 1-5 to Rs. 1-9 thus leaving a margin of seven annas per cart and making it available to the grower. As the Market Committee has now been empowered to regulate all such fees, the charges per cart can still be lowered if the prices of cotton show a further falling off.

The feeling of confidence and fair play created in the minds of the cultivators in such regulated market cannot here be emphasised but can only be seen from the large number of cotton arrivals in such a market.

It may safely be stated here that the object to secure to the cultivator better prices, fairer weightment and freedom from illegal deductions has to a large extent been served by the regulated market of Dhulia.

The other benefits which the cultivator has derived are mentioned on pages 11 and 12 of the annual report of the Dhulia cotton market for the year 1930-31.

No. 414 of 1933, dated Poona, the 15th May 1933.

From—The Director of Agriculture, Bombay Presidency,
To—The Secretary, Jute Enquiry Committee, Bengal.

Cotton Market, Dhulia.

With reference to your telegram, dated 2nd May 1933, on the above subject, I have the honour to forward herewith a copy of the letter No. 295, dated 11th May 1933, from Mr. S. H. Prayag, Cotton Breeder, Khandesh, which gives the information required.

2. I am also sending you herewith a copy of the letter No. 304, dated 12th May 1933, from the same officer together with its accompaniments giving the information regarding the "open bidding" process as promised in paragraph 3 of this office letter No. 414/5098, dated 2nd May 1933.

No. 295 of 1933, dated Jalgaon, 11th May 1933.

From—S. H. Prayag, Cotton Breeder, Jalgaon,
To—The Director of Agriculture, Bombay Presidency, Poona.

Regulated Cotton market: Estimation of increased value due to valuation of individual carts.

With reference to your wire of 4th May 1933 on the subject mentioned above and in continuation of my letter No. 274 of 5th May 1933, I have the honour to report as follows:—

Prior to the establishment of regulated market at Dhulia, the cotton traders used to purchase kapas carts in the morning at the market yard and at the time of delivery in the gin-compound, a reduction in the agreed price to an extent varying from 4 to 8 annas per maund of cotton (a maund being equal to 152 lbs. at that time) used to take place on the pretext that the market tendency is down and that the prices have been low for the day.

Since the introduction of the regulated market, the opening prices are obtained by wire every day from Bombay; they are then posted on the Notice Board so as to be readily available to all persons in the market. Each individual kapas cart is examined properly by the buyer or his agent and is valued according to the quality of cotton it contains. Although no proper grading is still done, special types of cotton such as Banilla, and cotton containing red-leaf are given higher rates per maund than the ordinary types of cotton containing black leaf, etc. The enclosed schedules show the rates per maund for the various carts

belonging to individual cultivators. If, however, there be an admixture of sand, earth, etc., in the middle layer or if the cotton of the central layer is found in a damp condition, the price is accordingly lowered. But the cotton merchants are in no way to reduce the agreed prices at the time of delivery in the gin-compound on the ground that the market tendency is low and that the rates are falling off on that day.

The growers are thus profitted to an extent varying from 4 to 10 annas per maund (a maund=168 lbs. at present) so that the increased value which a cultivator gets on account of increased valuation ranges from two to five rupees per cart, each cart containing an average of 8 maunds.

No. 304, dated Jalgaon, the 12th May 1933.

From—S. H. Prayag, Cotton Breeder, Jalgaon,

To—The Director of Agriculture, Bombay Presidency, Poona.

Dhulia Cotton Market: Open bidding.

With reference to your letter No. 414/5098, of 2nd May 1933, regarding open bidding, I have the honour to report as follows:—

During the year 1932-33, there has been some change over the previous year's working. Although the preliminary stages of under-cover system are still in vogue, the final rate of each cotton cart is declared to the seller. If the seller or the cotton grower is satisfied with the rate, the bargain is said to be closed; if not, it is put to auction after all sales in the market yard are over.

This is a great step in advance as the ultimate aim of "open bidding" is to let the cotton grower know the rate that is agreed upon. The system that is now followed at Dhulia has the approval of the Collector.

It is no doubt difficult to radically change all at once the old established customs and as the under-cover system of bidding is a very knotty question, a reform in the direction of open bidding will, however, be a slow process.

I am enclosing herewith a copy of Government letter No. 374-A/28, of 24th March 1932, regarding condonation of the breach of rule 47 (2) and the correspondence relating thereto.

No. 175, dated Dhulia, the 24th November 1931.

From—The Chairman, Cotton Market Committee, Dhulia.

To—The Director of Agriculture, Bombay Presidency, Poona.

Dhulia Cotton Market.

In enclosing herewith the weekly report of market fees for the week ending the 21st November 1931, I have the honour to state that

the number of persons registered and licensed so far for the year 1931-32, is as under:—

Designation.	Total number up to 31st November 1931.	Rate.	Fees collected.
		Rs.	Rs.
(1) Commission agents ..	65	30	1,950
(2) Cotton buyers ..	17	10	170
(3) Weighmen ..	44	5	220
		Total	2,340

Last year, the number of Commission Agents who had registered their names was 71. Owing to the large number of these persons, there has been some difficulty in the proper working of the regulated market. Since the beginning of the present year, we introduced the system of open bidding as per rule 47 (2). It worked smoothly so long as the number of cotton carts were very few, but later on the disadvantages found in this method were noticed as under—

(1) The cotton carts that enter the Dhulia market are not at present graded and cannot be so done as long as the cultivators do not grow one quality cotton. Again, owing to the diverse conditions of soil in the talukas of Dhulia, Sakri and Shindkheda the ginning percentage also was found to vary to a great extent. Owing to these features, which as I understand are rarely met with in the markets of Khamgaon and Akola, the system of grading cotton cannot easily be adopted. As a result, auction sales cannot be done in proper order. These sales could not be finished serially as it involved considerable time and on days when arrivals were over 100, it was found difficult to finish the work in time for the growers to be at their respective gins (places of delivery).

(2) Owing to the large number of adatyas, they gathered in small batches in different places to bid for the cotton. Hence, for the same quality of cotton, different rates prevailed and some cotton growers got more price than others for cotton of the same grade thus displeasing both the cultivators and their adatyas.

(3) In open bidding, the highest bidder having a priority claim for the cotton he has bid for, takes the lot but generally he has been found to be a person who cannot make prompt payment. This again displeased the cultivators.

(4) Lastly, owners of a number of carts had to sell their cotton not to one purchaser but to two or three, thus making it difficult for them to attend to respective places of delivery for the weighment of their cotton.

I tried to overcome these defects but on 13th November, a chaos ensued in the market and I was pressed for reviving the original system of bidding under cover in the interest of the cultivator for whose benefit the rule is intended. As I considered this to be an illegal procedure, an extraordinary emergency meeting of the local members was

held on 13th November at night from 8-30 to 10 p.m. at Gulabchand Shet's house where the following members were present:

Members.

- (1) Mr. S. H. Prayag, *Chairman.*
- (2) Mr. J. P. Tarapore.
- (3) Mr. Chandrabhan Nandram Shet.
- (4) Mr. Uttamrao Bhilajirao Deshmukh.
- (5) Mr. Gulabchand Hiralal Shet.
- (6) Mr. G. M. Varade.

Visitor.

- (1) Huzur Deputy Collector (Mr. C. G. Marathe).

The pros and cons of the two system were fully discussed. The benefits claimed in undercover system were as follows:—

(1) That the sellers adatyas can sell almost all the carts of their constituents to one purchaser, thereby affording facilities to the cultivators in respect of attending to the weighments of their cotton in one gin only.

(2) That every attempt is made by the sellers adatyas to induce the purchasers to buy the cotton of their constituents at high rates avoiding at the same time such purchaser who cannot make prompt payment or whose financial position is not considered to be sound or who cannot or does not buy the whole lot brought by each producer.

In open bidding this has not been found to be possible by the seller's adatyas without hurting the feelings of some of the purchasers, which they are unwilling to do.

(3) That business in the market yard is finished quickly and that the cultivator gets better rates than in open bidding.

The only defect was that the cultivator was in the dark as to what takes place in the settlement of rates. But it was settled that the final rate should be declared and made known to the seller.

The general sense of the meeting was that in Dhulia market where the grading of cotton cannot at present be done and where a large number of commission agents exist, the system of open bidding is found to be detrimental to the interests of cotton growers and it was considered desirable to postpone the enforcement of the method of open bidding for about a fortnight at least. In the meanwhile, the opinion of cotton growers coming into the market yard should be ascertained and the matter should be placed before the general meeting to be held at the end of this month.

Accordingly, from 14th November we have revived the under-cover system of bidding and have been taking the signatures and thumb-impressions of cotton growers as regards their opinion regarding the two systems.

I am bringing the above facts to your notice as the practice is against the law and rules but it had to be adopted by the Committee to help the cultivators and to avert a dead-lock which seemed imminent.

No. M.S.C. 229, dated Via Dhulia, the 30th November 1931.

Memo. by—H. M. Willis, Collector of West Khandesh.

Forwarded with compliments.

2. The Cotton Market Committee is in its infancy. The difficulty of open bidding when the number of carts is too many appears to be genuine. The illegality may be condoned for this season.

3. A report whether any amendment to rule 47 (2) is necessary will be submitted after expiry of the season.

No. 374-A/28, dated Bombay Castle, the 24th March 1932.

Memo. by—The Under Secretary to the Government of Bombay, Revenue Department.

Cotton Market: Dhulia.—Condonation of breach of rule 47 (2) of the Bombay Cotton Market Rules, 1929, during current.

The undersigned presents compliments to the Commissioner, C.D., and with reference to his memorandum No. A.D.M.O./392, dated 7th March 1932, is directed to state that, in the circumstances stated therein, the breach of rule 47 (2) of the Bombay Cotton Market Rules, 1929, during the current season is condoned.

Copies to the Director of Agriculture (with reference to his letter No. 414-A/1437, dated 18th February 1932), and the Collector of West Khandesh (with reference to his memorandum No. M.S.C. 299, dated 30th September 1931).

APPENDIX XV.

(Vide pages 102 and 165 of the Report).

Government of Bengal.

Legislative Department.

The Bengal Jute Bill (II), 1930;

with

Statement of Objects and Reasons.

(By Dr. Naresh Chandra Sen Gupta, M.L.C.)

(As introduced in Council on the 16th February, 1931.)

The Bengal Jute Bill (II), 1930.

A Bill to regulate and control the production of jute.

Preamble.—Whereas it is expedient to provide for the control and regulation of the production and marketing of Jute in the Presidency of Bengal, it is hereby enacted as follows:—

CHAPTER I.

INTRODUCTION.

1. **Short title and application.**—This Act shall be called the Bengal Jute Act, and shall apply to the whole of the Presidency of Bengal. It shall come into force at once.

2. **Definitions.**—In this Act unless there is anything repugnant in the subject or context—

“Board” means the Central Jute Board constituted under this Act.

“Union Board” means a Union Board constituted under the Bengal Village Self-Government Act, 1919.

“Provincial Scheme” means a scheme framed by the Board under section 8 and includes any revised scheme.

“Village Scheme” means any scheme prepared by a Union Board or a Village Jute Board for the area under its jurisdiction.

“Recognised Association” means associations and bodies of persons associated for purposes connected with the cultivation or marketing of jute which are recognised by the Board and entered in a register of recognised associations.

“Prescribed” means prescribed under rules framed under this Act.

CHAPTER II.

THE CENTRAL JUTE BOARD.

3. **The Central Jute Board.**—(1) For the purpose of regulating and controlling the production of jute and advising the Government on all matters relating to the production and the organisation of the marketing of jute and to the improvement of the economic value of Jute, a Central Jute Board shall be constituted as soon as possible after the passing of this Act.

(2) The Board shall consist of the following members:—

- (i) the Minister in charge of the Department of Agriculture, *ex-officio*;
- (ii) the Director of Agriculture, *ex-officio*;
- (iii) the Registrar of Co-operative Societies, *ex-officio*;
- (iv) the members of the Legislative Council representing the Indian Jute Mills Association, the Bengal National Chamber of Commerce, the Bengal Marwari Association and the Bengal Mahajan Sabha;
- (v) one member elected by the Bengal Chamber of Commerce;
- (vi) one member elected by rotation by the District Boards of Dacca and Mymensingh, each member holding office for one year;
- (vii) one member elected by rotation by the District Boards of Tippera, Faridpur, Rangpur, Rajshahi and 24-Parganas, each holding office for one year;
- (viii) three members nominated by the Government to represent the interests of Jute growers;
- (ix) two experts in the Economics of the Jute elected by the Calcutta University and the University of Dacca, respectively.

4. **Chairman of the Board.**—(1) The Minister in charge of the Department of Agriculture shall be the Chairman of the Board and the chief executive authority of the Board.

(2) **Terms of office of members.**—Except as otherwise provided, each member of the Board other than *ex-officio* member shall hold office for three years; any casual vacancy in the office of a member will be filled up by election or nomination, as the case may be, by the body or authority who elected or nominated the member whose office has fallen vacant.

5. **Time and place of meetings of the Board.**—(1) The time and place of each meeting of the Board shall be determined by the Chairman, provided that there must be at least two meetings of the Board every year.

(2) **President of meetings.**—The Chairman shall preside at every meeting of the Board. In the absence of the Chairman, the members present shall elect one of themselves to preside at the meeting.

(3) **Procedure at meeting.**—The decision of the Board shall be by a majority of votes of members present and voting, and in case of equality of votes, the Chairman or President, as the case may be, shall have a casting vote in addition to his vote as a member.

CHAPTER III.

THE PROVINCIAL SCHEME.

6. Preparation of a Provincial Scheme.—Not later than the 15th of February of every year the Board shall prepare a Provincial Scheme for the cultivation of jute in the Presidency in the manner hereinafter provided.

So soon as a Provincial Scheme has been finally prepared the Local Government shall publish the scheme in the *Calcutta Gazette* and cause it to be circulated as hereinafter provided.

7. Statement of prospects.—On or before the 30th of December in every year the Director of Agriculture shall prepare and circulate to the members of the Board a full statement showing, as far as practicable,

- (a) the total area of the land in the Presidency cultivated with jute in that year;
- (b) the total outturn of jute in that year;
- (c) the total of the surplus stocks of jute held over from the previous year;
- (d) the total quantity of jute sold in that year up to the date of the statement;
- (e) the estimated total demand for the new crop in the ensuing year;

and such other facts and statistics as may be relevant for determining the total area which can be profitably cultivated with jute in the Presidency in the ensuing year.

8. Framing of the Provincial Scheme.—(1) A meeting of the Board shall be convened on such date as may be fixed by the Chairman, not less than fifteen days after the circulation of the statement referred to in section 7, for settling a Provincial Scheme determining the total area of land which should be sown with jute in the ensuing year.

(2) At this meeting the Board shall, after considering the statement of prospects referred to in section 7, consider what area of land in the Presidency shall be cultivated with jute in the ensuing year, and in what proportion the area under cultivation in the previous year should be increased or decreased, and shall embody their decision in a scheme showing how the increase or reduction in the area of land under jute in the Presidency should be distributed.

(3) In preparing the Scheme the Board shall have power to determine different ratios for increase or decrease with reference to different districts and also with reference to different qualities and varieties of jute.

9. Publication of the Scheme.—The Provincial Scheme framed by the Board under the last preceding section shall forthwith be published in the manner prescribed both in English and Bengali and copies of the Scheme shall forthwith be circulated to all District Boards and Union Boards of the Presidency, and, where there are no Union Boards, to Village Jute Boards constituted under this Act, together with a requisition calling upon each Union Board to increase or reduce the area of land cultivated with Jute within its jurisdiction in the ratio provided by the Provincial Scheme.

Copies of the Scheme shall also be circulated to recognised associations.

10. Objections to the Provincial Scheme.—Any District Board, Union Board or recognised association may, by a petition setting forth the grounds of their objections to the Provincial Scheme, apply to the Board to revise the Provincial Scheme after it is published.

Every such petition received within three weeks of the publication of the Scheme shall be considered by the Board, and the Board may, after such consideration, reject the petition or make such modifications in the Scheme as they think fit.

CHAPTER IV.

DUTIES OF UNION BOARDS AND VILLAGE SCHEMES.

11. Register of Jute lands.—Every Union Board shall maintain a register of jute lands within the Union, in the prescribed form, and shall from time to time make such corrections in the register as may be necessary.

Every Union Board shall also cause to have the jute lands marked on a copy of the cadastral survey map of the Union which shall be kept by it.

A copy of the register of jute lands shall be submitted by every Union Board within the month of April to the District Agricultural Officer who shall keep a complete file of such registers for the whole district in the manner prescribed.

12. Invitation of offers from cultivators.—On receipt of a requisition from the Board under section 9 or, where the Provincial Scheme has been amended by the Board under section 10, on receipt of such amended requisition, every Union Board shall notify to all cultivators within the Union the total increase or reduction of Jute lands within the Union required in order to comply with the requisition of the Board and shall invite offers from cultivators within the Union individually to increase or decrease the area cultivated by each with a view to comply with such requisition.

13. Village Scheme.—If the offers received from the cultivators are adequate for the purpose of reducing or increasing the area under jute to the extent required, the Union Board shall accept the offers and frame a Village Scheme accordingly.

If the offers received are not adequate to comply with the requisition of the Board, the Union Board shall, after consideration of the offers, prepare a scheme of lands to be cultivated with jute in the ensuing year so as to bring the total area into conformity with the requisition of the Board:

Provided that, in preparing a scheme of areas to be cultivated with jute, if any increase or reduction of the area cultivated in the previous year is necessary, the Board shall, unless the scheme is based on voluntary offers, distribute the requisite increase or decrease of area among

all the cultivators of jute in the same proportion, except where, in the opinion of the Board, such proportionate increase or decrease in the case of any cultivator cannot be made consistently with economic cultivation :

Provided also, that in framing such scheme the Union Board may consult the District Agricultural Officer, who shall, on the requisition of the Union Board, give it his opinion on the scheme proposed by the Union Board.

14. Appeal against village scheme.—(1) Any person aggrieved by a village scheme framed by the Union Board may within fifteen days from the publication of the scheme appeal to the Director of Agriculture, stating fully the grounds for objection to the scheme.

(2) The Director on receiving such an appeal shall forthwith send a copy of it to the Union Board and the District Agricultural Officer for report and after receiving such report he may either summarily reject the petition of appeal or refer it for decision to an officer not below the rank of a Superintendent in the Department of Agriculture.

(3) The officer to whom an appeal is referred under the last foregoing clause shall investigate the question raised on the spot and, after making such enquiry as he thinks fit, he may either confirm or modify the scheme framed by Union Board :

Provided that the scheme framed by such officer in modification of the scheme shall be in conformity with the requisition of the Board.

15. Revision of Jute register and issue of licences.—When a scheme has been framed by a Union Board, and, if there is an appeal, when a decision has been given on appeal, the Union Board shall revise the Jute register, take such steps as may be prescribed to give effect to the village scheme.

16. Village Jute Board.—In areas where there are no Union Boards the function hereby assigned to Union Boards shall be exercised by the Village Jute Boards constituted by the Local Government for those areas.

CHAPTER V.

MISCELLANEOUS.

17. Publication of Jute prices.—(1) The Director of Agriculture shall from time to time, and as often as may be necessary, prepare for publication a detailed statement of jute prices in the market, as well as of the market in the future, and despatch such statements to Union Boards by post or by telegraph as he deems fit.

(2) Every Union Board shall, on receiving a statement under the preceding section, cause it to be hung up on a notice board in the office of the Union Board and also notify the facts contained therein in such manner as the Board thinks fit.

18. Other functions of the Board.—No action shall be taken by the Government with regard to any matter directly or indirectly affecting

the cultivation or marketing of jute or for the organisation of scientific or economic researches on jute except on the advice of the Board and the Government may require the Board to give its advice on any question affecting agriculture in the Presidency.

19. **Power of framing rules.**—The Local Government may, with the advice of the Board from time to time, make rules consistent with the provisions of this Act and in particular, without prejudice to the generality of the above provision, may make rules—

- (1) prescribing the procedure at meetings of the Board:
- (2) prescribing the form of the register of jute lands to be maintained by Union Boards:
- (3) prescribing the mode of the publication of provincial and village schemes and Union Boards:
- (4) for constituting Village Jute Boards in areas where there are no Union Boards and prescribing their constitution and functions:
- (5) for providing the procedure to be adopted by Union Boards to give effect to their village schemes.

STATEMENT OF OBJECTS AND REASONS.

Jute is the most important source of the wealth of the Presidency, and it is one in respect of which Bengal enjoys a practical monopoly in the world.

Nevertheless the price of jute has, within recent years, fallen to a level at which it does not even suffice to pay the cost of its production. The result has been disastrous to the people notably to the people of Eastern Bengal. Year after year the jute producing districts have been suffering a heavy loss by the cultivation of an article which, with a little organisation, could make the people of all grades prosperous.

One of the chief causes of the fall in the price of jute has been production in excess of the world demand. And this again is due to the wholly disorganised condition of the growers of jute and the absence of any attempt on their part to adjust the crop to the world demand so that it might fetch a fair price.

The present position is that in a normal season the quantity of jute produced is greatly in excess of the world demand. And the surplus stock of jute is increasing year by year. The situation has become one of such urgent importance to the people of Bengal that to leave the prices to be adjusted by natural processes would mean disaster to the entire community.

Intervention of the public authorities to prevent the disaster is therefore urgently called for. Having regard to the widespread area of production and the backwardness and illiteracy of the cultivators, there is no near prospect of their producing their own organisation

for dealing with the situation. This Bill therefore seeks to provide an organisation by which the production of jute may be so adjusted as to maintain as high a price-level of jute as may safely be kept up. It is hardly necessary to add that if by this means jute prices could be raised it would immediately lead to greater prosperity all round. An increase of each rupee per maund in the price of jute would bring approximately five crores of rupees to the people. And considering that jute prices could easily be raised by Rs. 8 per maund above the present prices without any apprehension of serious competition from other materials, a successful regulation of the jute crop may easily add about rupees forty crores to the wealth of the people.

Incidentally it might give relief to the finances of the province. For, in the event of a substantial increase in the price of jute as a result of regulation, it would be possible to impose a substantial tax in the shape of an excise duty or toll upon it which might bring a large revenue.

This Bill proposes to carry out the scheme of regulation of production through the agency of Union Boards. As the jute producing districts have mostly been covered by Union Boards, they furnish a useful instrument for the carrying out of the work.

The framing of a provincial scheme for regulation of cultivation of jute is entrusted to a Central Board, which will be necessary. The programme of cultivation cannot be settled piecemeal. It must be done on a provincial scale and by persons competent to take account of the necessary factors and determine the amount required to be produced with reference to the world demand.

The constitution of the Central Board has been framed so as to secure representation on it of all the various interests and also to provide for the representation of those officers of the Government whose function it may be to deal with various matters connected with it. This it is hoped will prevent circumlocution and enable the Board to deal directly with Union Boards without passing through any further official channels.

Provision has been made for a revision both of the village and of the provincial scheme, so that any errors due to want of consideration of relevant facts may be remedied. At the same time care has been taken that the decision should be promptly and finally made without interminable appeals and reviews.

In the framing of a village scheme an option has been provided for voluntary compliance by the cultivators with the requisition of the Central Jute Board. The Union Board will frame a scheme of its own only when the voluntary offers of the villagers individually are not adequate to satisfy the requisition of the Central Board.

Both in the choice of the instruments by which the scheme is worked and in the procedure care has been taken to see that the regulation of jute cultivation is done by the representatives of the people concerned and not by a strictly official agency.

Although I am satisfied that in the long run, to secure the compliance of villagers to the village scheme, some measure of compulsion

will be necessary, no such provision has been embodied in the present Bill, and it is contemplated that the Government will make rules providing a procedure for securing voluntary compliance of the cultivators of the village.

The Bill only seeks to secure a regulation of the total area of land cultivated with jute. The total quantity of jute produced depends on other factors than the area cultivated. Climatic influences, seeds selection and other factors are also important. These factors are not capable of regulation. But having regard to the fact that the outturn of jute per acre has varied within narrow limits owing to extraneous causes, the regulation of the area cultivated with due regard to the prospects of the market is nevertheless expected to furnish a sufficient security against over-production as well as against undue restriction to the detriment of the people's interests.

There are other factors to consider besides restriction of production and important reforms will have to be carried out in the system of marketing jute before the full benefit of its value can be secured to cultivators. That is a matter which must be dealt with in future and in respect of which the Jute Board when constituted under this Act will be able to give competent advice.

N. C. SEN GUPTA,

Member-in-charge.

The 18th November, 1930.

APPENDIX XVI.*(Vide, page 89 of the Report).*

No. 3967, dated Calcutta, the 29th July 1933.

From—L. R. Fawcus, Esq., I.C.S., Secretary to the Government of
Bengal, Agriculture and Industries Department,
To—The Secretary, Jute Enquiry Committee.

Minister-in-charge: The Hon'ble Nawab, K. G. M. Farouqi, Khan Bahadur.

I am directed to say that Government (Ministry of Agriculture) have decided that questions of currency and monetary policy are outside the terms of reference of the Jute Enquiry Committee mentioned in Resolution No. 631 Agri., dated the 6th February 1933.

CHECKED
2003-04

X9J741-262-N3E

9988

G4.1

Bengal Jute Enquiry
Committee.

Report. Vol. 1.

Name of borrower

Lent on

Received

Shri. N. C. ...

**SERVANTS OF INDIA SOCIETY'S LIBRARY
POONA 4.**

1. Books drawn from the library may not be retained for longer than a fortnight.
2. Borrowers will be held strictly responsible for any damage done to books while they are in their possession.